



# AVERY CREEK ELEMENTARY

## PARTIAL ROOF REPLACEMENT PHASE 1

BUNCOMBE COUNTY SCHOOLS  
 15 PARK SOUTH ROAD  
 ARDEN, NC 28704

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**Terracon**  
 Consulting Engineers and Scientists  
 2701 Westport Road  
 Charlotte, North Carolina  
 p: 704.594.1777  
 Project No. FH196128  
 Terracon NC License No.: F-0869  
 terracon.com

ENGINEER STATE LICENSE SEAL



PROJECT NAME AND ADDRESS:

BUNCOMBE COUNTY SCHOOLS  
**AVERY CREEK ELEMENTARY**  
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 ARDEN, NC 28704

ISSUE DATE:  
**09.04.2019**

ISSUE FOR:  
 BID DOCUMENTS  
 NOT FOR CONSTRUCTION

ADDENDUM:  
 No. DATE DESCRIPTION:

#### CLIENT

BUNCOMBE COUNTY SCHOOLS  
 175 Bingham Road  
 Asheville, North Carolina 28806

#### ENGINEERING CONSULTANT

TERRACON CONSULTANTS, INC.  
 2701 Westport Road

#### PROJECT CONTACT:

Jeff H. Poe Jr., PE, MSCE, RRC  
 Project Engineer/Facilities  
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#### PROJECT TEAM:

DESIGNED BY:  
**JHP**  
 DRAWN BY:  
**IMM**  
 APR REVIEWER:  
**VTN**

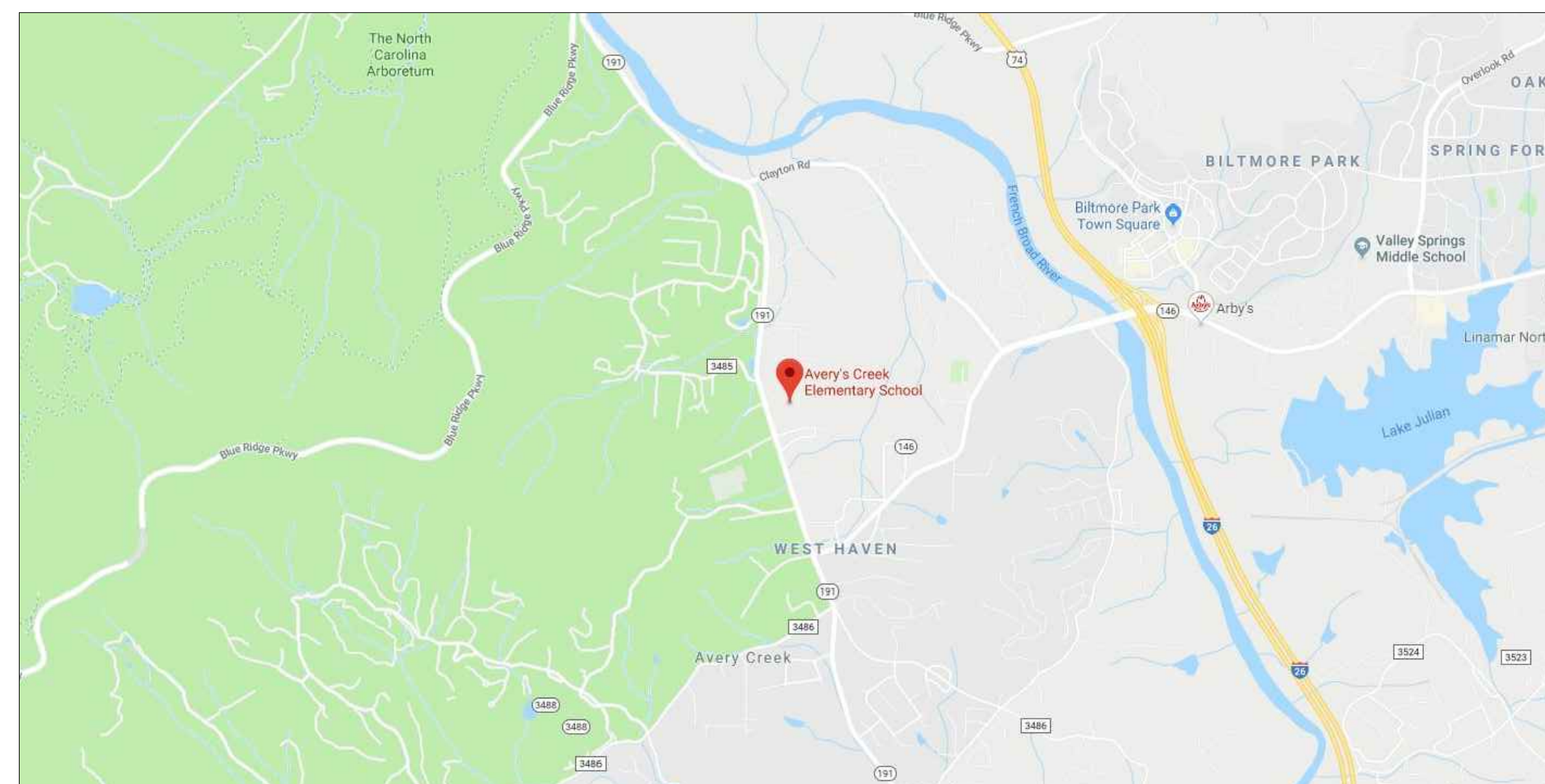
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SHEET TITLE:  
**COVER SHEET**

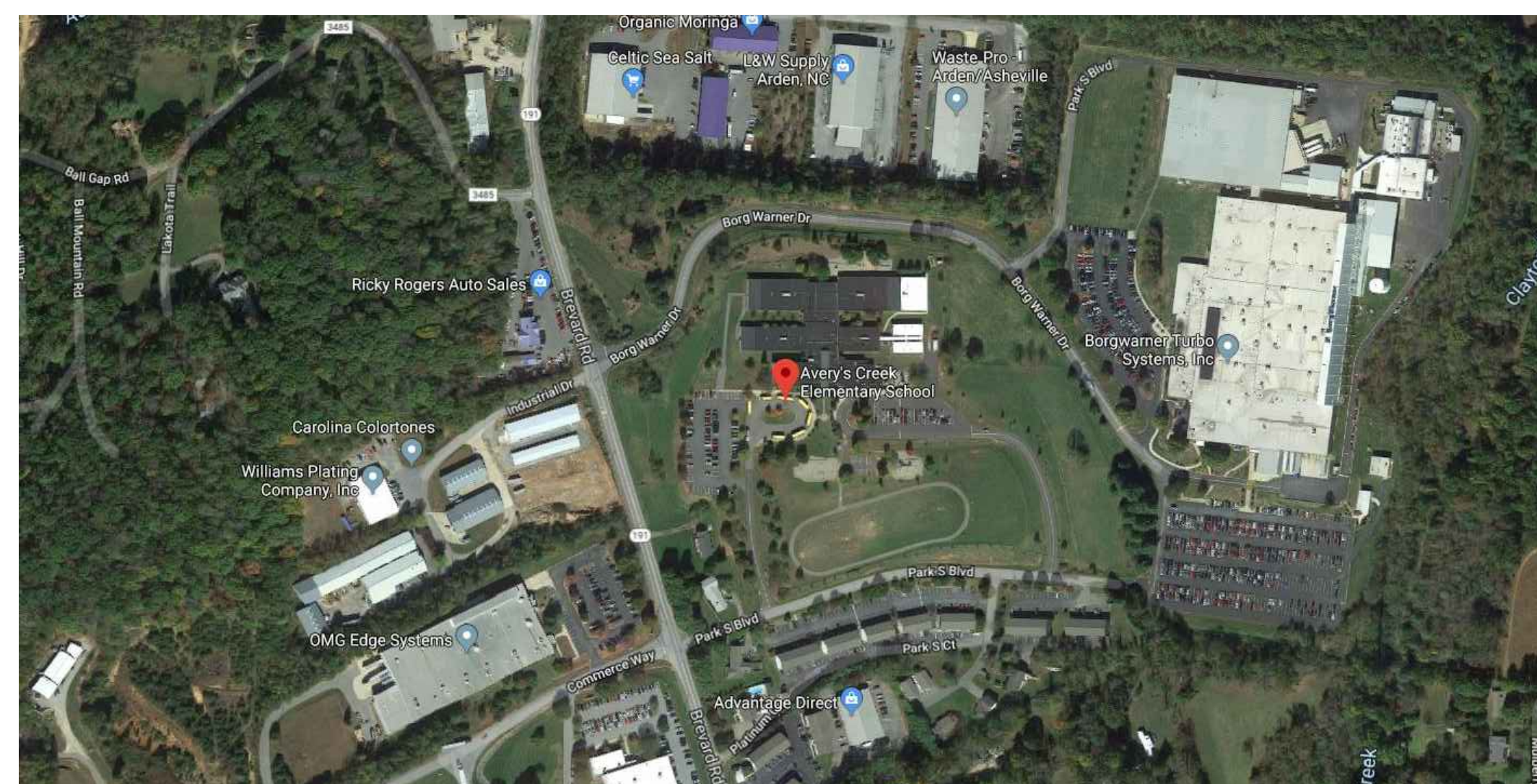
SHEET NUMBER:  
**G-101**



### Project Location



VICINITY MAP

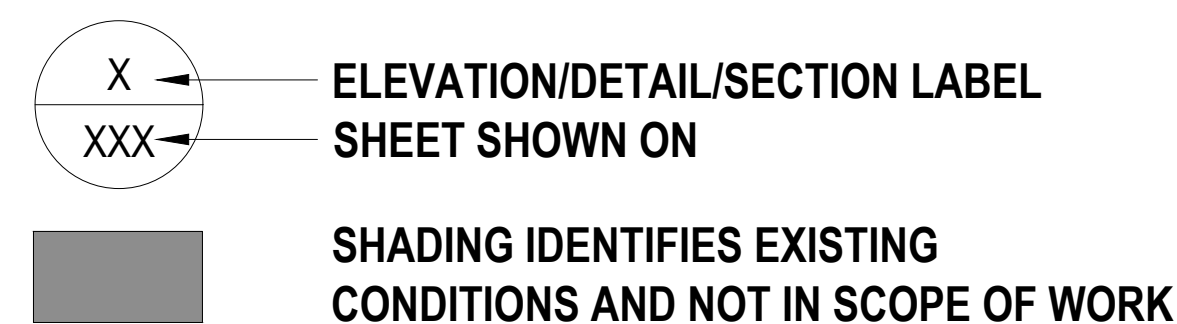


LOCATION MAP

### Abbreviations

MAX.	MAXIMUM
MIN.	MINIMUM
N.I.C	NOT IN CONTRACT
O.C.	ON CENTER
TYP.	TYPICAL
SIM.	SIMILAR

### Details / Elevations / Sections Identifier





STRUCTURAL DESIGN

DESIGN LOADS:

Importance Factors: Wind (I<sub>w</sub>) N/A  
 Snow (I<sub>s</sub>) N/A  
 Seismic (I<sub>e</sub>) N/A

Live Loads: Roof N/A psf  
 Mezzanine N/A psf  
 Floor N/A psf

Snow Load: N/A psf

Wind Load: Basic Wind Speed 120 mph (ASCE-7-10)  
 Exposure Category B  
 Wind Base Shears (for MWFRS) V<sub>x</sub> = N/A V<sub>y</sub> = N/A

SEISMIC DESIGN CATEGORY A  
 Compliance with Section 1616.4 only?  YES  NO

SEISMIC DESIGN CATEGORY B, C, & D  
 Provide the following Seismic Design Parameters:  
 Seismic Use Group N/A  
 Spectral Response Acceleration S<sub>ms</sub> N/A %g S<sub>m1</sub> N/A %g  
 Site Classification N/A  
 Basic structural system (check one)  
 N/A Bearing Wall  N/A Dual w/Special Moment Frame  
 N/A Building Frame  N/A Dual w/Intermediate R/C or Special Steel  
 N/A Moment Frame  N/A Inverted Pendulum  
 Seismic base shear V<sub>x</sub> = N/A V<sub>y</sub> = N/A  
 Analysis Procedure N/A Simplified N/A Equivalent Lateral Force N/A Modal  
 Architectural, Mechanical, Components anchored?

LATERAL DESIGN CONTROL: Earthquake N/A Wind N/A

SOIL BEARING CAPACITIES:  
 Field Test (provide copy of test report) N/A psf  
 Presumptive Bearing capacity N/A psf  
 Pile size, type, and capacity N/A

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, SBCCI, ICC, etc., describe below)

N/A

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ENERGY SUMMARY

ENERGY REQUIREMENTS:  
 The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If energy cost budget method, state the annual energy cost budget vs allowable annual energy cost budget.

THERMAL ENVELOPE

Method of Compliance:  Prescriptive  Performance  Energy Cost Budget

Roof/Ceiling Assembly (each assembly)

Description of assembly  
 U-Value of total assembly .033  
 R-Value of insulation R-30  
 Skylights in each assembly None  
 U-Value of skylight  
 total square footage of skylights in each assembly

Exterior Walls (each assembly)

Description of assembly  
 U-Value of total assembly  
 R-Value of insulation  
 Openings (windows or doors with glazing)  
 U-Value of assembly  
 shading coefficient  
 projection factor  
 low e required, if applicable  
 Door R-Values

Walls adjacent to unconditioned space (each assembly)

Description of assembly  
 U-Value of total assembly  
 R-Value of insulation  
 Openings (windows or doors with glazing)  
 U-Value of assembly  
 Low e required, if applicable  
 Door R-Values

Walls below grade (each assembly)

Description of Assembly  
 U-Value of total assembly  
 R-Value of insulation

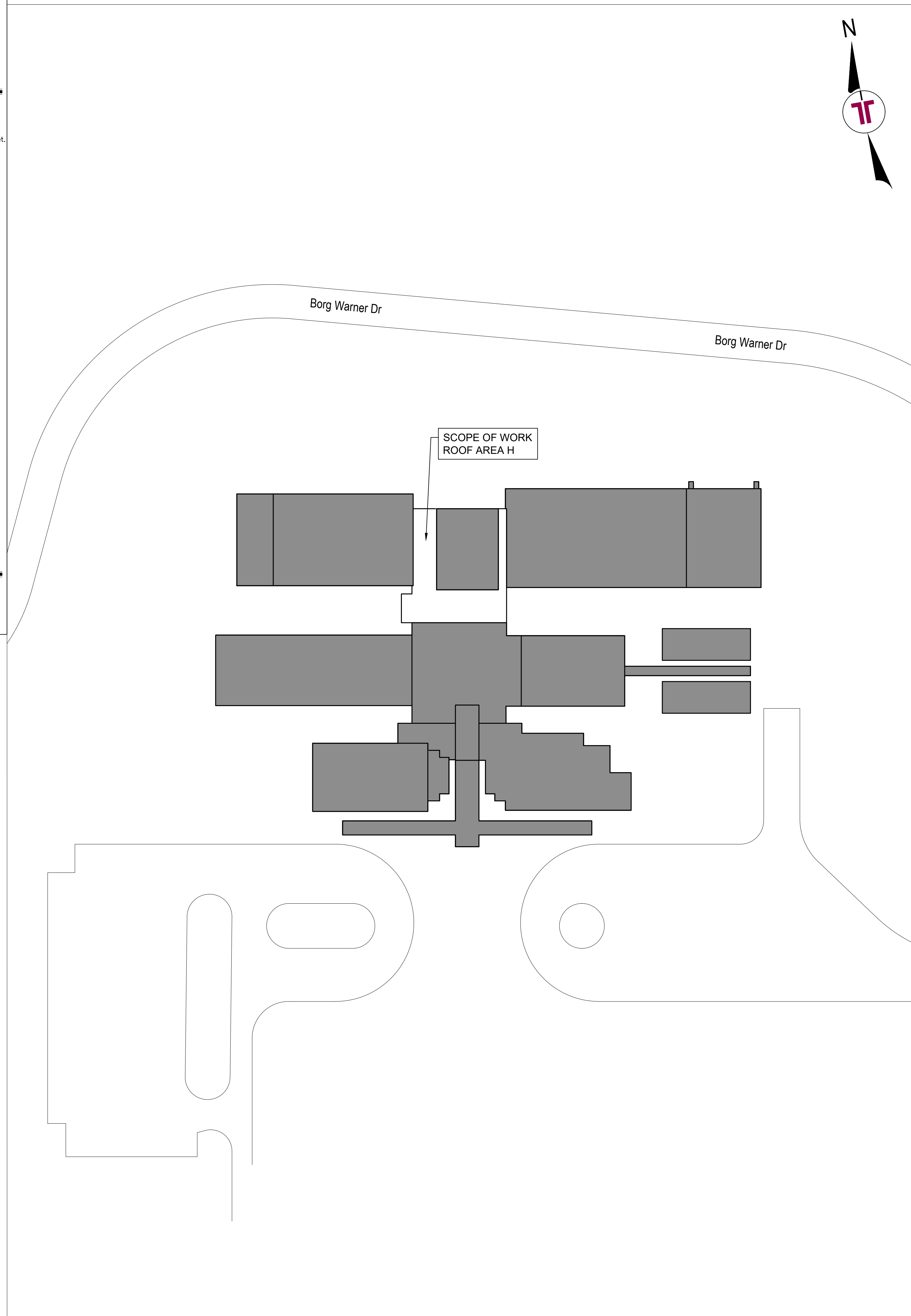
Floors over unconditioned space (each assembly)

Description of assembly  
 U-Value of total assembly  
 R-Value of insulation

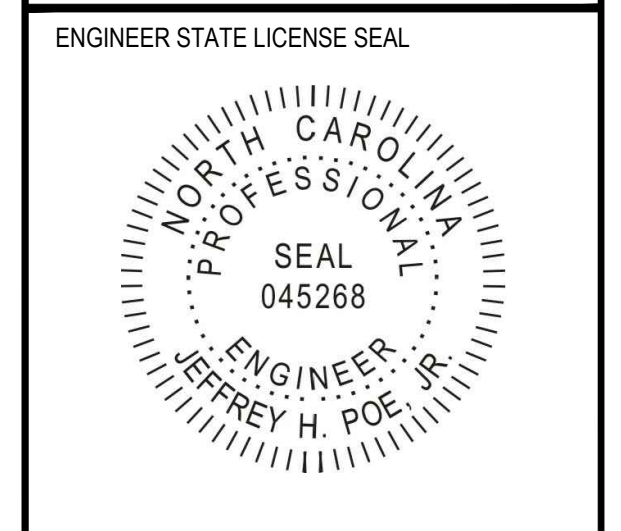
Floors slab on grade

Description of assembly  
 U-Value of total assembly  
 R-Value of insulation  
 Horizontal/vertical requirement  
 slab heated

KEY PLAN



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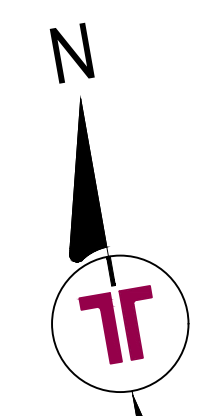
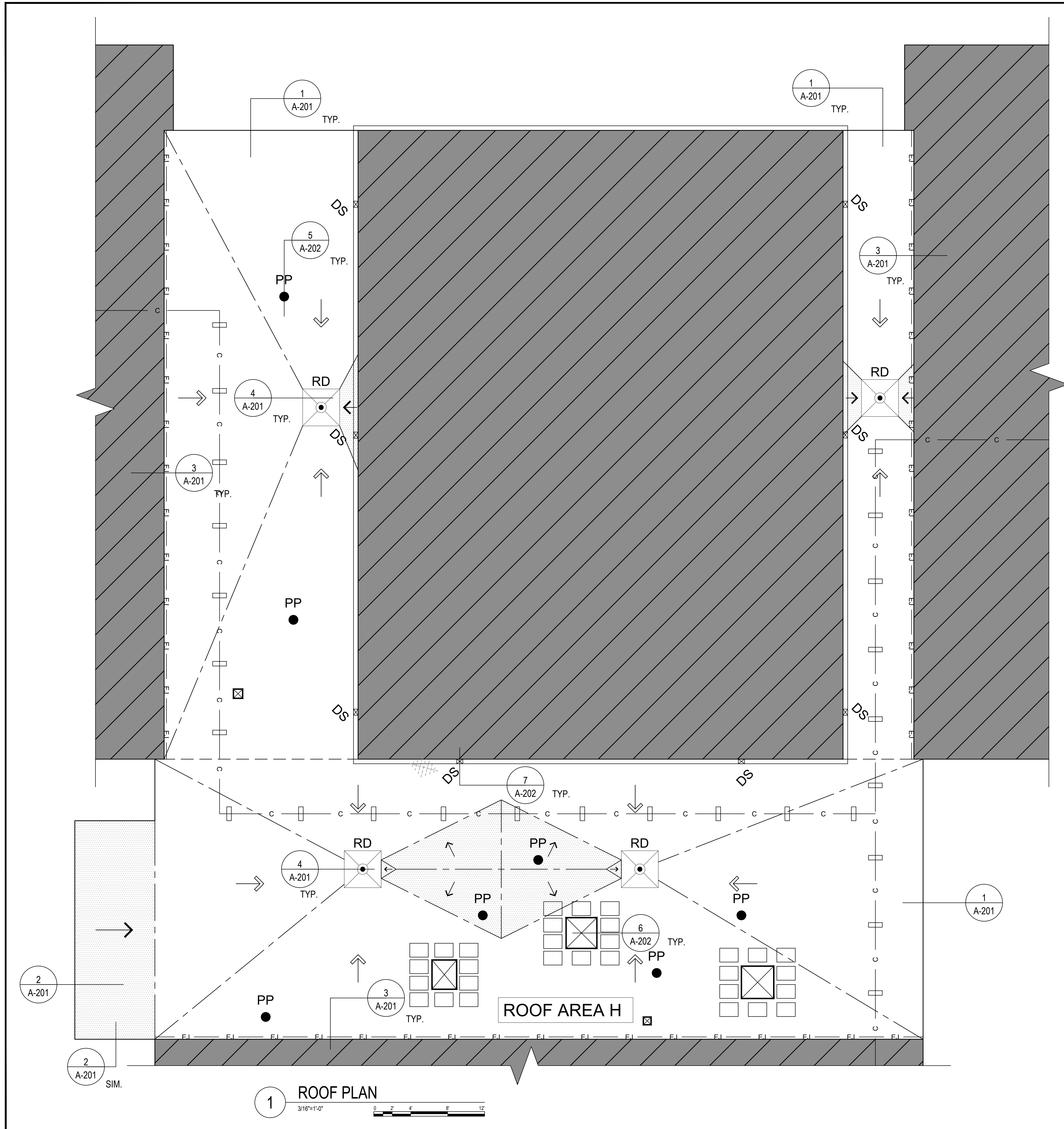
ADDENDUM:  
 No. DATE DESCRIPTION:

PROJECT TEAM:  
 DESIGNED BY:  
**JHP**  
 DRAWN BY:  
**IMM**  
 APR REVIEWER:  
**VTN**

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SHEET TITLE:  
**APPENDIX B & KEY PLAN**

SHEET NUMBER:  
**G-102**



### LEGEND

---	RIDGE LINE
- - -	VALLEY LINE
→	SLOPE IN STRUCTURE
→	SLOPE IN INSULATION
⬠	NEW CRICKET
⊠	EXISTING EQUIPMENT CURB
PP	EXISTING PIPE PENETRATION
⦿	EXISTING ANTENNA EQUIPMENT
RD	ROOF DRAIN AND SUMP
DS	EXISTING DOWNSPOUT
c	EXISTING CONDENSATE LINE
⊠ c ⊠	EXISTING CONDENSATE LINE ON SLEEPERS
EJ	EXISTING EXPANSION JOINT
□ □ □	NEW WALK PADS

- ### GENERAL NOTES
- CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS.
  - CONDUITS AND COAX CABLES ARE TO BE PRESERVED AND UNDAMAGED.
  - CONTRACTOR IS TO MAINTAIN POSITIVE DRAINAGE.
  - TAPERED EDGE STRIP IS NOT SHOWN FOR CLARITY.
  - ROOF DECK IS GENERALLY SLOPED AT 1/4" PER FOOT, UNLESS INDICATED OTHERWISE.
  - CONTRACTOR SHALL NOTIFY ENGINEER AS SOON AS POSSIBLE IF CONDITIONS ARE FOUND THAT INHIBIT OR ALTER THE PROPER INSTALLATION OF MATERIALS.

### CODE SUMMARY

NORTH CAROLINA BUILDING CODE (2012 EDITION) AND ASCE 7-10

BASIC WIND SPEED	= 120 MPH
BUILDING CATEGORY	= III
EXPOSURE CATEGORY	= B
INTERNAL PRESSURE COEF.	= +/- .18

THE NEW ROOF SYSTEM SHALL BE DESIGNED AND CONSTRUCTED TO MEET THE FOLLOWING WIND UPLIFT PRESSURES:

- INTERIOR ZONE = -26 PSF
- EDGE ZONE: 4' = -43 PSF
- CORNER ZONE: 4'x4' = -65 PSF

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DRAWN BY:  
**IMM**  
APR REVIEWER:  
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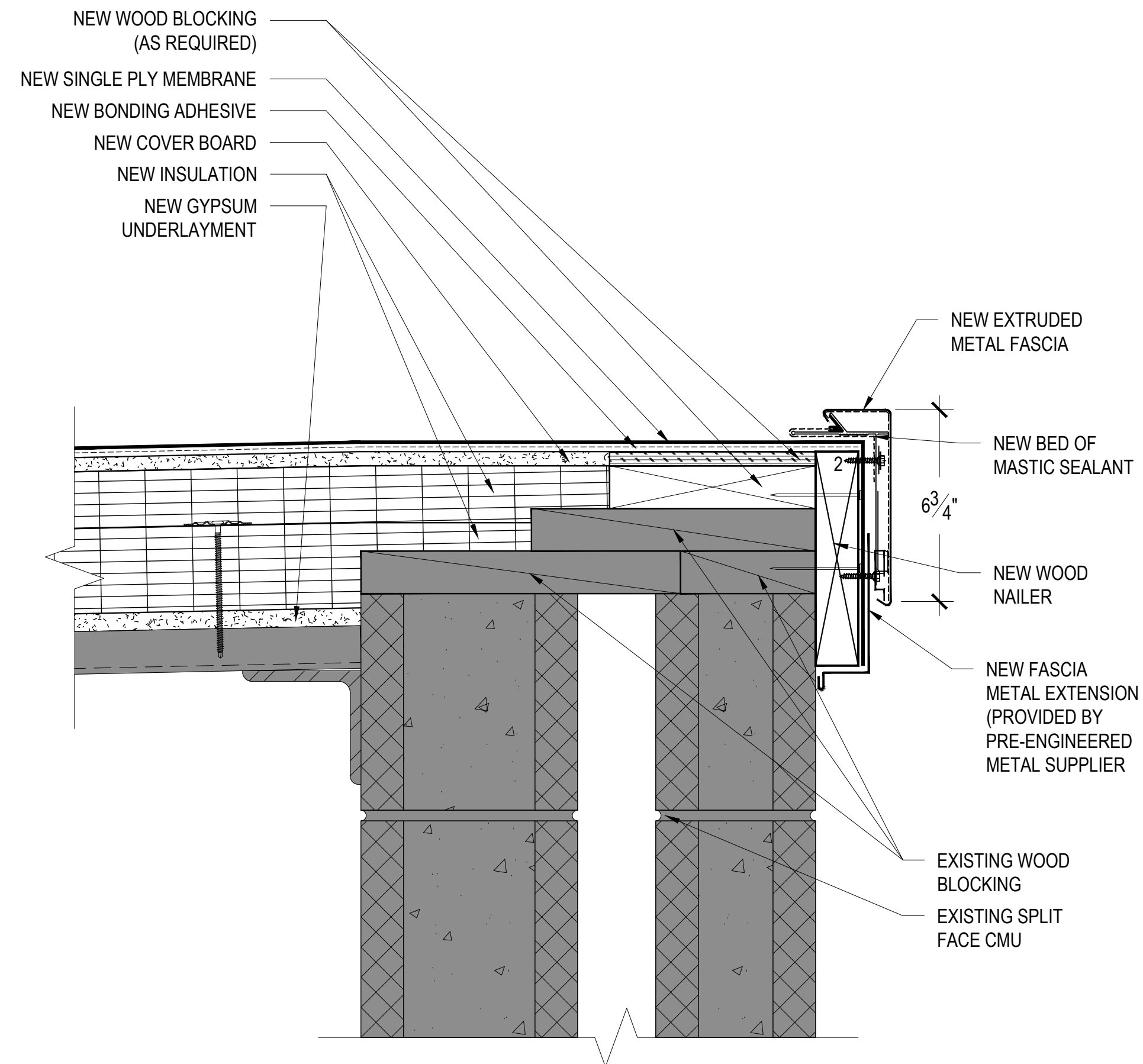
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SHEET TITLE:  
**ROOF PLAN**

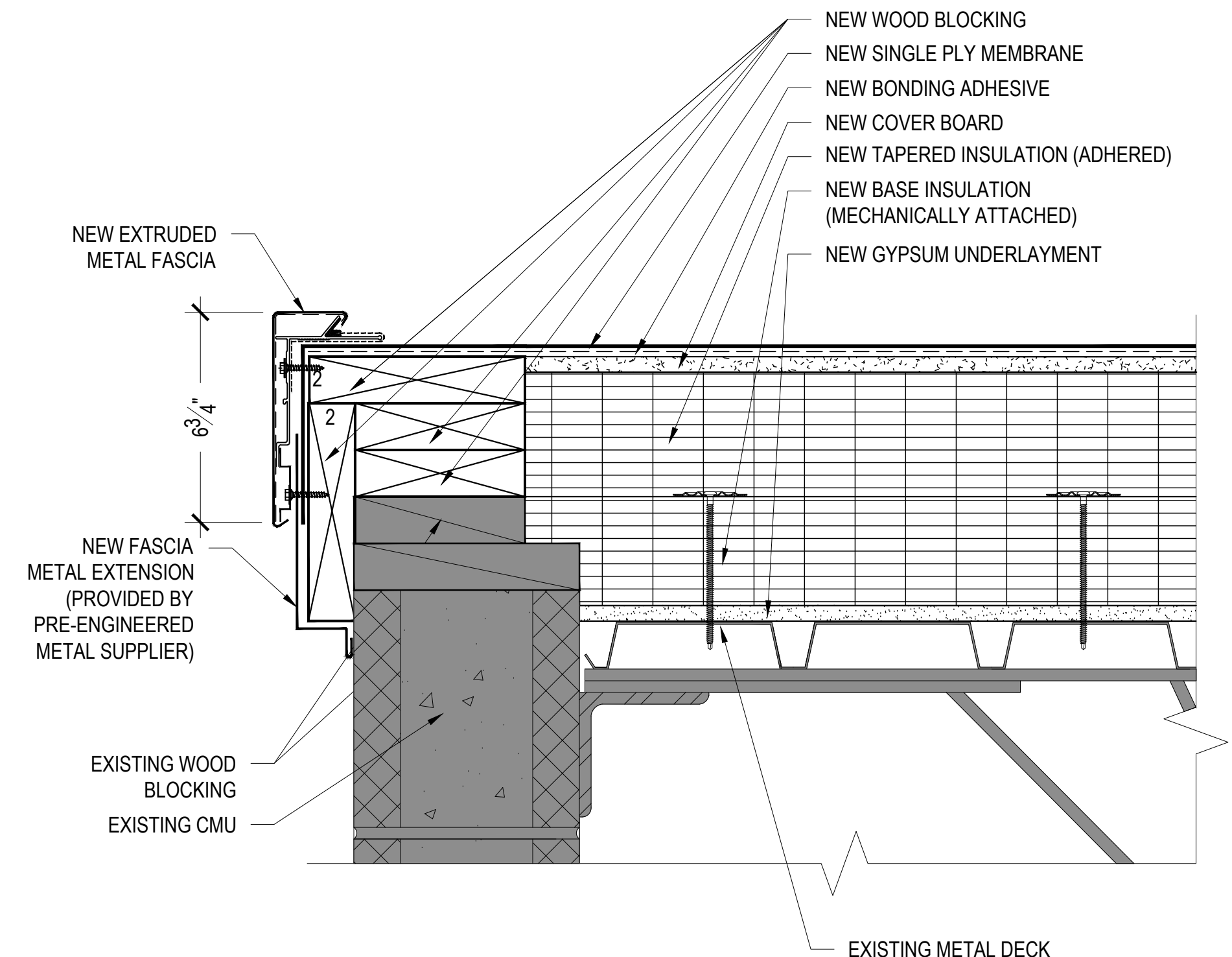
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**A-101**

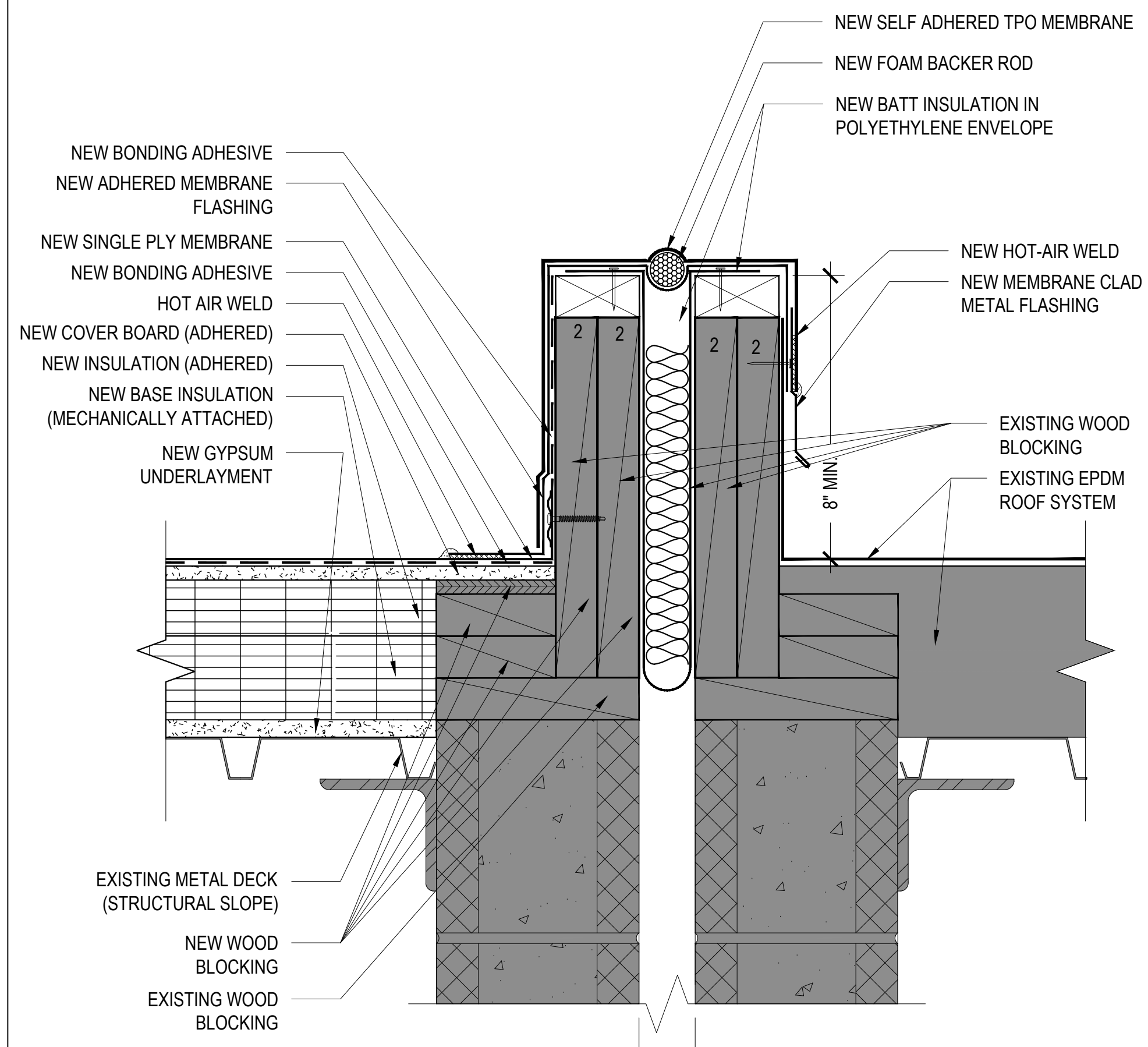




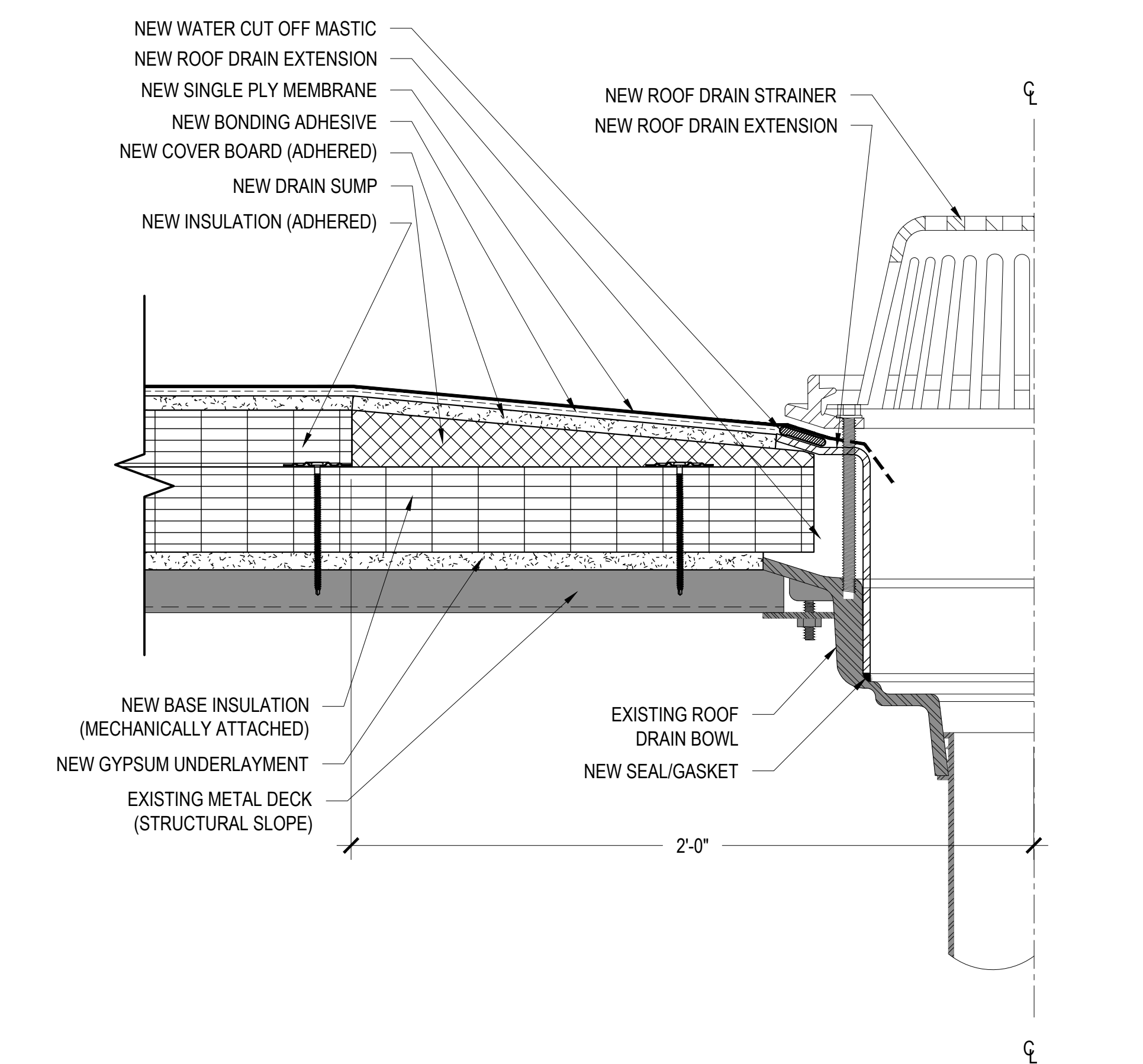
1 EAVE DETAIL  
 3"=1'-0"



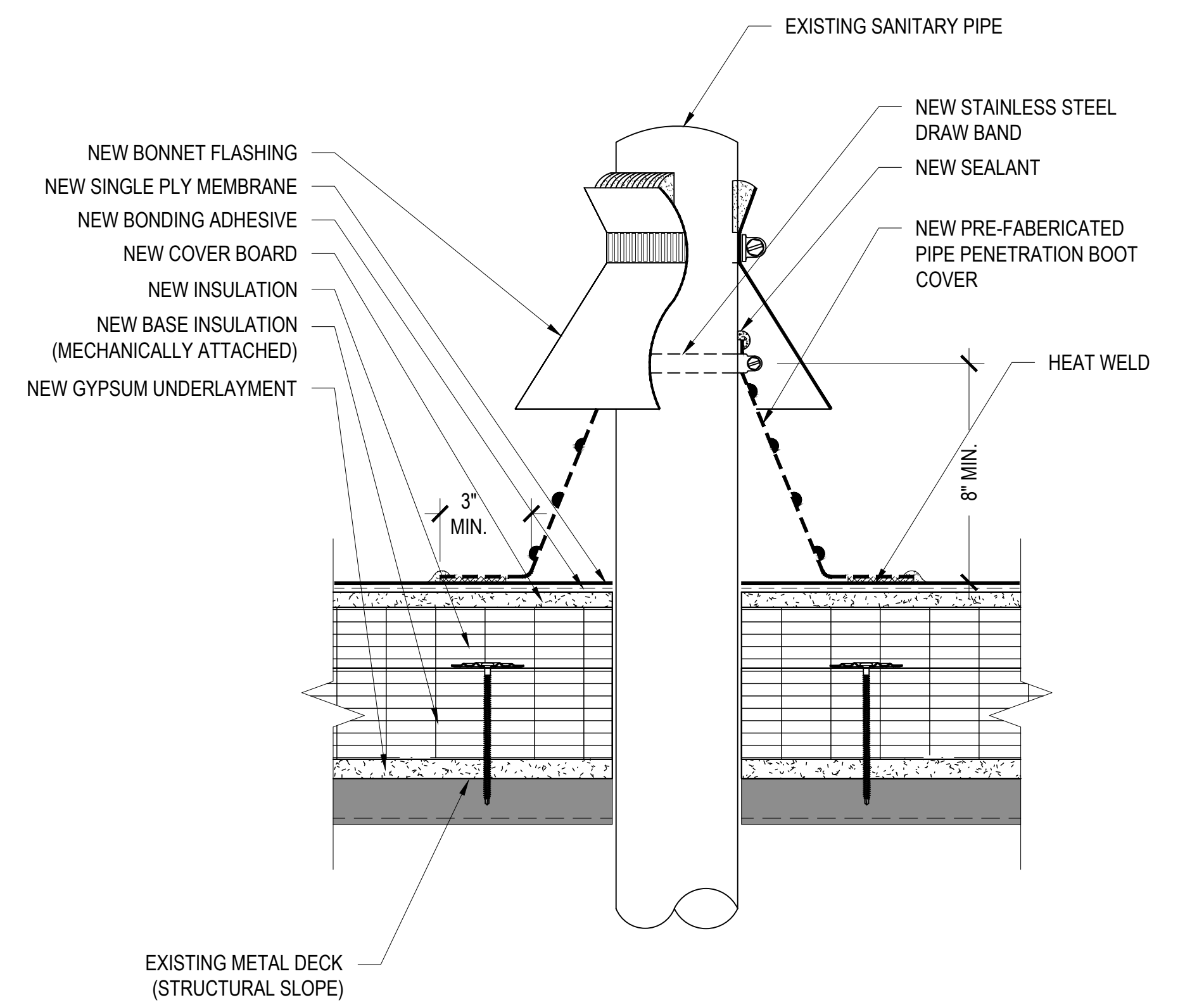
2 EAVE DETAIL w/ TAPERED INSULATION  
 3"=1'-0"



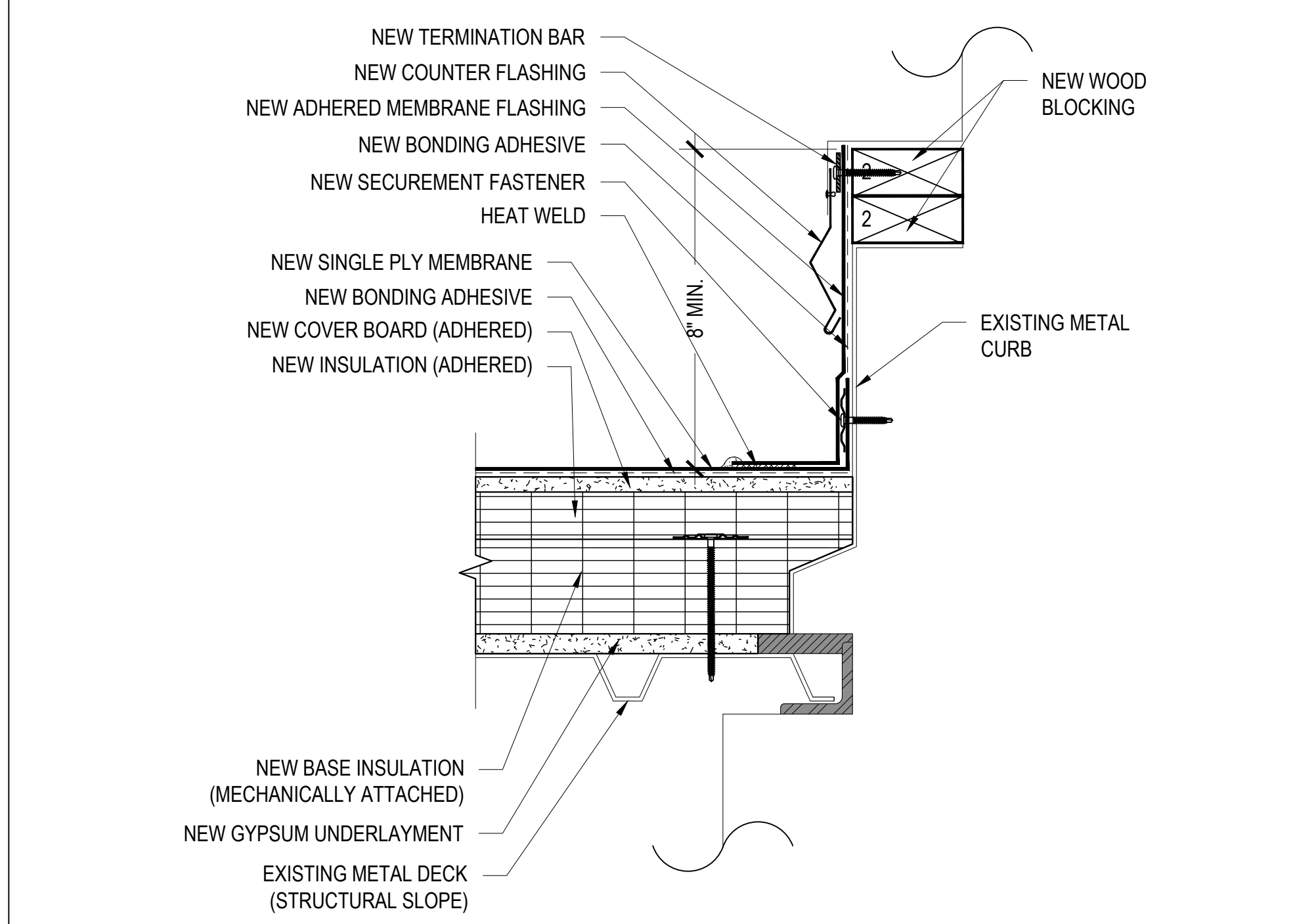
3 EXPANSION JOINT DETAIL  
 3"=1'-0"



4 ROOF DRAIN DETAIL  
 3"=1'-0"



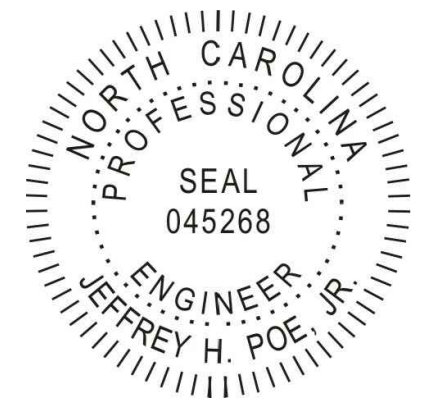
5 PIPE PENETRATION DETAIL  
 3"=1'-0"



6 EQUIPMENT CURB DETAIL  
 3"=1'-0"



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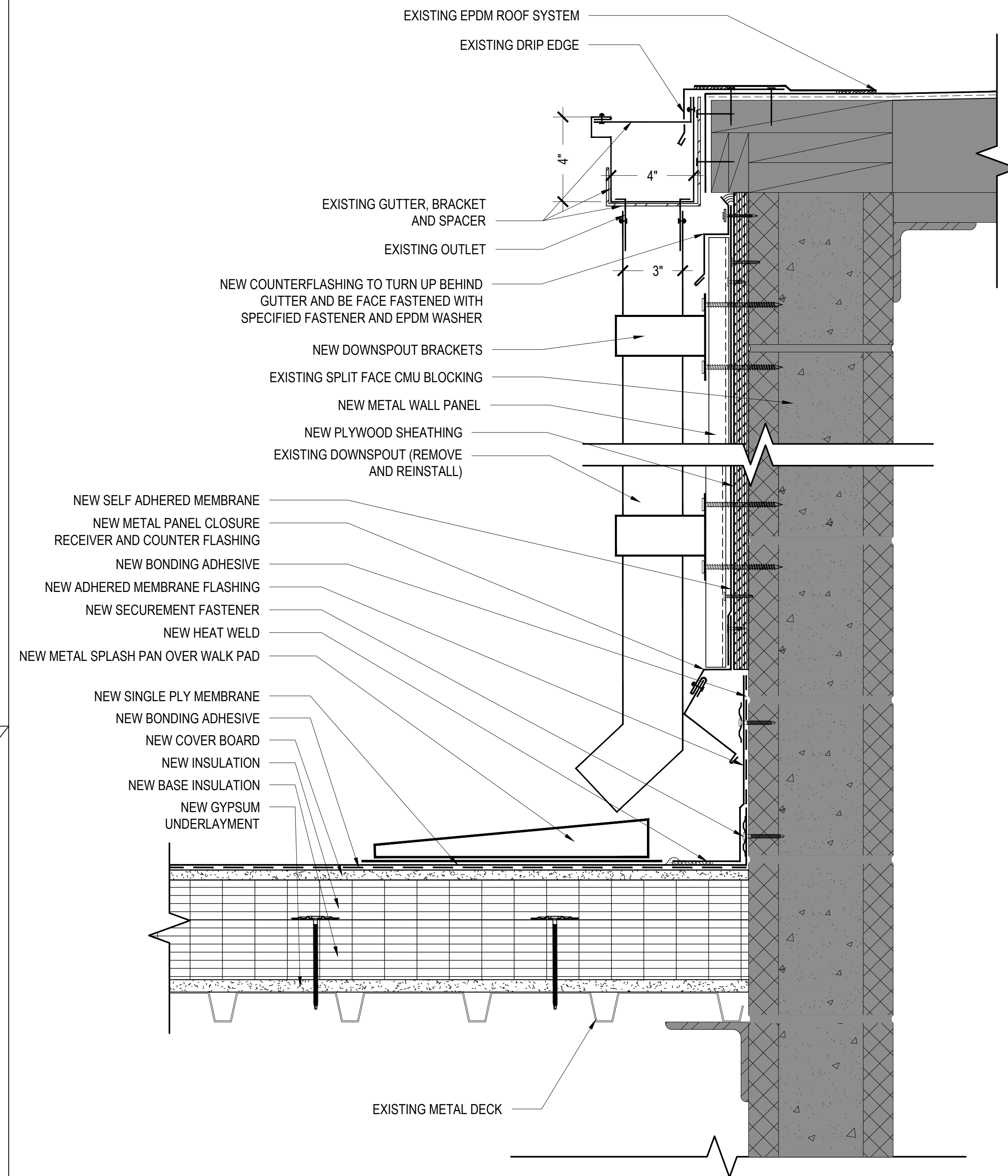
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SHEET TITLE:  
**DETAILS**

SHEET NUMBER:

**A-202**



7

**7 DOWNSPOUT DETAIL**

3"=1'-0"

