

# RED ROCKS COMMUNITY COLLEGE (RRCC) EAST WING ROOFING PROJECT - PHASE 1

2023-084M22 REPLACE EAST WING ROOF, LAKEWOOD CAMPUS, PHASE 1 OF 2 - 2023 ROOFING PROJECT - AMTECH PROJECT NO.: DEN.2022.001044

**PROJECT:**

RRCC EAST WING ROOFING PROJECT - PHASE 1

13300 WEST SIXTH AVENUE  
LAKEWOOD, COLORADO 80228

**OWNER:**

RED ROCKS COMMUNITY COLLEGE

13300 WEST SIXTH AVENUE  
LAKEWOOD, COLORADO 80228

**CONSULTANT:**

AMTECH SOLUTIONS, INC.

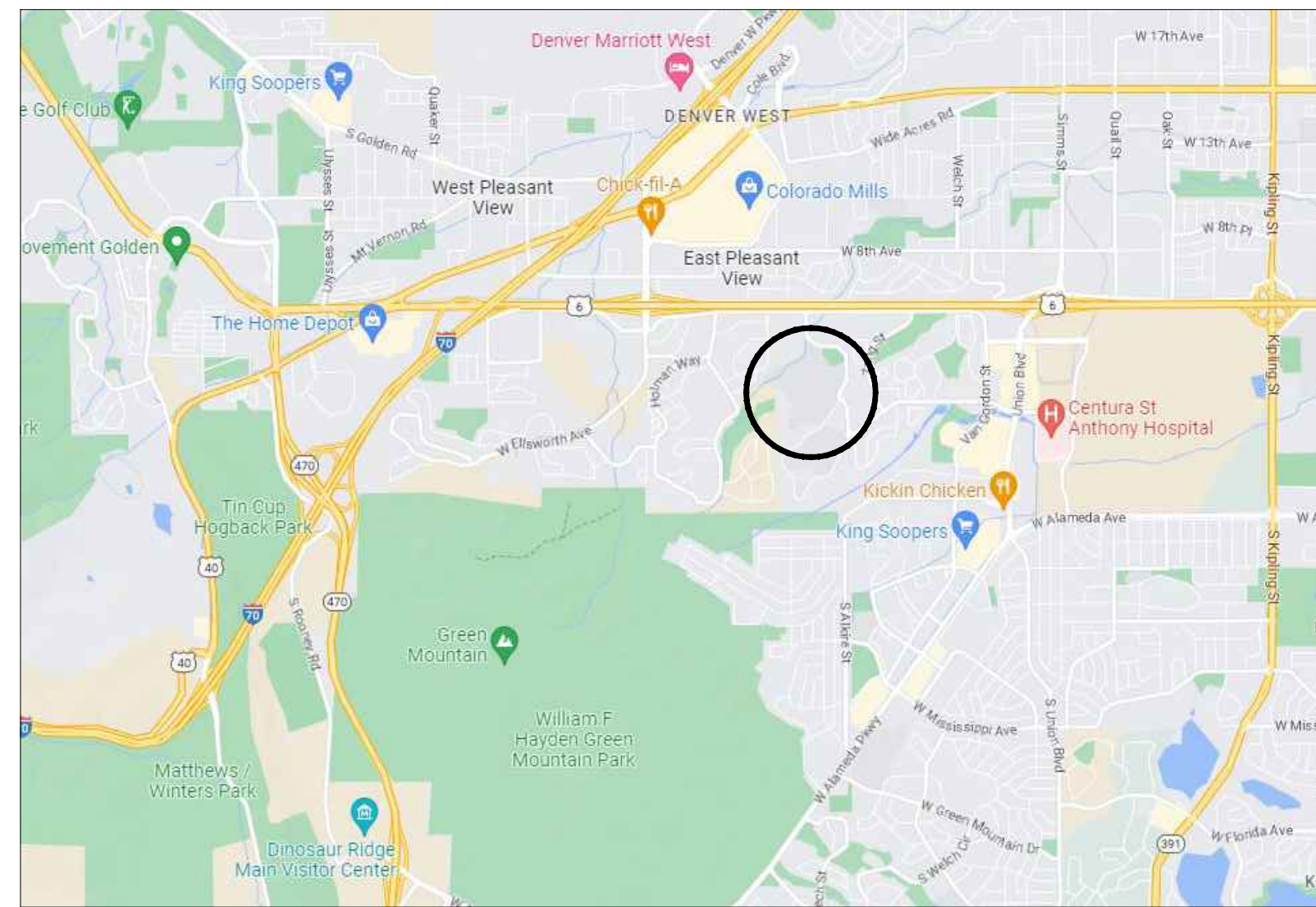
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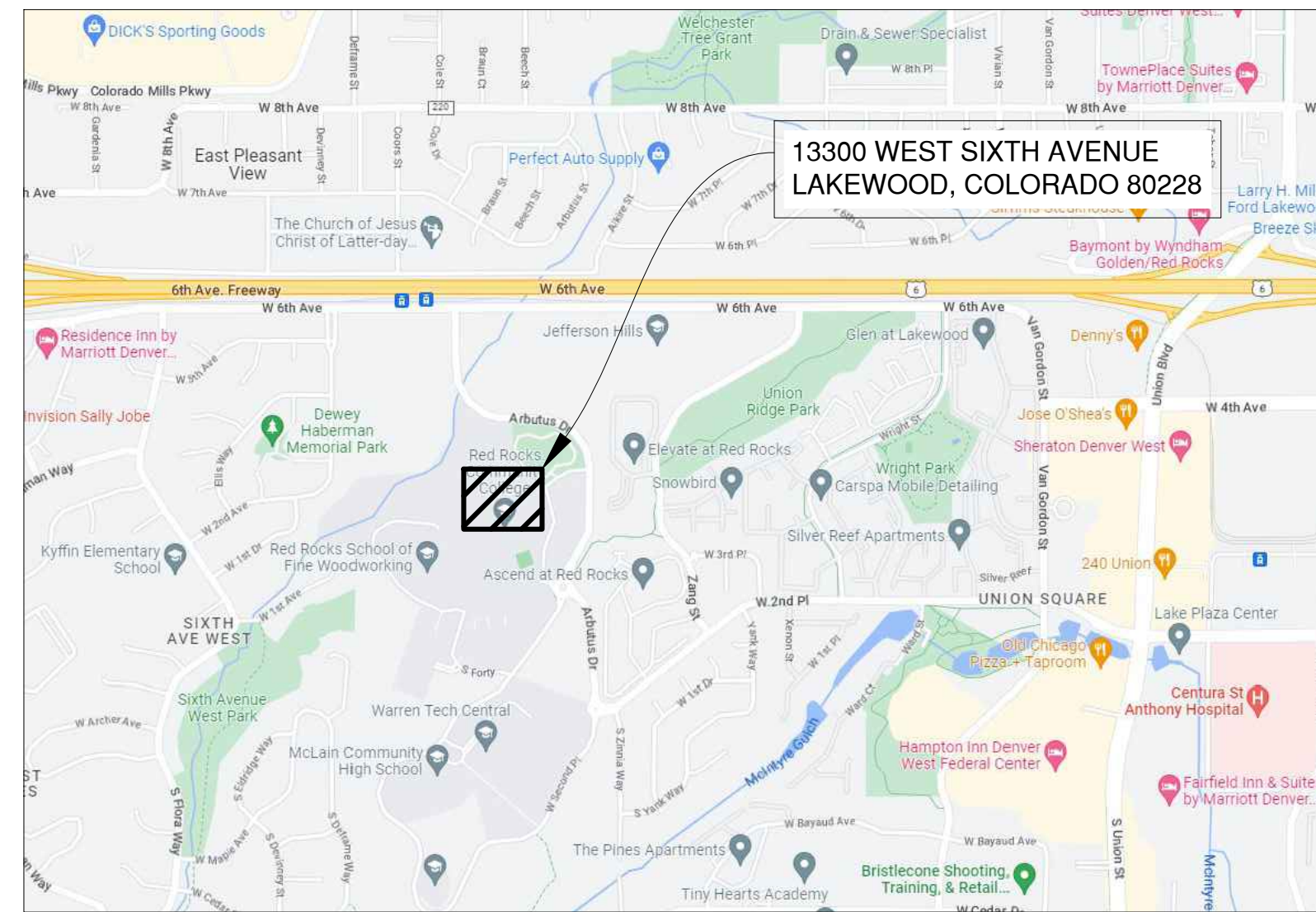
**APPLICABLE DESIGN CODES:**

1. 2021 INTERNATIONAL EXISTING BUILDING CODE (IEBC).
2. 2021 INTERNATIONAL BUILDING CODE (IBC).
3. 2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC).
4. AMERICAN NATIONAL STANDARDS INSTITUTE AND SINGLE-PLY ROOFING INDUSTRY (ANSI/SPRI):
  - 4.1. ES-1 AND GT-1.
5. BUILDING DATA:
  - 5.1. FIRE SPRINKLED - MONITORED ALARM.
  - 5.2. CONSTRUCTION TYPE III-B - NON-COMBUSTIBLE:
    - 5.2.1. MASONRY, STEEL, AND CONCRETE FRAMING WITH CONCRETE AND METAL DECKING.
  - 5.3. OCCUPANCY CLASSIFICATION:
    - 5.3.1. GROUP B - BUSINESS - EDUCATIONAL OCCUPANCY FOR STUDENTS ABOVE GRADE TWELVE (12).

**REGION MAP:**



**VICINITY MAP:**



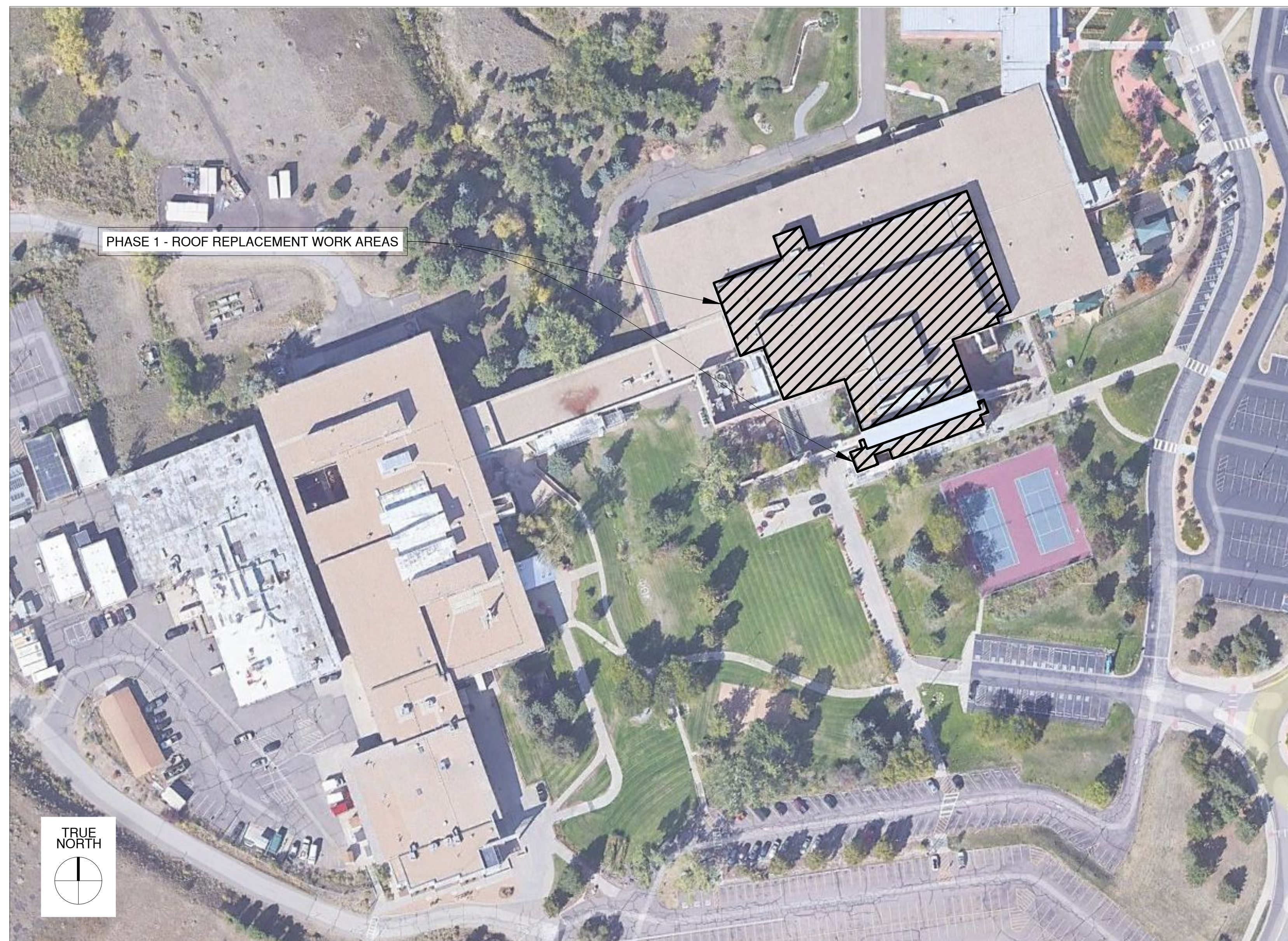
**SHEET INDEX:**

- R-100 COVER SHEET
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- R-300 PARTIAL ROOF PLAN
- R-301 PARTIAL ROOF PLAN
- R-302 PARTIAL ROOF PLAN
- R-400 VAPOR RETARDER DETAILS
- R-500 ROOFING DETAILS
- R-501 ROOFING DETAILS
- R-502 ROOFING DETAILS
- R-503 ROOFING DETAILS
- R-504 ROOFING DETAILS
- R-600 ROOFING DETAILS

**CODE EXCEPTIONS AND CLARIFICATIONS:**

1. 2021 IEBC - SECTION 705 REROOFING - 705.1 GENERAL:
  - 1.1. ROOF REPLACEMENT OR ROOF RECOVER OF EXISTING LOW-SLOPE ROOF COVERINGS SHALL NOT BE REQUIRED TO MEET THE MINIMUM DESIGN SLOPE REQUIREMENTS OF 1/4 UNIT VERTICAL IN 12 UNITS HORIZONTAL (2-PERCENT SLOPE) IN SECTION 1507 OF THE INTERNATIONAL BUILDING CODE FOR ROOFS THAT PROVIDE POSITIVE ROOF DRAINAGE. RECOVERING OR REPLACING AN EXISTING ROOF COVERING SHALL NOT BE REQUIRED TO MEET THE REQUIREMENTS FOR SECONDARY (EMERGENCY OVERFLOW) DRAINS OR SCUPPERS IN SECTION 1502 OF THE INTERNATIONAL BUILDING CODE FOR ROOFS THAT PROVIDE FOR POSITIVE ROOF DRAINAGE. FOR THE PURPOSES OF THIS EXCEPTION, EXISTING SECONDARY DRAINAGE OR SCUPPER SYSTEM REQUIRED IN ACCORDANCE WITH THIS CODE SHALL NOT BE REMOVED UNLESS THEY ARE REPLACED BY SECONDARY DRAINS OR SUPPERS DESIGNED AND INSTALLED IN ACCORDANCE WITH SECTION 1502 OF THE INTERNATIONAL BUILDING CODE.
  - 1.2. RECOVERING OR REPLACING AN EXISTING ROOF COVERING SHALL NOT BE REQUIRED TO MEET THE REQUIREMENTS FOR SECONDARY (EMERGENCY OVERFLOW) DRAINS OR SCUPPERS IN SECTION 1502 OF THE INTERNATIONAL BUILDING CODE FOR ROOFS THAT PROVIDE FOR POSITIVE ROOF DRAINAGE. FOR THE PURPOSES OF THIS EXCEPTION, EXISTING SECONDARY DRAINAGE OR SCUPPER SYSTEM REQUIRED IN ACCORDANCE WITH THIS CODE SHALL NOT BE REMOVED UNLESS THEY ARE REPLACED BY SECONDARY DRAINS OR SUPPERS DESIGNED AND INSTALLED IN ACCORDANCE WITH SECTION 1502 OF THE INTERNATIONAL BUILDING CODE.
2. 2021 IEBC - SECTION 708 ENERGY CONSERVATION - 708.1 MINIMUM REQUIREMENTS:
  - 2.1. LEVEL 1 ALTERATIONS TO EXISTING BUILDINGS OR STRUCTURES DO NOT REQUIRE THE ENTIRE BUILDING OR STRUCTURE TO COMPLY WITH THE ENERGY REQUIREMENTS OF THE INTERNATIONAL ENERGY CONSERVATION CODE OR INTERNATIONAL RESIDENTIAL CODE. THE ALTERATIONS SHALL CONFORM TO THE ENERGY REQUIREMENTS OF THE INTERNATIONAL ENERGY CONSERVATION CODE OR INTERNATIONAL RESIDENTIAL CODE AS THEY RELATE TO NEW CONSTRUCTION ONLY.

**AERIAL MAP:**



**ABBREVIATIONS:**

APVD.	APPROVED.
CONT.	CONTINUOUS
(E)	EXISTING
(ETR)	EXISTING TO REMAIN
(FA)	FULLY ADHERED
GA.	GAUGE
GALV.	GALVANIZED
GYP.	GYPSUM
MANU.	MANUFACTURER
MAX.	MAXIMUM
(MA)	MECHANICALLY ATTACHED
MTL	METAL
MIN.	MINIMUM
(N)	NEW
O.C.	ON CENTER
PENE.	PENETRATION
REQ.	REQUIREMENT
R.T.S.	REINFORCED TERMINATION STRIP
SIM.	SIMILAR
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
V.I.F.	VERIFY IN FIELD

DRAFT  
THIS DOCUMENT  
MAY NOT  
BE USED FOR  
CONSTRUCTION



KEY PLAN LEGEND

CLIENT  
RED ROCKS COMMUNITY COLLEGE  
13300 WEST SIXTH AVENUE  
LAKEWOOD, COLORADO 80228

PROJECT  
RED ROCKS COMMUNITY COLLEGE  
EAST WING ROOFING PROJECT  
PHASE 1  
13300 WEST SIXTH AVENUE  
LAKEWOOD, COLORADO 80228

PROJECT NO.	DEN.2022.001044
DATE	05/2023
DRAWN BY	DJD
CHECKED BY	RKP & SAP
DATE	REVISION

AMTECH SOLUTIONS  
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Denver, Colorado 80222  
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SHEET TITLE  
COVER SHEET



**GENERAL NOTES:**

- ALL CONDITIONS OR PENETRATIONS MAY NOT BE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS, MEASUREMENTS/DIMENSIONS, QUANTITIES, LOCATIONS, ETC. AND NOTIFYING AMTECH SOLUTIONS OF ANY DISCREPANCIES PRIOR TO BIDDING.
- ALL SHEET METAL WORK MUST COMPLY WITH SMACNA AND ANSI/SPRI ES-1 AND GT-1 AS REFERENCED IN THE APPLICABLE VERSION OF THE IBC AND IEBC.
- THE WORK OF THIS CONTRACT SHALL BE COMPLETED IN ACCORDANCE WITH THE ATTACHED DRAWINGS, DOCUMENTS AND SPECIFICATIONS.
- ALL MATERIALS TO BE USED ON THIS PROJECT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDED SPECIFICATIONS FOR INSTALLATION.
- CONTRACTOR(S) SHALL COORDINATE THE WORK OF THIS CONTRACT TO AVOID ANY INTERFERENCE WITH ADJOINING AREAS.
- ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS MUST BE SUBMITTED TO AMTECH SOLUTIONS IN WRITING FOR APPROVAL.
- CONTRACTOR SHALL EXERCISE EXTREME CARE NOT TO DAMAGE THE ADJACENT CONSTRUCTION OF THE BUILDING. ANY DAMAGE SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
- CONTRACTOR SHALL PROVIDE ALL SAFE GUARDS, AS REQUIRED, TO PRECLUDE INJURY TO AMTECH SOLUTIONS, THE OWNERS AND CONTRACTOR'S PERSONNEL, AND TO ALL OTHER PERSONS AT THE CONSTRUCTION SITE.
- CONTRACTOR SHALL PERFORM ALL WORK AS INDICATED ON CONTRACT DOCUMENTS INCLUDING BUT NOT LIMITED TO: ROOFING AND ASSOCIATED CURB AND PARAPET WALL FLASHINGS AND MODIFICATIONS.
- ALL SATELLITE RECEIVERS, ANTENNAS, EQUIPMENT SUPPORTS AND PENETRATIONS NOT UTILIZED ARE TO BE REMOVED AND DISCARDED AS DIRECTED BY THE OWNER AND AMTECH SOLUTIONS. ALL OPERATIONAL SATELLITE RECEIVERS, ANTENNAS, ETC. ARE TO BE REMOVED AND RE-INSTALLED USING MANUFACTURER APPROVED DETAILS AS DIRECTED BY AMTECH SOLUTIONS.
- ANY EXISTING CABLES/CONDUITS LYING ON THE ROOF SHALL BE REMOVED AND/OR RE-INSTALLED AS DIRECTED BY THE OWNER AND AMTECH SOLUTIONS.
- AVOID PENETRATION SEALER POCKETS AT ROOF PENETRATIONS (INSTALL ONLY WHERE REQUIRED AND APPROVED BY AMTECH SOLUTIONS).
- WHERE EXISTING EXTERIOR LIGHTING AND ELECTRICAL EQUIPMENT INTERFERES WITH THE CONSTRUCTION OF THE NEW ROOF, FASCIA, OR SOFFITS, SUCH FIXTURES SHALL BE REMOVED AND RE-INSTALLED TO THE SATISFACTION OF THE OWNER AND AMTECH SOLUTIONS.
- CONTRACTOR SHALL EXTEND EXISTING HVAC ROOF TOP UNITS AND INTERIOR DUCTWORK THAT WILL BE DISTURBED DUE TO NEW WORK, INCLUDING BUT NOT LIMITED TO: CURBS, DUCTWORK, PIPING, ELECTRICAL, ETC. IN ORDER TO MAINTAIN AN 8-INCH MINIMUM FLASHING HEIGHT AS REQUIRED BY CODE, DUE TO INSTALLATION OF NEW ROOF SYSTEM.
- ALL ROOF PIPE VENTS AND OTHER ROOF PENETRATION(S) SHALL BE EXTENDED UP TO MAINTAIN AN 8-INCH MINIMUM FLASHING HEIGHT ABOVE NEW ROOF, AS REQUIRED BY CODE. EXTENSIONS SHALL BE OF LIKE MATERIALS AND WELDED IF METAL.
- ALL METAL FASCIA, COPINGS, LEADERS, SCUPPERS, GUTTERS, DOWNSPOUTS, ETC. ARE TO BE FACTORY PRE-FINISHED (COLOR TO BE SELECTED AND APPROVED BY OWNER).
- ALL DIMENSIONS FOR ALL EXISTING CONSTRUCTION CONDITIONS ARE APPROXIMATE AND ARE TO BE FIELD VERIFIED BY THE CONTRACTOR(S).
- CONTRACTOR IS TO VERIFY LOCATION, COUNT AND SIZES OF ROOF PENETRATIONS AND DRAINS PRIOR TO THE COMMENCEMENT OF WORK.
- ALL NEW CONTINUOUS FLASHINGS ARE TO BE INSTALLED AT A CONSISTENT HEIGHT. MINIMUM FLASHING HEIGHTS ARE TO BE CALCULATED AT INSULATION HIGH POINTS.
- THE NEW ROOF SYSTEM AND PERFORMANCE IS TO ADHERE TO LOCAL BUILDING CODE AND DESIGN WIND SPEED REQUIREMENTS AS SPECIFIED.
- REFER TO ACCOMPANYING SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- SPECIFICATIONS ARE TO TAKE PRECEDENCE OVER CONFLICTING INFORMATION ON DRAWINGS.
- CONTRACTOR IS TO MAINTAIN PROPER DRAINAGE OF THE ROOF(S) THROUGH ALL PHASES OF ROOF CONSTRUCTION.
- ALL NAILERS ARE TO BE FLUSH WITH THE TOP OF ADJACENT SUBSTRATES.

**ROOFING NOTES:**

- WITH PRIOR APPROVAL BY THE OWNER AND AMTECH, UP TO ONE WEEKS WORTH OF MATERIALS CAN BE STORED ON THE ROOF, AS LONG AS THEY ARE ON PALLETS/CRIBBING, COVERED WITH TARPS (NO PLASTIC) AND THE ROOF STRUCTURE IS NOT OVERLOADED.
- MATERIALS STORED ON THE GROUND SHOULD BE SECURED IN A FENCED IN AREA OR IN A COVERED TRAILER TO ENSURE THEY ARE SECURE. ALL ONSITE STORAGE MUST FIRST BE REVIEWED AND APPROVED BY BOTH THE OWNER AND CONSULTANT.
- ALL MATERIALS SHALL BE KEPT DRY FROM STANDING WATER, FALLING WATER, AND CONDENSATION WHEN ON THE GROUND AND ROOF.
- BONDING ADHESIVES, MASTICS, CAULKING, ETC. ARE TO BE STORED BETWEEN 60 TO 80 DEGREES, AND NOT ALLOWED TO FREEZE.
- THE CONTRACTOR IS TO TEAR-OFF, LAY-UP, AND COMPLETE DETAILS ON ROOF AREAS BY THE END OF EACH WORKDAY.
- ROOF DETAILING AND SHEET METAL INSTALLATION NEED TO FOLLOW CLOSELY BEHIND THE ROOF MEMBRANE INSTALLATION.
- NIGHT-SEALS ARE PARAMOUNT CONTRACTOR IS REQUIRED TO TIE-IN THE NEW ROOF SYSTEM TO THE EXISTING ROOF, SUCH THAT NO WATER CAN MIGRATE INTO THE NEW ROOF ASSEMBLY AND/OR THE BUILDING.
- THE AMBIENT TEMPERATURE REQUIREMENT FOR INSTALLATION IS 40 DEGREES AND RISING.
- CONTRACTOR IS REQUIRED TO PROTECT ALL NEWLY INSTALLED ROOF MEMBRANES THAT THEY WILL WORK OVER WITH CLEAN TARPS AND PLYWOOD.
- ALL TRASH AND DEBRIS MUST BE REMOVED FROM THE ROOF SURFACE/LEVEL AS WELL AS THE GROUNDS DAILY.
- CONTRACTOR TO REPLACE ANY MISSING/ BROKEN DRAIN STRAINERS AND PARTS WITH NEW TO MATCH EXISTING. ALL DRAINS STRAINERS AND CLAMPING RINGS ARE TO BE CLEANED, PRIMED, AND PAINTED.
- NEW 1/2-INCH (OR ONE SLOPE GREATER THAN EXISTING ROOF SLOPE) CRICKETS MUST BE INSTALLED ON THE HIGH SIDE OF ALL CURBS AND PENETRATIONS WIDER THAN 24-INCHES.
- NEW WALKWAY PADS ARE TO BE INSTALLED AS INDICATED ON THE ROOF PLANS AND AT ALL LADDERS, ROOF HATCHES, RTU ACCESS PANELS, UNDER ALL SATELLITE SUPPORT SLEDS, AND AROUND ALL SIDES OF SERVICEABLE MECHANICAL EQUIPMENT. NOT ALL WALK PADS ARE SHOWN.
  - DO NOT INSTALL WALK PADS IN A MANNER THAT WILL CREATE WATER PONDING CONDITIONS.
  - WALK PADS SHALL NOT BE INSTALLED OVER MEMBRANE SEAMS OR VALLEYS.
- ALL INSULATION BOARD JOINTS SHALL BE 1/8" OR LESS IN WIDTH. FILL ALL UNEVEN OR OVERSIZED JOINTS.
- MEMBRANE ADHESIVE APPLICATION MUST BE ALLOWED TO PROPERLY FLASH OFF BEFORE MATING. ENSURE ADHESIVE IS DRY TO THE POINT OF BEING TACKY, BUT NOT STRINGY TO THE TOUCH. DO NOT ALLOW ADHESIVE TO "DRY-OUT" COMPLETELY.
- PROVIDE 4" LAP JOINTS FOR ALL SHEET METAL FLASHING RECEIVERS.
- PROVIDE CURBS FOR ALL ROOF MOUNTED EQUIPMENT WITH A DECK OPENING OF 12-INCHES OR GREATER.
- ALL MEMBRANE SEAMS MUST BE STRIPPED-IN WITH A MINIMUM 6" WIDE SEMI-CURED COVER TAPE.
- ALL INSIDE AND OUTSIDE CORNER DETAILING TO BE INSTALLED PER MANUFACTURER REQUIREMENTS.
- ELECTRIC METALLIC TUBE (EMT) CONDUITS MAY EXIST WITHIN THE HIGH FLUTES OF THE METAL ROOF DECK AREAS. CONTRACTOR TO COORDINATE ACCESS TO INTERIOR ROOF AREAS WITH OWNER AND IDENTIFY LOCATIONS WHERE EMT HAS BEEN INSTALLED WITHIN THE HIGH FLUTES OF THE METAL DECK PRIOR TO TEAR OFF AND NEW ROOF INSTALLATION. CONTRACTOR TO TAKE CARE NOT TO PENETRATE OR DAMAGE THE EXISTING EMT AND ELECTRICAL WIRING COMPONENTS AS PART OF NEW ROOF INSTALLATION. ANY DAMAGE THAT OCCURS AS A RESULT OF THE ROOF WORK WILL BE REPAIRED AND RETURNED TO PRE-CONSTRUCTION CONDITION AT NO EXPENSE TO THE OWNER.

**ROOFING SCOPE OF WORK NOTES:**

THE SCOPE OF WORK FOR THE RED ROCKS COMMUNITY COLLEGE EAST WING - PHASE 1 - ROOFING PROJECT IS COMPRISED OF THE FOLLOWING:

- A FULL ROOF REPLACEMENT OF EXISTING IN-SCOPE LOW-SLOPE CONCRETE AND METAL DECK ROOF AREAS A, B, C1, C2, C3, C4, C5, E, AND F.
- THE EXISTING ROOF SYSTEMS CONSIST OF (TOP TO BOTTOM):
  - CONCRETE DECK ROOF AREAS C2 AND C4:**
    - BALLASTED EPDM MEMBRANE (LOOSE LAID OVER)
    - ONE LAYER OF RIGID INSULATION (LOOSE LAID OVER)
    - AGGREGATE EMBEDDED BUR MEMBRANE (ADHERED OVER)
    - TAPERED LIGHTWEIGHT INSULATION CONCRETE FILL (POURED OVER)
    - CONCRETE ROOF DECK
  - METAL DECK ROOF AREAS A, B, C1, C3, C5, AND E:**
    - BALLASTED EPDM MEMBRANE (LOOSE LAID OVER)
    - ONE LAYER OF RIGID INSULATION (LOOSE LAID OVER)
    - OVER LAYER OF GYPSUM SUBSTRATE BOARD (LOOSE LAID OVER)
    - METAL ROOF DECK.
  - METAL DECK ROOF AREA F:**
    - BALLASTED EPDM MEMBRANE (LOOSE LAID OVER)
    - TAPERED RIGID INSULATION (LOOSE LAID OVER)
    - RIGID FLAT STOCK INSULATION (LOOSE LAID OVER)
    - OVER LAYER OF GYPSUM SUBSTRATE BOARD (LOOSE LAID OVER)
    - METAL ROOF DECK.
- ROOF REPLACEMENT AREAS:**
  - ALL EXISTING ROOF LAYERS, ASSOCIATED ATTACHMENTS, FLASHINGS, AND LIGHTWEIGHT INSULATING CONCRETE FILL ARE TO BE REMOVED DOWN TO THEIR CORRESPONDING ROOF DECKS AND DISPOSED WITH THE INSTALLATION OF THE FOLLOWING ROOF ASSEMBLIES (TOP TO BOTTOM).
    - CONCRETE DECK (TAPERED ROOF INSULATION SLOPE) - AREAS C2:**
      - NEW 60-MIL BLACK EPDM MEMBRANE (FULLY ADHERED OVER)
      - ONE (1) NEW LAYER OF 1/2-INCH FIRE-TREATED, PRE-PRIMED, GYPSUM COVER BOARD WITH GLASS MAT FACERS (48" X 48" BOARDS) - R-0.56 - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - NEW 3/8-INCH PER FOOT SLOPED POLYISOCYANURATE INSULATION (REFER TO PLANS) - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - ONE (1) NEW LAYER OF 2.6-INCH POLYISOCYANURATE INSULATION (48" X 48" BOARDS) - R-15.00 - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - ONE (1) NEW LAYER OF 2.6-INCH POLYISOCYANURATE INSULATION (48" X 48" BOARDS) - R-15.00 - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - NEW SELF ADHERED VAPOR RETARDER - (FULLY ADHERED OVER PRIMED SUBSTRATE)
      - EXISTING CONCRETE ROOF DECK.
        - PREPARATION OF THE EXISTING ROOF DECK SUBSTRATES TO ENSURE THEY ARE CLEANED AND PREPARED TO RECEIVE THE NEW ASSEMBLY.
        - EXISTING CONCRETE TO HAVE ALL SURFACE VOIDS AND DAMAGES REPAIRED WHERE CREATED FROM REMOVAL OF THE EXISTING ROOF ASSEMBLY.
      - TOTAL THERMAL RESISTANCE VALUE: R-30.67.
    - METAL DECK (STRUCTURAL SLOPE) - AREAS A, B, C1, C3, C5, AND E:**
      - NEW 60-MIL BLACK EPDM MEMBRANE (FULLY ADHERED OVER)
      - ONE (1) NEW LAYER OF 1/2-INCH FIRE-TREATED, PRE-PRIMED, GYPSUM COVER BOARD WITH GLASS MAT FACERS (48" X 48" BOARDS) - R-0.56 - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - ONE (1) NEW LAYER OF 2.6-INCH POLYISOCYANURATE INSULATION (48" X 48" BOARDS) - R-15.00 - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - ONE (1) NEW LAYER OF 2.6-INCH POLYISOCYANURATE INSULATION (48" X 48" BOARDS) - R-15.00 - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - NEW SELF ADHERED VAPOR RETARDER - (FULLY ADHERED OVER PRIMED SUBSTRATE)
      - NEW 3/8-INCH FIRE-TREATED, GYPSUM SUBSTRATE BOARD WITH GLASS MAT FACERS (48" X 48" BOARDS) - R-0.67 - (MECHANICALLY FASTENED WITH SCREWS AND PLATES OVER)
      - EXISTING METAL ROOF DECK.
        - PREPARATION OF THE EXISTING ROOF DECK SUBSTRATES TO ENSURE THEY ARE CLEANED AND PREPARED TO RECEIVE THE NEW ASSEMBLY.
        - TOTAL THERMAL RESISTANCE VALUE: R-31.23.
    - METAL DECK (TAPERED ROOF INSULATION SLOPE) - AREA F:**
      - NEW 60-MIL BLACK EPDM MEMBRANE (FULLY ADHERED OVER)
      - ONE (1) NEW LAYER OF 1/2-INCH FIRE-TREATED, PRE-PRIMED, GYPSUM COVER BOARD WITH GLASS MAT FACERS (48" X 48" BOARDS) - R-0.56 - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - NEW 3/8-INCH PER FOOT SLOPED POLYISOCYANURATE INSULATION (REFER TO PLANS) - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - ONE (1) NEW LAYER OF 4.5-INCH POLYISOCYANURATE INSULATION (48" X 48" BOARDS) - R-26.80 - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - NEW SELF ADHERED VAPOR RETARDER - (FULLY ADHERED OVER PRIMED SUBSTRATE)
      - NEW 3/8-INCH FIRE-TREATED, GYPSUM SUBSTRATE BOARD WITH GLASS MAT FACERS (48" X 48" BOARDS) - R-0.67 - (MECHANICALLY FASTENED WITH SCREWS AND PLATES OVER)
      - EXISTING METAL ROOF DECK.
        - PREPARATION OF THE EXISTING ROOF DECK SUBSTRATES TO ENSURE THEY ARE CLEANED AND PREPARED TO RECEIVE THE NEW ASSEMBLY.
        - WEIGHTED AVERAGE THERMAL RESISTANCE VALUE: R-31.08.
    - CONCRETE DECK (EXISTING LWC FILL SLOPE) - AREAS C4:**
      - NEW 60-MIL BLACK EPDM MEMBRANE (FULLY ADHERED OVER)
      - ONE (1) NEW LAYER OF 1/2-INCH FIRE-TREATED, PRE-PRIMED, GYPSUM COVER BOARD WITH GLASS MAT FACERS (48" X 48" BOARDS) - R-0.56 - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - ONE (1) NEW LAYER OF 2.6-INCH POLYISOCYANURATE INSULATION (48" X 48" BOARDS) - R-15.00 - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - ONE (1) NEW LAYER OF 2.6-INCH POLYISOCYANURATE INSULATION (48" X 48" BOARDS) - R-15.00 - (SET IN NEW LOW RISE FOAM ADHESIVE OVER)
      - ONE (1) LAYER OF NEW BASE SHEET OVER THE EXISTING DECK SUBSTRATE WITH MANUFACTURER REQUIRED SIDE LAPS AND END LAPS - (MECHANICALLY FASTENED WITH NEW BASE SHEET FASTENERS OVER)
      - EXISTING LIGHTWEIGHT CONCRETE OR GYPSUM ROOF DECKS.
        - PREPARATION OF THE EXISTING ROOF DECK SUBSTRATES TO ENSURE THEY ARE CLEANED AND PREPARED TO RECEIVE THE NEW ASSEMBLY.
        - EXISTING CONCRETE TO HAVE ALL SURFACE VOIDS AND DAMAGES REPAIRED WHERE CREATED FROM REMOVAL OF THE EXISTING ROOF ASSEMBLY.
      - TOTAL THERMAL RESISTANCE VALUE: R-30.56.

**MISCELLANEOUS ITEMS:**

- BASE BID SCOPE OF WORK INCLUDES:
  - CONTRACTOR TO FIELD VERIFY ATTACHMENT TO CURB AND OBTAIN PRODUCT WEIGHT SPECIFICATIONS FOR THE EXISTING ROOF TOP MECHANICAL UNIT ON ROOF AREA E AND PROVIDE UNIT COST PRICING (DEFINED WITHIN THE UNIT PRICING FORM SBP-6.133) FOR NEW Z-BRACKET WIND CLIPS PER THE REQUIREMENTS OF THE 2021 IBC AND 2021 IMC-SECTION 301.15.

**ALTERNATES**

- ROOF ACCESSORY OPTION #1 (RAO-1):**
  - INSTALL A NEW CONTINUOUS SHEET METAL TRIM ALONG THE FULL LENGTH OF THE TWO (2) SIDE WALLS OF THE RADIAL METAL ROOF ON ROOF AREA F. REFER TO THE PARTIAL ROOF PLAN ON DRAWING SHEET R-302 AND THE ASSOCIATED DETAILS 2A AND 2B ON DRAWING SHEET R-600 FOR ADDITIONAL INFORMATION.
- ROOF ACCESSORY OPTION #2 (RAO-2):**
  - IN LIEU OF THE PROPOSED 60-MIL EPDM MEMBRANE, FURNISH AND INSTALL A NEW 90-MIL BLACK EPDM MEMBRANE FULLY ADHERED TO THE PROPOSED BASE BID ROOF ASSEMBLIES AT ALL IN-SCOPE ROOF AREAS.
- ROOF ACCESSORY OPTION #3 (RAO-3):**
  - IN LIEU OF MECHANICALLY ATTACHING A NEW SBS MODIFIED-BITUMEN BASE SHEET TO THE EXISTING LIGHTWEIGHT INSULATING CONCRETE FILL (LWC) AT ROOF AREA C4, THE FOLLOWING IS PROPOSED:
    - EXISTING TAPERED LWC FILL TO BE REMOVED DOWN TO THE EXISTING CONCRETE DECK SUBSTRATE.
    - ALL VOIDS/DAMAGED TO CONCRETE DECK DURING REMOVAL OF THE EXISTING LWC FILL TO BE REPAIRED PER PROJECT REQUIREMENTS.
    - INSTALLATION OF THE PROPOSED, SELF-ADHERED VAPOR RETARDER, R-30 INSULATION, 3/8-INCH TAPERED INSULATION, 1/2-INCH COVER BOARD, AND EPDM MEMBRANE, WITH ALL LAYERS FULLY ADHERED AS DESCRIBED IN THE BASE BID SCOPE OF WORK LINE ITEM 3.2.

**ROOF ASSEMBLY ATTACHMENT SCHEDULE:**

ROOF MATERIAL	ATTACHMENT TYPE	ATTACHMENT MATERIAL	ZONE 1 ATTACHMENT RATE	ZONE 1 ATTACHMENT RATE	ZONE 2 ATTACHMENT RATE	ZONE 3 ATTACHMENT RATE
MEMBRANE	MECHANICAL	COATED SCREWS AND SEAM PLATES	-	-	-	-
	ADHESIVE	BONDING ADHESIVE	FULL COVERAGE	FULL COVERAGE	FULL COVERAGE	FULL COVERAGE
COVER BOARD (48"x48" BOARD) - NOTE 3 -	MECHANICAL	COATED SCREWS AND INSULATION PLATES (NOTE 2)	8	10	12	16
	ADHESIVE	LOW RISE FOAM - CONTINUOUS RIBBONS (NOTE 1)	6" O.C.	6" O.C.	4" O.C.	4" O.C.
INSULATION (48"x48" BOARD) - NOTE 3 -	MECHANICAL	COATED SCREWS AND INSULATION PLATES (NOTE 2)	8	10	12	16
	ADHESIVE	LOW RISE FOAM - CONTINUOUS RIBBONS (NOTE 1)	6" O.C.	6" O.C.	4" O.C.	4" O.C.
VAPOR RETARDER	MECHANICAL	-	-	-	-	-
	ADHESIVE	ADHESIVE/PRIMER	FULL COVERAGE	FULL COVERAGE	FULL COVERAGE	FULL COVERAGE
ALT. #2 BASE SHEET - NOTE 4 -	MECHANICAL	DUAL PRONG/ SPLIT-WEDGE LEG BASE SHEET FASTENERS	9.0" O.C. IN THE SIDE LAPS AND 2 STAGGERED. EQUALLY SPACED ROWS @ 12.0" O.C. THROUGH THE CENTER OF THE SHEET	9.0" O.C. IN THE SIDE LAPS AND 2 STAGGERED. EQUALLY SPACED ROWS @ 12.0" O.C. THROUGH THE CENTER OF THE SHEET	6.0" O.C. IN THE SIDE LAPS AND 3 STAGGERED. EQUALLY SPACED ROWS @ 10.0" O.C. THROUGH THE CENTER OF THE SHEET	6.0" O.C. IN THE SIDE LAPS AND 4 STAGGERED. EQUALLY SPACED ROWS @ 7.0" O.C. THROUGH THE CENTER OF THE SHEET
SUBSTRATE BOARD (48"x48" BOARD) - NOTE 3 -	MECHANICAL	COATED SCREWS AND INSULATION PLATES (NOTE 2)	8	10	12	16
	ADHESIVE	-	-	-	-	-

**NOTES:**

- LOW-RISE FOAM BEADS ARE TO BE APPLIED WET WITH A MINIMUM THICKNESS OF 3/4-INCH. LOW-RISE FOAM MUST BE ALLOWED TO RISE AND DEVELOP STRING/BODY (APPROXIMATELY 1 1/2 - 2 MIN.). STRING TIME WILL VARY BASED ON ENVIRONMENTAL CONDITIONS LIKE TEMPERATURE AND HUMIDITY. DO NOT ALLOW THE ADHESIVE TO OVER-CURE PRIOR TO SETTING MATERIALS. DO NOT INSTALL MATERIALS IN WET BEADS.
- FASTENER AND PLATE PATTERNS ARE TO BE INSTALLED PER MANUFACTURER MINIMUM REQUIREMENTS. CONTRACTOR TO FOLLOW FASTENING AND BEAD SPACING RATES AS DEFINED WITHIN THE DESIGN DOCUMENTS WHERE FASTENING AND BEAD SPACING RATES ARE MORE STRINGENT THAN MANUFACTURER REQUIREMENTS. DO NOT INSTALL FASTENERS AND PLATES WITHIN 6-INCHES OF THE MATERIAL EDGE. FASTENERS ARE NOT TO PENETRATE THE BOTTOM FLUTES. CONTRACTOR TO VERIFY FASTENERS LENGTHS AND ENSURE FASTENERS PENETRATE THE TOP OF THE DECK FLUTES A MINIMUM OF 3/4-INCH.
- FASTENING RATES SHOWN FOR ZONES 1', 1, 2, AND 3 ARE FOR 48"x48" (4x4) BOARDS. FASTENING PATTERNS MUST BE DOUBLED FOR 48"x96" (4x8) BOARDS. TYPICAL.
- BASE SHEETS AND ASSOCIATED BASE SHEET FASTENERS TO BE USED ON LIGHTWEIGHT INSULATING CONCRETE AND GYPSUM ROOF DECKS AND ONLY WHERE APPROVED BY AMTECH SOLUTIONS.

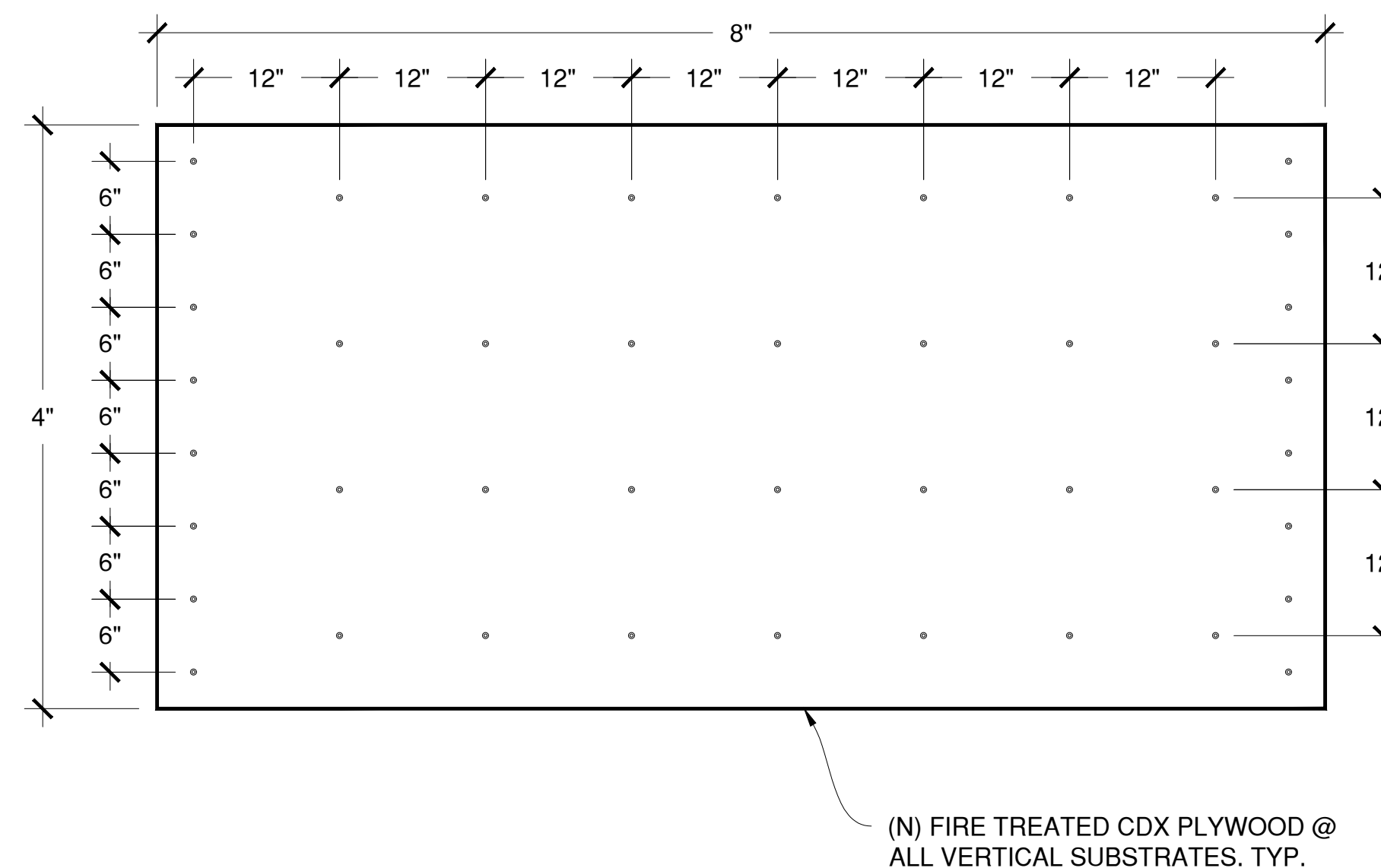
**FASTENER SCHEDULE:**

ELEMENT	SUBSTRATE	FASTENER	NUMBER AND SPACING
WOOD NAILER/BLOCKING	CONCRETE BLOCK OR MASONRY WALL	1/4" STAINLESS STEEL CONCRETE SCREWS	12" O.C. MAX. STAGGERED (NOTE 1) 1.75" PENET., MIN. PULL-OUT RESISTANCE OF 1,000 POUNDS
	HORIZONTAL WOOD NAILER	#12 MIN. WOOD/STEEL SELF-DRILLING SCREWS	2 ROWS/9" O.C. EACH ROW, MIN. (NOTE 1) 3/4" PENET., MIN. PULLOUT RESISTANCE OF 100 POUNDS
WOOD DECK	VERTICAL WOOD NAILER	#12 MIN. WOOD/STEEL SELF-DRILLING SCREWS	2 ROWS/9" O.C. EACH ROW, MIN. (NOTE 1) 3/4" PENET., MIN. PULLOUT RESISTANCE OF 100 POUNDS
	WOOD DECKING	#15 CORROSION RESISTANT STEEL SCREWS	PER SPECIFICATIONS
HOOK STRIP (CLEAT METAL)	WOOD	#8 WOOD SCREWS	8" O.C. MAX. (NOTE 1)
	CONCRETE	3/8" STAINLESS STEEL NAIL-IN EXPANSION FASTENER	6" O.C. MAX. (NOTE 1)
DRIP EDGE	WOOD	4D RING SHANK NAILS.	SEE HOOK STRIP 2 ROWS/3"-4" O.C. MAX. STAGGERED (NOTE 1)
GRAVEL STOP	WOOD	4D RING SHANK NAILS.	SEE HOOK STRIP 2 ROWS/3"-4" O.C. MAX. STAGGERED (NOTE 1)
	CONCRETE BLOCK OR MASONRY WALL	OUTSIDE-CONTINUOUS HOOK STRIP INSIDE EDGE GALVANIZED ROOFING NAILS	SEE HOOK STRIP 12" O.C. MAX. STAGGERED (NOTE 1)
TERMINATION BAR	CONCRETE BLOCK OR MASONRY WALL	3/16" STAINLESS STEEL NAIL-IN EXPANSION FASTENERS	12" O.C. MAX. (NOTE 1)
RTS/SEAM FASTENING PLATES	CONCRETE BLOCK OR MASONRY WALL	3/16" STAINLESS STEEL NAIL-IN EXPANSION FASTENERS	12" O.C. MAX. (NOTE 1)
	PLYWOOD/STEEL STUDS	#15 CORROSION RESISTANT STEEL SCREWS	
METAL FLASHING RECEIVER	CONCRETE BLOCK OR MASONRY WALL	3/16" STAINLESS STEEL NAIL-IN EXPANSION FASTENERS	12" O.C. MAX. (NOTE 1)
METAL COUNTER FLASHING	METAL FLASHING RECEIVER	#15 NEOPRENE WASHERED SELF-DRILLING SCREWS	8" O.C. MAX. (NOTE 1)
PLYWOOD SHEATHING (ILLUSTRATION BELOW)	METAL STUD FRAMING	#15 CORROSION RESISTANT STEEL SCREWS	6" O.C. MAX. @ EDGES AND 12" O.C. MAX. IN THE FIELD @ EACH STUD LOCATION (NOTE 1)
	CONCRETE BLOCK OR MASONRY WALL	3/16" STAINLESS STEEL NAIL-IN EXPANSION FASTENERS	
METAL WALL PANELS	CONCRETE BLOCK OR MASONRY WALL	CLAD WALL WITH PLYWOOD PRIOR TO PANEL INSTALL	SEE PLYWOOD SHEATHING
	PLYWOOD/STEEL STUDS	#10 CORROSION RESISTANT SELF-TAPPING TEK SCREWS	12" O.C. MAX. ALONG PANEL LEG (NOTE 1)
WALL PANEL CLOSURE METALS	CONCRETE BLOCK OR MASONRY WALL	CLAD WALL WITH PLYWOOD PRIOR TO PANEL INSTALL	SEE PLYWOOD SHEATHING
	PLYWOOD/STEEL STUDS	#10 CORROSION RESISTANT SELF-TAPPING TEK SCREWS	8" O.C. MAX. (NOTE 1)
STEEL MECHANICAL CURB	WOOD	#12 METAL TO WOOD FASTENER	6" O.C. MAX. AROUND FULL CURB PERIMETER

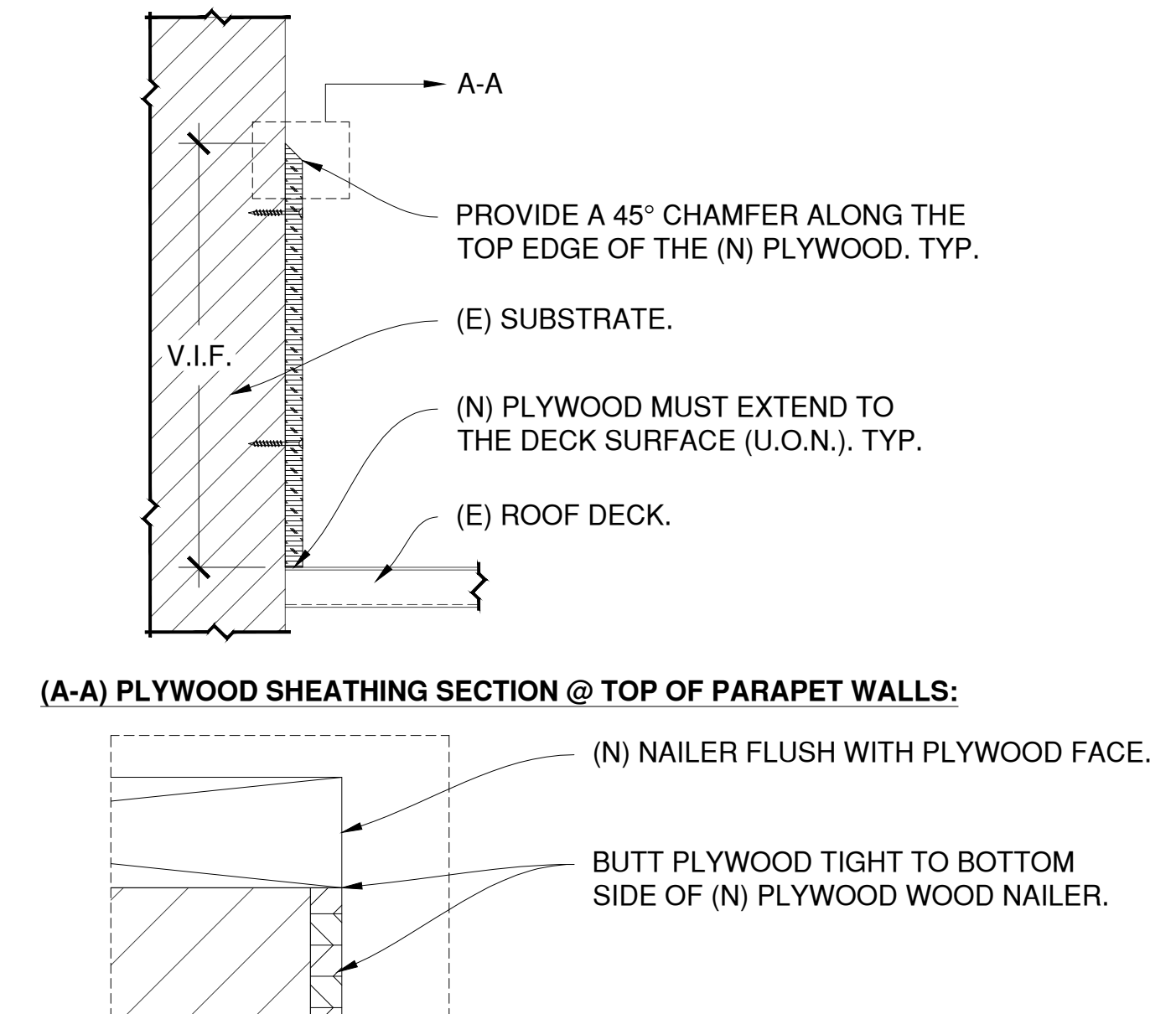
**NOTES:**

- FASTENER FREQUENCY SHALL BE DOUBLED WITHIN 10 FEET OF CORNERS.

**PLYWOOD SHEATHING FASTENING ILLUSTRATION:**



**PLYWOOD SHEATHING FASTENING SECTION @ VERTICAL SUBSTRATES:**



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LEGEND

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CLIENT  
RED ROCKS COMMUNITY COLLEGE  
13300 WEST SIXTH AVENUE  
LAKEWOOD, COLORADO 80228

PROJECT  
RED ROCKS COMMUNITY COLLEGE  
EAST WING ROOFING PROJECT  
PHASE 1  
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LAKEWOOD, COLORADO 80228

PROJECT NO. DEN.2022.001044  
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**AMTECH SOLUTIONS**  
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SHEET TITLE  
DESIGN NOTES AND SCOPE OF WORK

SHEET NO. **R-101** 02 OF 14



**ROOF ASSEMBLY NOTES:**

**1. GENERAL:**

- 1.1. VERIFY THAT SUBSTRATES ARE DRY, CLEAN, SMOOTH AND FREE OF SHARP EDGES, BURRS, DEEP DEPRESSIONS, LOOSE MATERIAL, OIL, GREASE OR OTHER FOREIGN MATERIAL PRIOR TO INSTALLATION.
- 1.2. BEGINNING INSTALLATION MEANS ACCEPTANCE OF ALL EXISTING SURFACE CONDITIONS.
- 1.3. NEATLY CUT AND FIT MATERIALS AROUND PENETRATIONS AND PROJECTIONS.
- 1.4. ONLY DRY MATERIALS ARE TO BE INSTALLED AND ONLY AS MUCH AS CAN BE COMPLETED AND DETAILED THE SAME DAY.
- 1.5. ALL MATERIAL THAT HAS BECOME WET DURING STORAGE WILL BE MARKED AND REMOVED FROM THE JOBSITE BY THE CONTRACTOR.
- 1.6. COORDINATE AND CONFIRM THAT MANUFACTURER'S ASSEMBLY MEETS OR EXCEEDS THE MINIMUM SPECIFIED ROOF ASSEMBLY RATING.
- 1.7. LISTED ATTACHMENT CRITERIA ARE MINIMUMS; ADDITIONAL OR ENHANCED ATTACHMENT REQUIRED BY MANUFACTURER'S IS TO BE PROVIDED AT NO ADDITIONAL COST.

**2. BARE BACK EPDM MEMBRANES - NON-REINFORCED:**

- 2.1. MEMBRANE SHEET MUST BE LOOSELY LAID OUT AND ALLOWED TO RELAX FOR A MINIMUM OF 30-MINUTES PRIOR TO INSTALLATION.
- 2.2. BONDING ADHESIVES ARE TO BE APPLIED IN FULL COVERAGE, EVENLY, TO BOTH THE SUBSTRATE AND THE BACK OF THE MEMBRANE SHEET.
- 2.3. ALLOW THE ADHESIVE TO DRY TO A POINT OF BEING TACKY, BUT NOT STRINGY TO THE TOUCH. DO NOT ALLOW ADHESIVE TO "DRYOUT" COMPLETELY. THE MEMBRANE AND SUBSTRATE WILL BE DRY (NON-TACKY) TO THE FINGER TOUCH.
- 2.4. ENSURE SHEETS ARE INSTALLED WITH LAPS SHINGLED IN THE DIRECTION OF THE ROOF SLOPE DRAINAGE, TO PREVENT BACKWATER LAPS.
- 2.5. SHEET EDGES ARE TO BE LAPPED AT LEAST 3-INCHES, AS REQUIRED BY THE MANUFACTURER.
- 2.6. ALL HORIZONTAL AND VERTICAL MEMBRANE SEAMS ARE TO BE OVERLAID WITH A MANUFACTURER APPROVED, 6-INCH SEMI-CURED COVER TAPE.

**3. COVER BOARD:**

- 3.1. BOARDS ARE TO BE INSTALLED WITH A MINIMUM 12-INCH MATERIAL STAGGER IN ALL DIRECTIONS.
- 3.2. GAPS BETWEEN BOARDS GREATER THAN 1/8-INCH ARE NOT ALLOWED. FILL GAPS WITH ADDITIONAL MATERIAL.
- 3.3. ALL COVER BOARDS INSTALLED IN FOAM ADHESIVE SHALL BE STEPPED INTO PLACE AND POSITIONED; WEIGHTED DOWN WITH FULL 5-GAL ADHESIVE PAILS (35# WEIGHT MINIMUM) UNTIL THE BEAD FOAM ADHESIVE HAS SET.
- 3.3.1. WEIGHTS ARE TO BE POSITIONED WITH ONE IN THE CENTER AND ONE ON EACH CORNER, SO THAT NO CUPPING OR LACK OF ADHESION OCCURS. INSULATION THAT "BOUNCES" OR DEPRESSES UNDER FOOT PRESSURE IS UNACCEPTABLE.
- 3.4. WEIGHTS ARE TO REMAIN IN PLACE ON THE COVER BOARDS FOR A MINIMUM OF 10 MINUTES.

**4. INSULATION:**

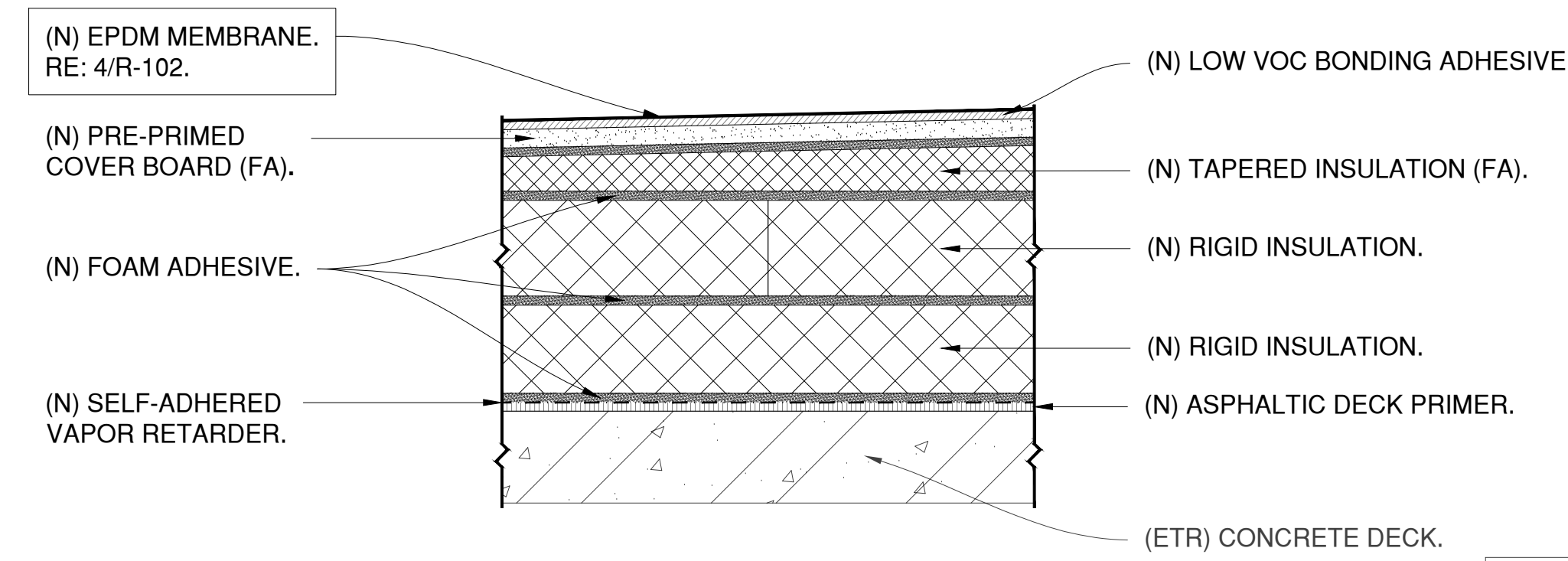
- 4.1. BOARDS ARE TO BE INSTALLED WITH A MINIMUM 12-INCH MATERIAL STAGGER IN ALL DIRECTIONS. STAGGER ADDITIONAL LAYERS OF INSULATION A MINIMUM OF 18-INCHES FROM THE PREVIOUS LAYER.
- 4.2. GAPS BETWEEN BOARDS GREATER THAN 1/8-INCH ARE NOT ALLOWED. FILL GAPS WITH ADDITIONAL MATERIAL.
- 4.3. ALL INSULATION INSTALLED IN FOAM ADHESIVE SHALL BE STEPPED INTO PLACE AND POSITIONED; WEIGHTED DOWN WITH FULL 5-GAL ADHESIVE PAILS (35# WEIGHT MINIMUM) UNTIL THE BEAD FOAM ADHESIVE HAS SET.
- 4.3.1. WEIGHTS ARE TO BE POSITIONED WITH ONE IN THE CENTER AND ONE ON EACH CORNER, SO THAT NO CUPPING OR LACK OF ADHESION OCCURS. INSULATION THAT "BOUNCES" OR DEPRESSES UNDER FOOT PRESSURE IS UNACCEPTABLE.
- 4.4. WEIGHTS ARE TO REMAIN IN PLACE ON THE INSULATION FOR A MINIMUM OF 10 MINUTES.

**5. BASE SHEET:**

- 5.1. BASE SHEET TO BE INSTALLED OVER THE (E) DECK SUBSTRATE WITH 3-INCH MINIMUM SIDE LAPS AND 6-INCH MINIMUM END LAPS.
- 5.2. BASE SHEET MUST EXTEND A MINIMUM OF 4" UP ALL VERTICAL SURFACES.
- 5.3. CONTRACTOR TO COORDINATE WITH APPROVED MANUFACTURER TO FIELD VERIFY BASE SHEET FASTENER PULL-OUT STRENGTH WITH PULL TESTS PRIOR TO CONSTRUCTION, TO ENSURE PULL STRENGTH OF BASE SHEET FASTENERS MEET UPLIFT REQUIREMENTS BY AUTHORITY HAVING JURISDICTION, MANUFACTURER'S PRODUCT, AND WARRANTY REQUIREMENTS.

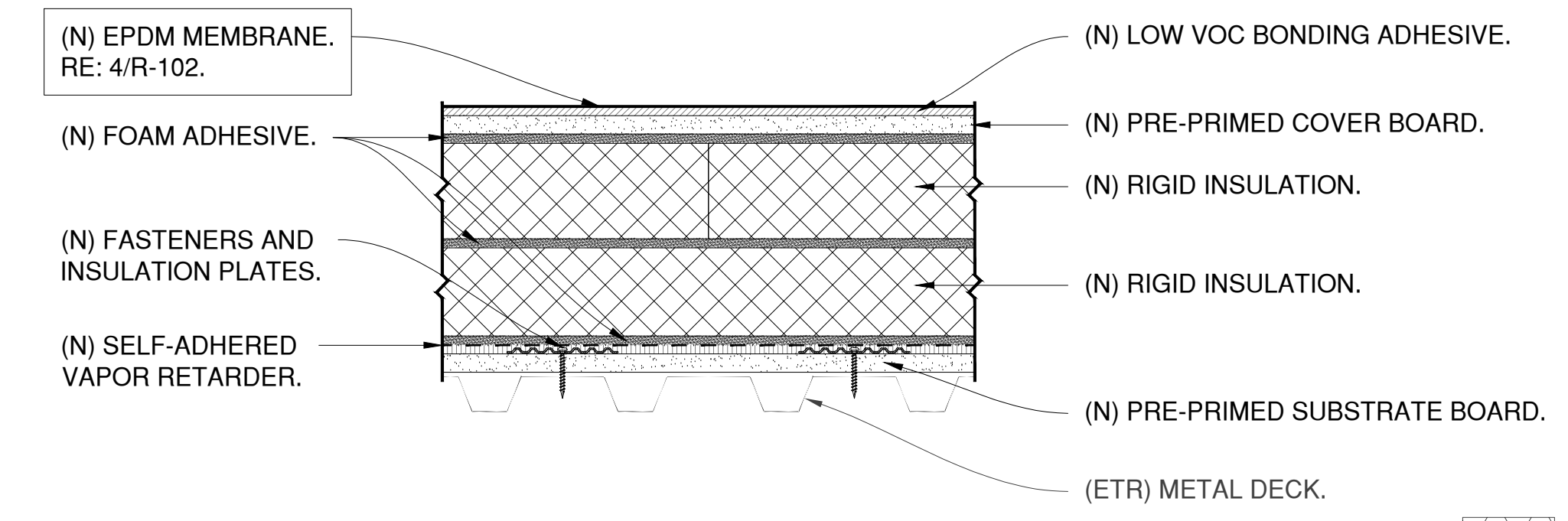
**6. SUBSTRATE BOARD:**

- 6.1. BOARDS ARE TO BE INSTALLED WITH A MINIMUM 12-INCH MATERIAL STAGGER IN ALL DIRECTIONS.
- 6.2. GAPS BETWEEN BOARDS GREATER THAN 1/8-INCH ARE NOT ALLOWED. FILL GAPS WITH ADDITIONAL MATERIAL.



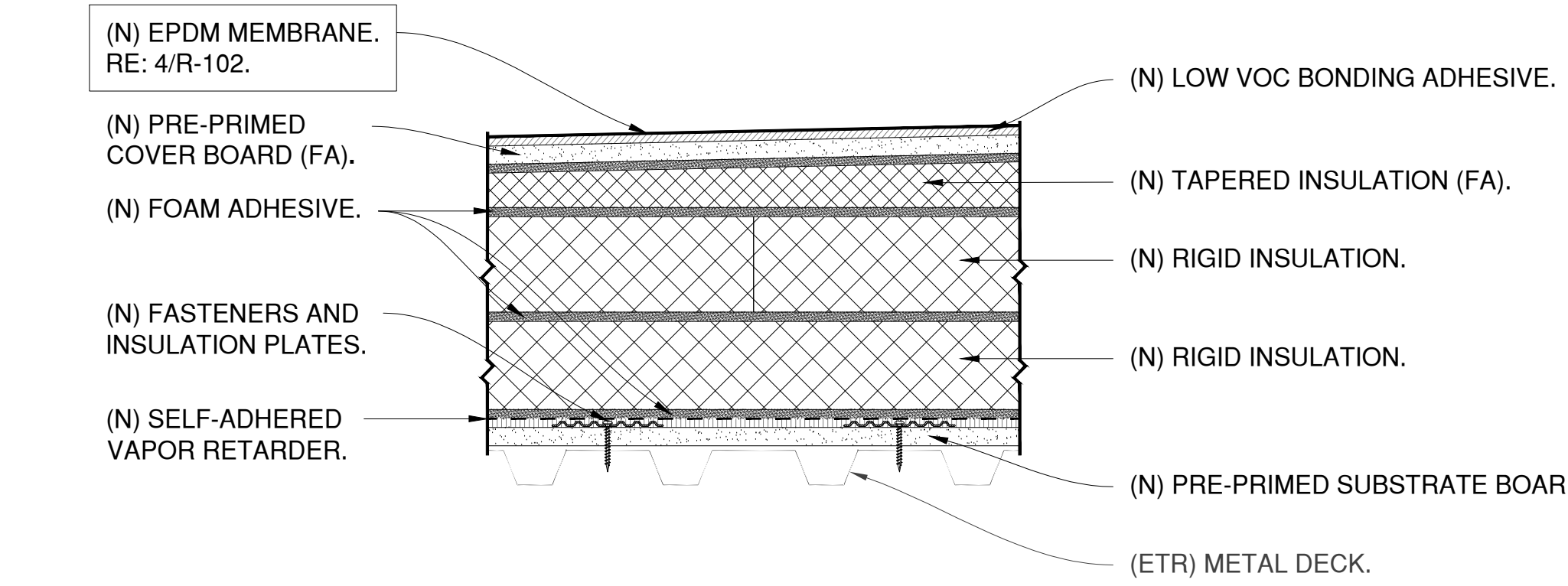
**1 ROOF ASSEMBLY @ AREA C2 (CONCRETE DECKS)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



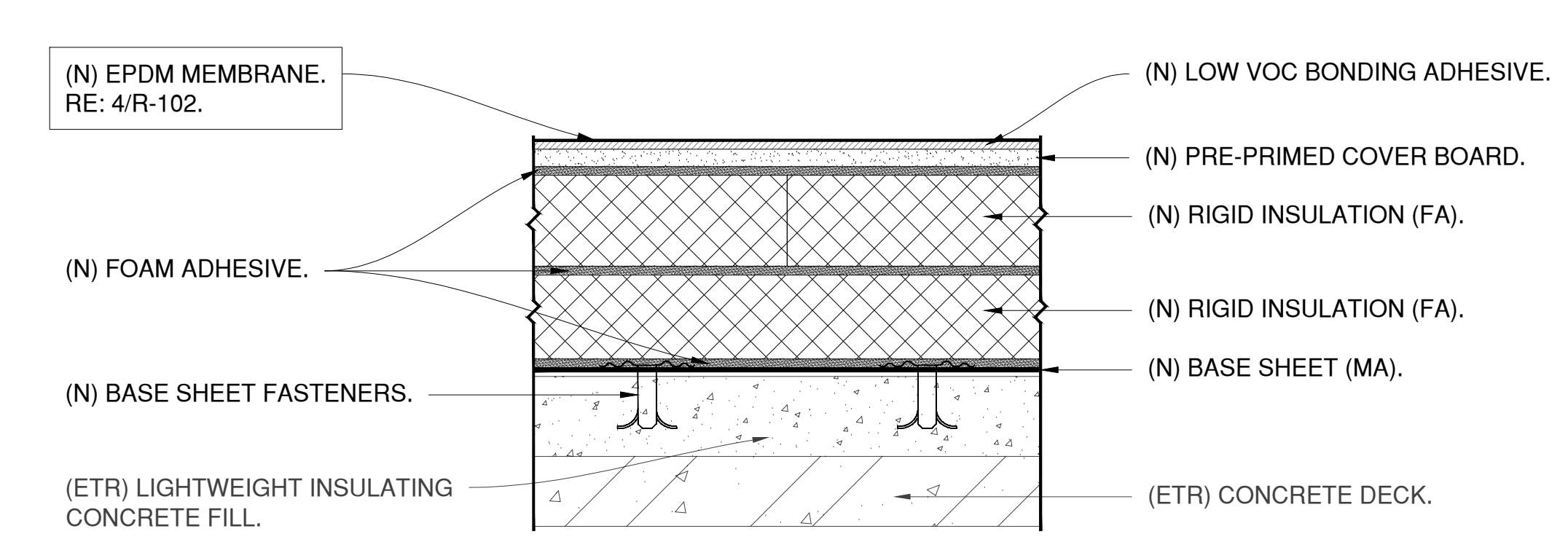
**2 ROOF ASSEMBLY @ AREAS A, B, C1, C3, C5, AND E (METAL DECKS)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



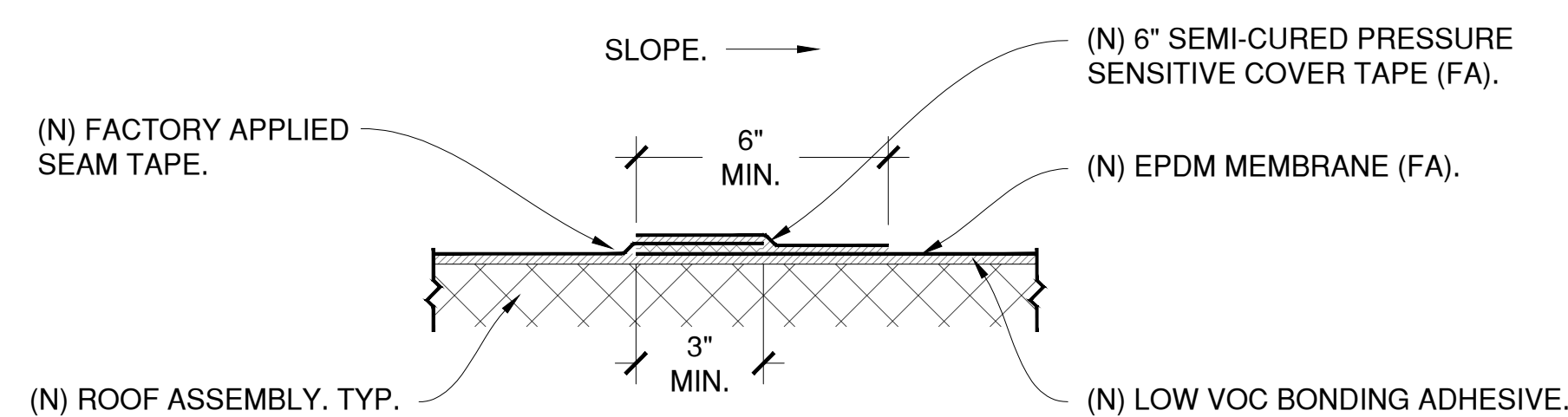
**3 ROOF ASSEMBLY @ AREA F (METAL DECKS)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



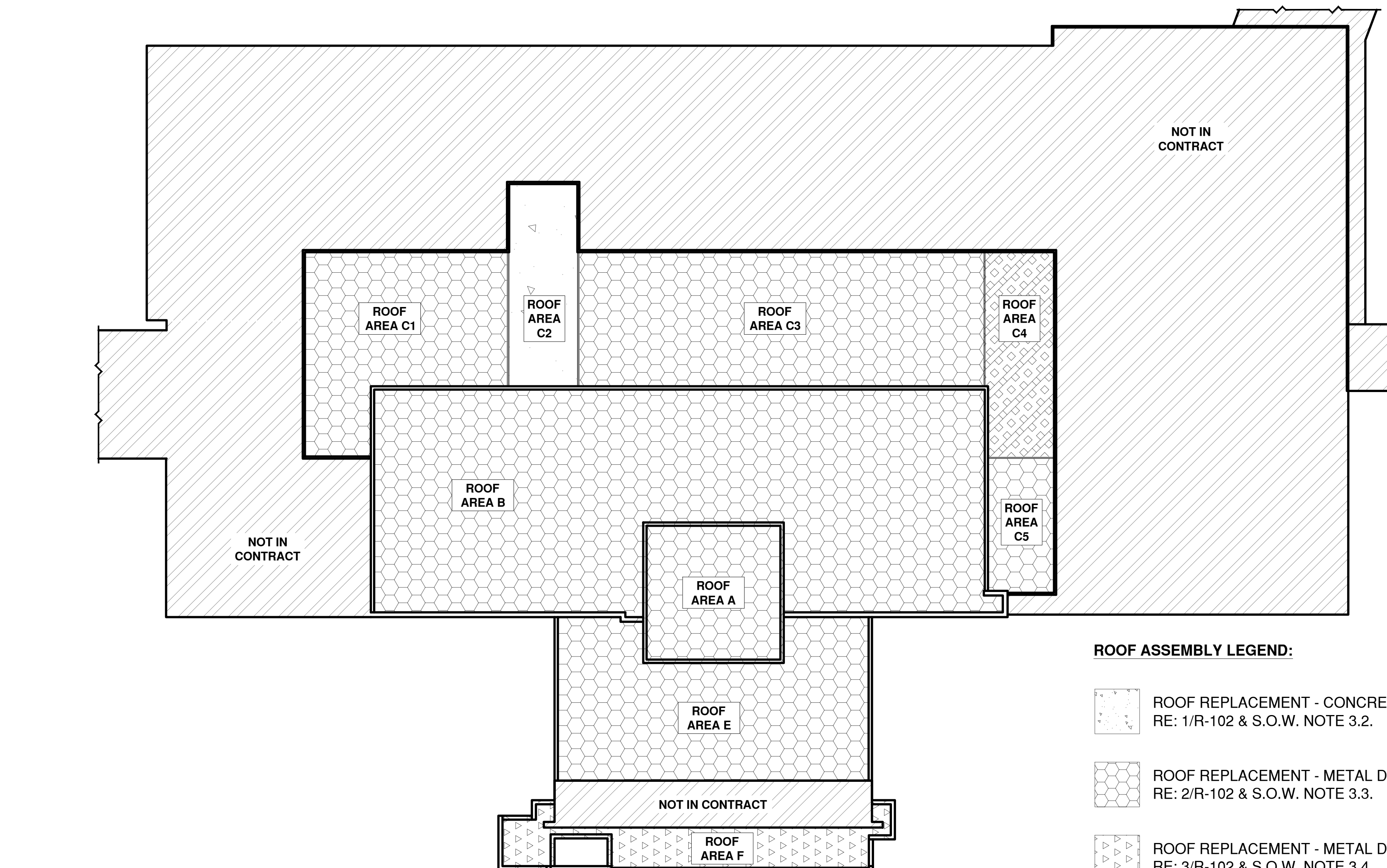
**4 ROOF ASSEMBLY @ AREA C4 (LIGHTWEIGHT CONCRETE)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



**4 EPDM FIELD MEMBRANE SEAM OVERLAY**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

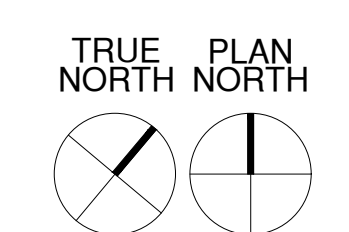


**ROOF ASSEMBLY LEGEND:**

- ROOF REPLACEMENT - CONCRETE DECK. RE: 1/R-102 & S.O.W. NOTE 3.2.
- ROOF REPLACEMENT - METAL DECK (STRUCTURAL SLOPE). RE: 2/R-102 & S.O.W. NOTE 3.3.
- ROOF REPLACEMENT - METAL DECK (TAPERED SLOPE). RE: 3/R-102 & S.O.W. NOTE 3.4.
- ROOF REPLACEMENT - METAL DECK (TAPERED SLOPE). RE: 4/R-102 & S.O.W. NOTE 3.5.
- NOT IN CONTRACT.

**A ROOF ASSEMBLY PLAN**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



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KEYPLAN LEGEND

CLIENT

RED ROCKS COMMUNITY COLLEGE  
13300 WEST SIXTH AVENUE  
LAKEWOOD, COLORADO 80228

PROJECT

RED ROCKS COMMUNITY COLLEGE  
EAST WING ROOFING PROJECT  
PHASE 1  
13300 WEST SIXTH AVENUE  
LAKEWOOD, COLORADO 80228

PROJECT NO. DEN.2022.001044

DATE 05/2023

DRAWN BY DJD

CHECKED BY RKP & SAP

DATE REVISION

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SHEET TITLE

ROOF ASSEMBLIES

SHEET NO.

R-102 03 OF 14

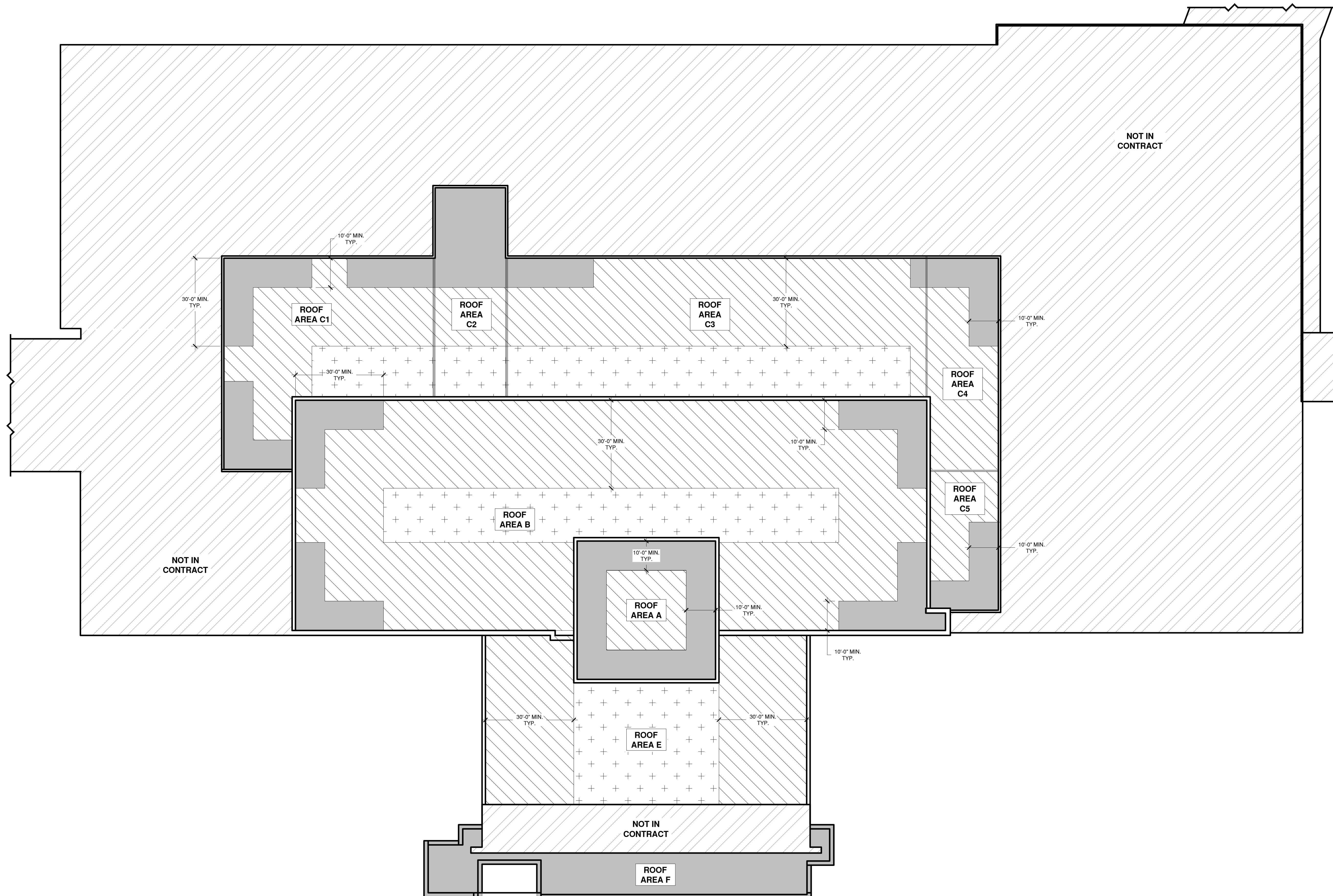
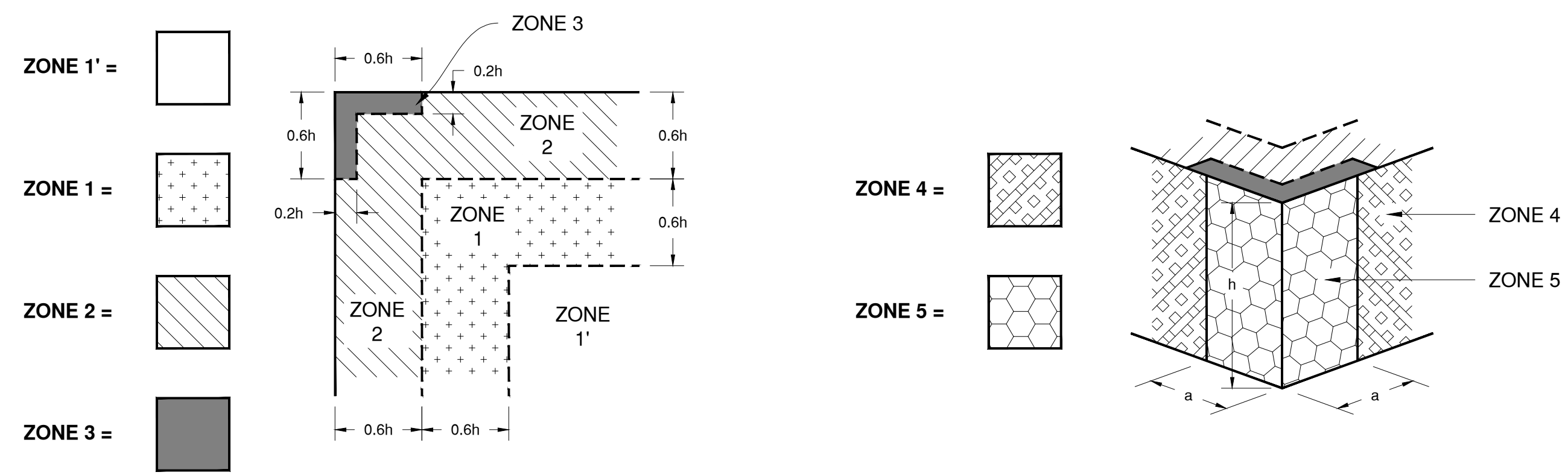


WIND DESIGN NOTES:

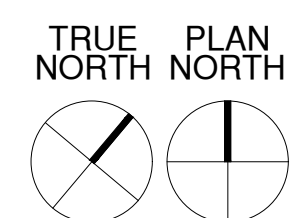
- 1. DESIGN ASSUMPTIONS:
  - 1.1. 2021 INTERNATIONAL EXISTING BUILDING CODE
    - 1.1.1. ALTERATION LEVEL 1 - REMOVE AND REPLACE WITH LIKE.
  - 1.2. 2021 INTERNATIONAL BUILDING CODE.
  - 1.3. WIND DESIGN: ASCE 7-16
    - 1.3.1. 3-SECOND PEAK GUST: 150 MPH
    - 1.3.2. EXPOSURE: C
    - 1.3.3. CLIMATE ZONES: 5B
    - 1.3.4. CONFIGURATION: ENCLOSED
    - 1.3.5. RISK CATEGORY: III

ASCE 7 - STRENGTH DESIGN VALUES:

- 1. ALL IN-SCOPE ROOF AREAS: 52- FEET
  - 1.1. DESIGN HEIGHT (h):
    - 1.1.1. 0.6h: 30.0- FEET
    - 1.1.2. 0.2h: 10.0- FEET
    - 1.1.3. a: 5.0- FEET
  - 1.2. ZONE 1' FIELD: 51.4 PSF
  - 1.3. ZONE 1' EDGE: 89.4 PSF
  - 1.4. ZONE 2' EDGE: 117.8 PSF
  - 1.5. ZONE 3' CORNER: 160.6 PSF
  - 1.6. ZONE 4' WALL FIELD: 59.6 PSF
  - 1.7. ZONE 5' WALL CORNER: 73.6 PSF



**B** WIND ZONE PLAN  
 NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



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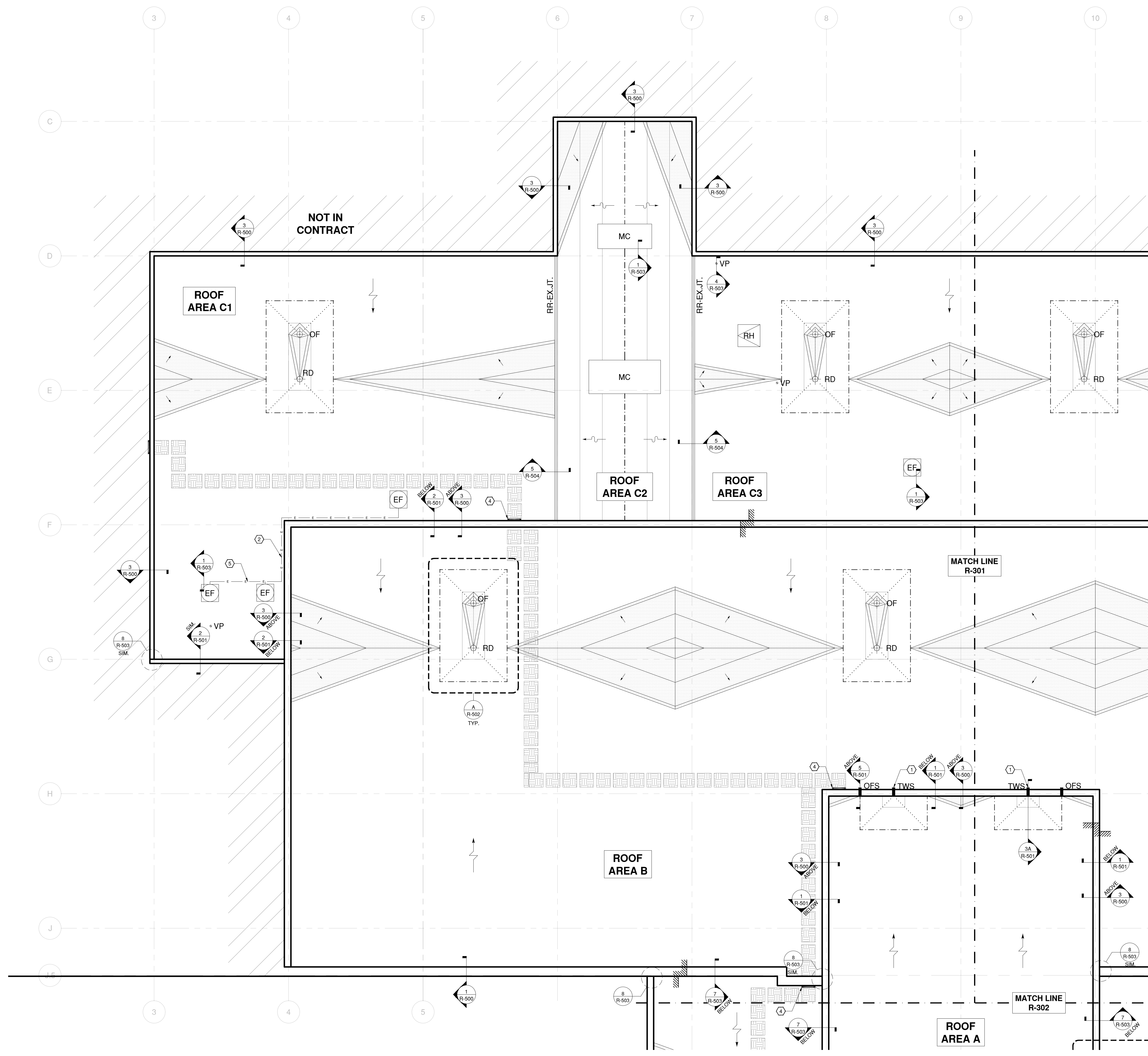
PROJECT  
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 EAST WING ROOFING PROJECT  
 PHASE 1  
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 LAKEWOOD, COLORADO 80228

PROJECT NO.	DEN.2022.001044
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**AMTECH SOLUTIONS**  
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SHEET TITLE  
 WIND DESIGN

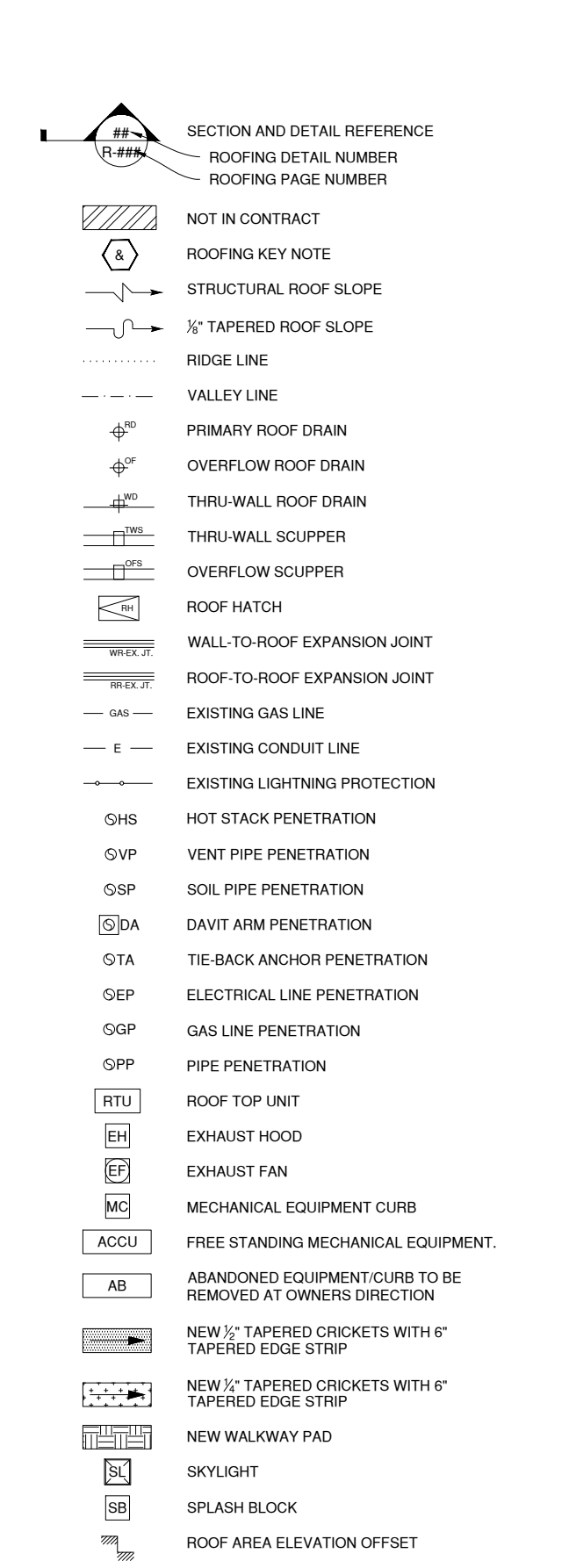




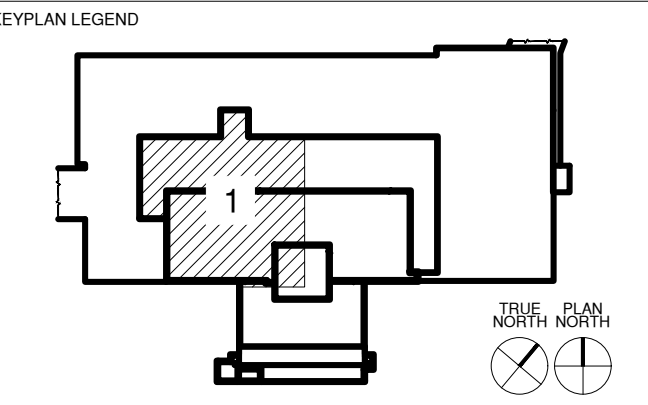
KEYNOTES:

- INSTALL NEW SPLASH BLOCKS ON MEMBRANE SLIP SHEETS AT ALL ROOF TOP DISCHARGE LOCATIONS. TYPICAL.
- CONTRACTOR TO COORDINATE WITH OWNER REGARDING ALL WALL MOUNTED ELECTRICAL UNITS, CAMERAS, AND UNISTRUT SUPPORTS WHERE INTERFERENCE WITH ROOFING WORK MAY OCCUR. ELECTRICAL TO ONLY BE REMOVED AND REINSTALLED PER THE OWNER'S DIRECTION.
- MECHANICAL DUCT WORK AND SUPPORT FRAMING ABOVE ROOF SYSTEM.
- EXISTING WALL MOUNTED ROOF ACCESS LADDER:**
  - ALL WALL CONNECTIONS TO BE REPAIRED AND TIGHTENED. TYPICAL.
  - BOTTOM SIDE RAILS TO BE CUT BACK AS NEEDED AT BASE LOCATION TO ACCOUNT FOR NEW ROOF ASSEMBLY HEIGHT. ENSURE BOTTOM OF LADDER HAS 4" TO 6" OF CLEARANCE FROM TOP OF ROOF SURFACE.
  - BOTTOM WALL MOUNTED L-BRACKETS TO BE CUT AND RAISED A MINIMUM OF 6" ABOVE THE NEW SURFACE MOUNTED COUNTER FLASHING. L-BRACKETS ARE TO BE WELDED BACK TO SIDE RAILS AND ANCHORED TO EXISTING SUBSTRATE.
- EXISTING UNISTRUT CONDUIT LINE SUPPORTS TO BE REMOVED/DISPOSED AND REPLACED WITH NEW PROJECT SPECIFIED SUPPORT STANDS. TYPICAL.

LEGEND



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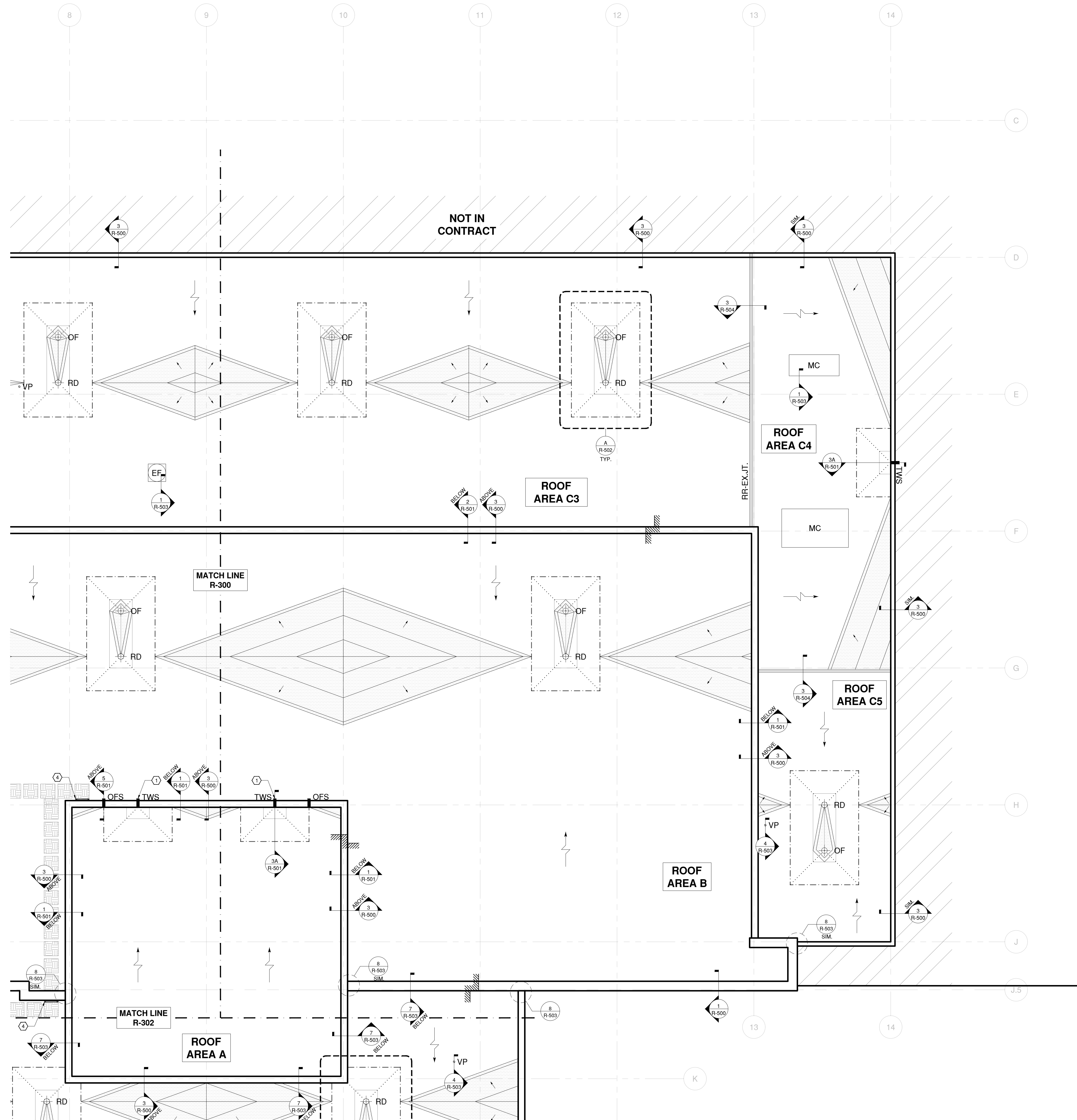
SHEET TITLE  
 PARTIAL ROOF PLAN

SHEET NO.  
**R-300** 05 OF 14

- CONTRACTOR TO REMOVE ONLY AS MUCH ROOFING PER DAY AS THEY ARE ABLE TO MAKE WATERTIGHT AND SECURE AT THE END OF THEIR WORK DAY. ANY DAMAGE CAUSED BY WEATHER OR OTHER ELEMENTS AS A RESULT OF UNFINISHED ROOFING WILL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL REPLACE/REPAIR ALL INTERIOR AND EXTERIOR DAMAGE, RESULTING FROM UNFINISHED/UNPROTECTED ROOF CONSTRUCTION AT THEIR OWN EXPENSE.
- ALL CONDITIONS OR PENETRATIONS MAY NOT BE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS AND MEASUREMENTS.
- DETAIL CALL OUTS AND KEY NOTES MAY ONLY BE REFERENCED ONCE ON THE DRAWINGS. ONCE A PARTICULAR CALL OUT OR KEY NOTE HAS BEEN REFERENCED OR INDICATED BY LEGEND, IT MAY NOT BE REFERENCED AGAIN ON THE DRAWINGS, BUT ITS USE SHALL BE TYPICAL.
- ROOF TAPER PLANS ARE PRELIMINARY. ROOFING CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND COORDINATE WITH ROOF MEMBRANE MANUFACTURER AND/OR SUPPLIER FOR FINAL DRAINAGE TAPER PLANS TO BE REVIEWED AND APPROVED BY AMTECH PRIOR TO CONSTRUCTION.
- GRID LINES ARE FOR REFERENCE ONLY.

**C** PARTIAL ROOF PLAN - KEY PLAN 1  
 NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)





KEYNOTES:

- INSTALL NEW SPLASH BLOCKS ON MEMBRANE SLIP SHEETS AT ALL ROOF TOP DISCHARGE LOCATIONS. TYPICAL.
- CONTRACTOR TO COORDINATE WITH OWNER REGARDING ALL WALL MOUNTED ELECTRICAL UNITS, CAMERAS, AND UNISTRUT SUPPORTS WHERE INTERFERENCE WITH ROOFING WORK MAY OCCUR. ELECTRICAL TO ONLY BE REMOVED AND REINSTALLED PER THE OWNER'S DIRECTION.
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- EXISTING UNISTRUT CONDUIT LINE SUPPORTS TO BE REMOVED/DISPOSED AND REPLACED WITH NEW PROJECT SPECIFIED SUPPORT STANDS. TYPICAL.

LEGEND

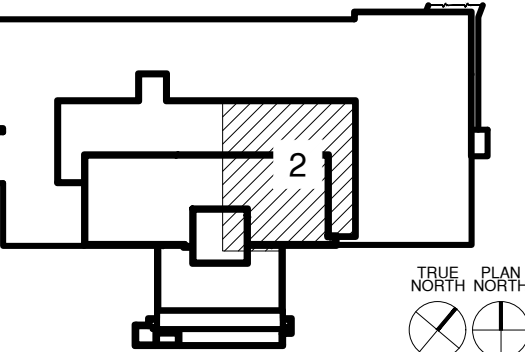
- SECTION AND DETAIL REFERENCE
- ROOFING DETAIL NUMBER
- ROOFING PAGE NUMBER
- NOT IN CONTRACT
- ROOFING KEY NOTE
- STRUCTURAL ROOF SLOPE
- 1/2" TAPERED ROOF SLOPE
- RIDGE LINE
- VALLEY LINE
- PRIMARY ROOF DRAIN
- OVERFLOW ROOF DRAIN
- THRU-WALL ROOF DRAIN
- THRU-WALL SCUPPER
- OVERFLOW SCUPPER
- ROOF HATCH
- WALL TO ROOF EXPANSION JOINT
- ROOF TO ROOF EXPANSION JOINT
- EXISTING GAS LINE
- EXISTING CONDUIT LINE
- EXISTING LIGHTNING PROTECTION
- HOT STACK PENETRATION
- VENT PIPE PENETRATION
- SOL PIPE PENETRATION
- DAVIT ARM PENETRATION
- TE-BACK ANCHOR PENETRATION
- ELECTRICAL LINE PENETRATION
- GAS LINE PENETRATION
- PIPE PENETRATION
- ROOF TOP UNIT
- EXHAUST HOOD
- EXHAUST FAN
- MECHANICAL EQUIPMENT CURB
- FREE STANDING MECHANICAL EQUIPMENT
- ABANDONED EQUIPMENT CURB TO BE REMOVED AT OWNERS DIRECTION
- NEW 1/2" TAPERED CRACKETS WITH 1/2" TAPERED EDGE STRIP
- NEW 1/2" TAPERED CRACKETS WITH 1/2" TAPERED EDGE STRIP
- NEW HOLLOWWAY PAD
- SKYLIGHT
- SPLASH BLOCK
- ROOF AREA ELEVATION OFFSET

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KEYPLAN LEGEND



CLIENT

RED ROCKS COMMUNITY COLLEGE  
 13300 WEST SIXTH AVENUE  
 LAKEWOOD, COLORADO 80228

PROJECT

RED ROCKS COMMUNITY COLLEGE  
 EAST WING ROOFING PROJECT  
 PHASE 1  
 13300 WEST SIXTH AVENUE  
 LAKEWOOD, COLORADO 80228

PROJECT NO. DEN.2022.001044

DATE 05/2023

DRAWN BY DJD

CHECKED BY RKP & SAP

DATE	REVISION

**AMTECH SOLUTIONS**  
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SHEET TITLE

PARTIAL ROOF PLAN

SHEET NO.

R-301 06 OF 14

**D PARTIAL ROOF PLAN - KEY PLAN 2**  
 NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

- CONTRACTOR TO REMOVE ONLY AS MUCH ROOFING PER DAY AS THEY ARE ABLE TO MAKE WATERTIGHT AND SECURE AT THE END OF THEIR WORK DAY. ANY DAMAGE CAUSED BY WEATHER OR OTHER ELEMENTS AS A RESULT OF UNFINISHED ROOFING WILL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL REPLACE/REPAIR ALL INTERIOR AND EXTERIOR DAMAGE, RESULTING FROM UNFINISHED/UNPROTECTED ROOF CONSTRUCTION AT THEIR OWN EXPENSE.
- ALL CONDITIONS OR PENETRATIONS MAY NOT BE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS AND MEASUREMENTS.
- DETAIL CALL OUTS AND KEY NOTES MAY ONLY BE REFERENCED ONCE ON THE DRAWINGS. ONCE A PARTICULAR CALL OUT OR KEY NOTE HAS BEEN REFERENCED OR INDICATED BY LEGEND, IT MAY NOT BE REFERENCED AGAIN ON THE DRAWINGS, BUT ITS USE SHALL BE TYPICAL.
- ROOF TAPER PLANS ARE PRELIMINARY. ROOFING CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND COORDINATE WITH ROOF MEMBRANE MANUFACTURER AND/OR SUPPLIER FOR FINAL DRAINAGE TAPER PLANS TO BE REVIEWED AND APPROVED BY AMTECH PRIOR TO CONSTRUCTION.
- GRID LINES ARE FOR REFERENCE ONLY.

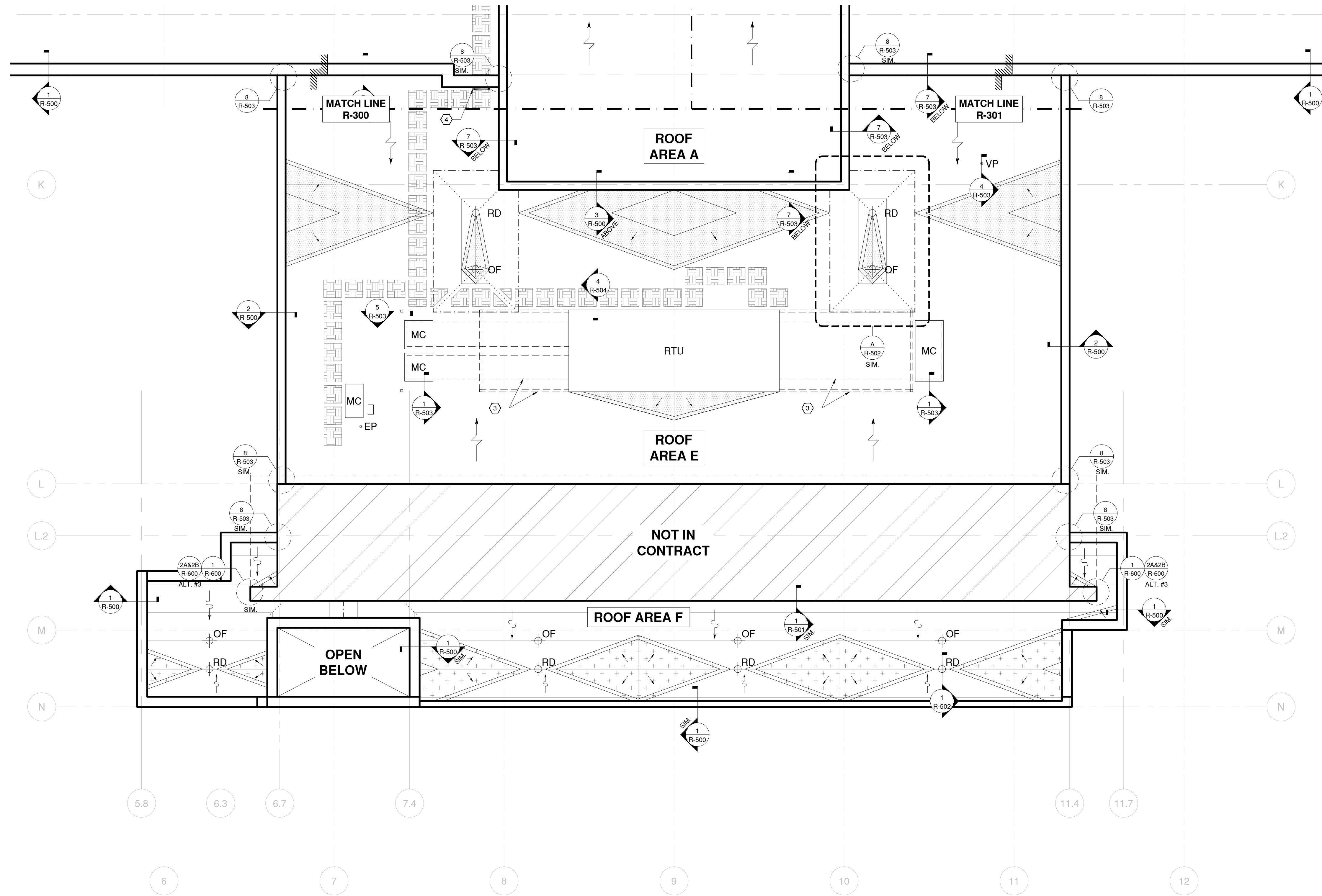


LEGEND

- SECTION AND DETAIL REFERENCE  
ROOFING DETAIL NUMBER  
ROOFING PAGE NUMBER
- NOT IN CONTRACT
- ROOFING KEY NOTE
- STRUCTURAL ROOF SLOPE
- 5" TAPERED ROOF SLOPE
- RISE LINE
- VALLEY LINE
- 4" PRIMARY ROOF DRAIN
- 4" OVERFLOW ROOF DRAIN
- 4" THRU-WALL ROOF DRAIN
- THRU-WALL SCUPPER
- OVERFLOW SCUPPER
- ROOF HATCH
- WALL TO ROOF EXPANSION JOINT
- ROOF TO ROOF EXPANSION JOINT
- EXISTING GAS LINE
- EXISTING CONDUIT LINE
- EXISTING LIGHTNING PROTECTION
- SHS HOT STACK PENETRATION
- GVP VENT PIPE PENETRATION
- GSP SOL PIPE PENETRATION
- DAVIT ARM PENETRATION
- GTA TIE-BACK ANCHOR PENETRATION
- GEP ELECTRICAL LINE PENETRATION
- GQP GAS LINE PENETRATION
- GPP PIPE PENETRATION
- RTU ROOF TOP UNIT
- EXHAUST HOOD
- EXHAUST FAN
- MECHANICAL EQUIPMENT CURB
- FREE STANDING MECHANICAL EQUIPMENT
- ABANDONED EQUIPMENT CURB TO BE REMOVED AT OWNERS DIRECTION
- NEW 1/2" TAPERED CRACKETS WITH 1/2" TAPERED EDGE STRIP
- NEW 1/2" TAPERED CRACKETS WITH 1/2" TAPERED EDGE STRIP
- NEW WALKWAY PAD
- SKYLIGHT
- SPLASH BLOCK
- ROOF AREA ELEVATION OFFSET

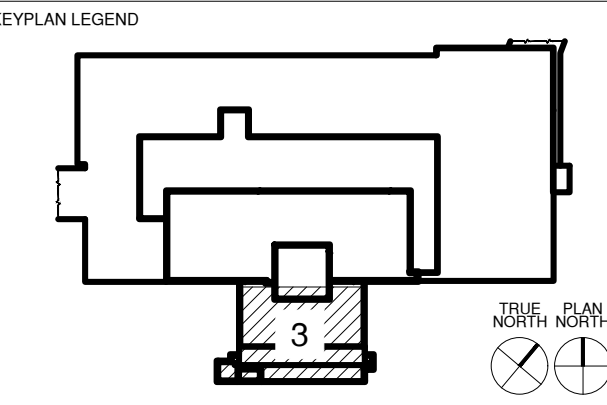
KEYNOTES:

1. INSTALL NEW SPLASH BLOCKS ON MEMBRANE SLIP SHEETS AT ALL ROOF TOP DISCHARGE LOCATIONS. TYPICAL.
2. CONTRACTOR TO COORDINATE WITH OWNER REGARDING ALL WALL MOUNTED ELECTRICAL UNITS, CAMERAS, AND UNISTRUT SUPPORTS WHERE INTERFERENCE WITH ROOFING WORK MAY OCCUR. ELECTRICAL TO ONLY BE REMOVED AND REINSTALLED PER THE OWNER'S DIRECTION.
3. MECHANICAL DUCT WORK AND SUPPORT FRAMING ABOVE ROOF SYSTEM.
4. **EXISTING WALL MOUNTED ROOF ACCESS LADDER:**
  - 4.1. ALL WALL CONNECTIONS TO BE REPAIRED AND TIGHTENED. TYPICAL.
  - 4.2. BOTTOM SIDE RAILS TO BE CUT BACK AS NEEDED AT BASE LOCATION TO ACCOUNT FOR NEW ROOF ASSEMBLY HEIGHT. ENSURE BOTTOM OF LADDER HAS 4" TO 6" OF CLEARANCE FROM TOP OF ROOF SURFACE.
  - 4.3. BOTTOM WALL MOUNTED L-BRACKETS TO BE CUT AND RAISED A MINIMUM OF 6" ABOVE THE NEW SURFACE MOUNTED COUNTER FLASHING. L-BRACKETS ARE TO BE WELDED BACK TO SIDE RAILS AND ANCHORED TO EXISTING SUBSTRATE.
5. EXISTING UNISTRUT CONDUIT LINE SUPPORTS TO BE REMOVED/DISPOSED AND REPLACED WITH NEW PROJECT SPECIFIED SUPPORT STANDS. TYPICAL.



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PROJECT  
**RED ROCKS COMMUNITY COLLEGE  
EAST WING ROOFING PROJECT  
PHASE 1**  
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PROJECT NO.	DEN.2022.001044
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SHEET TITLE  
**PARTIAL ROOF PLAN**

SHEET NO.  
**R-302**      07 OF 14

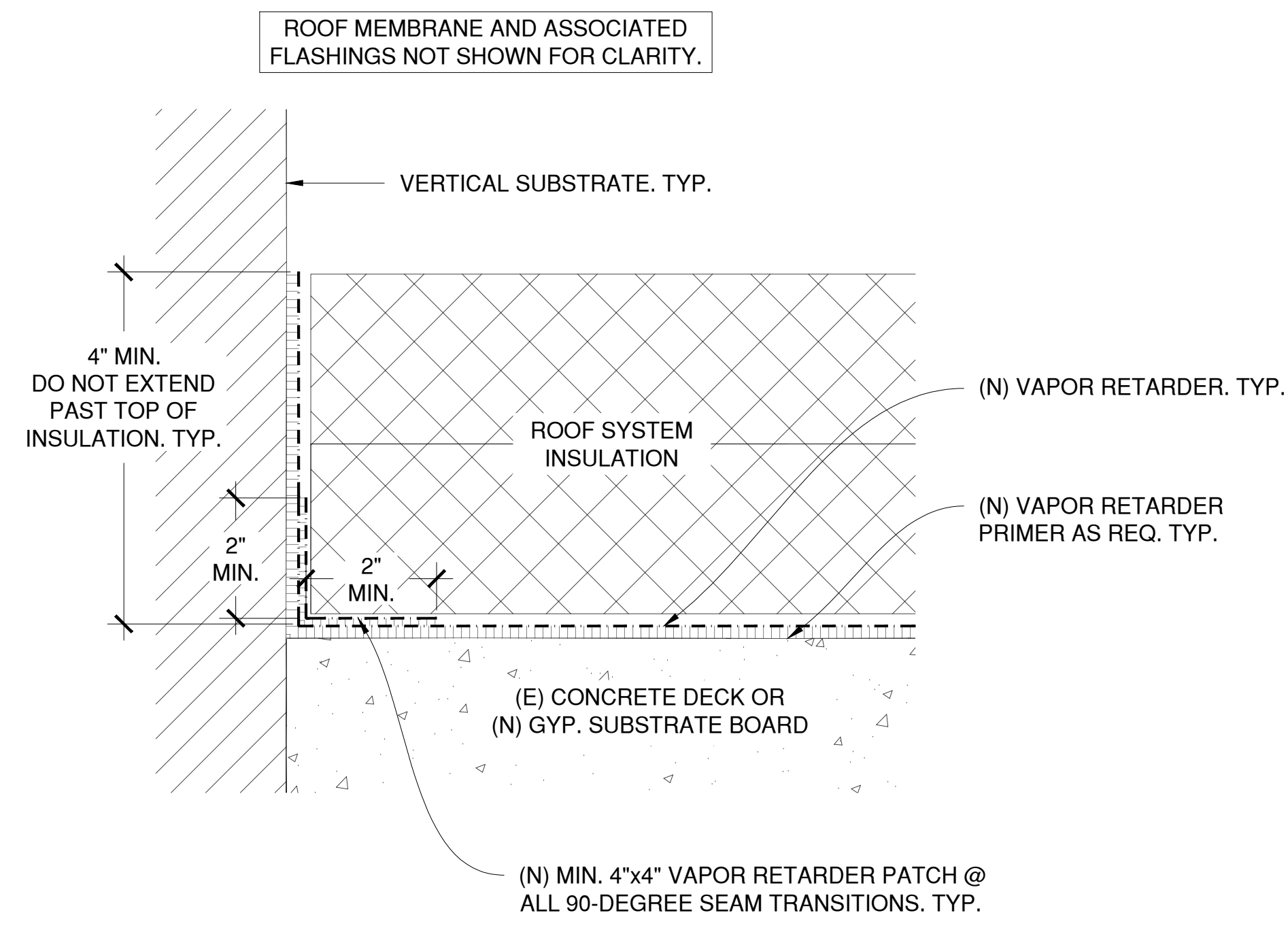
1. CONTRACTOR TO REMOVE ONLY AS MUCH ROOFING PER DAY AS THEY ARE ABLE TO MAKE WATERTIGHT AND SECURE AT THE END OF THEIR WORK DAY. ANY DAMAGE CAUSED BY WEATHER OR OTHER ELEMENTS AS A RESULT OF UNFINISHED ROOFING WILL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL REPLACE/REPAIR ALL INTERIOR AND EXTERIOR DAMAGE, RESULTING FROM UNFINISHED/UNPROTECTED ROOF CONSTRUCTION AT THEIR OWN EXPENSE.
2. ALL CONDITIONS OR PENETRATIONS MAY NOT BE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS AND MEASUREMENTS.
3. DETAIL CALL OUTS AND KEY NOTES MAY ONLY BE REFERENCED ONCE ON THE DRAWINGS. ONCE A PARTICULAR CALL OUT OR KEY NOTE HAS BEEN REFERENCED OR INDICATED BY LEGEND, IT MAY NOT BE REFERENCED AGAIN ON THE DRAWINGS, BUT ITS USE SHALL BE TYPICAL.
4. ROOF TAPER PLANS ARE PRELIMINARY. ROOFING CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND COORDINATE WITH ROOF MEMBRANE MANUFACTURER AND/OR SUPPLIER FOR FINAL DRAINAGE TAPER PLANS TO BE REVIEWED AND APPROVED BY AMTECH PRIOR TO CONSTRUCTION.
5. GRID LINES ARE FOR REFERENCE ONLY.

**E** PARTIAL ROOF PLAN - KEY PLAN 3  
NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



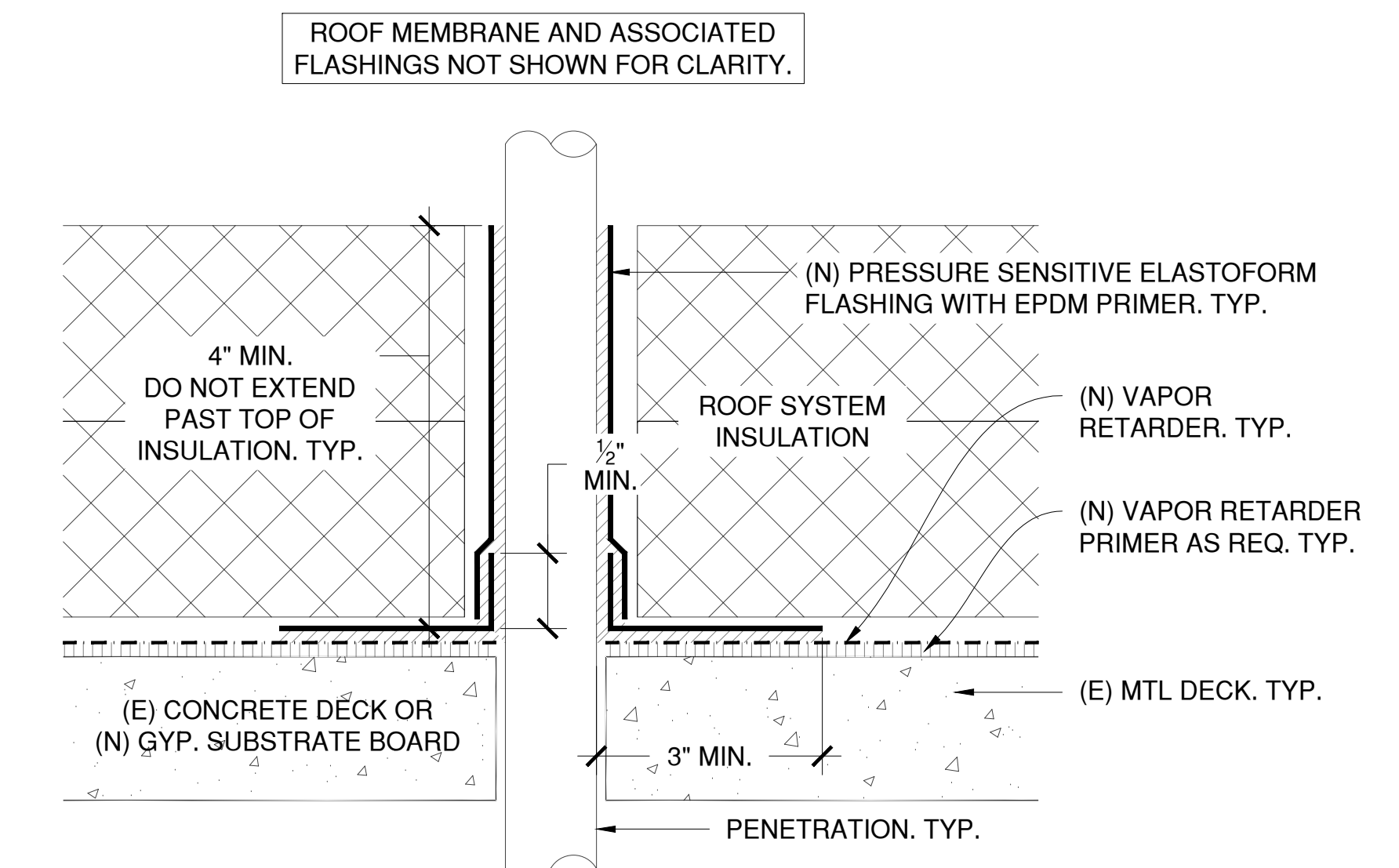
**VAPOR RETARDER NOTES:**

1. **GENERAL:**
  - 1.1. VAPOR RETARDER TO BE INSTALLED AT ALL IN SCOPE ROOF AREAS WHERE THE EXISTING ROOF SYSTEM IS BEING REMOVED DOWN TO THE EXISTING ROOF DECK.
  - 1.2. REFER TO ASSOCIATED DETAILS ON R-400 FOR APPLICATION OVER SUBSTRATE BOARDS, CONCRETE, AND METAL DECKS.
2. **EXAMINATION AND PREPARATION:**
  - 2.1. THE CONTRACTOR SHALL EXAMINE ALL ROOFING SUBSTRATES INCLUDING, BUT NOT LIMITED TO: INSULATION MATERIALS, ROOF DECKS, WALLS, CURBS, ROOFTOP EQUIPMENT, FIXTURES, AND WOOD BLOCKING.
  - 2.2. THE APPLICATOR SHALL NOT BEGIN INSTALLATION UNTIL CONDITIONS HAVE BEEN PROPERLY EXAMINED AND DETERMINED TO BE CLEAN, DRY, AND OTHERWISE SATISFACTORY TO RECEIVE SPECIFIED ROOFING MATERIALS.
  - 2.3. DURING THE APPLICATION OF SPECIFIED MATERIALS, THE APPLICATOR SHALL CONTINUE TO EXAMINE ALL PROJECT CONDITIONS TO ENSURE CONDITIONS REMAIN SATISFACTORY TO COMPLETE THE SPECIFIED ROOFING SYSTEM.
  - 2.4. BEFORE COMMENCING WORK EACH DAY, THE CONTRACTOR SHALL PREPARE ALL ROOFING SUBSTRATES TO ENSURE CONDITIONS ARE SATISFACTORY TO PROCEED WITH THE INSTALLATION OF SPECIFIED ROOFING MATERIALS. PREPARATION OF SUBSTRATES INCLUDES, BUT IS NOT LIMITED TO, SUBSTRATE REPAIRS, SECUREMENT OF SUBSTRATES, ELIMINATING ALL INCOMPATIBLE MATERIALS, AND CLEANING.
  - 2.5. WHERE CONDITIONS ARE FOUND TO BE UNSATISFACTORY, WORK SHALL NOT BEGIN UNTIL CONDITIONS ARE MADE SATISFACTORY TO BEGIN WORK. COMMENCING OF WORK SHALL INDICATE CONTRACTOR'S ACCEPTANCE OF CONDITIONS.
3. **PRIMER APPLICATION:**
  - 3.1. EXAMINE ALL SUBSTRATES, AND CONDUCT ADHESION PEEL TESTS AS NECESSARY, TO ENSURE SATISFACTORY ADHESION IS ACHIEVED.
  - 3.2. APPLY THE APPROPRIATE SPECIFIED PRIMER TO DRY, COMPATIBLE SUBSTRATES AS REQUIRED TO ENHANCE ADHESION OF NEW SPECIFIED MATERIALS.
  - 3.3. APPLY PRIMER USING BRUSH, ROLLER, OR SPRAYER AT THE RATE PUBLISHED ON THE PRODUCT DATA SHEET PER MANUFACTURER REQUIREMENTS.
  - 3.4. PRIMER IS SATISFACTORILY CURED WHEN IT WILL NOT TRANSFER WHEN TOUCHED.
  - 3.5. ONLY PRIME AREAS WHERE THE MEMBRANE AND ROOF SYSTEM WILL BE INSTALLED ON THE SAME DAY.
  - 3.6. RE-PRIME AREAS THAT HAVE BECOME DRY.
  - 3.7. PROJECT CONDITIONS VARY THROUGHOUT THE DAY. MONITOR CHANGING CONDITIONS, MONITOR THE DRYING TIME OF PRIMERS, AND MONITOR THE ADHESION OF THE MEMBRANE PLIES. ADJUST PRIMER AND MEMBRANE APPLICATION METHODS AS NECESSARY TO ACHIEVE THE DESIRED RESULTS.
4. **VAPOR RETARDER APPLICATION:**
  - 4.1. APPLY VAPOR RETARDER FROM LOW TO HIGH POINT IN A SHINGLE FASHION SO THAT LAPS WILL SHED WATER.
  - 4.2. INSTALL NEW VAPOR RETARDER WITH SIDE LAPS AND END LAPS IN ACCORDANCE WITH MANUFACTURER MINIMUM OVERLAP REQUIREMENTS.
  - 4.3. END LAPS SHALL BE STAGGERED.
  - 4.4. SEAMS AND END LAPS MUST BE ROLLED WITH A 2-INCH SEAM ROLLER.
  - 4.5. PLACE MEMBRANE CAREFULLY TO AVOID WRINKLES AND FISHMOUTHS.
  - 4.6. VAPOR RETARDER IS TO BE INSTALLED PARALLEL TO THE DECK FLUTES AT METAL ROOF DECKS.
  - 4.7. VAPOR RETARDER MUST EXTEND A MINIMUM OF 4-INCHES UP ALL VERTICAL SURFACES.
  - 4.8. VAPOR RETARDER MUST BE ROLLED INTO PLACE WITH A MIN. 100LB WEIGHTED ROLLER IMMEDIATELY AFTER BEING SET.
5. **VAPOR RETARDER REPAIRS:**
  - 5.7. AFTER INSTALLATION, INSPECT VAPOR RETARDER MEMBRANE FOR TEARS, PUNCTURES, FISHMOUTHS, AIR BUBBLES, AND VOIDS DUE TO MISALIGNMENT AT SEAMS.
  - 5.8. REMOVE DAMAGED MEMBRANE.
  - 5.9. PRIME EXPOSED SUBSTRATE AND ALLOW PRIMER TO DRY. APPLY A NEW SECTION OF THE VAPOR RETARDER TO PRIMED SUBSTRATE, EXTENDING ONTO ADHERED MEMBRANE 6-INCHES ON ALL SIDES. FIRMLY PRESS MEMBRANE REPAIR SECTION TO ENSURE A GOOD SEAL.
  - 5.10. SLIT FISHMOUTHS AND OVERLAP THE EDGES. PLACE A SECTION OF MEMBRANE OVER THE REPAIR AND EXTEND 6-INCHES IN ALL DIRECTIONS. FIRMLY PRESS REPAIR SECTION TO ENSURE A GOOD SEAL.



**1** VAPOR RETARDER FLASHINGS @ ANGLE CHANGE FOR SUBSTRATE BOARD/ CONCRETE DECK AREAS (TYPICAL)

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



**2** VAPOR RETARDER FLASHING @ ROOF PENETRATION FOR SUBSTRATE BOARD/CONCRETE DECK AREAS (TYPICAL)

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

ISSUED FOR: BID RELEASE

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KEY PLAN LEGEND

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LAKEWOOD, COLORADO 80228

PROJECT  
RED ROCKS COMMUNITY COLLEGE  
EAST WING ROOFING PROJECT  
PHASE 1  
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LAKEWOOD, COLORADO 80228

PROJECT NO. DEN.2022.001044

DATE 05/2023

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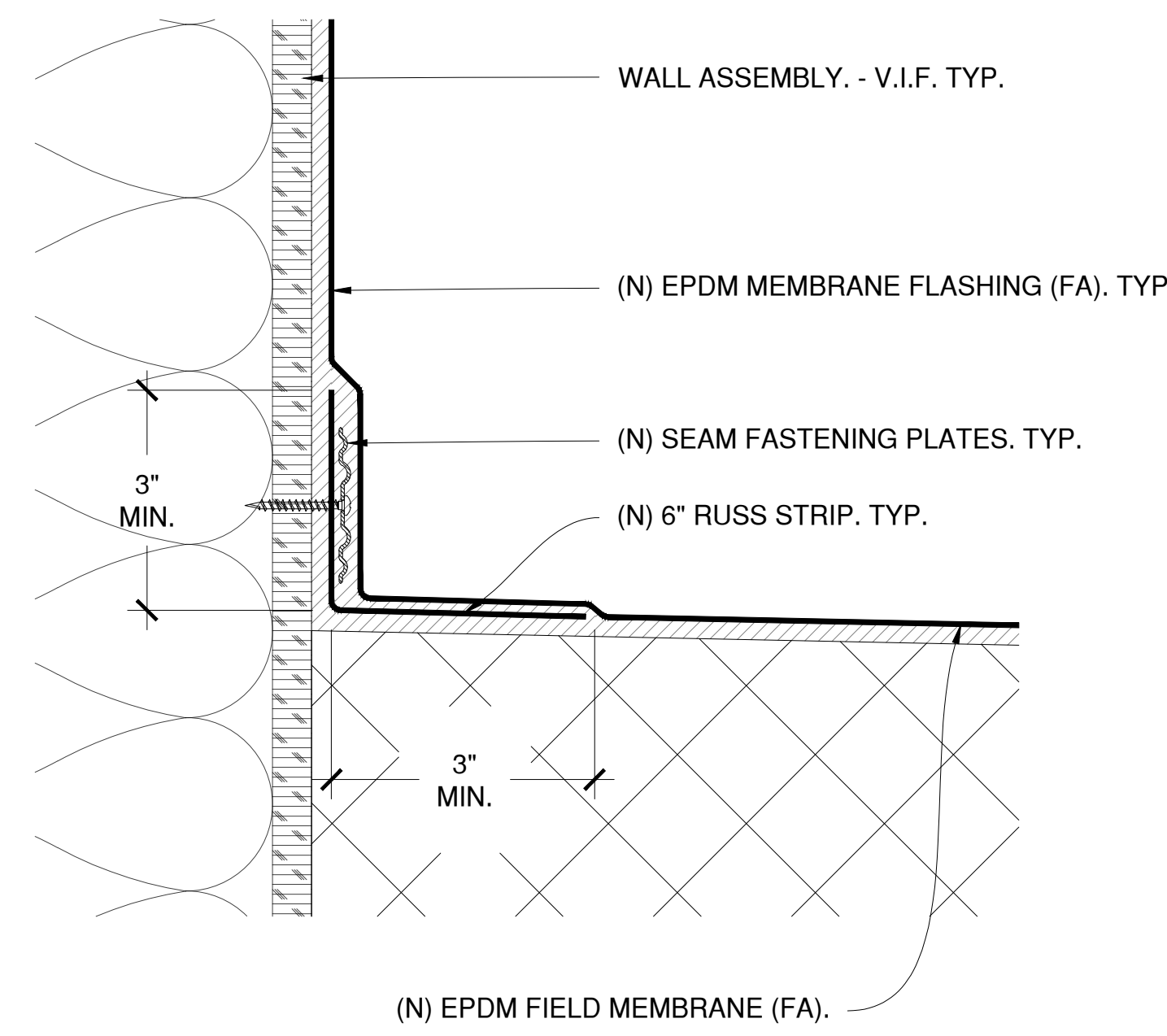
SHEET TITLE  
VAPOR RETARDER DETAILS

SHEET NO.  
**R-400** 08 OF 14



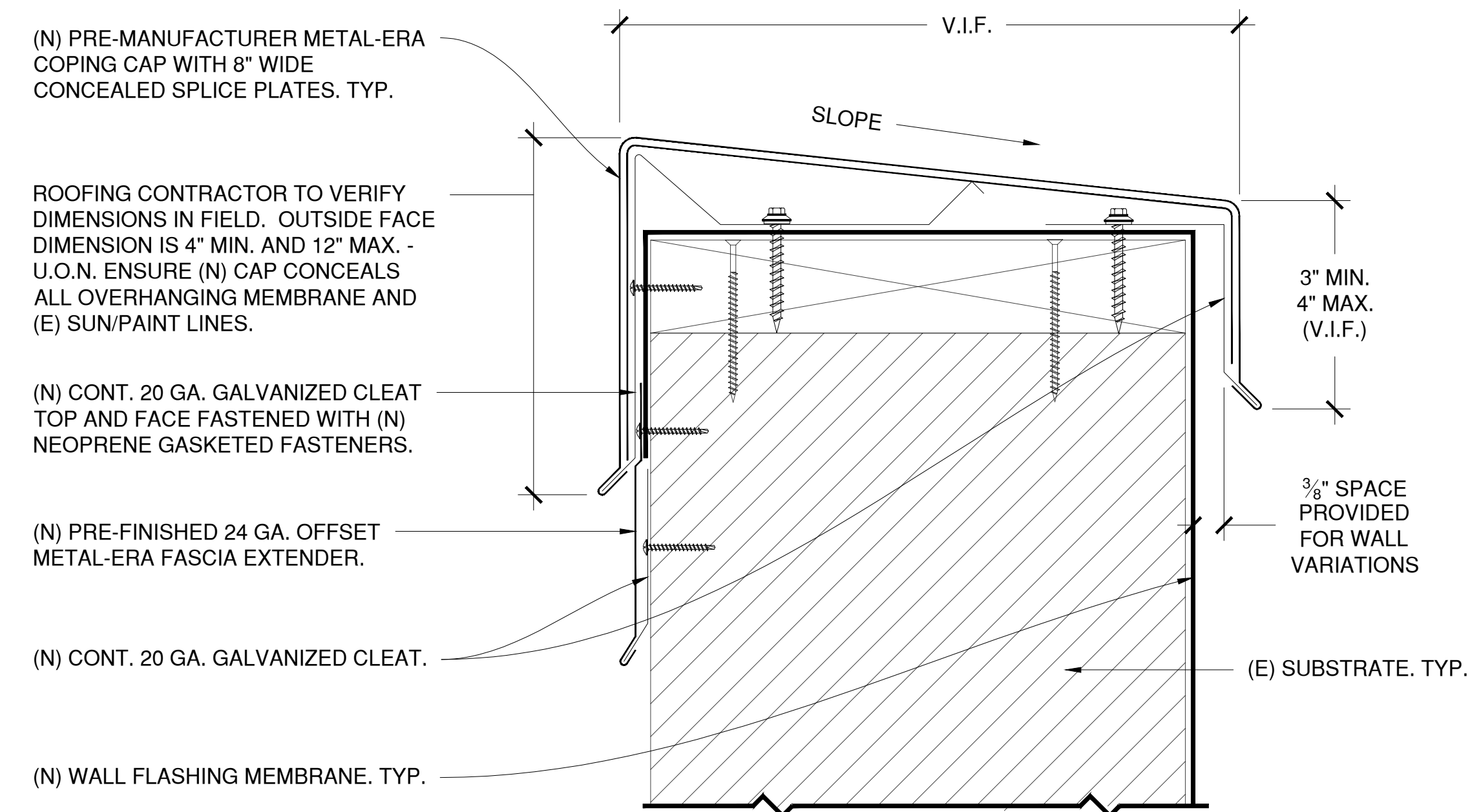
**GENERAL ROOF DETAIL NOTES:**

- 1. PARAPET WALL/ ROOF EDGE FLASHINGS:**
  - 1.1. NEW MEMBRANES MUST EXTEND DOWN THE OUTSIDE FACE OF THE PARAPET WALL/ROOF EDGE A MINIMUM OF 2" PAST THE BOTTOM WOOD NAILER.
  - 1.2. FULLY ADHERE MEMBRANE TO THE PARAPET EXTERIOR.
  - 1.3. MINIMUM 12"x12" WIDE UNCURED EPDM PATCHES MUST BE INSTALLED AT ALL MEMBRANE SEAM ANGLE CHANGES.
- 2. COUNTER FLASHINGS:**
  - 2.1. ALL EXISTING SURFACE MOUNTED COUNTER FLASHING METALS AND ASSOCIATED FASTENERS/SEALANTS ARE TO BE REMOVED AND DISPOSED.
  - 2.2. EXISTING REGLETS TO REMAIN IN PLACE ARE TO HAVE THEIR EXISTING SEALANTS RAKED OUT AND EXPOSED SURFACES CLEANED PRIOR TO INSTALLATION OF NEW TOOLED-IN SEALANT.
  - 2.3. EXISTING REGLETS TO BE DOUBLE-CUT AS NEEDED LEAVING 1" TO 2" OF EXISTING MATERIAL FOR NEW COUNTER FLASHING TIE-IN.
  - 2.4. NEW SEALANTS TO BE TOOLED-IN, CREATING A WATER SHEDDING SURFACE.
  - 2.5. ENSURE ALL WEEP HOLES REMAIN EXPOSED.
  - 2.6. INSTALL NEW LEAD WEDGES @ 8" O.C. MAX. FOR ALL REGLET COUNTER FLASHING CONDITIONS. TYP.
  - 2.7. BEND COUNTER FLASHING METALS 90-DEGREES @ END LOCATIONS, TO MEET FLUSH WITH WALL SUBSTRATE AND SEAL WITH NEW URETHANE SEALANT. TYP.
- 3. THRU-WALL/OVERFLOW SCUPPERS:**
  - 3.1. NEW PRE-FINISHED BEAUTY PLATES ARE TO MATCH EXISTING BEAUTY PLATE DIMENSIONS @ A MINIMUM.
  - 3.2. ENSURE ALL SUN/PAINT LINES ARE CONCEALED. TYP.
  - 3.3. CUT/DEMO EXISTING WALL SUBSTRATES AS NECESSARY TO ALLOW FOR INSTALLATION OF THE NEW SCUPPER SLEEVE DIMENSIONS. TYP.
  - 3.4. OVERFLOW OPENING TO BE CUT ON THE SIDE OF NEW CONDUCTOR HEADS PER SMACNA REQUIREMENTS.
  - 3.5. FASTEN NEW DOWNSPOUT STRAPS TO THE NEW DOWNSPOUT AND THE EXISTING SUBSTRATE @ 4'-0" ON CENTER MAX FROM THE DOWNSPOUT DROP PER SMACNA REQUIREMENTS.
- 4. ROOF DRAINS:**
  - 4.1. STANDARD DRAIN SUMPS ARE 12'-0" x 20'-0" - VERIFY IN FIELD. REFER TO THE R-300 SERIES ROOF PLANS FOR ELONGATED DRAIN SUMPS THAT EXCEEDED THE MINIMUM DIMENSIONS.
  - 4.2. REMOVE ALL LEAD AND OTHER FLASHINGS.
  - 4.3. REMOVE THE EXISTING CLAMPING RING AND STRAINER TO ALLOW FOR THE NEW FLASHING INSTALLATION.
  - 4.4. RAISE/LOWER EXISTING DRAIN BOWL AS NEEDED TO ACCOMMODATE NEW ROOF ROOF ASSEMBLY THICKNESS.
  - 4.5. CONTRACTOR TO WATER TEST ALL PRIMARY AND OVERFLOW DRAINS PRIOR TO CONSTRUCTION TO ENSURE DRAINS HAVE PROPER FLOW AND NO BLOCKAGE.
  - 4.6. ALL STRAINERS AND CLAMPING RINGS TO BE CLEANED, PRIMED AND PAINTED BEFORE REINSTALLATION, PER THE SPECIFICATION REQUIREMENTS.
  - 4.7. ALL BOLTS OR CLAMPS MUST BE IN PLACE TO PROVIDE CONSTANT COMPRESSION ON WATER CUT-OFF-MASTIC.
  - 4.8. CUT THE MEMBRANE SO IT EXTENDS 1-INCH, FROM THE ATTACHMENT POINTS OF THE DRAIN CLAMPING RING.
  - 4.9. FIELD SPLICES MUST BE LOCATED AT LEAST 6 INCHES OUTSIDE THE DRAIN SUMP.
  - 4.10. MEMBRANE SEAMS SHALL NOT PASS THROUGH THE DRAIN SUMP.
- 5. EXPANSION JOINTS:**
  - 5.1. EXPANSION JOINTS ARE TO BE INSTALLED WITH THE NEW MEMBRANE UNDER AND OVER TOP OF APPROVED ROD STOCK.
  - 5.2. NEW INSULATION RETAINERS WITH COMPRESSIBLE INSULATION IS TO BE FASTENED TO THE EXISTING SUBSTRATES AND NEW WOOD BLOCKING @ 12" O.C. TYP.



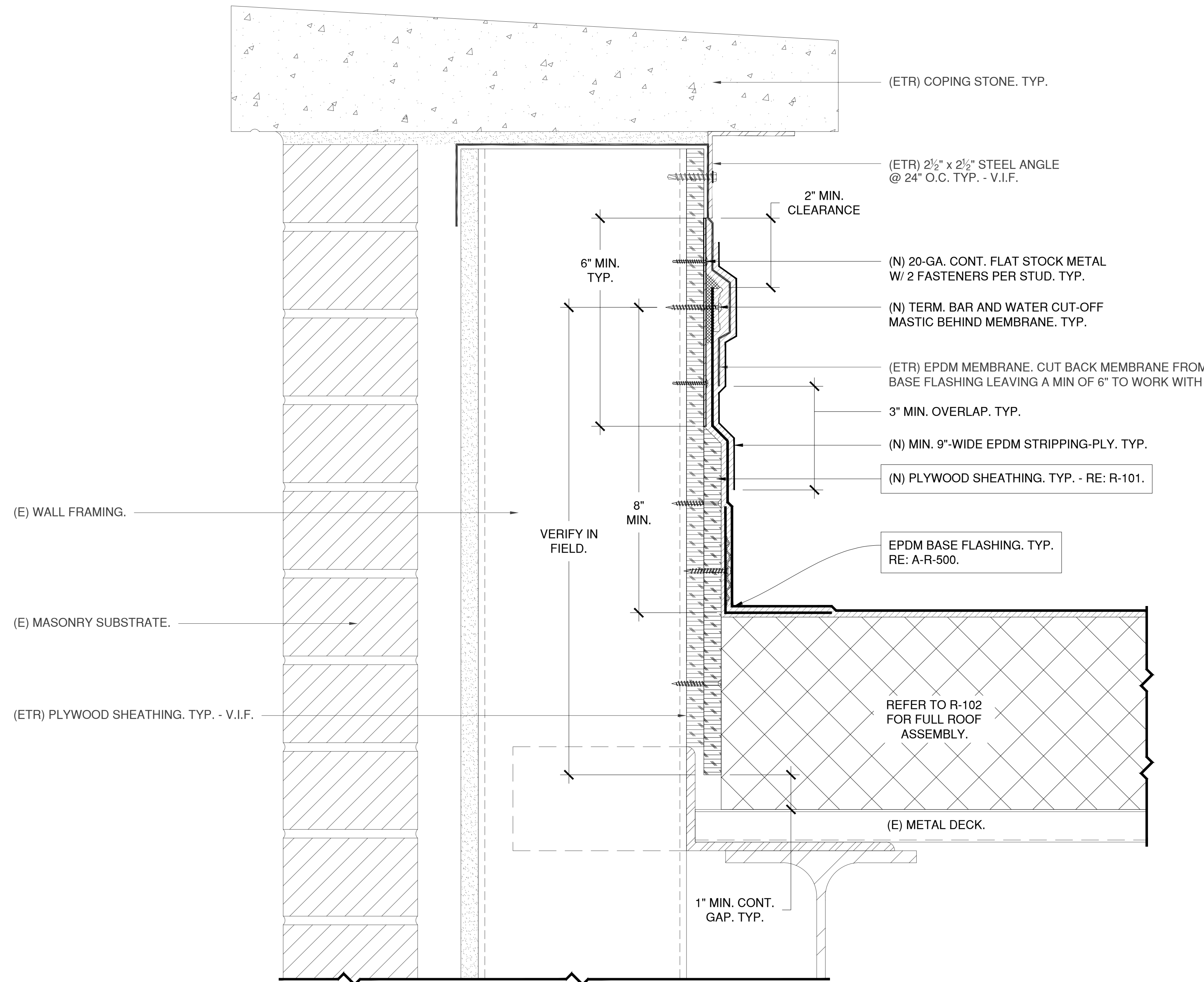
**A EPDM BASE FLASHING (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



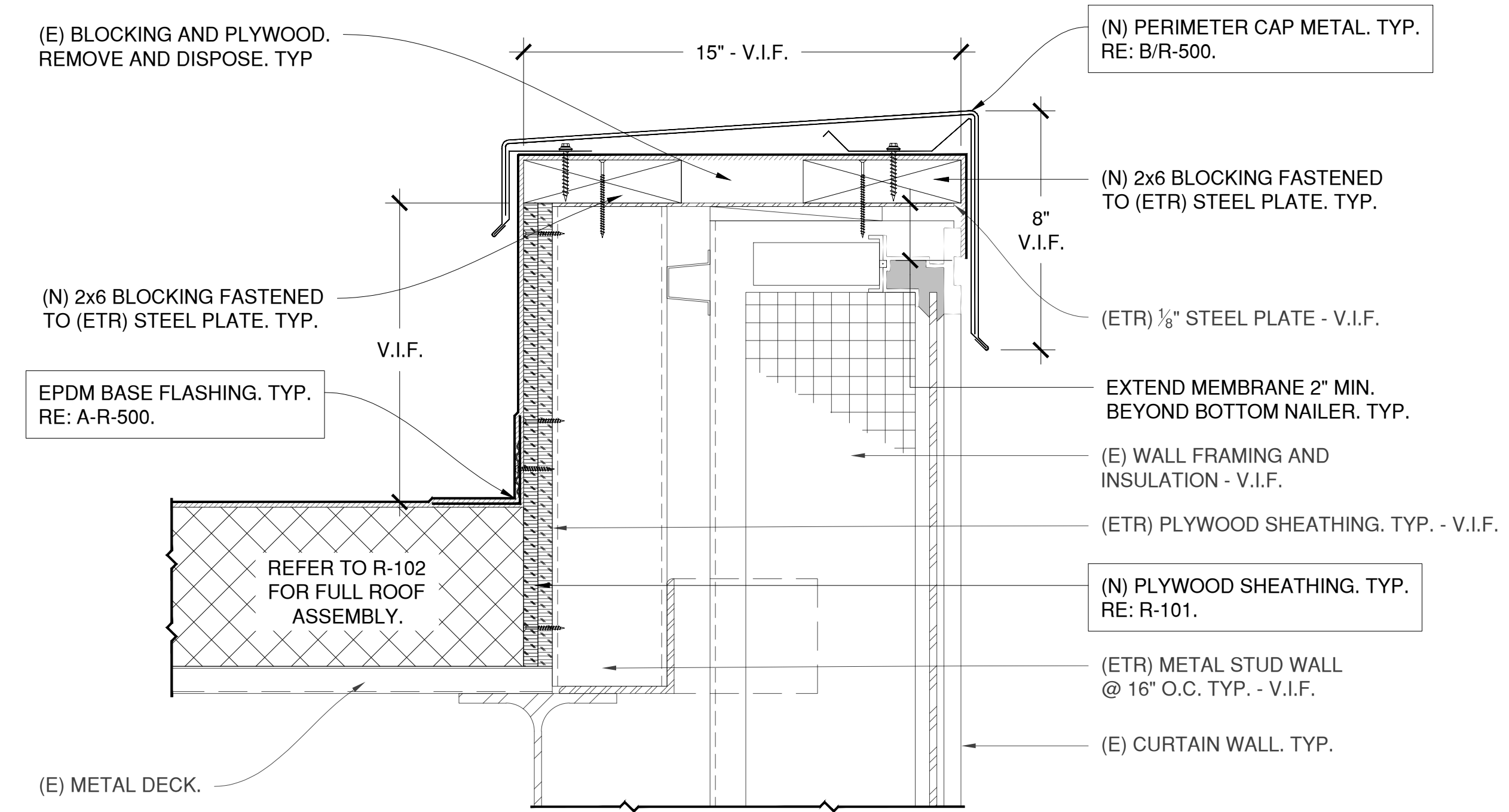
**B PERIMETER EDGE METAL ASSEMBLY (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



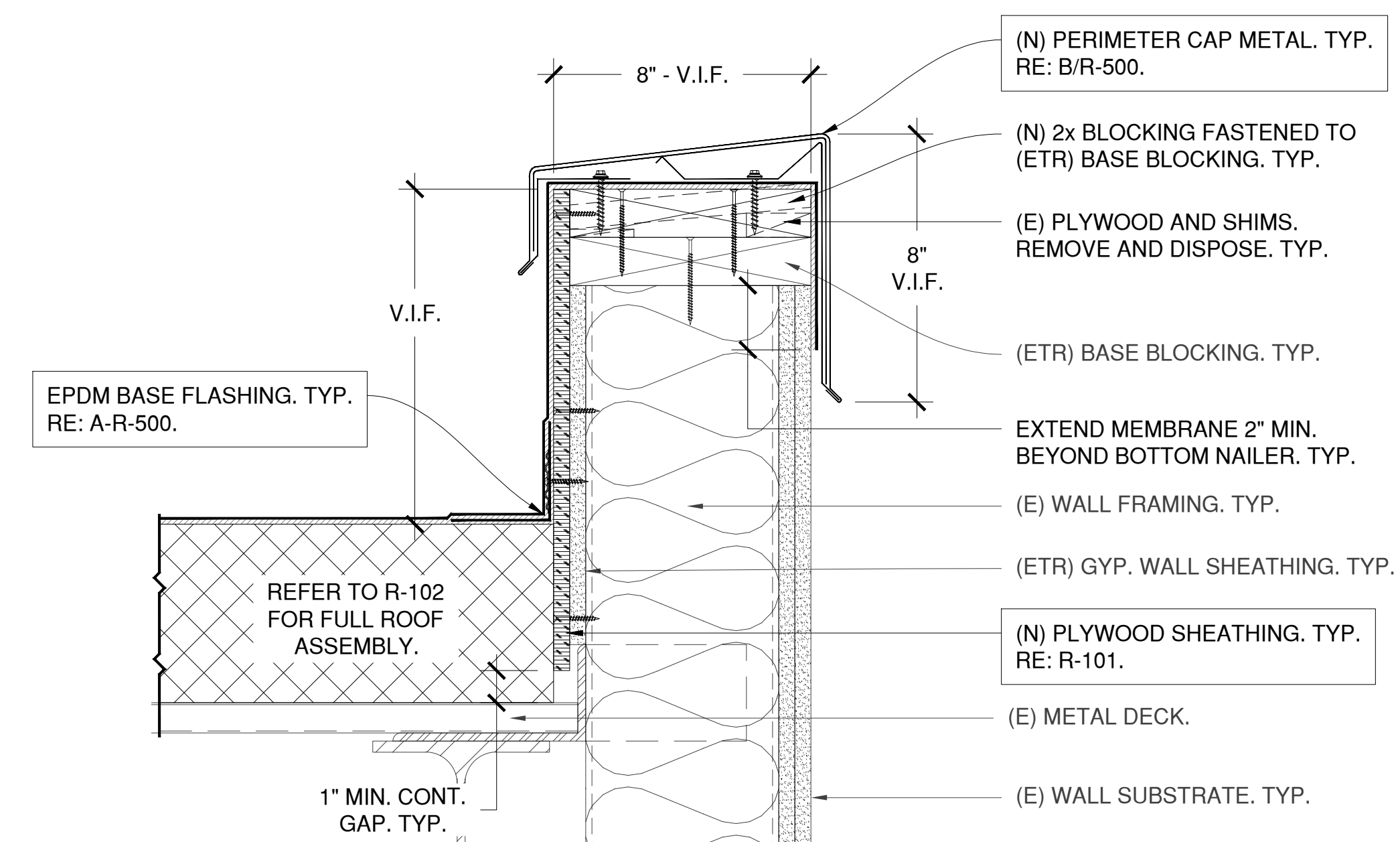
**1 PERIMETER WALL FLASHING @ MASONRY COPING STONE (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



**2 PERIMETER WALL FLASHING @ ELONGATED COPING WALL (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



**3 PERIMETER WALL FLASHING @ SHORT COPING WALL (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

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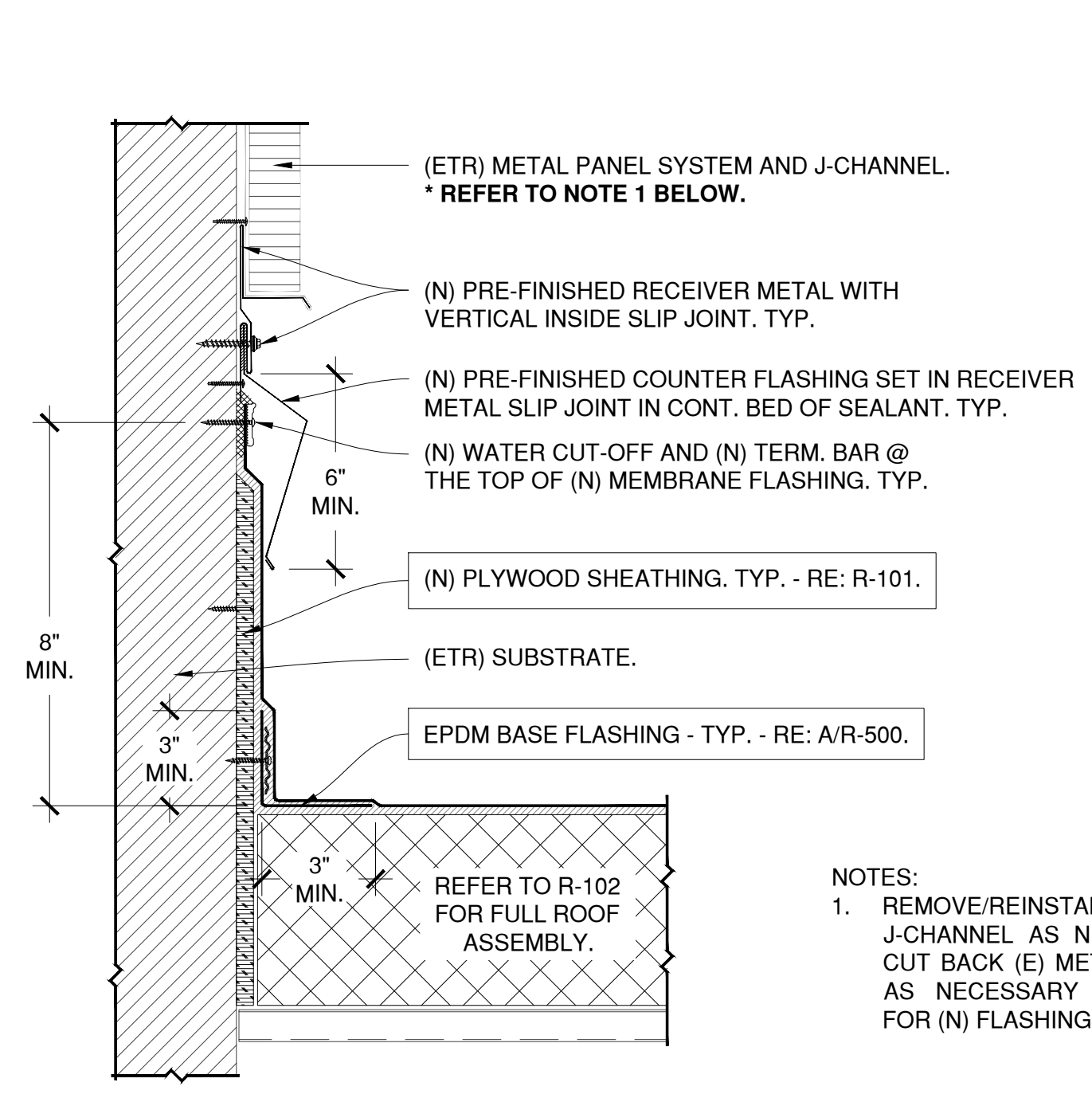
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ROOFING DETAILS

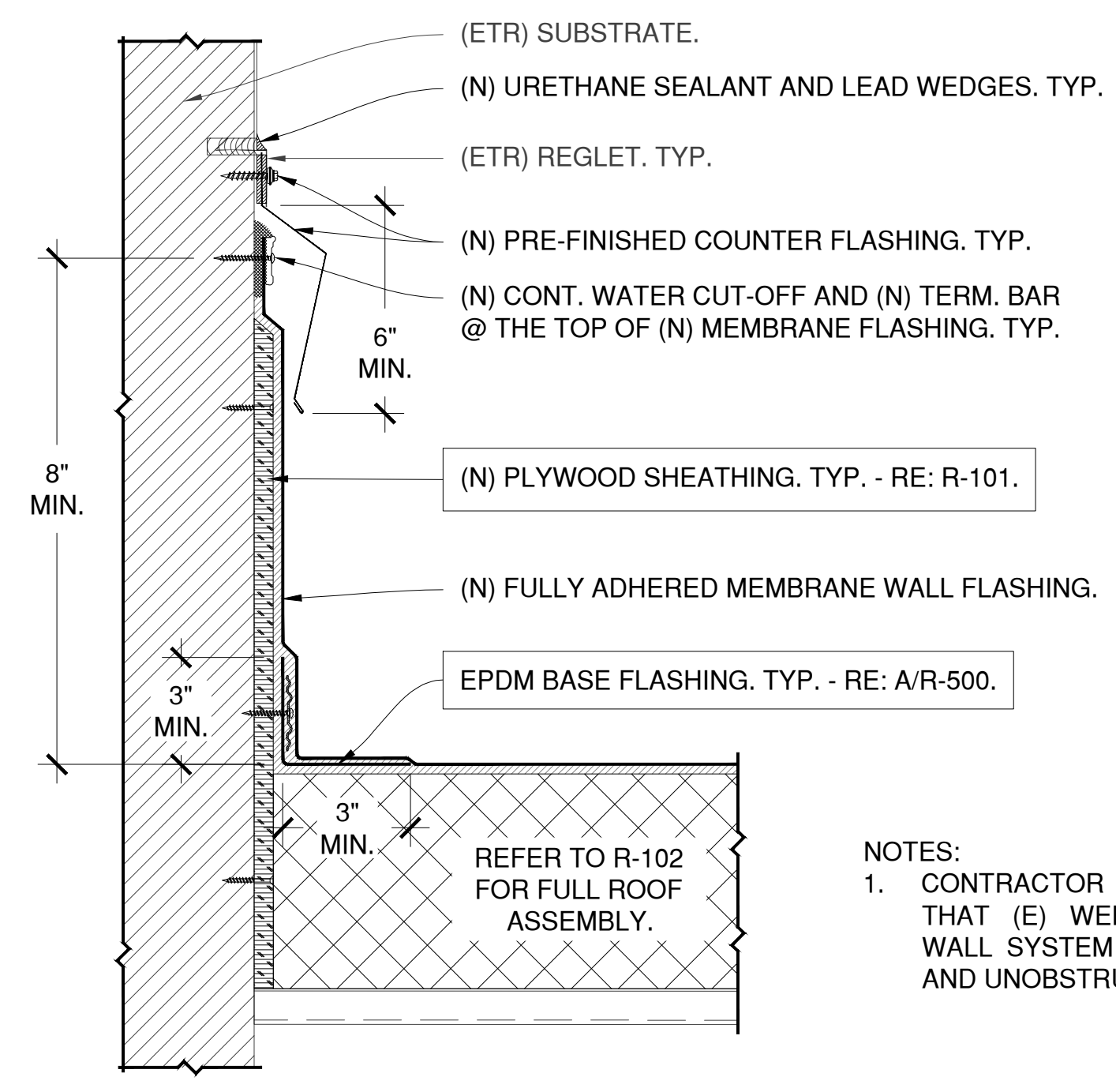
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R-500 09 OF 14





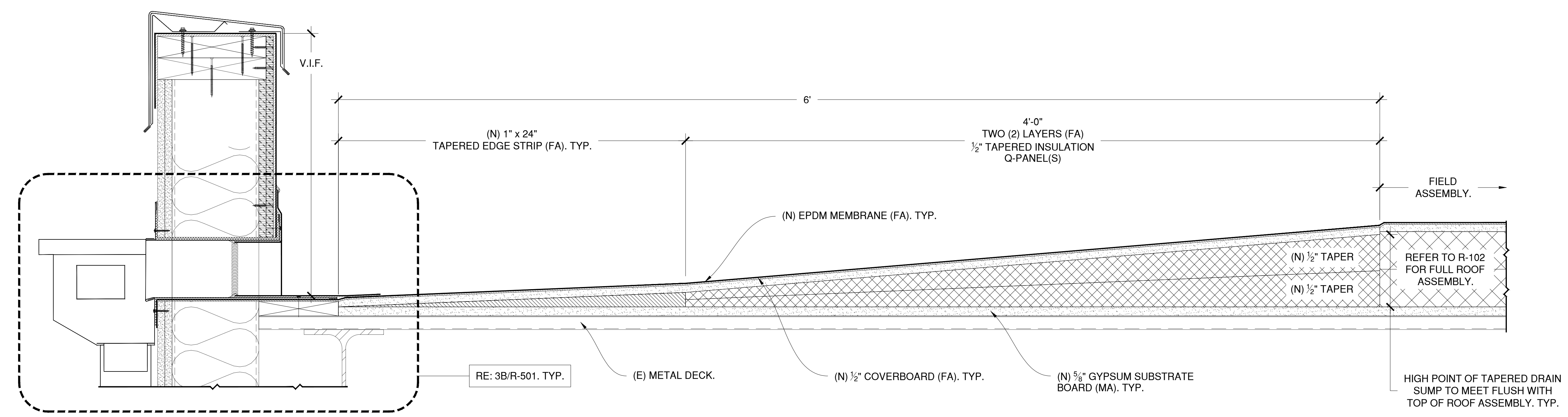
NOTES:  
1. REMOVE/REINSTALL/REPLACE J-CHANNEL AS NEEDED AND CUT BACK (E) METAL PANELS AS NECESSARY TO ALLOW FOR (N) FLASHING HEIGHTS.



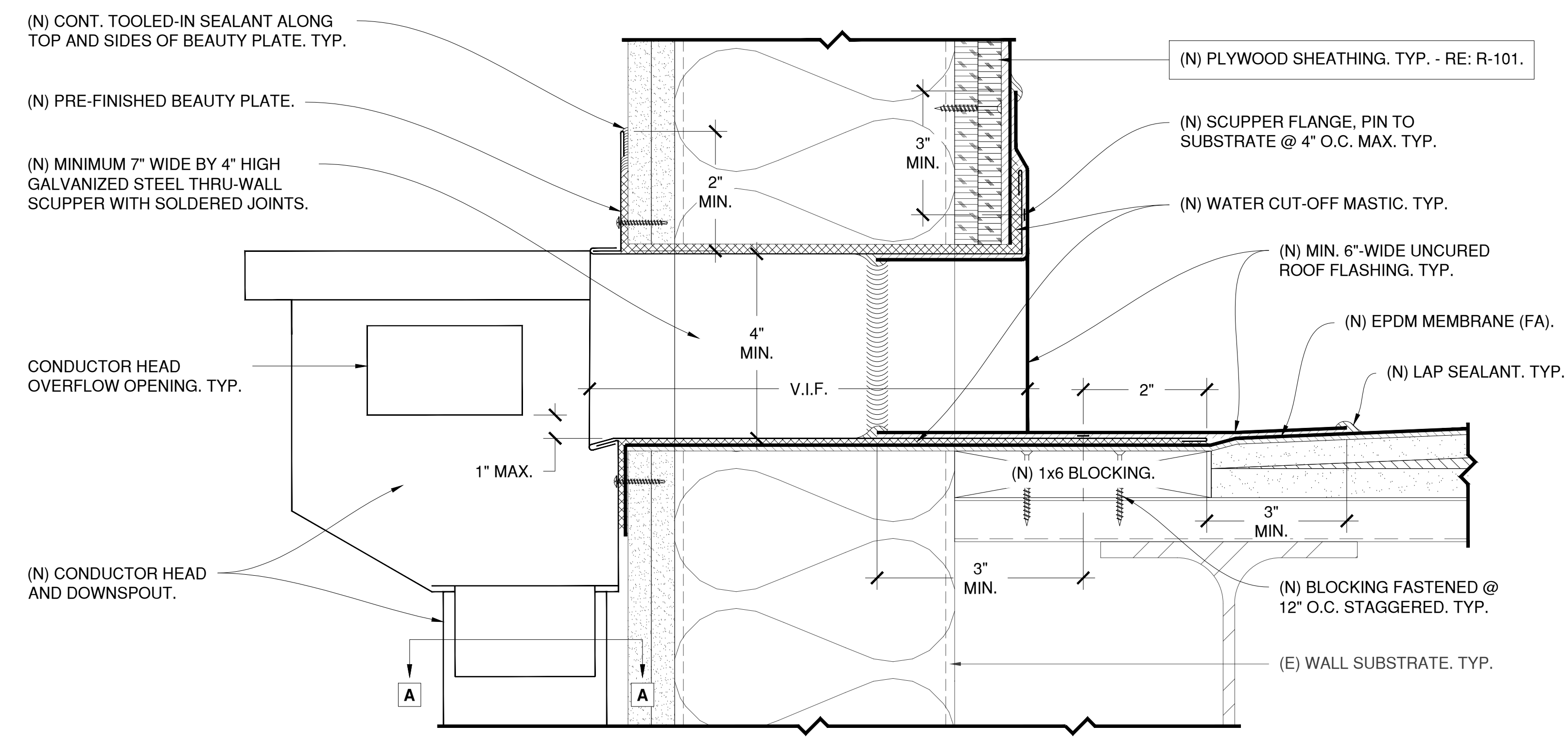
NOTES:  
1. CONTRACTOR TO ENSURE THAT (E) WEEPS IN BRICK WALL SYSTEM REMAIN OPEN AND UNOBSTRUCTED.

**1** COUNTER FLASHING @ METAL WALL PANELS (TYPICAL)  
NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

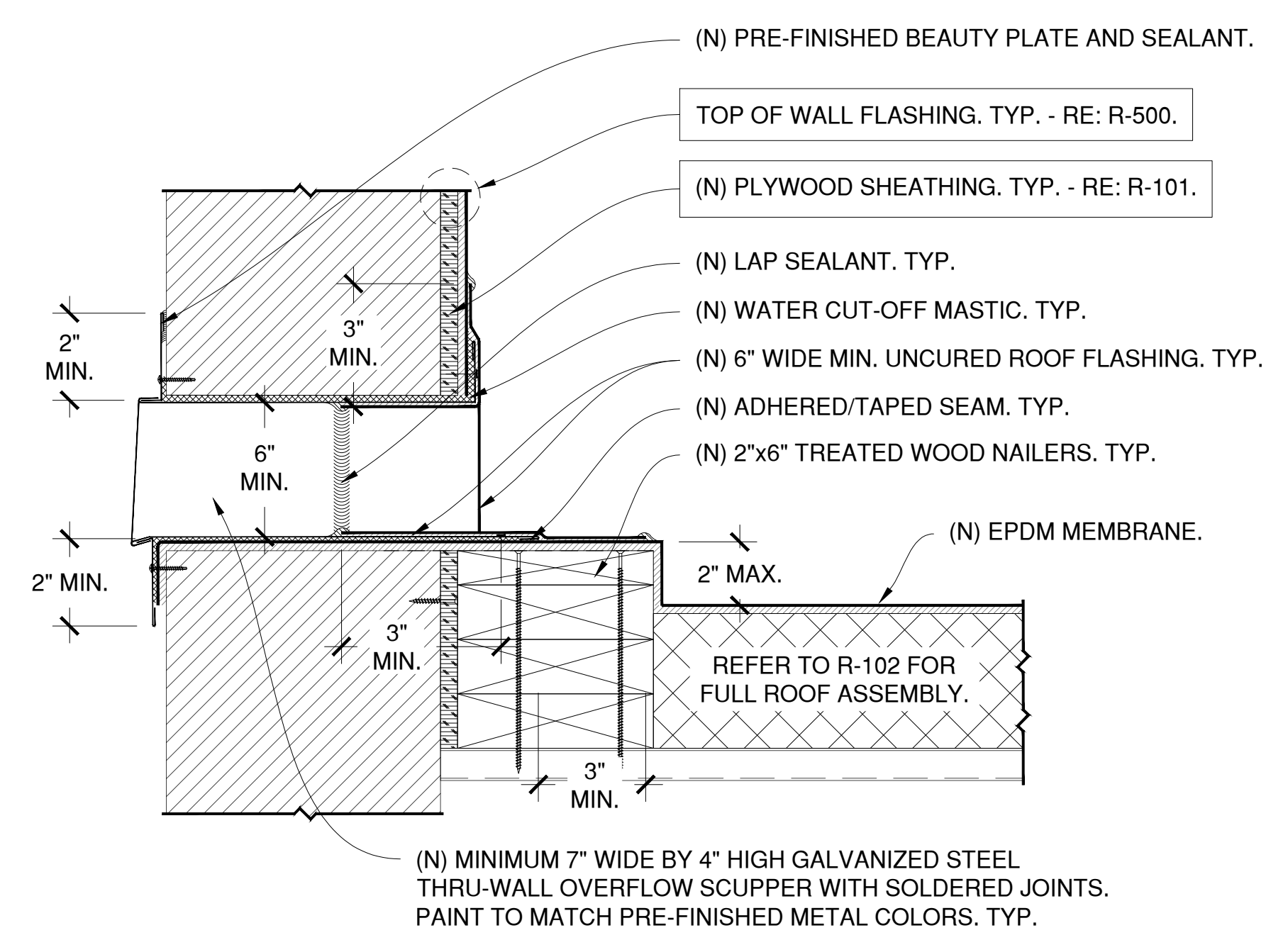
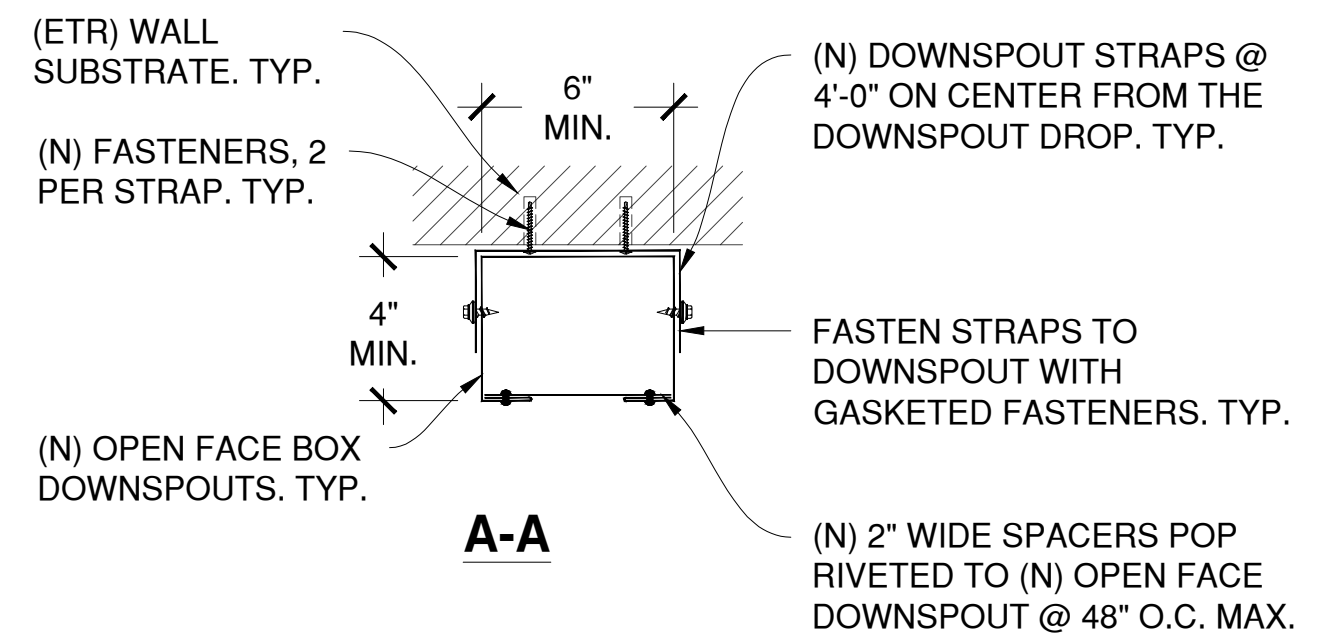
**2** COUNTER FLASHING @ EXISTING METAL REGLET (TYPICAL)  
NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



**3A** THRU-WALL SCUPPER DRAINAGE SUMP ASSEMBLY (TYPICAL)  
NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



**3B** THRU-WALL SCUPPER FLASHING (TYPICAL)  
NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



**4** OVERFLOW SCUPPER FLASHING (TYPICAL)  
NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

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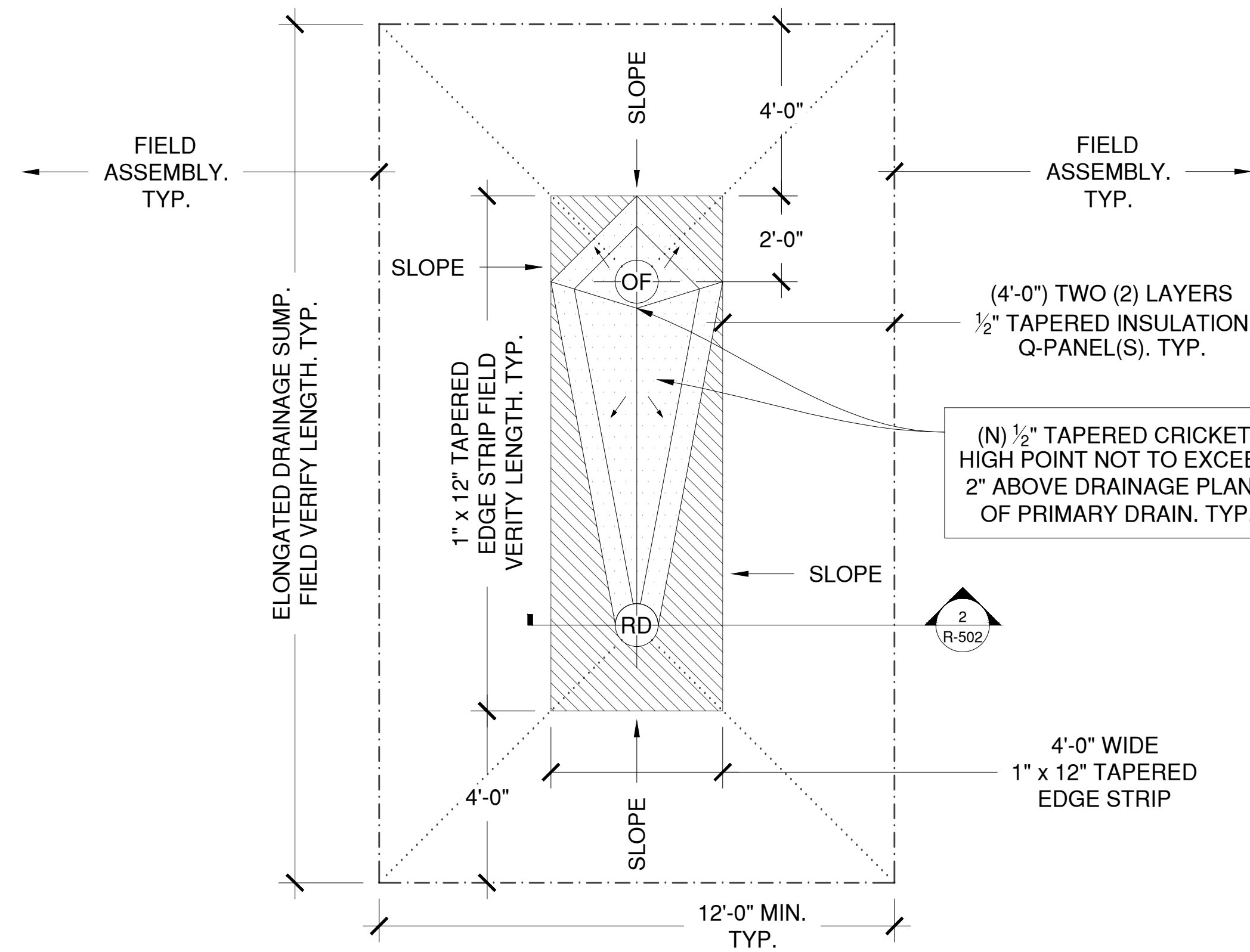
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DATE 05/2023  
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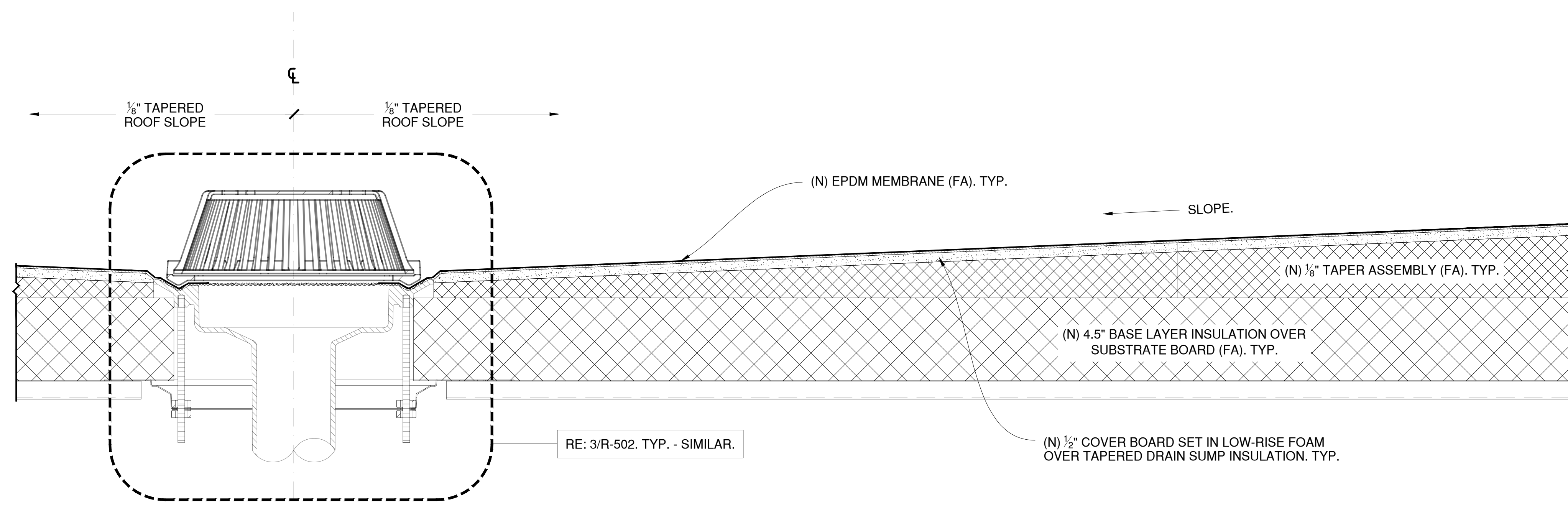
SHEET NO. R-501 10 OF 14





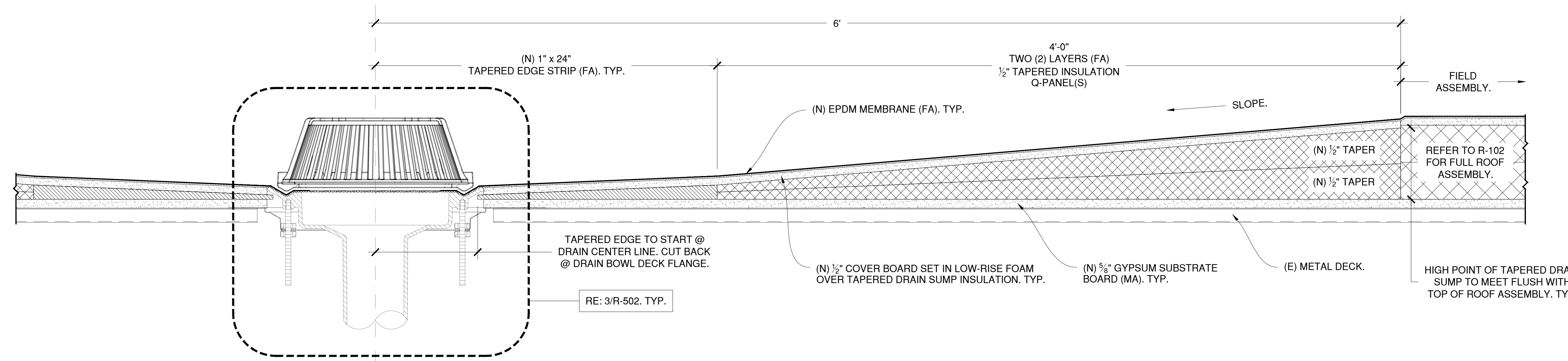
**A** DRAINAGE SUMP ASSEMBLY - PLAN VIEW (TYPICAL)

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



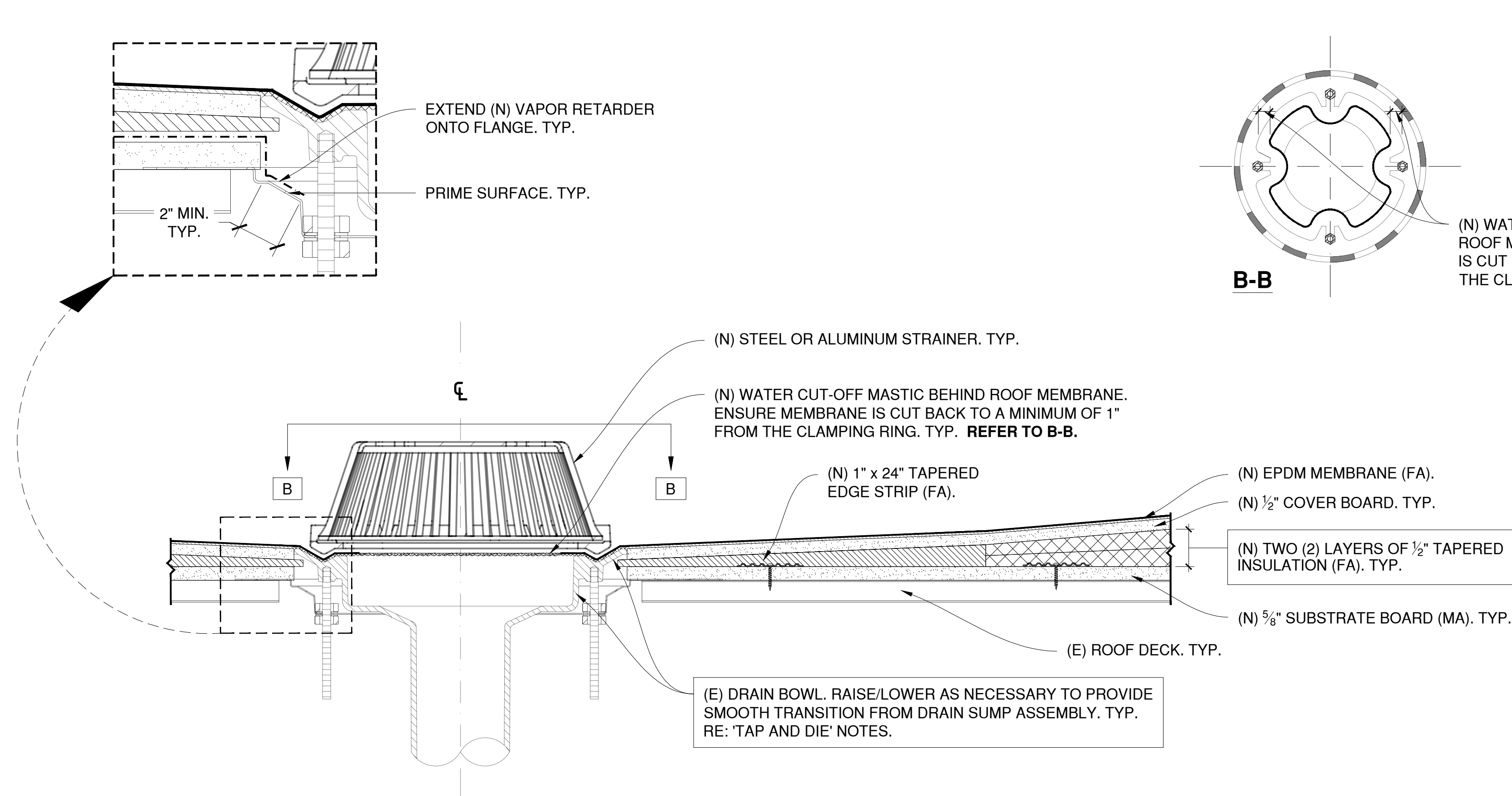
**1** DRAINAGE SUMP ASSEMBLY SECTION @ TAPERED ROOF ASSEMBLIES ON METAL AND CONCRETE ROOF DECKS (TYPICAL)

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



**2** DRAINAGE SUMP ASSEMBLY SECTION @ STRUCTURALLY SLOPED METAL ROOF DECKS (TYPICAL)

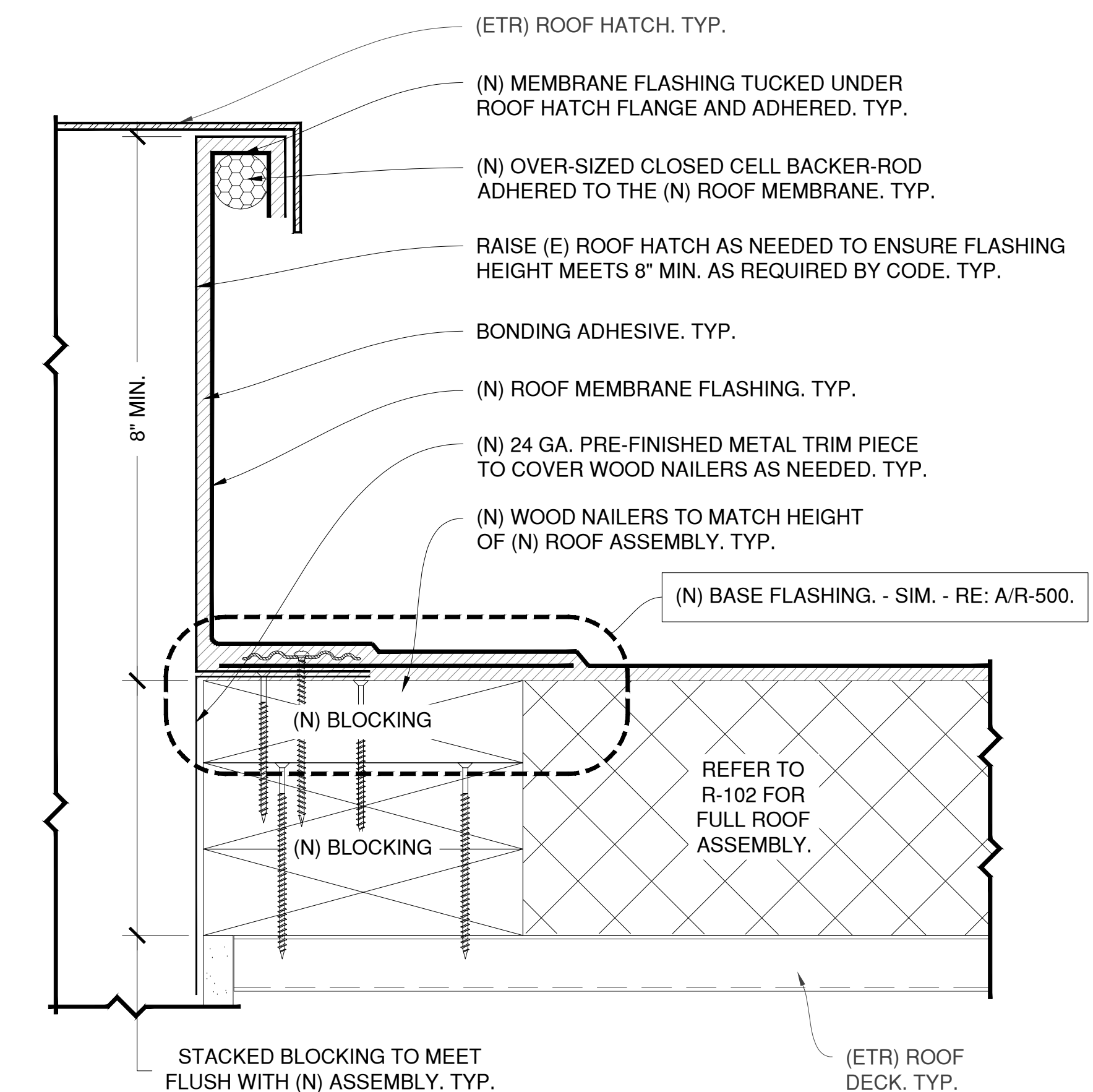
NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



- TAP AND DIE NOTES:**
- (E) DRAIN BOWL AND LEADERS TO REMAIN. CLEAN, PRIME, AND PAINT (E) DRAIN BOWL ASSEMBLY.
  - ALL (E) CLAMPING RINGS AND STRAINERS TO BE REPLACED WITH (N).
  - TAP AND DIE (E) DRAIN BOWL BOLT CONNECTIONS AS REQUIRED TO ENSURE DRAIN FLASHINGS AND CLAMPING RINGS ARE ADEQUATELY SEALED AND MADE WATER TIGHT.
  - INSTALL A (N) CONT. BED OF WATER CUT-OFF MASTIC BETWEEN THE TOP OF THE DRAIN BOWL AND MEMBRANE FLASHING, ENSURING THE FLASHING IS FULLY COMPRESSED BY THE CLAMPING RING ONCE INSTALLED.

**3** ROOF DRAIN FLASHING @ METAL ROOF DECKS (TYPICAL)

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



**4** ROOF HATCH FLASHING (TYPICAL)

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

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PROJECT

RED ROCKS COMMUNITY COLLEGE  
EAST WING ROOFING PROJECT  
PHASE 1  
13300 WEST SIXTH AVENUE  
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PROJECT NO. DEN.2022.001044

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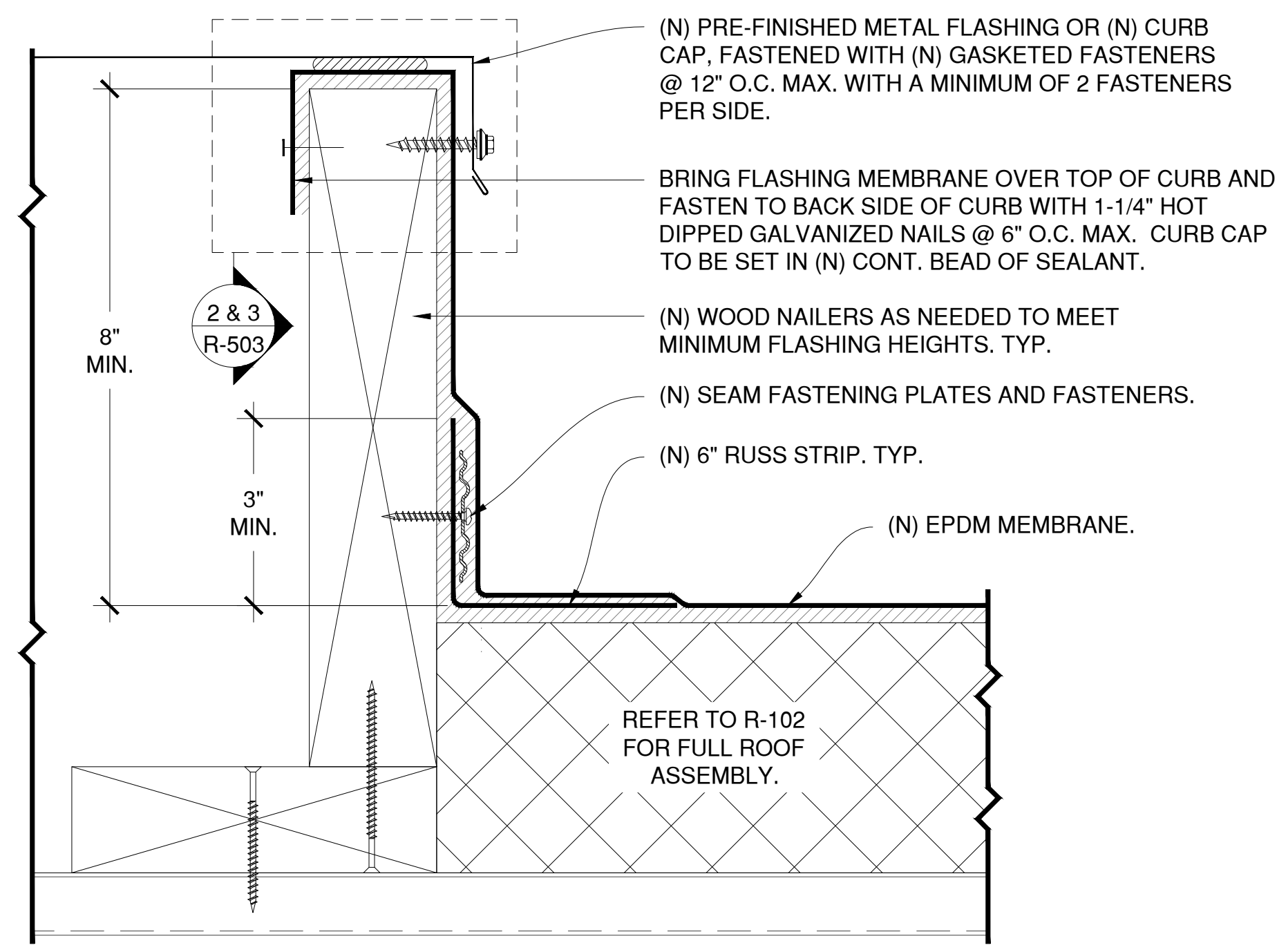
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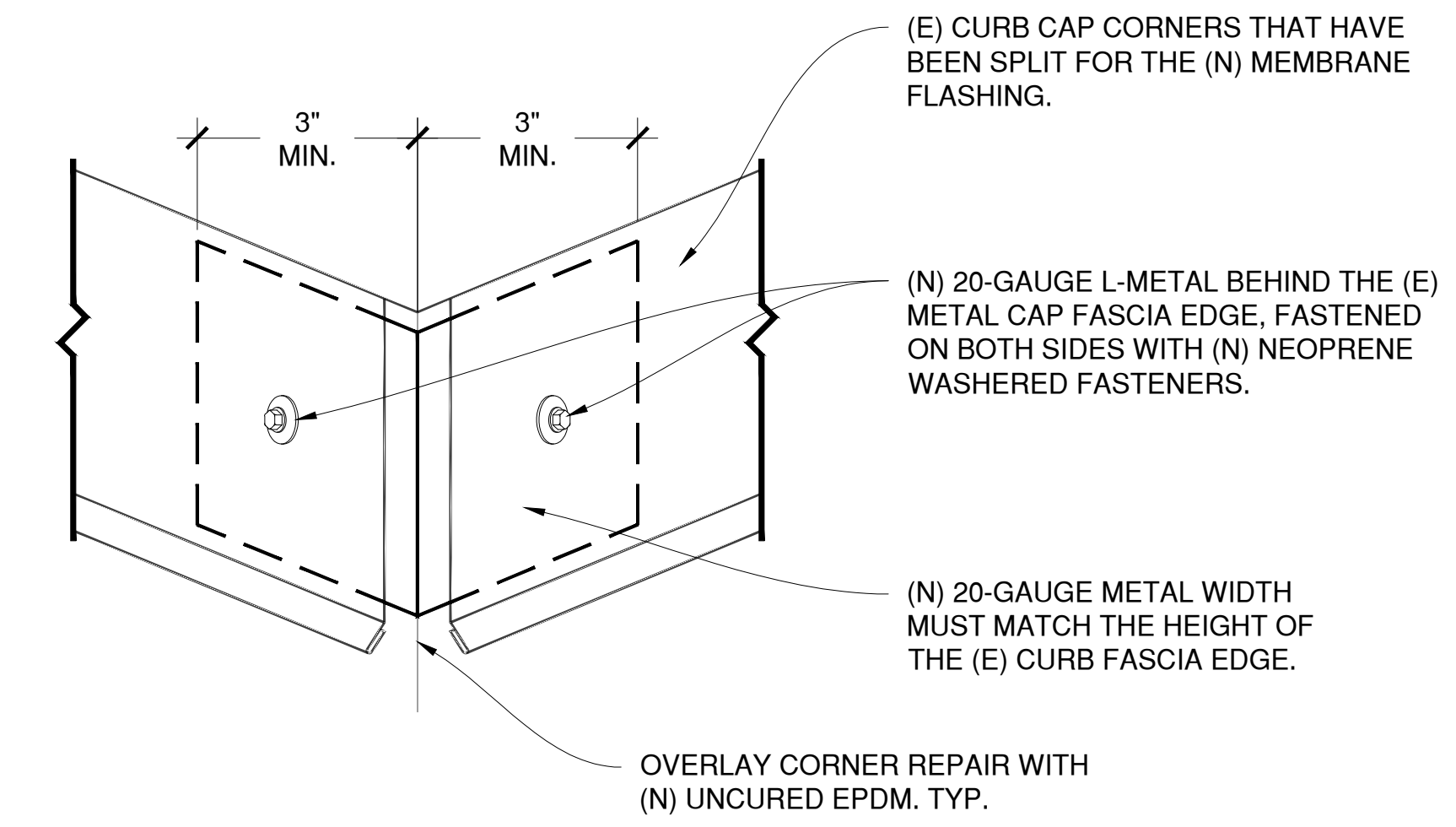
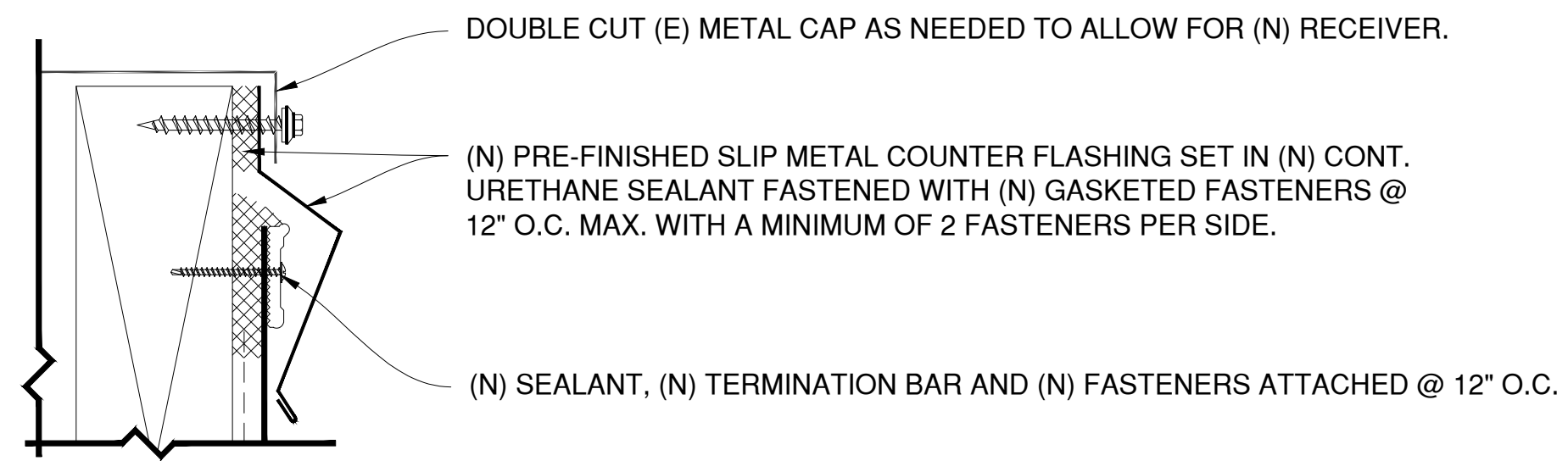
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NOTE:  
ALTERNATE CURB FLASHING TO BE USED **ONLY** WHERE MEMBRANE CANNOT BE RUN OVER THE TOP OF THE CURB. USE OF THIS ALTERNATE DETAIL MUST BE APPROVED BY THE ARCHITECT OR ROOF CONSULTANT



**1 MECHANICAL CURB FLASHING (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

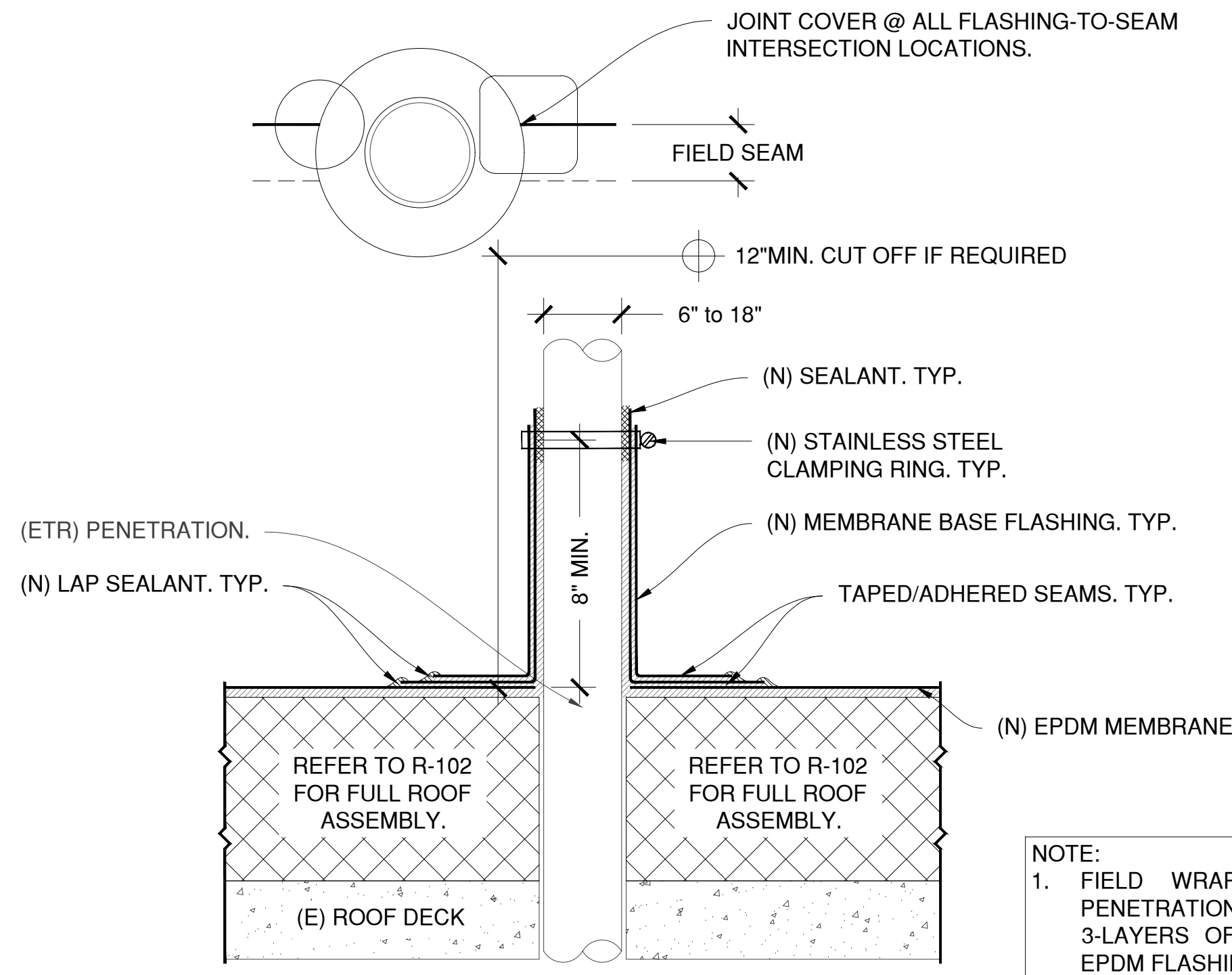
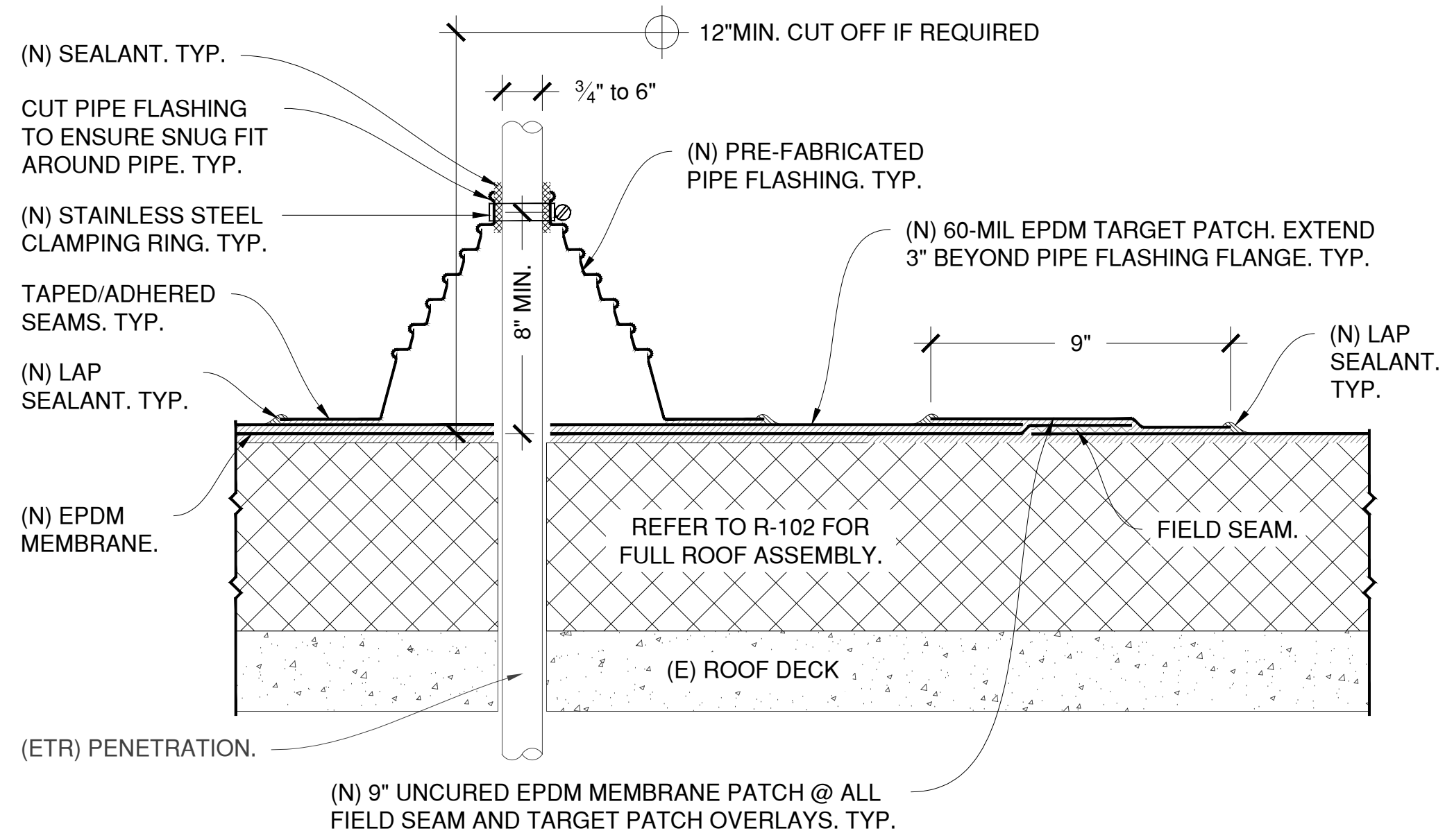
**2 ALTERNATE CURB FLASHING**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

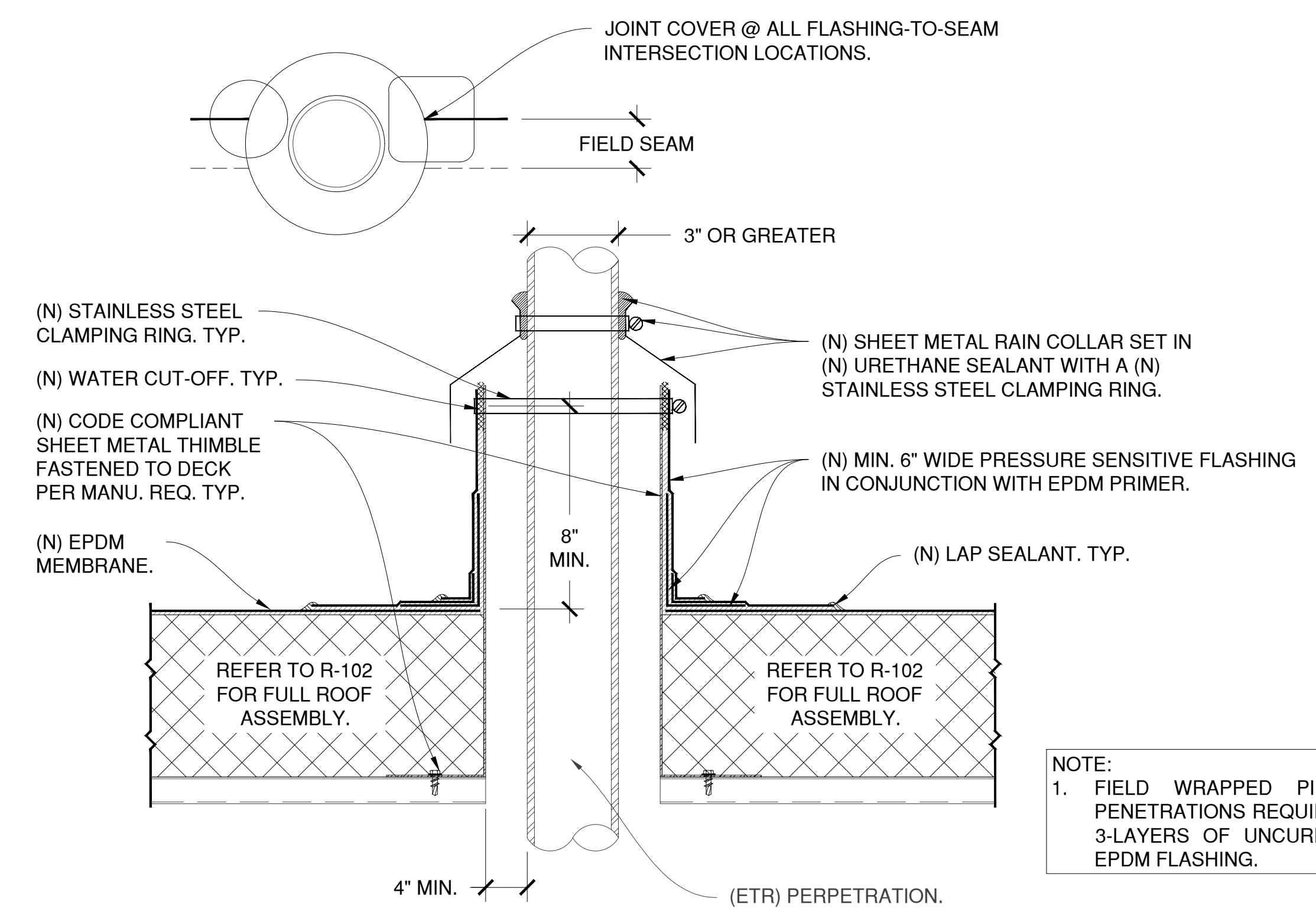
**3 EXISTING METAL CURB CAP FASCIA CORNER REPAIR**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

NOTE:  
1. (N) 60-MIL TARGET PATCH MUST BE INSTALLED @ ALL PRE-FABRICATED PIPE PENETRATION LOCATIONS. TYP.



NOTE:  
1. FIELD WRAPPED PIPE PENETRATIONS REQUIRE 3-LAYERS OF UNCURED EPDM FLASHING.



NOTE:  
1. FIELD WRAPPED PIPE PENETRATIONS REQUIRE 3-LAYERS OF UNCURED EPDM FLASHING.

**4 PRE-MOLDED PIPE PENETRATION FLASHING (TYPICAL)**

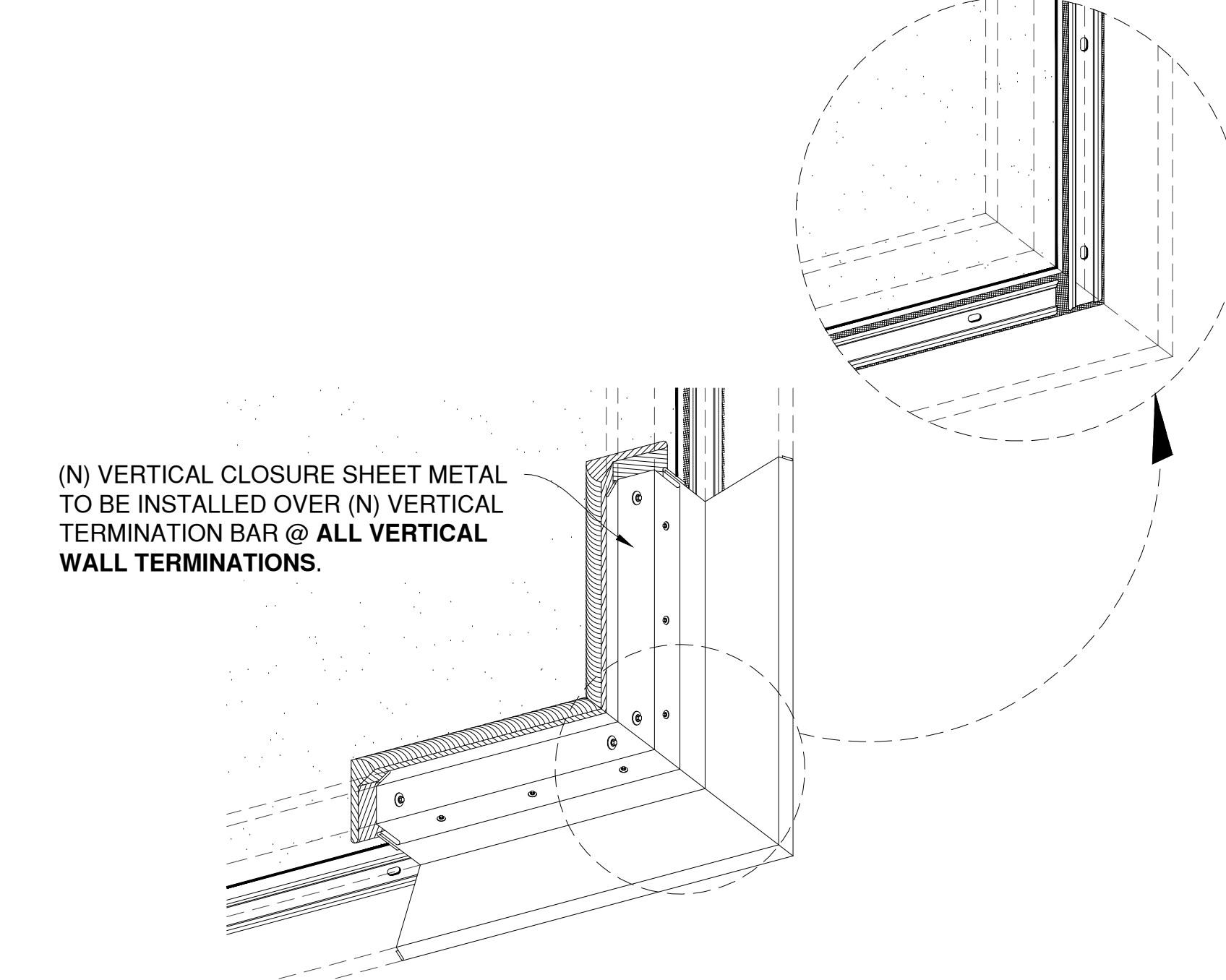
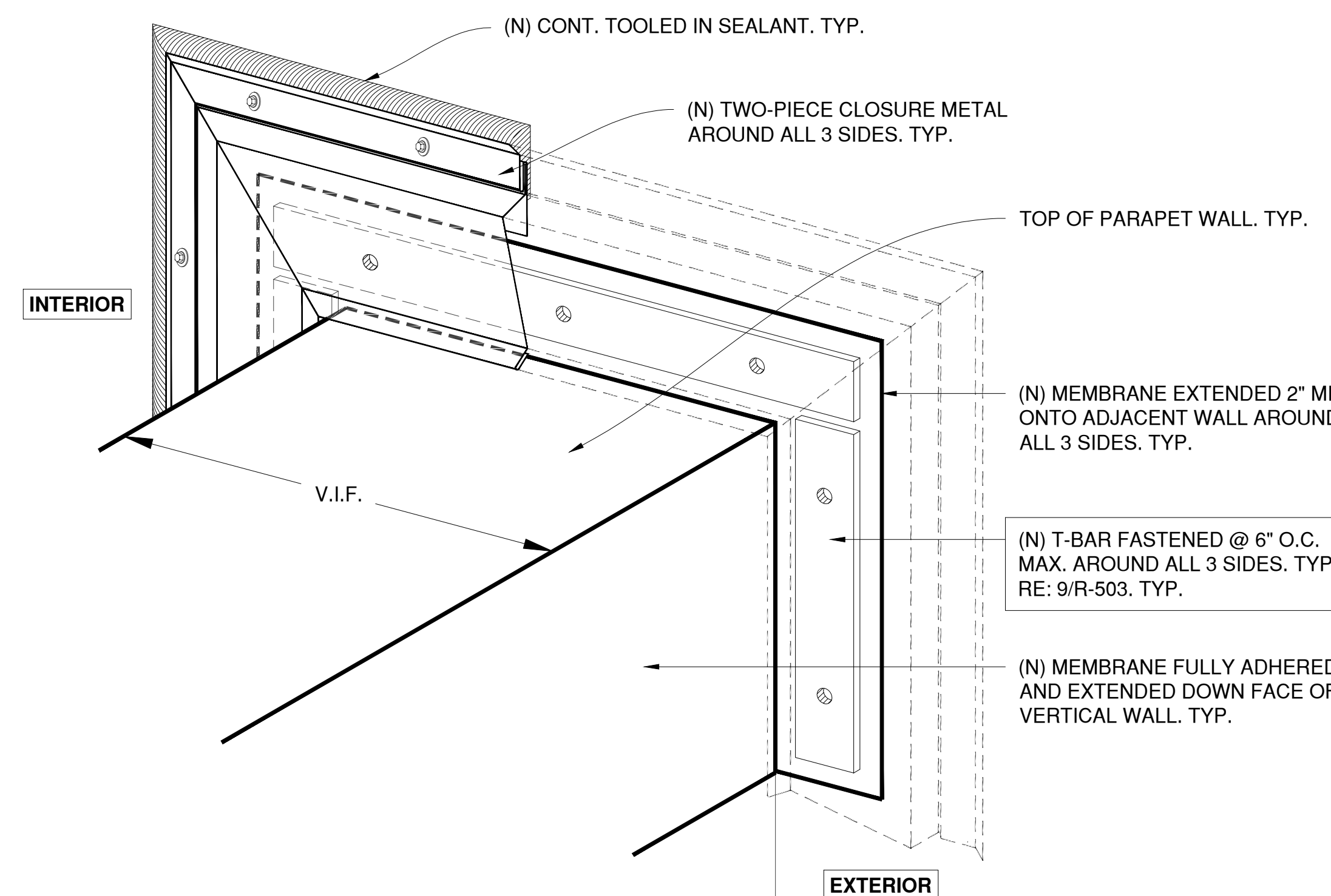
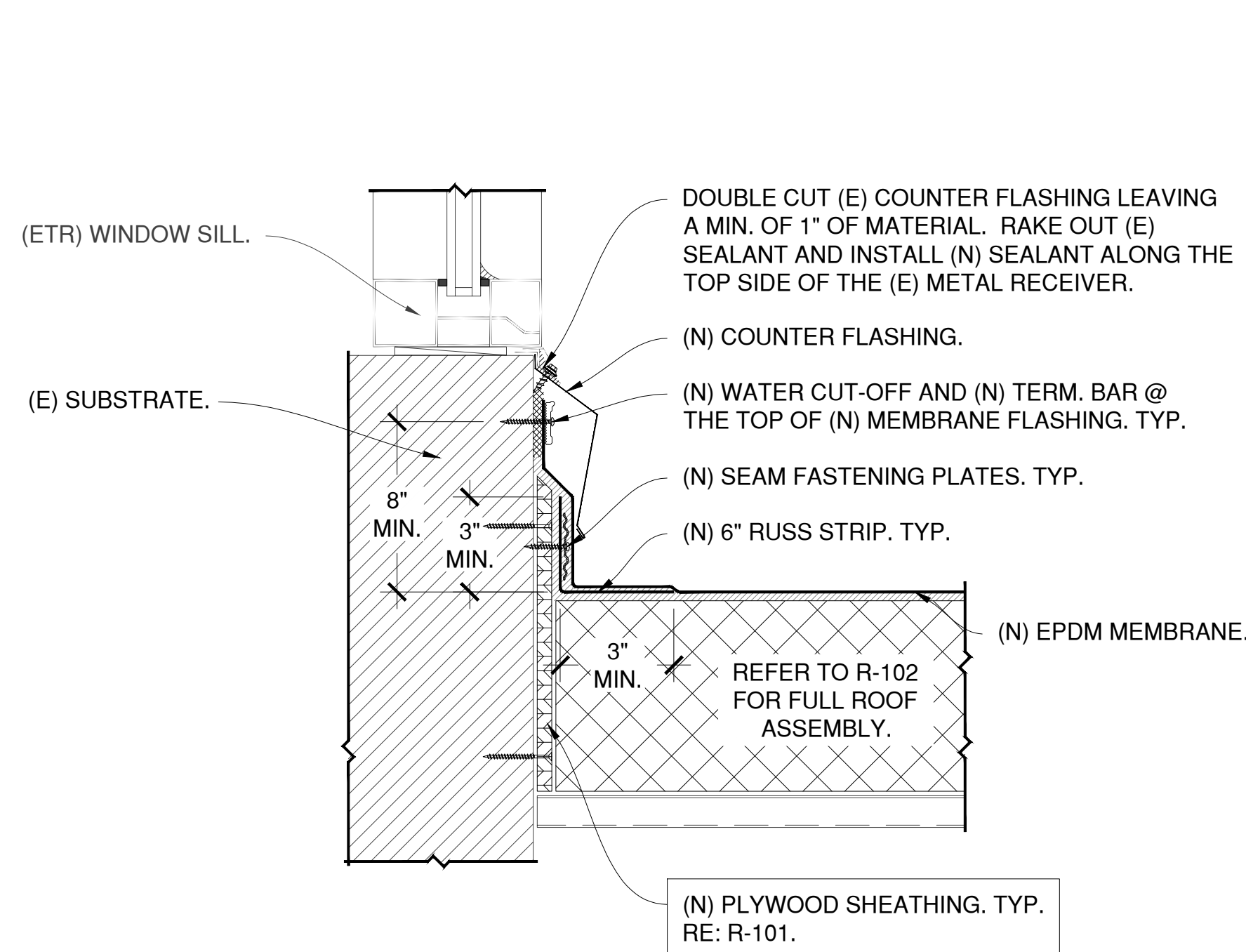
NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

**5 FIELD WRAPPED PIPE PENETRATION FLASHING (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

**6 HOT FLUE PENETRATION FLASHING (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



**7 BASE FLASHING @ WINDOWSILL TRANSITION (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

**8 PERIMETER WALL TERMINATION @ ADJACENT WALL (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

**9 VERTICAL COUNTER FLASHING ASSEMBLY (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

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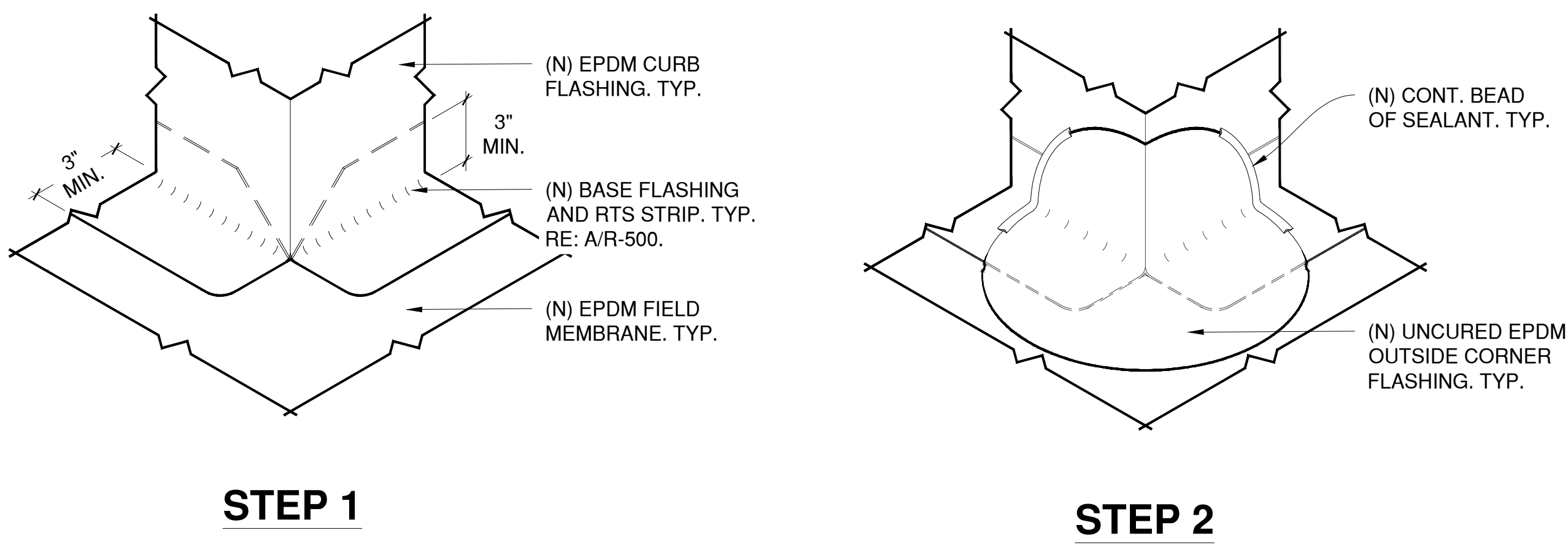
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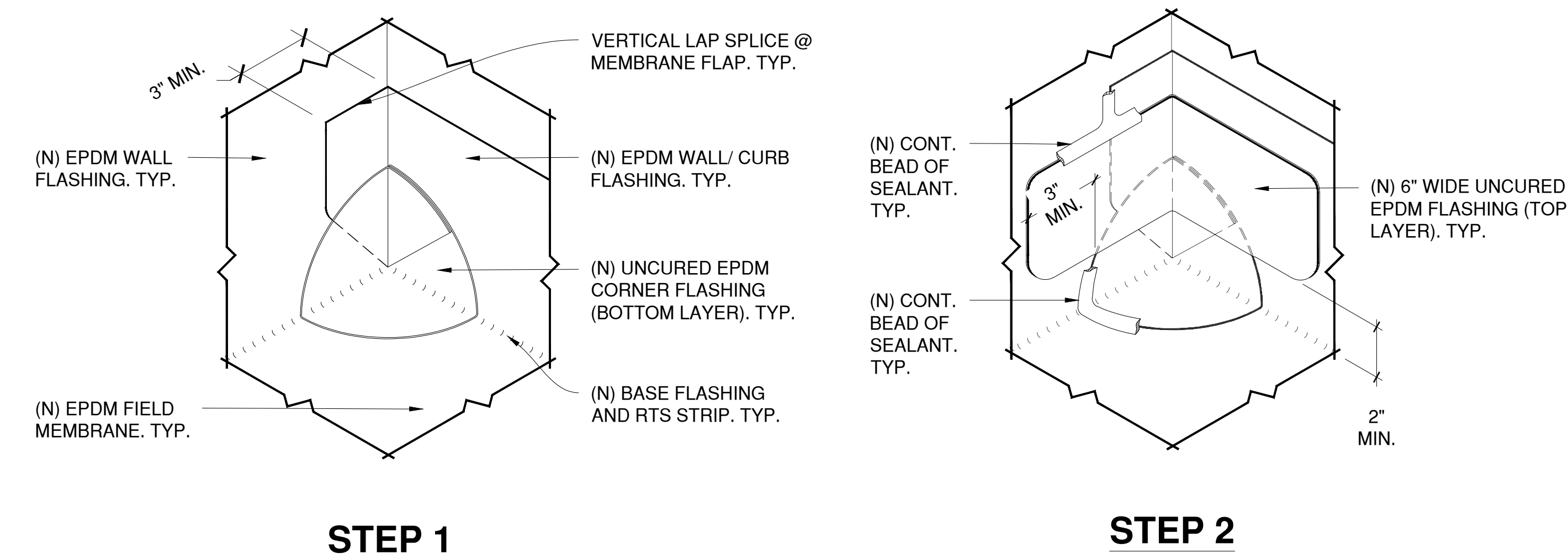
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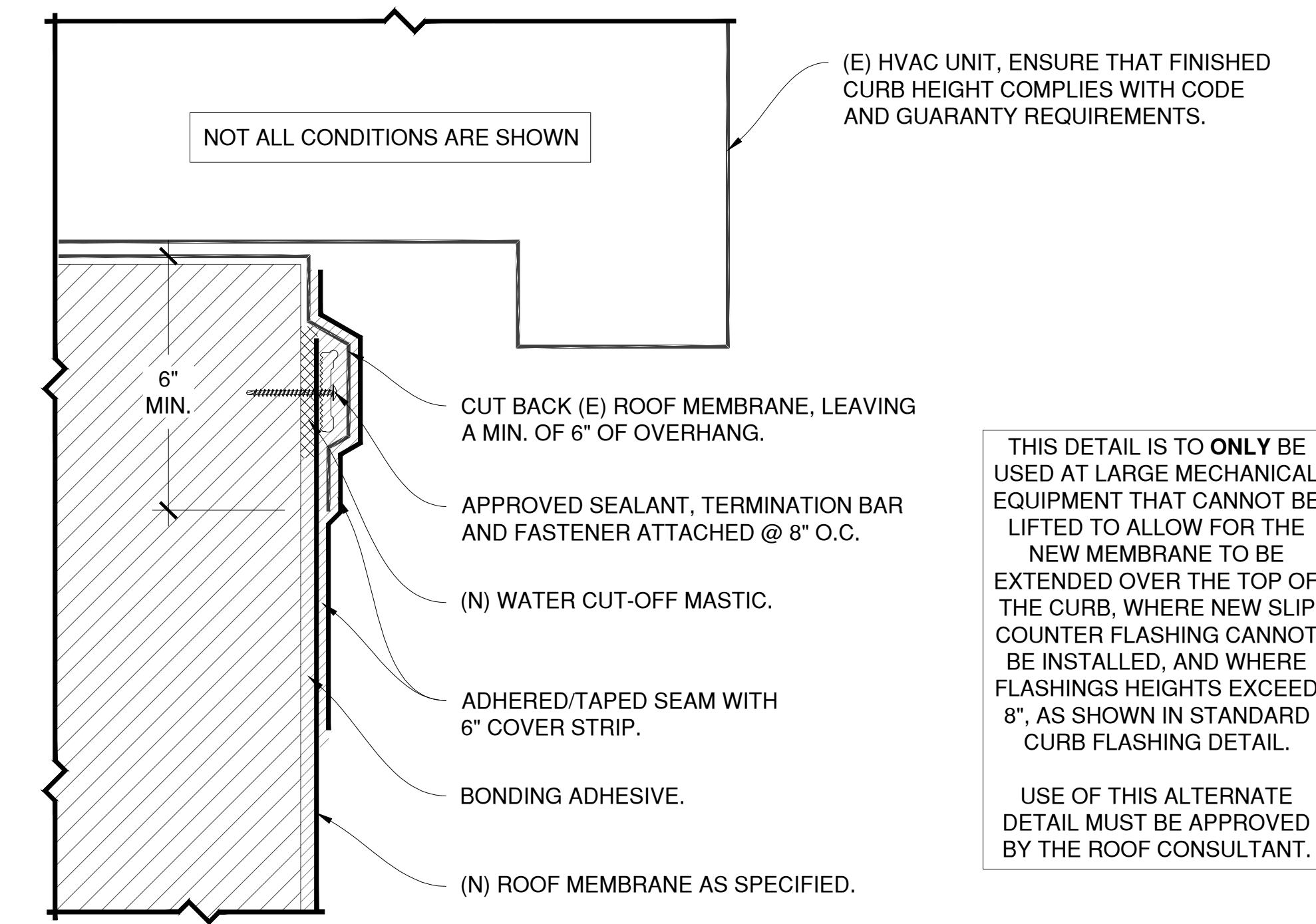
**1 EPDM OUTSIDE CORNER FLASHING (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



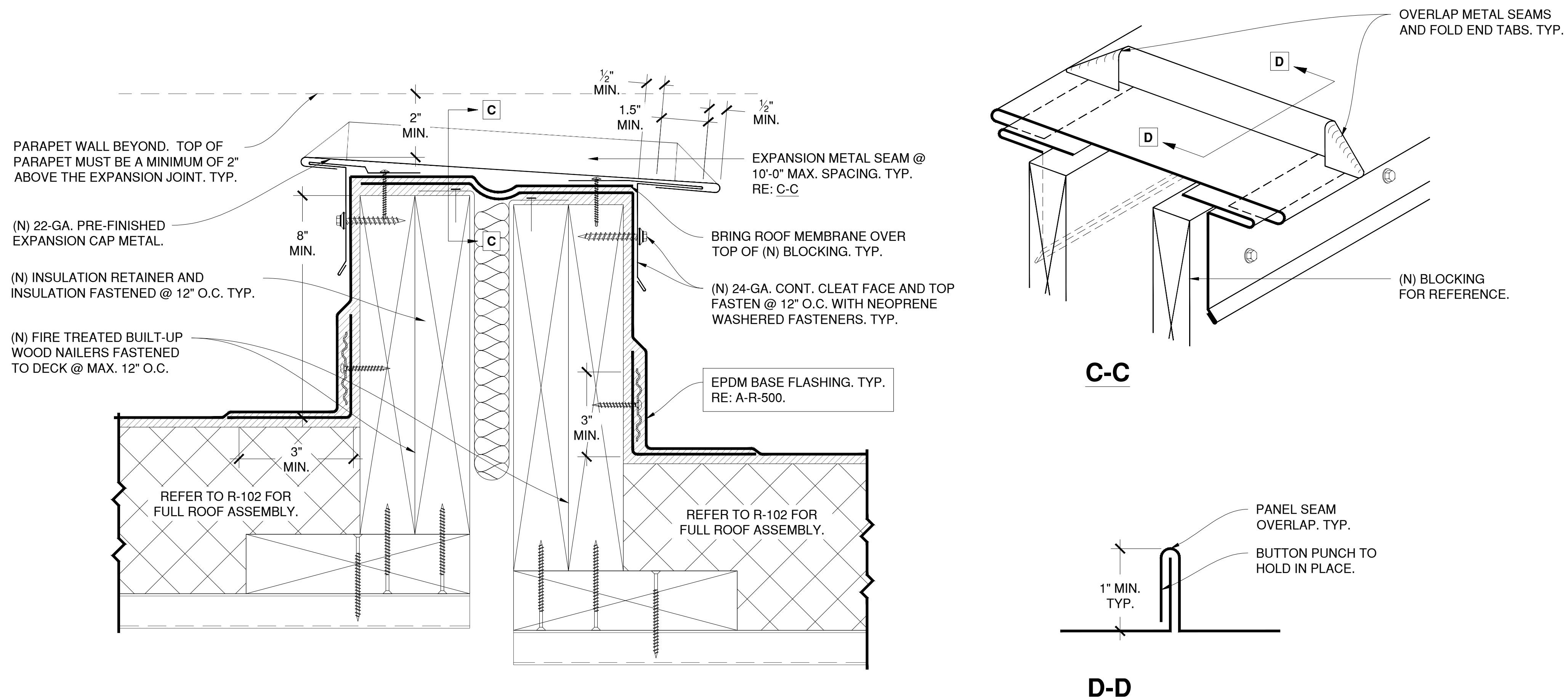
**2 EPDM INSIDE CORNER FLASHING (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



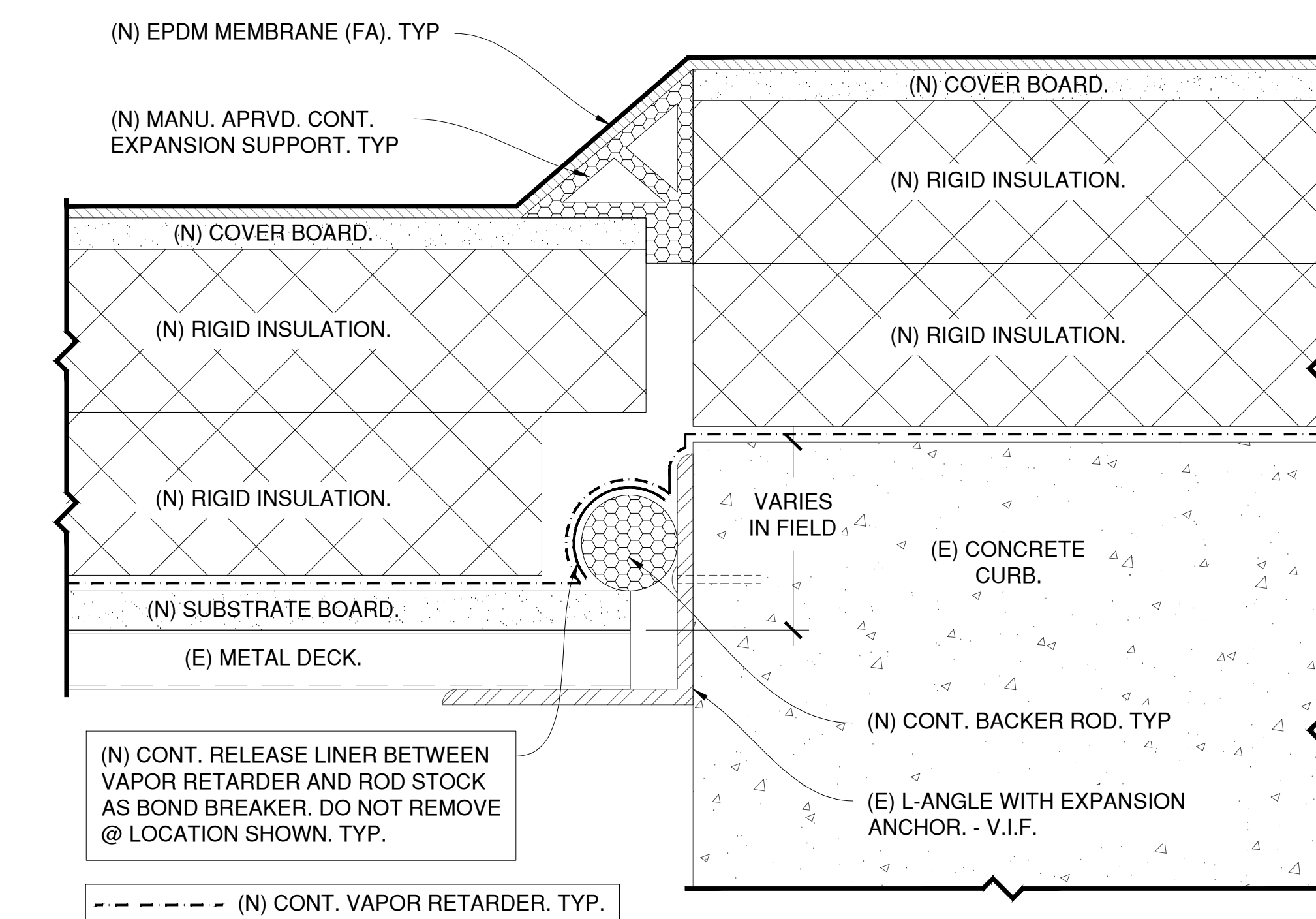
**4 LARGE MECHANICAL CURB FLASHING TIE-IN (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



**3 EXPANSION JOINT FLASHING (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



**5 FIELD-TO-FIELD EXPANSION JOINT (TYPICAL)**

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

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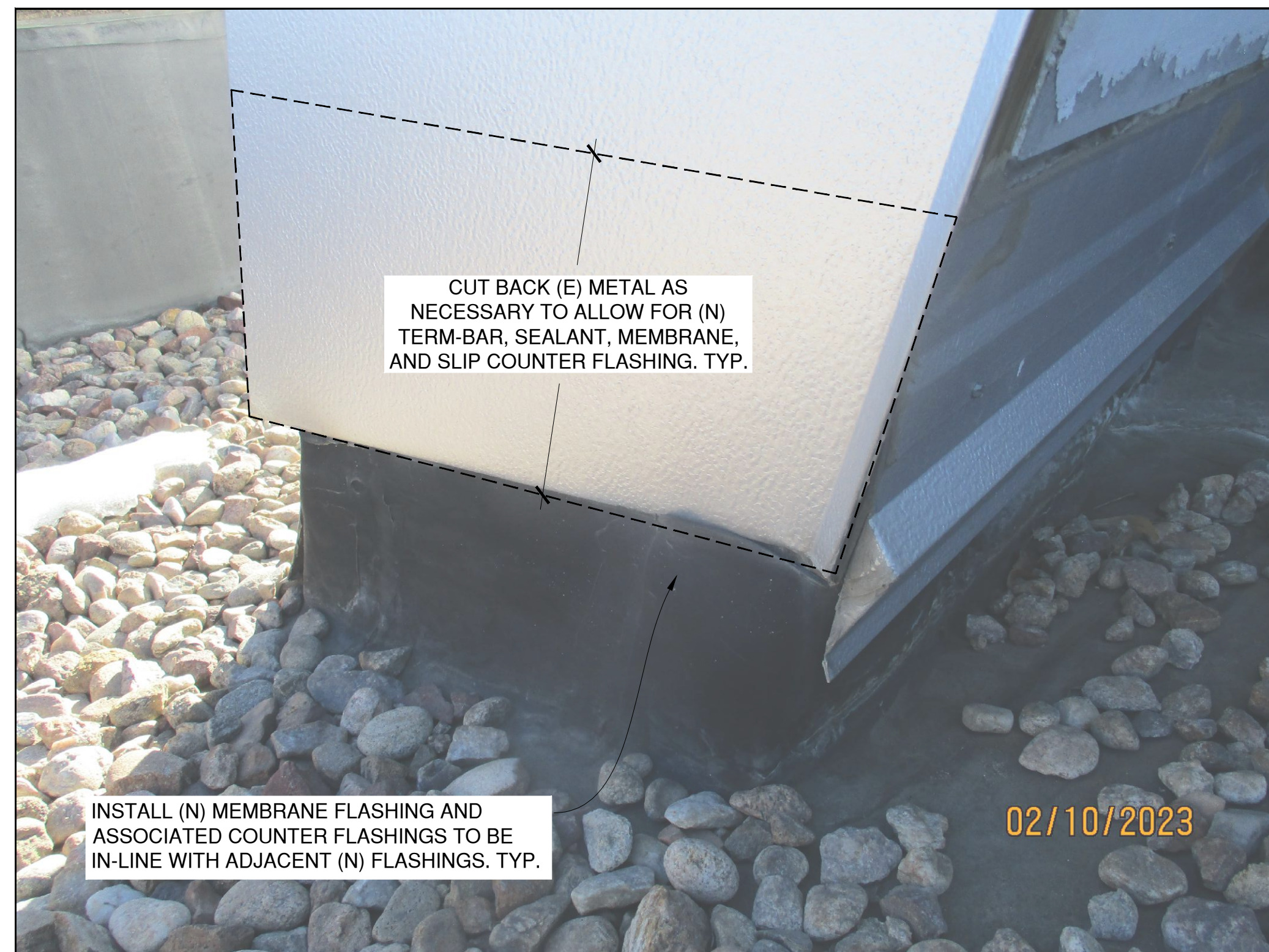
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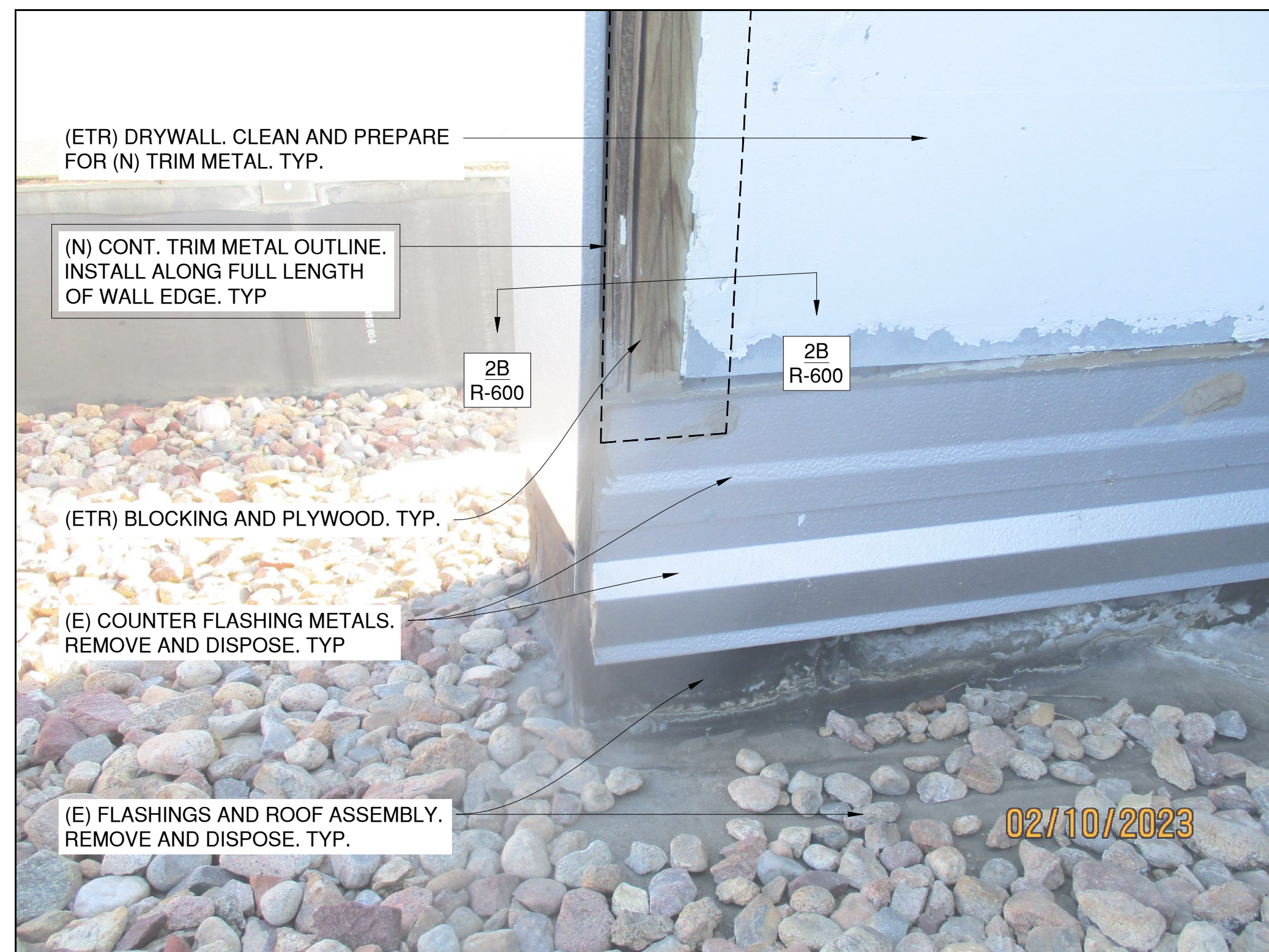


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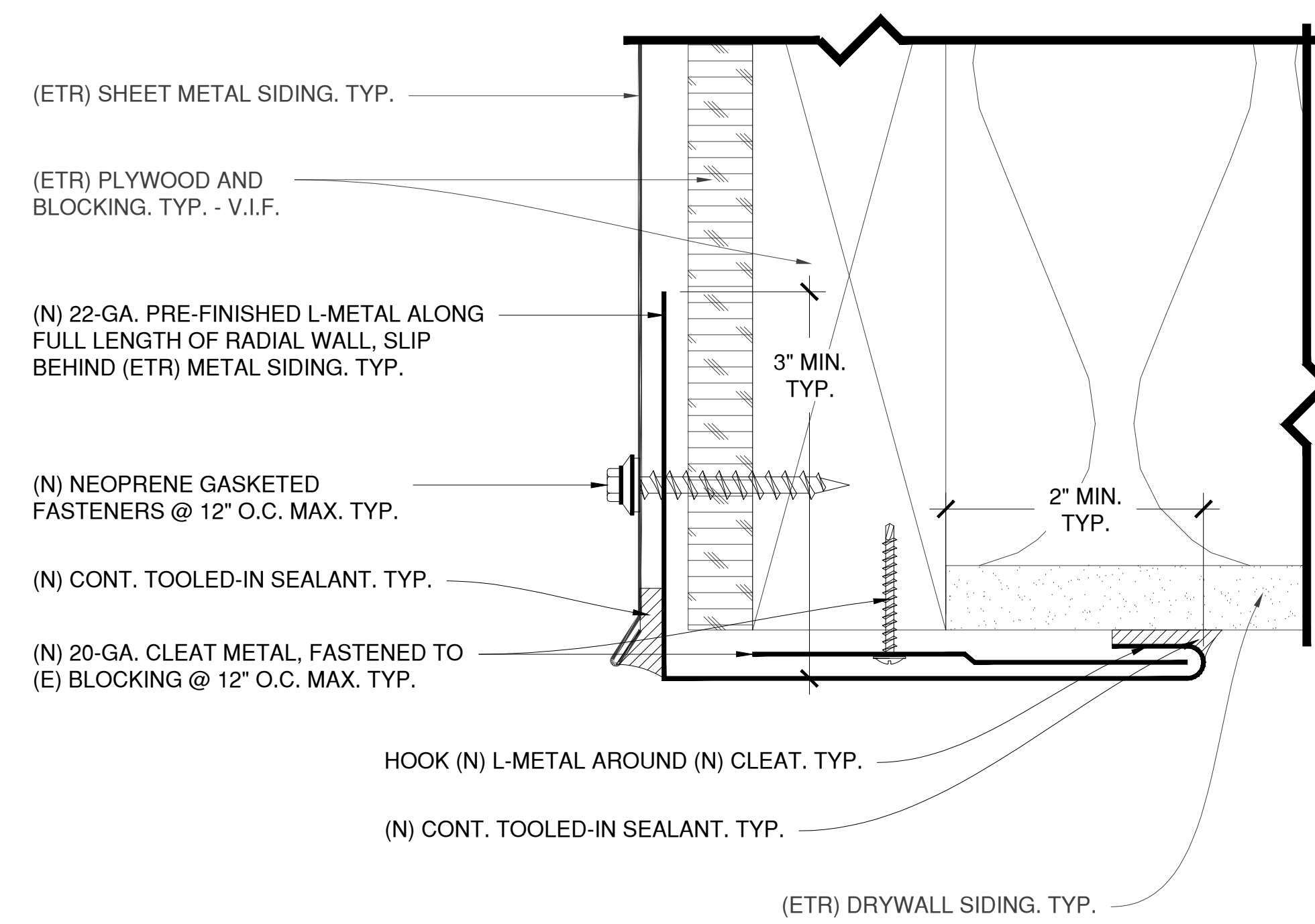
### 1 RADIAL WALL EXISTING SHEET METAL PREPARATION

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



### 2A RAO-1 - RADIAL WALL EXISTING BASE FLASHING PREPARATION

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)



### 2B RAO-1 - NEW SHEET METAL TRIM @ RADIAL WALL SIDING (TYPICAL)

NOTE: SIMILAR - ACTUAL CONDITIONS MAY VARY (N.T.S.)

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