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Installation Manual
NAILBASE PANELS

Thermapan
Structural
Insulated
Panels

NAILBASE SIPs
Installation Manual

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1. General Requirements

1.1 Scope

The basic design and construction requirements for the Thermapan Nailbase retrofit panel system is set forth in this specification.

Criteria for materials, environmental control, design loads, and structural design are included. Where requirements are based on internationally recognized standards and specifications, these standards and specifications are referenced without elaboration.

Installers shall reference engineering design package for fastening arrangements.

2. Materials

2.1 The Thermapan Nailbase SIP is composed of an expanded polystyrene (EPS) foam core laminated on one side with a layer of oriented strand board (OSB) with a structural adhesive.

2.2 Framing Lumber shall be DOC PS 20 or NLGA No.2 or better.

2.3 SIP screws shall conform to ICC-AC233.

2.4 Polyethylene (Poly) Sheathing shall conform to CAN/CGSB-37.2, CAN/CGSB-37.16, or ASTM D 4397.

2.5 Low expansion foam seal shall conform to AAMA 812-04.

2.6 Sill seal gasket is a flexible polyethylene foam gasketing strip that can help reduce air infiltration between a concrete or masonry surface and a lumber plate.

3. Ice Damming & Roof Maintenance

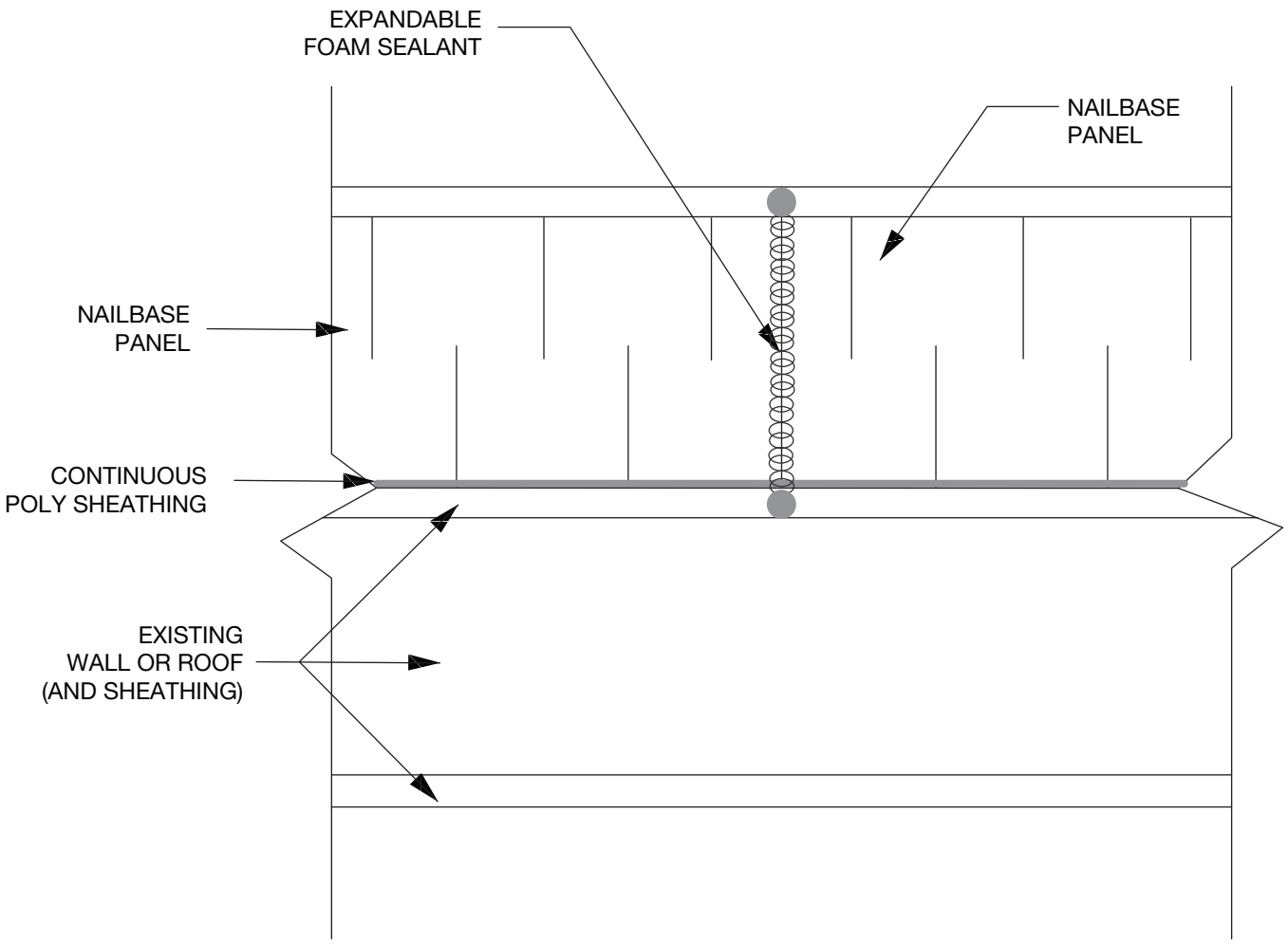
3.1 Ice dams are not limited to the eaves. They can also develop in shaded roof areas, around dormers, and on roof slopes that receive minimal direct sunlight (for example, north-facing sections).

3.2 **Use a Roof Rake:** Remove snow from the lower 1-2m (3-6') of the roof after storms to eliminate the fuel for ice dam formation.

3.3 **Keep Gutters Clear:** Clean gutters and downspouts of debris so melted water can drain freely.

3.4 **Install Heat Cables:** Install electrical heat cables along the eaves to create drainage channels, which help prevent ice from building up.

3.5 **Regular Inspection:** Inspect the roof finish frequently for deterioration and openings for moisture entry.



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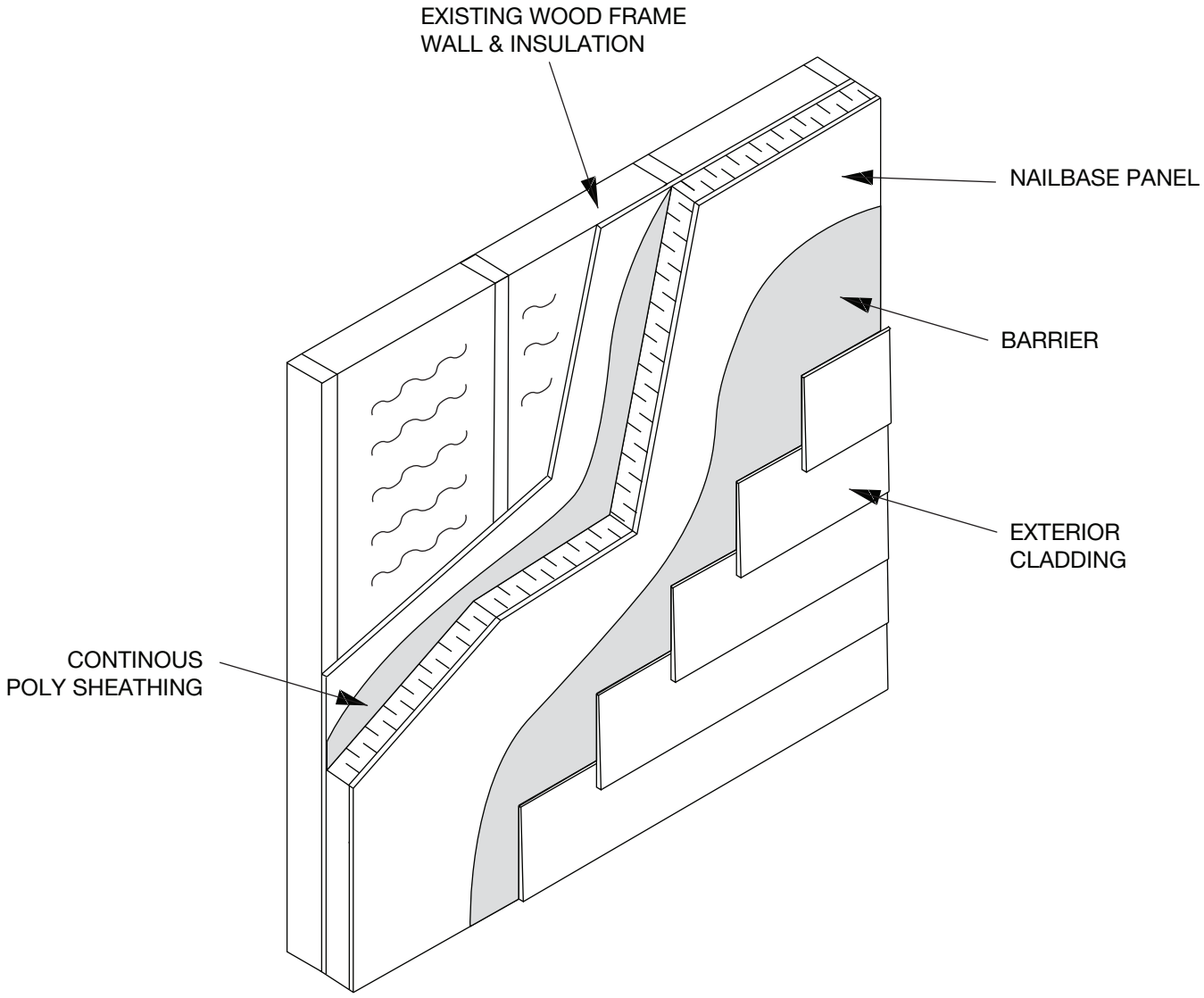
TITLE

AIR BARRIER DETAILS FOR NAILBASE PANEL BUTT JOINT

PROJECT

REFERENCE	SCALE	
	N.T.S.	
DATE	REVISION	DWG. No.
NOVEMBER 2018		AB-1(NB)



NOTE: SEE NB-10 & NB-11 FOR EXTERIOR CLADDING OPTIONS

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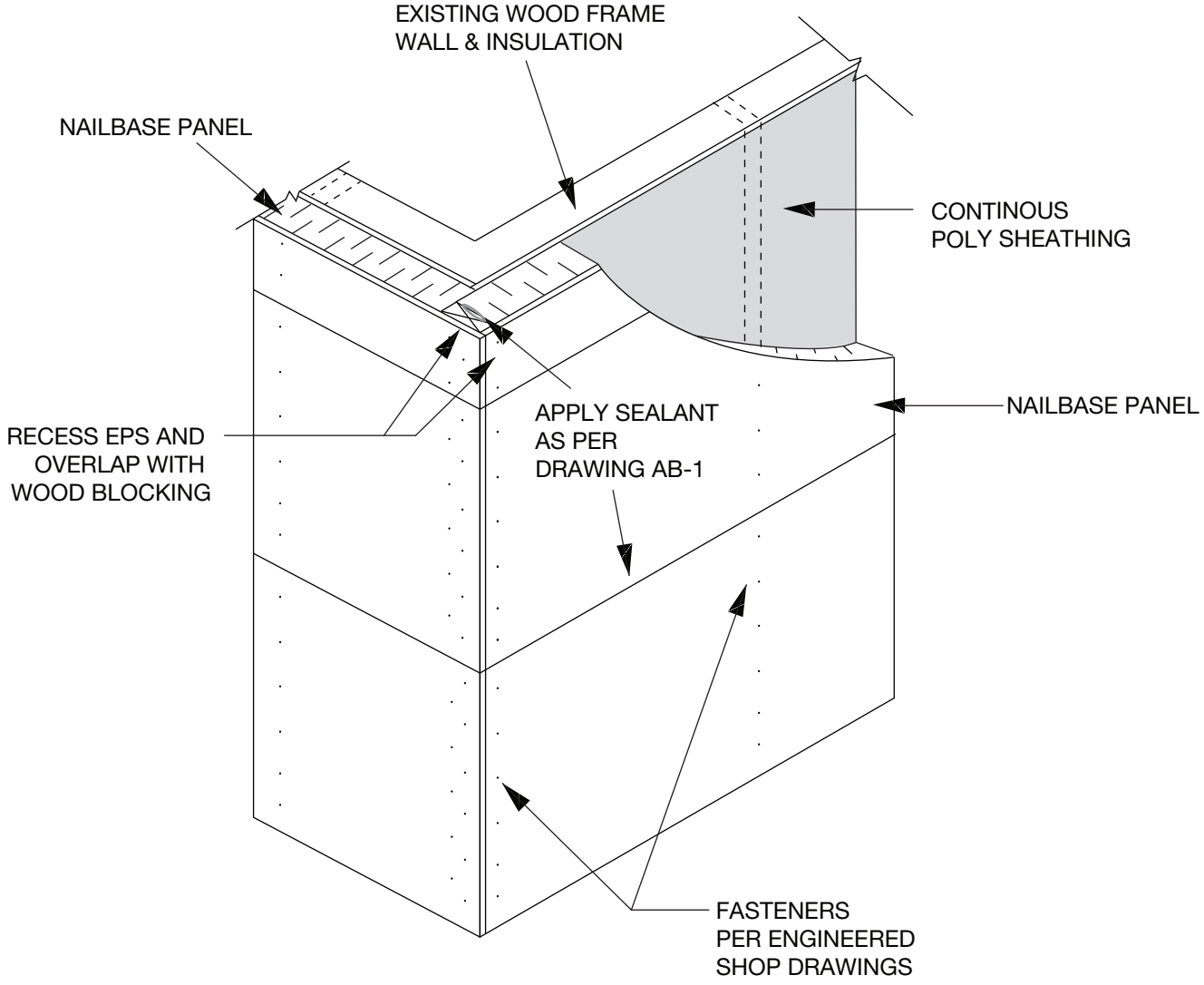
TITLE: NAILBASE PANEL RETROFIT OVER EXISTING WALL SHEATHING		PROJECT
REFERENCE	SCALE: N.T.S.	
DATE: NOVEMBER 2018	REVISION	DWG. No.: NB-1



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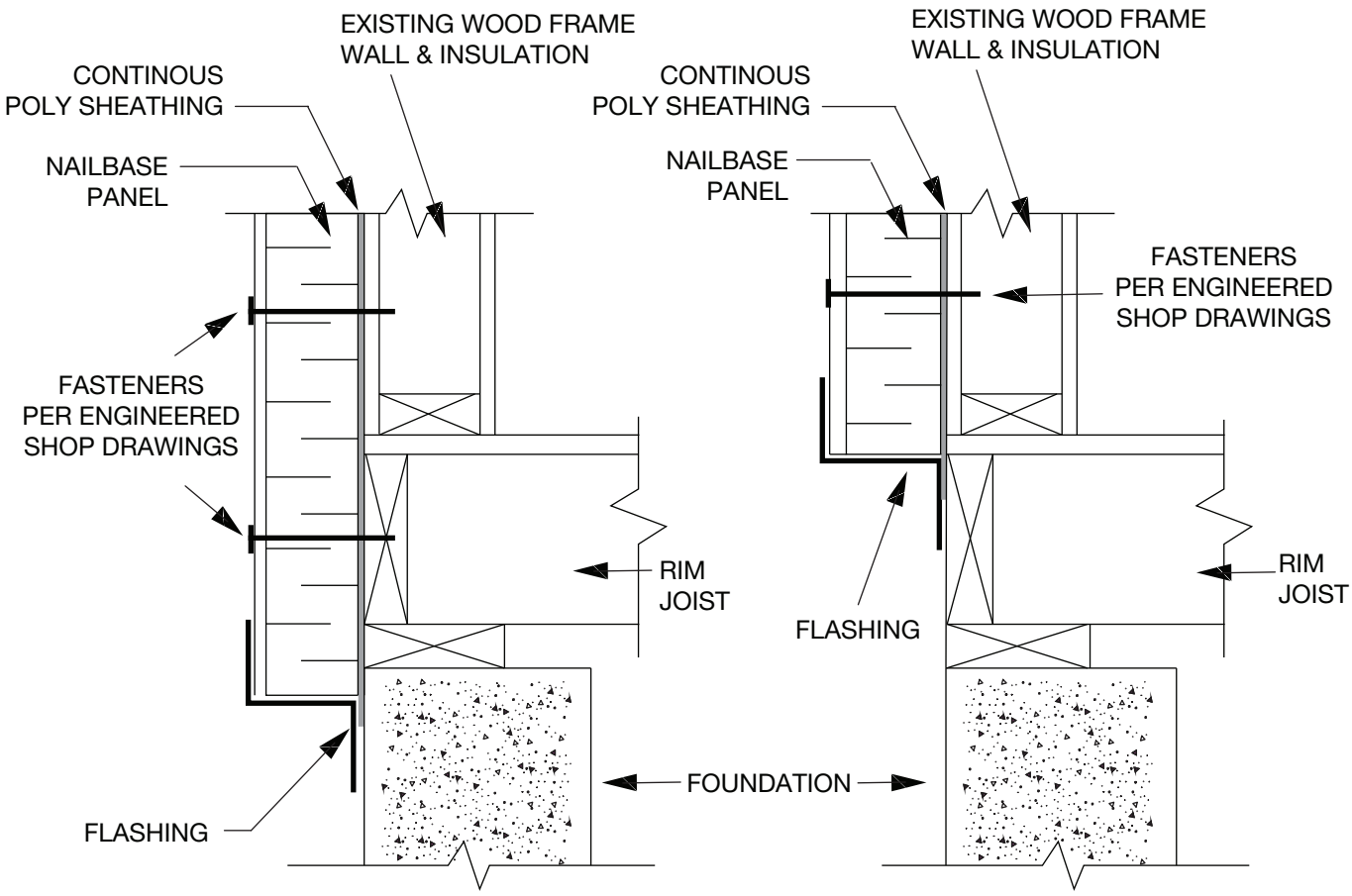
TITLE

RETROFIT NAILBASE PANEL OUTSIDE CORNER

PROJECT

REFERENCE	SCALE	
	N.T.S.	
DATE	REVISION	DWG. No.
NOVEMBER 2018		NB-2



RECOMMENDED

ALTERNATE

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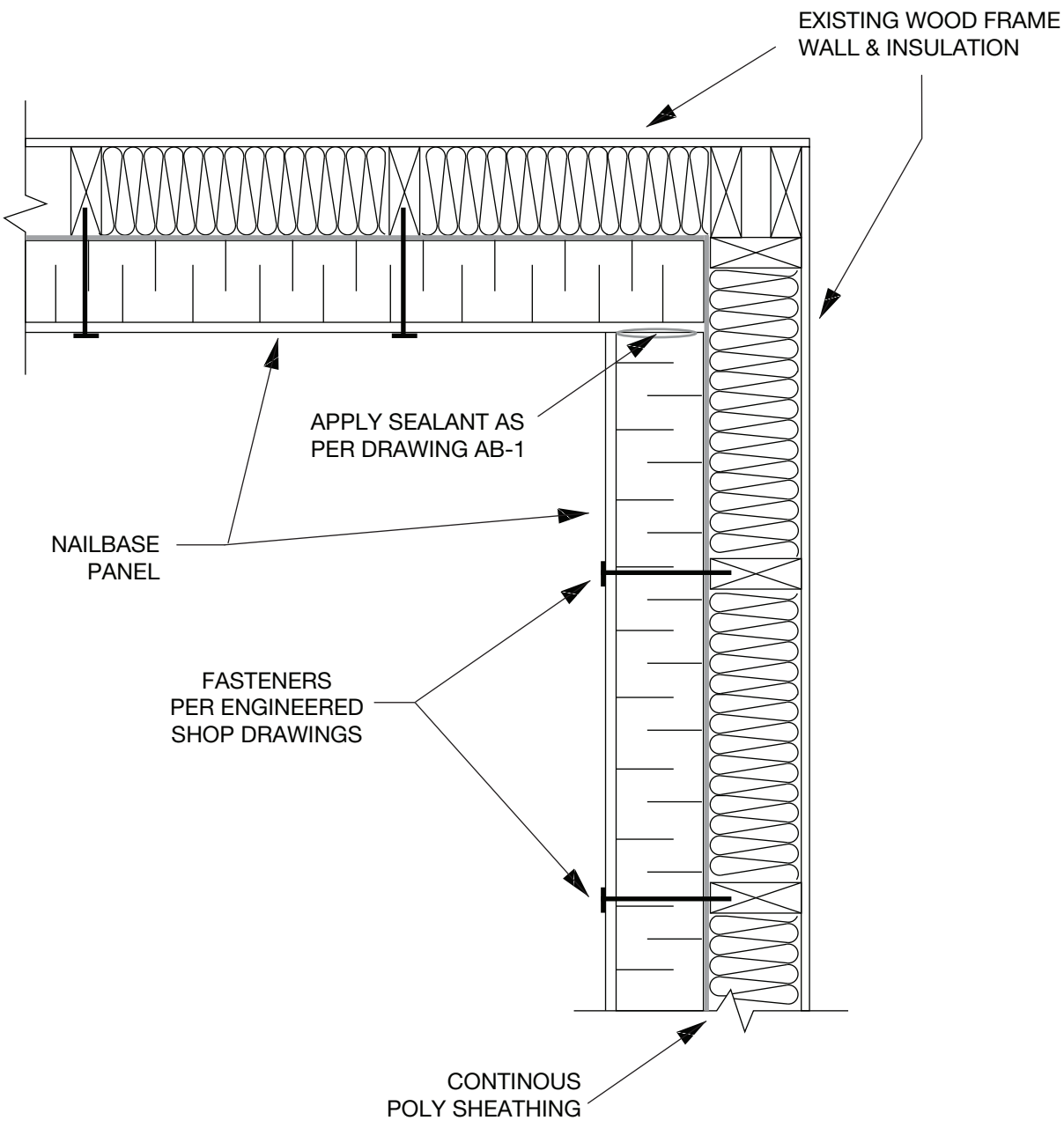
TITLE: RETROFIT NAILBASE PANEL OVER RIM JOIST			PROJECT:
REFERENCE:	SCALE: N.T.S.		
DATE: NOVEMBER 2018	REVISION:	DWG. No.: NB-3	



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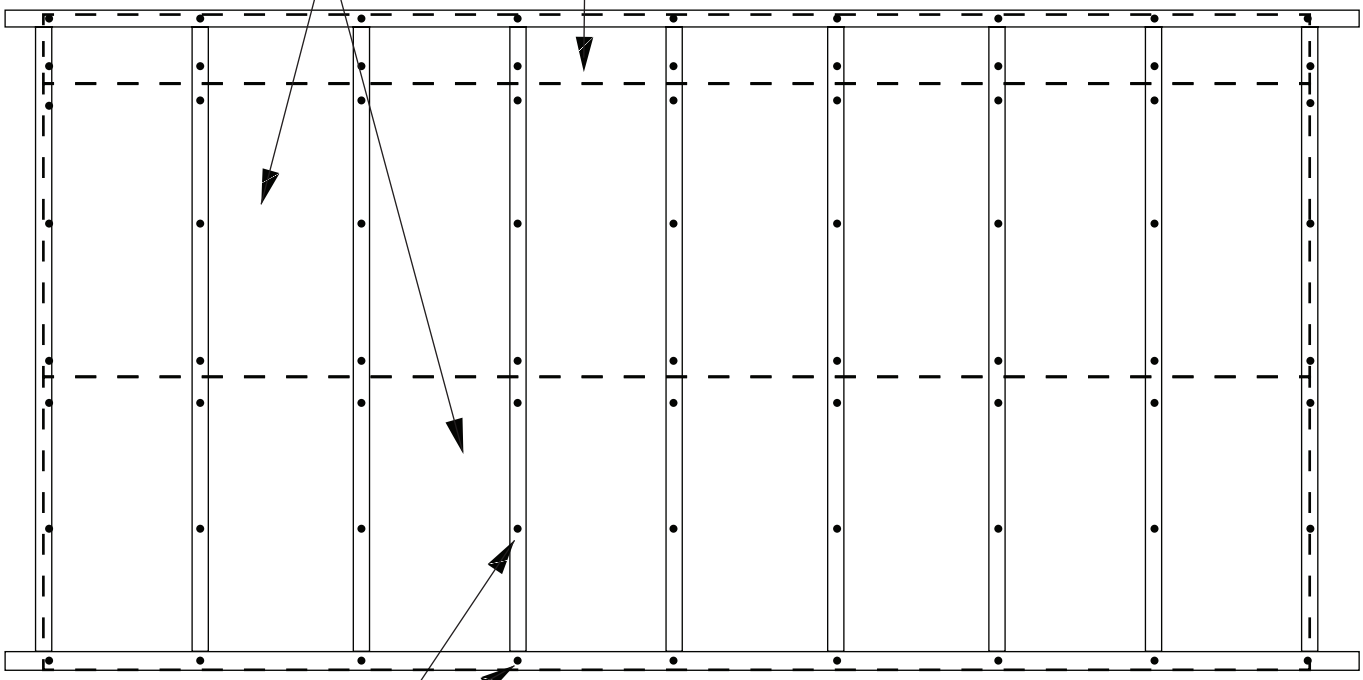
TITLE: INSIDE CORNER DETAIL		PROJECT:
REFERENCE:	SCALE: N.T.S.	
DATE: NOVEMBER 2018	REVISION:	DWG. No.: NB-4

NAILBASE PANELS
OVER CONTINOUS POLY SHEATHING
(TWO 4x16 PANELS & ONE CUT 1X16 PANEL SHOWN)



FASTENERS
PER ENGINEERED
SHOP DRAWINGS

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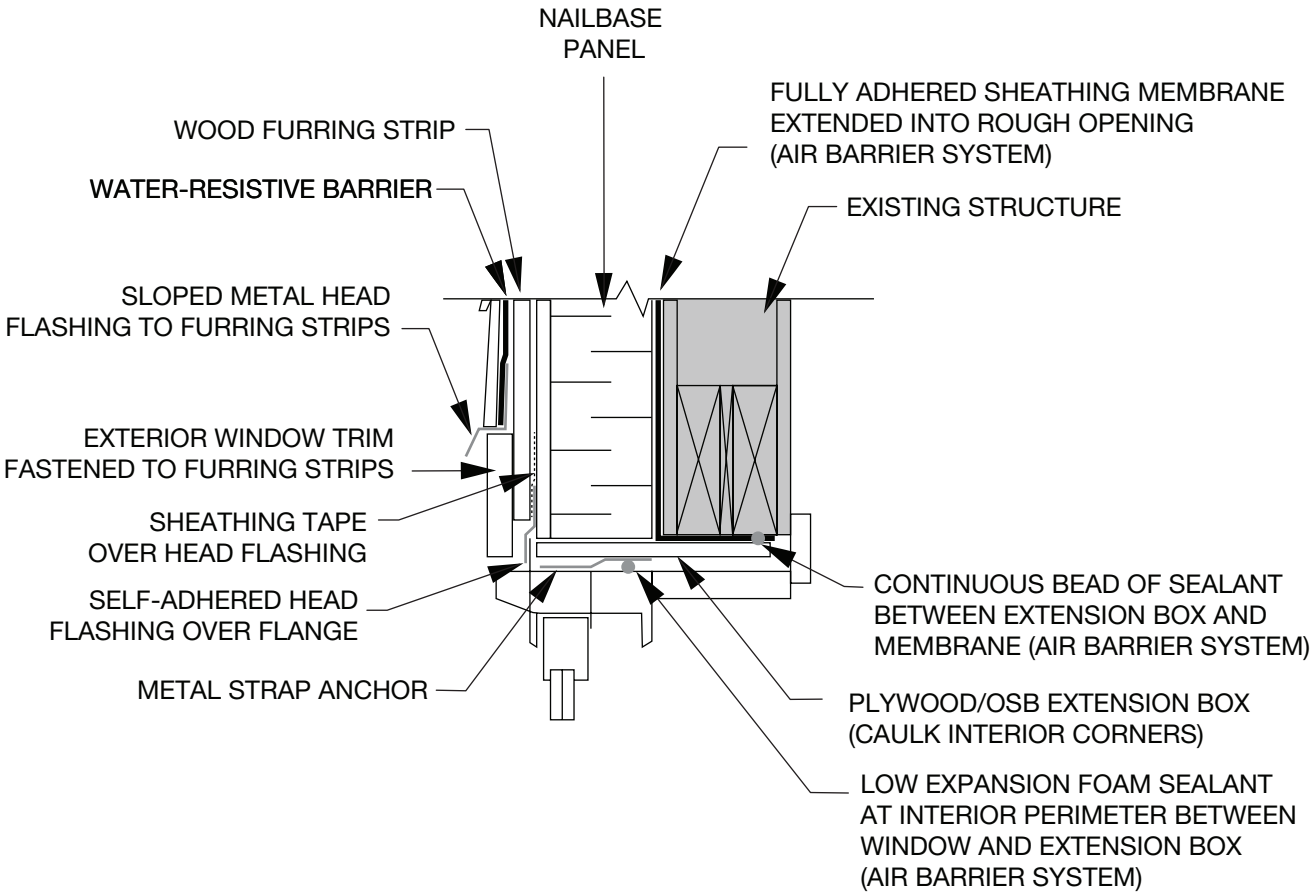
TITLE: RETROFIT NAILBASE PANEL EDGES			PROJECT:
REFERENCE:	SCALE: N.T.S.		
DATE: NOVEMBER 2018	REVISION:	DWG. No.: NB-5	



NOTE: SEE NB-6B FOR SILL DETAIL

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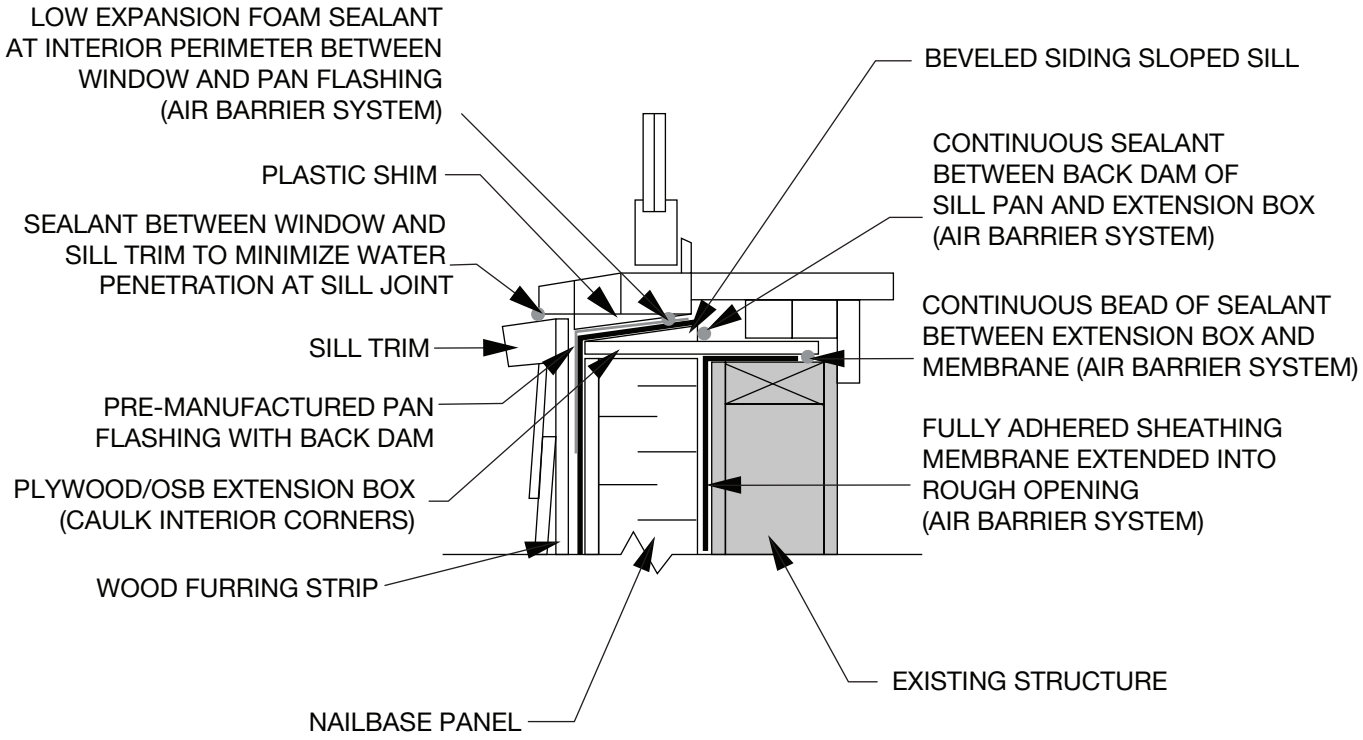
TITLE: WINDOW MOUNTED AT EXTERIOR PLANE (HEADER)		PROJECT
REFERENCE	SCALE: N.T.S.	
DATE: NOVEMBER 2018	REVISION	DWG. No.: NB-6A



NOTE: SEE NB-6A FOR HEADER DETAIL

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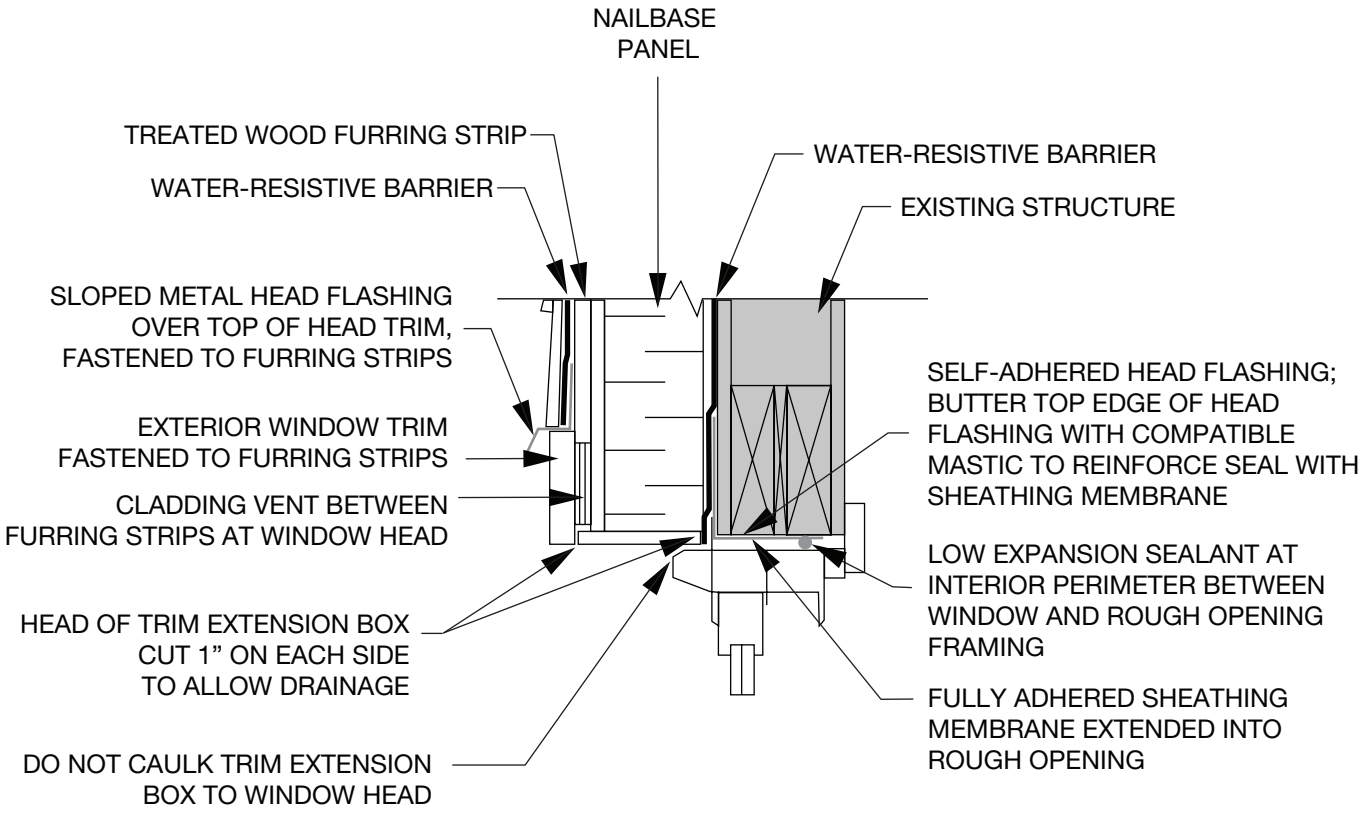
TITLE: WINDOW MOUNTED AT EXTERIOR PLANE (SILL)			PROJECT:
REFERENCE:	SCALE: N.T.S.		
DATE: NOVEMBER 2018	REVISION:	DWG. No.: NB-6B	



NOTE: SEE NB-7B FOR SILL DETAIL

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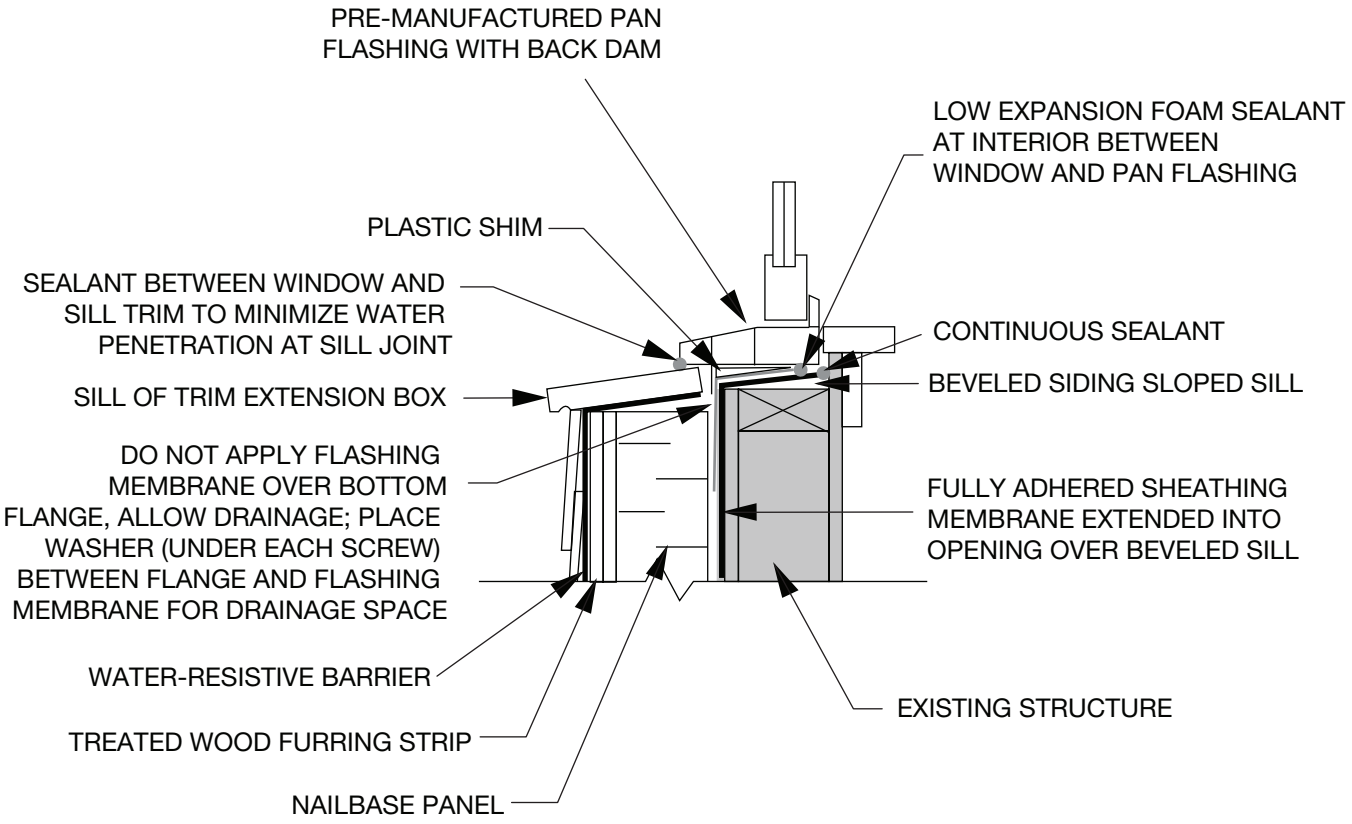
TITLE		PROJECT
WINDOW LEFT IN PLACE (HEADER)		
REFERENCE	SCALE: N.T.S.	
DATE: NOVEMBER 2018	REVISION	DWG. No.: NB-7A



NOTE: SEE NB-7A FOR HEADER DETAIL

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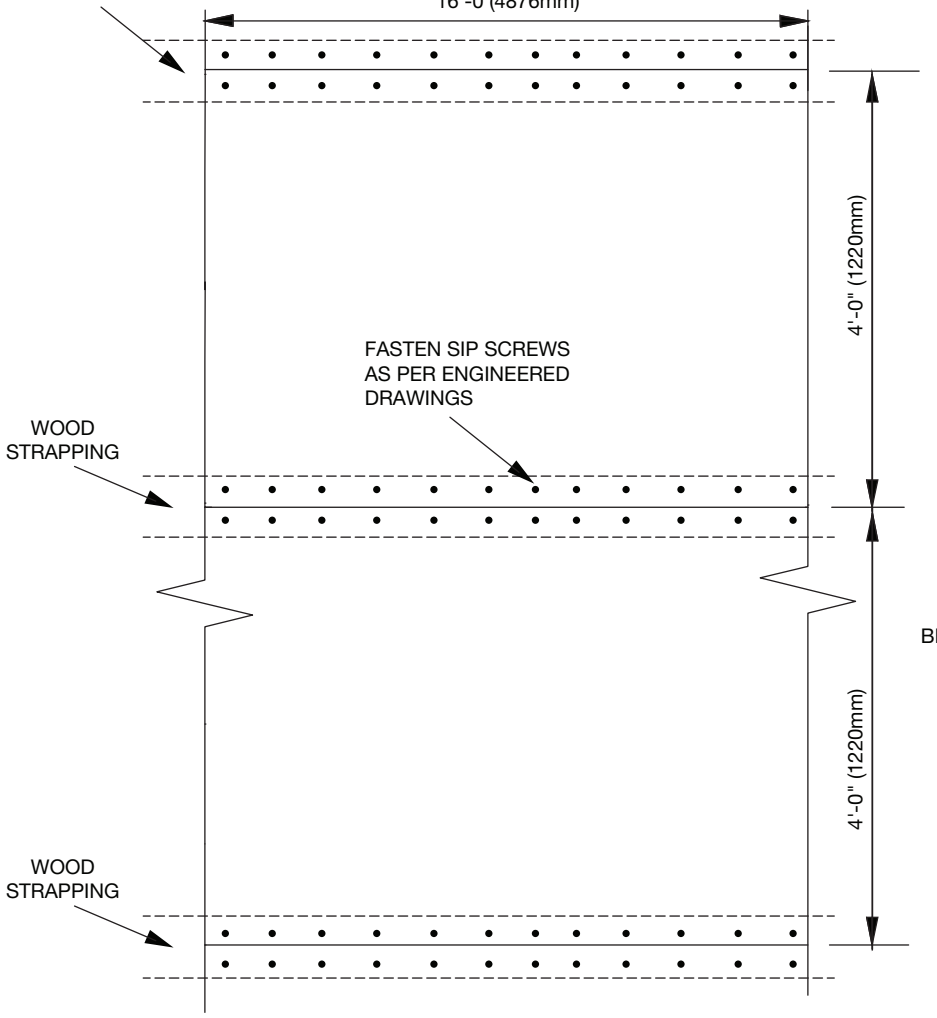
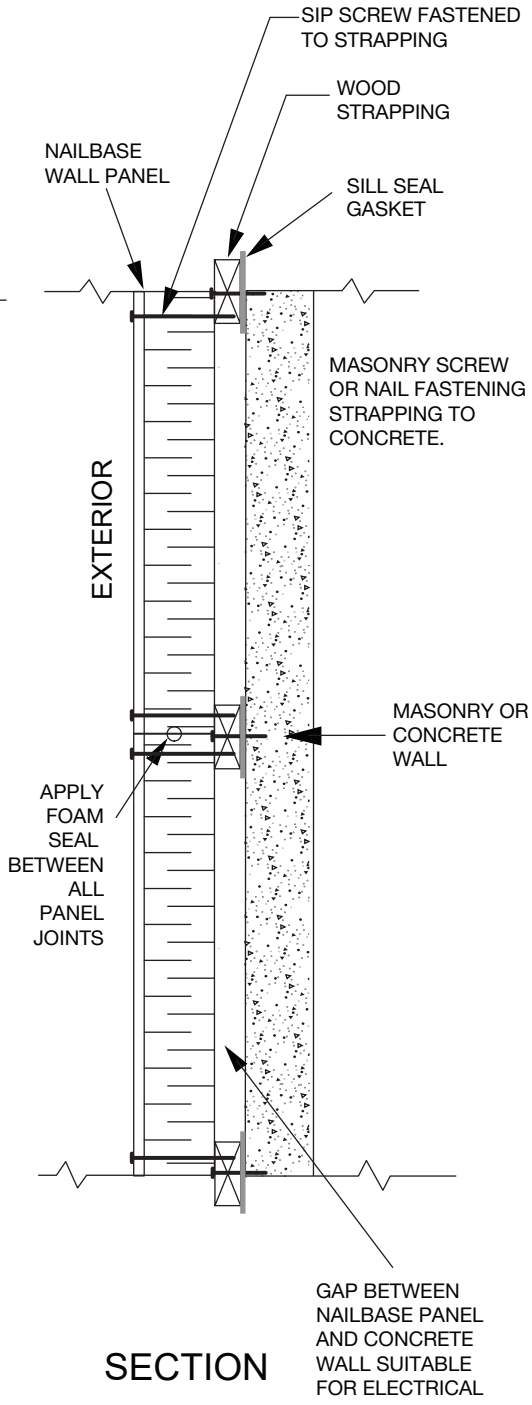
TITLE: WINDOW LEFT IN PLACE (SILL)		PROJECT:
REFERENCE:	SCALE: N.T.S.	
DATE: NOVEMBER 2018	REVISION:	DWG. No.: NB-7B



ELEVATION



SECTION

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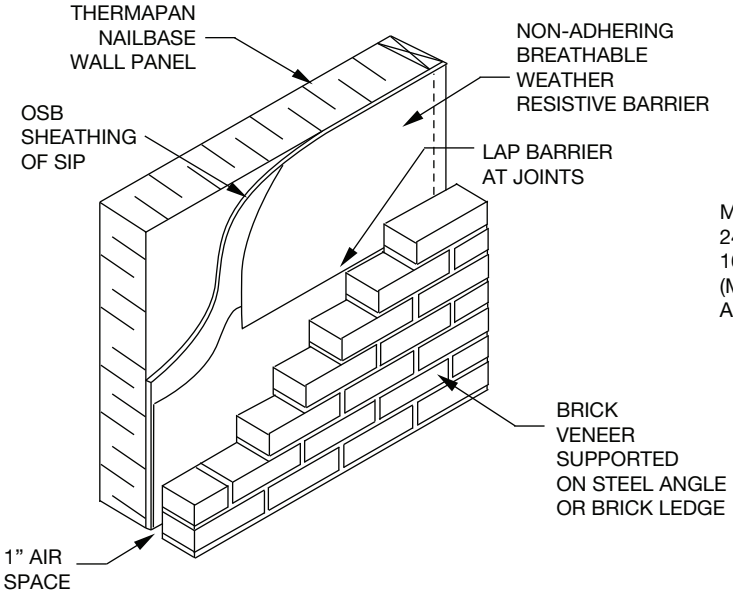
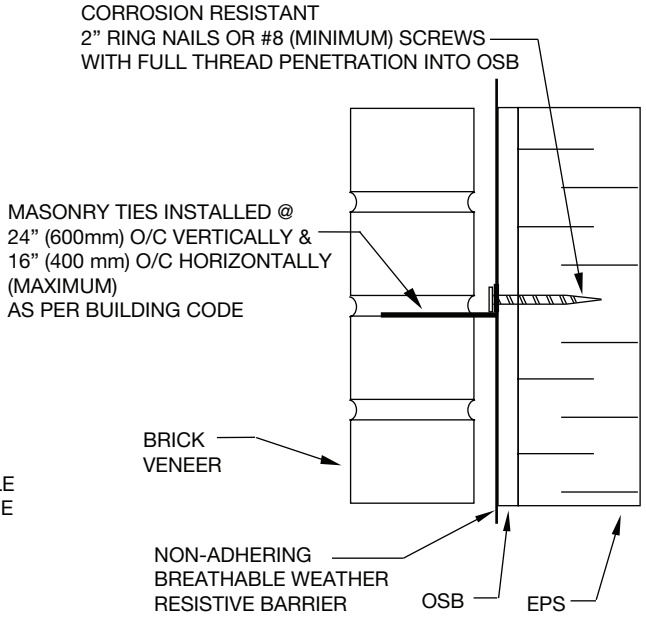
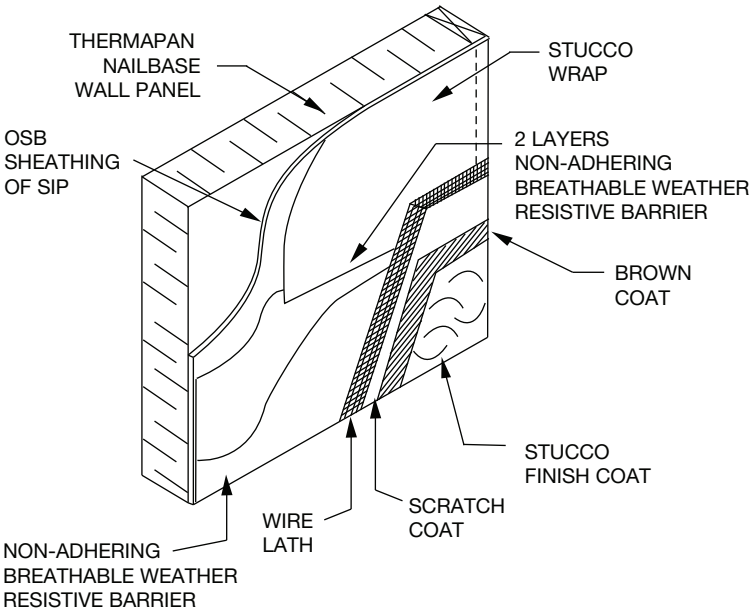
TITLE: NAILBASE WALL ATTACHMENT (CONCRETE OR MASONRY WALL)			PROJECT
REFERENCE	SCALE: N.T.S.		
DATE: NOVEMBER 2018	REVISION	DWG. No.: NB-8	

MASONRY VENEER





STUCCO



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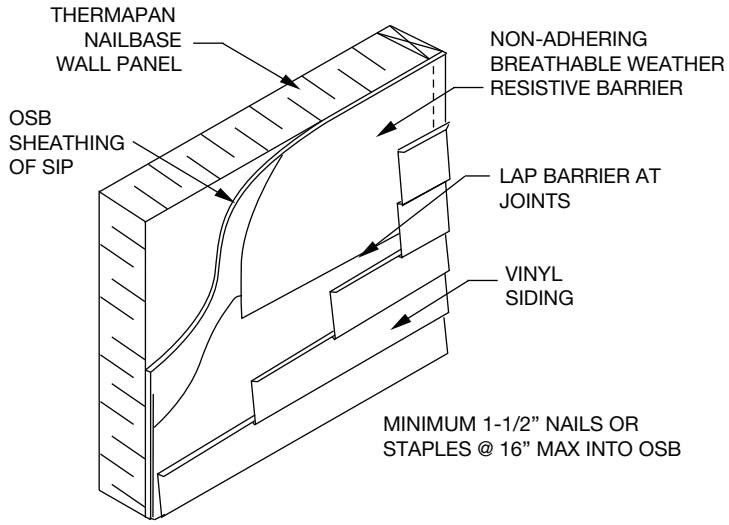
TITLE: EXTERIOR WALL CLADDING BRICK & STUCCO		PROJECT:
REFERENCE:	SCALE: N.T.S.	
DATE: NOVEMBER 2018	REVISION:	DWG. No.: NB-9

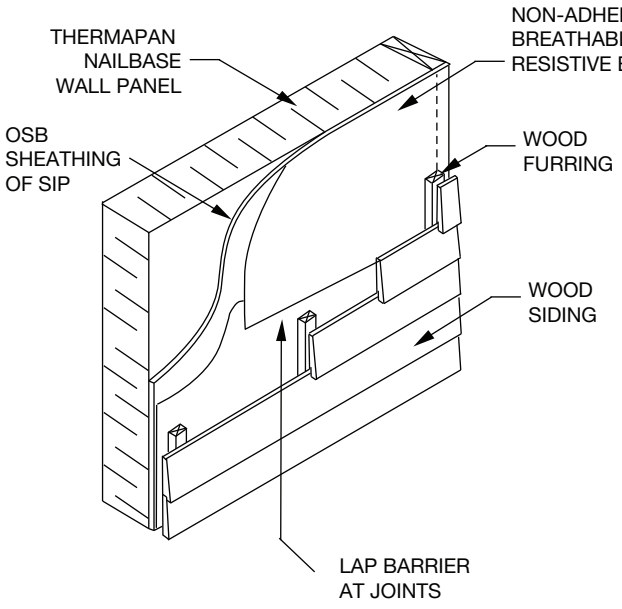
VINYL SIDING



FIBRE CEMENT SIDING

FOR FIBRE CEMENT LAP SIDING REFER TO MANUFACTURER'S RECOMMENDED FASTENING METHODS.

WOOD SIDING



FURRING REQUIREMENTS

FURRING SPACING	FASTENER SPACING (MIN 1-1/2" SCREWS)	FASTENER SPACING (MIN 1-1/4" NAILS)
16" O/C	10" O/C	8" O/C
24" O/C	8" O/C	8" O/C

NOTE: ALL NAILS TO BE RING (ANNULARLY THREADED). FURRING TO BE AS RECOMMENDED BY SIDING MANUFACTURER.

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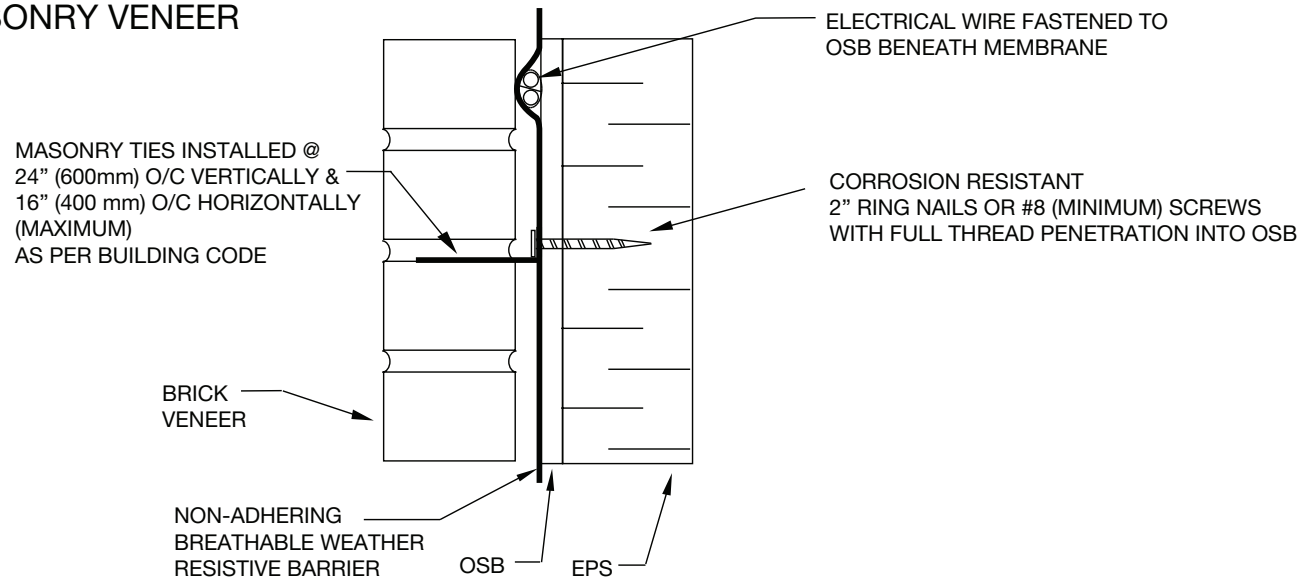
TITLE

EXTERIOR WALL CLADDING: SIDING

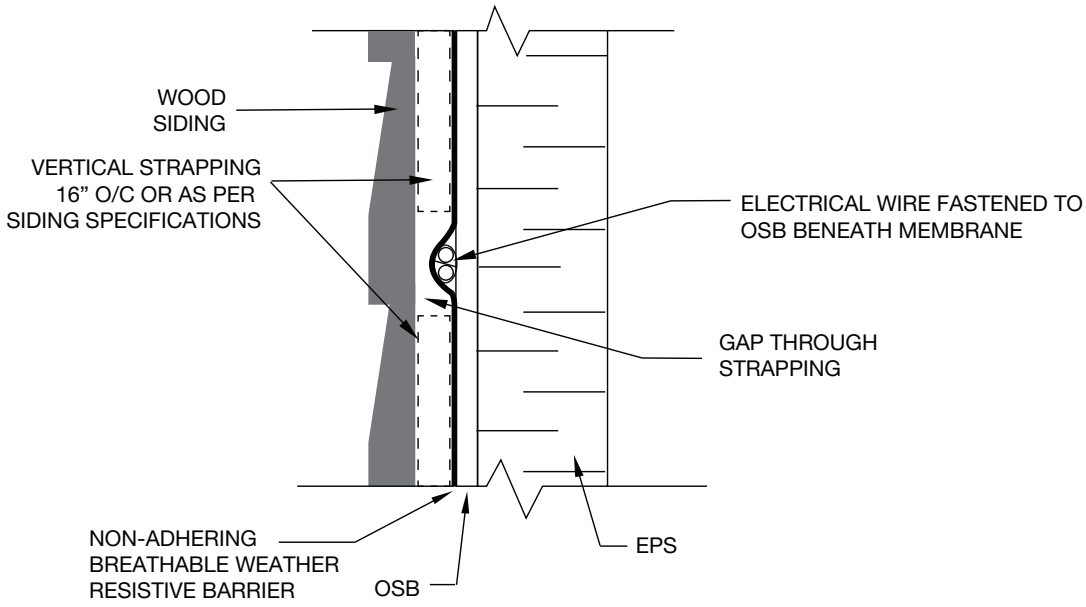
PROJECT

REFERENCE	SCALE	
	N.T.S.	
DATE	REVISION	DWG. No.
NOVEMBER 2018		NB-10

MASONRY VENEER



WOOD SIDING



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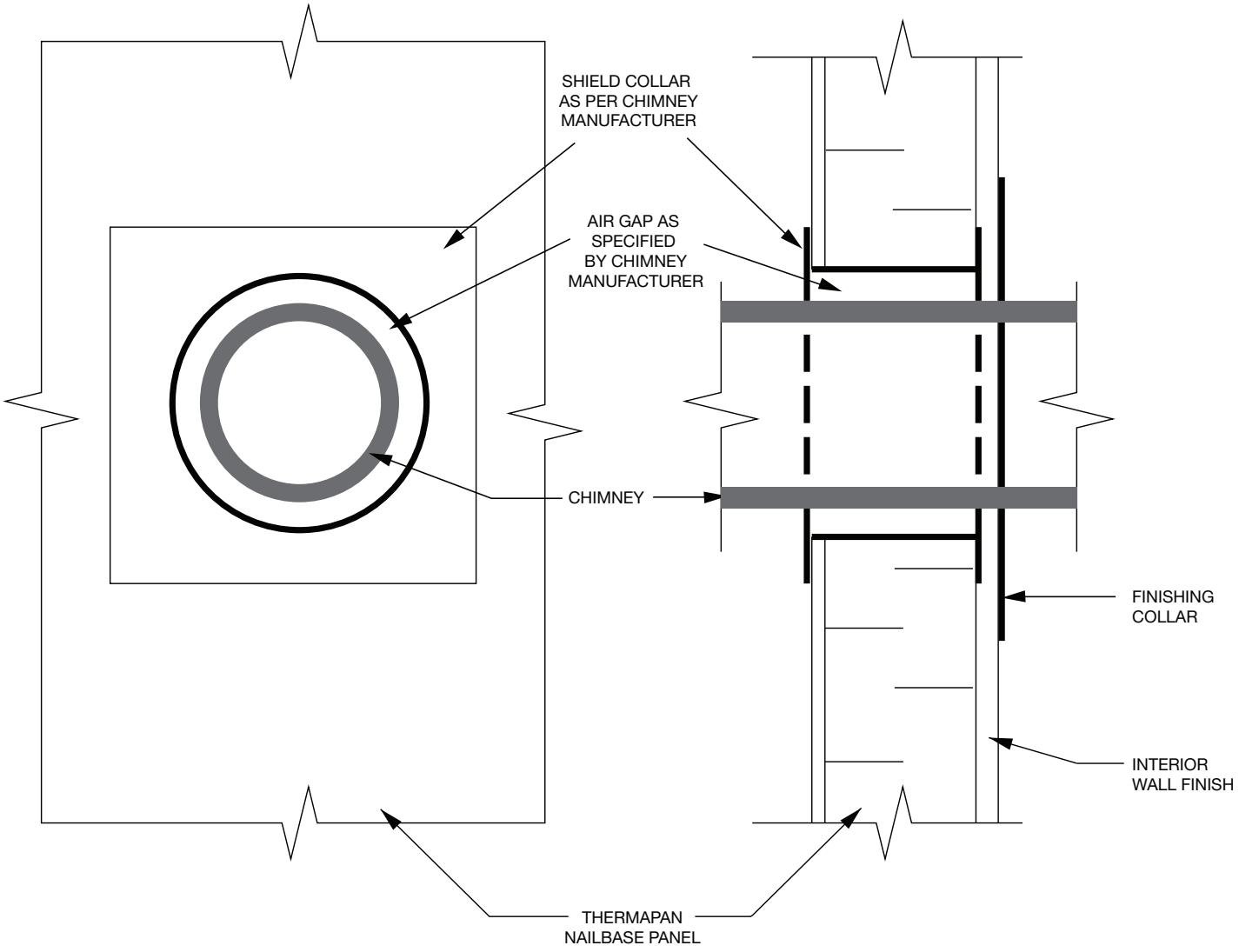
TITLE			PROJECT
ELECTRICAL WIRE FASTENED TO NAILBASE SIP EXTERIOR			
REFERENCE	SCALE		
	N.T.S.		
DATE	REVISION	DWG. No.	
MARCH 2021		NB-11	



NOTE: ABOVE DETAILS ARE TYPICAL REQUIREMENTS TO INSTALL A PREFABRICATED METAL CHIMNEY IN A THERMAPAN STRUCTURAL INSULATED PANEL. THE CHIMNEY INSTALLATION MUST COMPLY WITH THE CHIMNEY MANUFACTURERS'S SPECIFICATION AND THE APPLICABLE BUILDING CODE.

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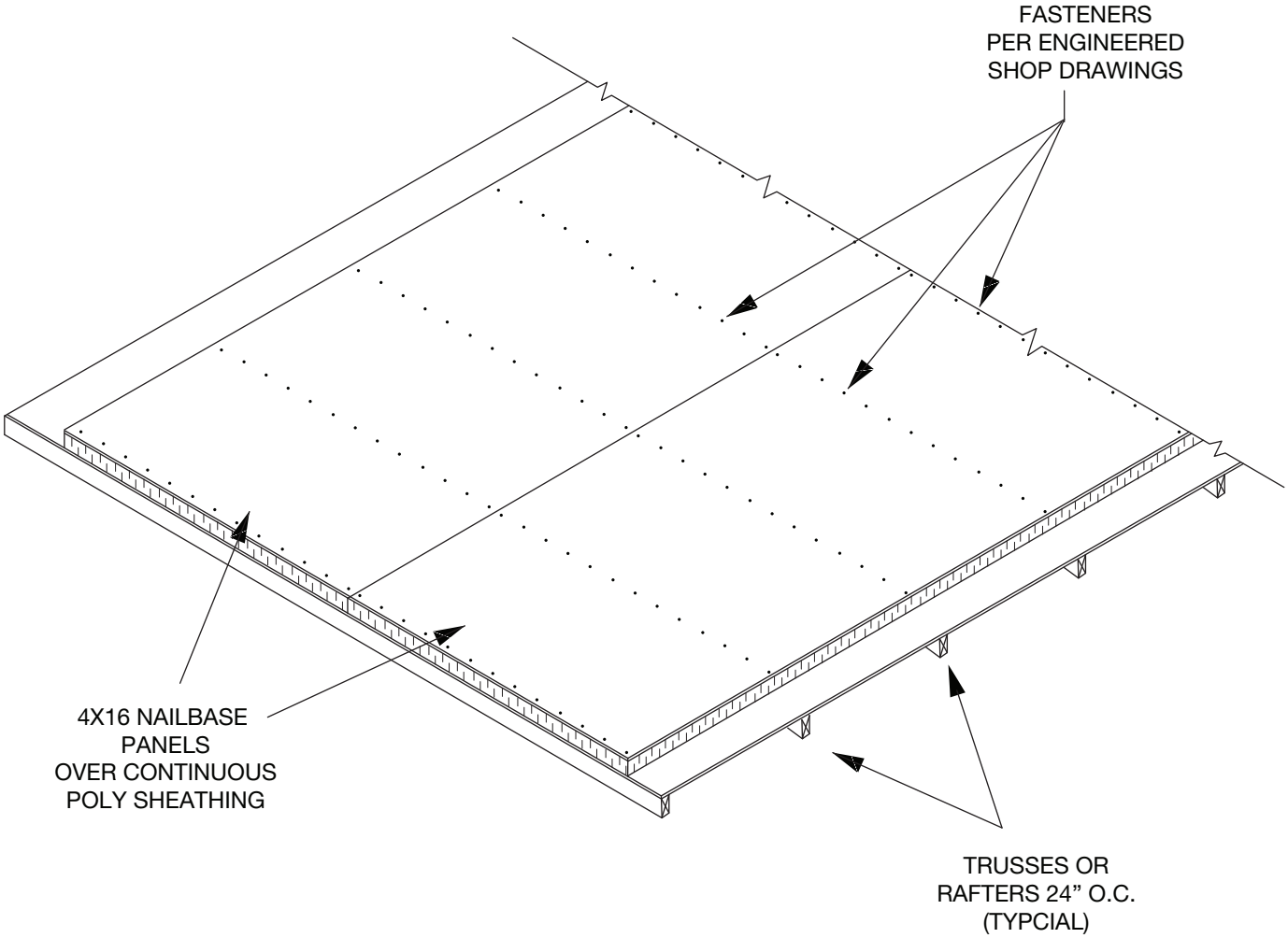
TITLE			PROJECT
PRE-FABRICATED METAL CHIMNEY INSTALLATION IN WALL			
REFERENCE	SCALE		
	N.T.S.		
DATE	REVISION	DWG. No.	
OCTOBER 2019		NB-12	



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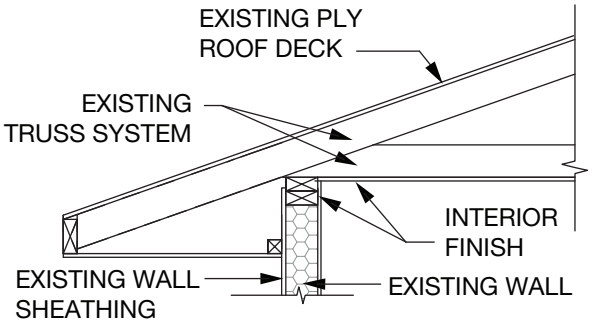
TITLE

RETROFIT NAILBASE PANELS ON ROOF STRUCTURE

PROJECT

REFERENCE	SCALE	
	N.T.S.	
DATE	REVISION	DWG. No.
NOVEMBER 2018		NB-13

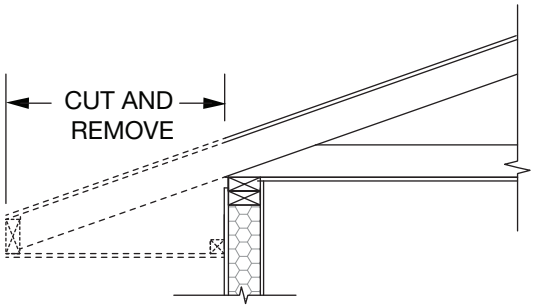
STEP 1
ANALYSE CONSTRUCTION DETAIL



TYPICAL EAVE CONSTRUCTION DETAIL

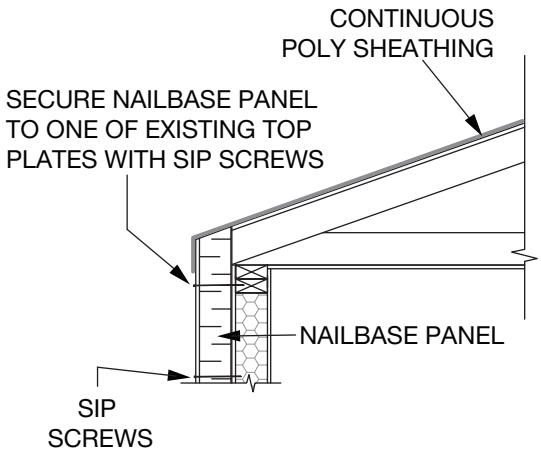
STEP 2
REMOVE OVERHANG PORTION AS SHOWN

REMOVE ROOF PLY, TRUSS OVERHANG FACIA AND
SOFFIT AS REQUIRED AT FACE OF WALL SHEATHING

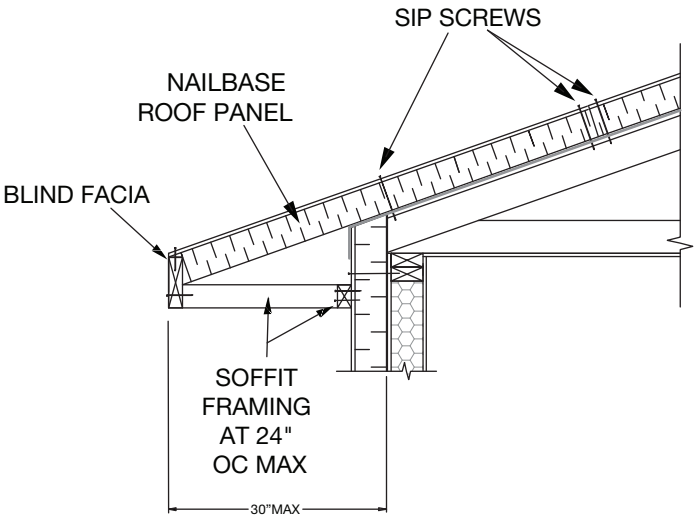


STEP 3
INSTALL NAIL BASE WALL PANEL AND VAPOUR BARRIER ON ROOF

INSTALL NAIL BASE PANEL ONTO WALL SHEATHING.
SECURE PANEL TO TOP PLATE AS SHOWN AND INSTALL 2X3
FRAMING AT 24" OC TO SUPPORT SOFFIT AND BLIND FACIA



STEP 4
INSTALL NAIL BASE ROOF PANEL BLIND FACIA AND SOFFIT TO CREATE OVERHANG



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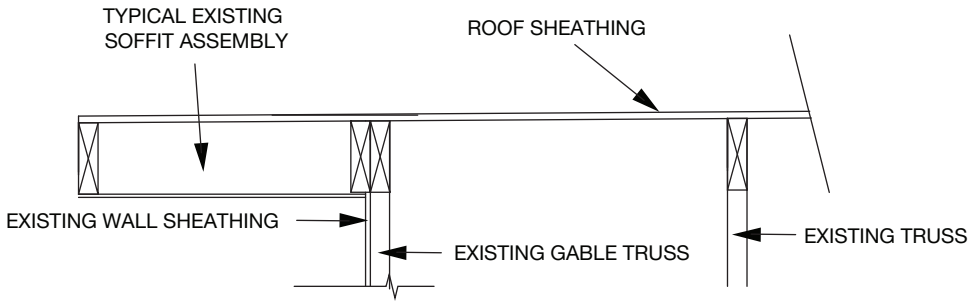
TITLE

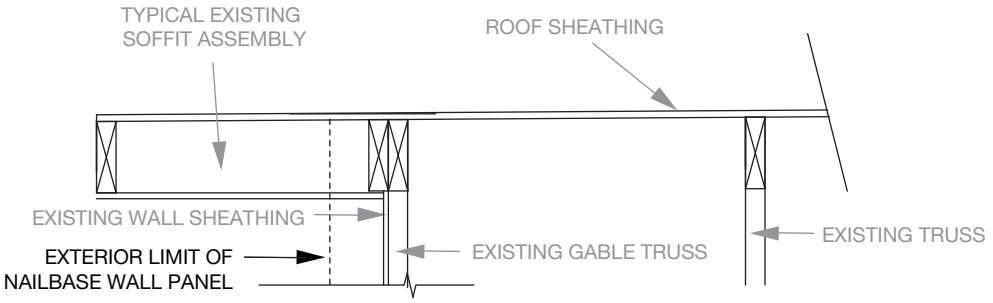
RETROFIT ROOF & WALL NAILBASE CONNECTION AT OVERHANG

PROJECT

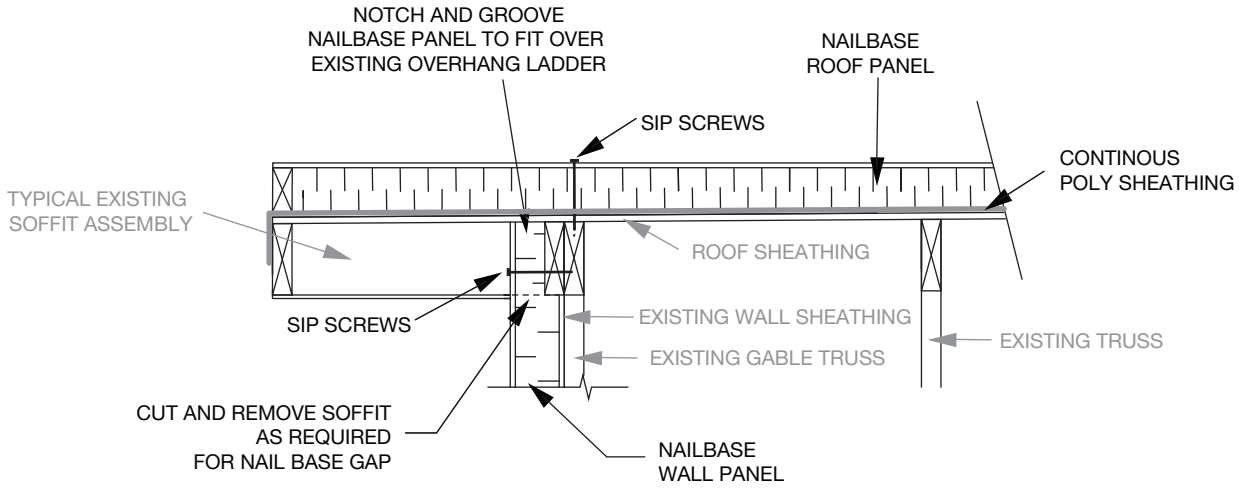
REFERENCE	SCALE	
	N.T.S.	
DATE	REVISION	DWG. No.
NOVEMBER 2018		NB-14



TYPICAL GABLE OVERHANG CONSTRUCTION DETAIL



OVERHANG ADJUSTMENT FOR NAIL BASE ATTACHMENT



NAIL BASE WALL AND ROOF INSTALLATION FOR TYPICAL GABLE OVERHANG INSTALLATION

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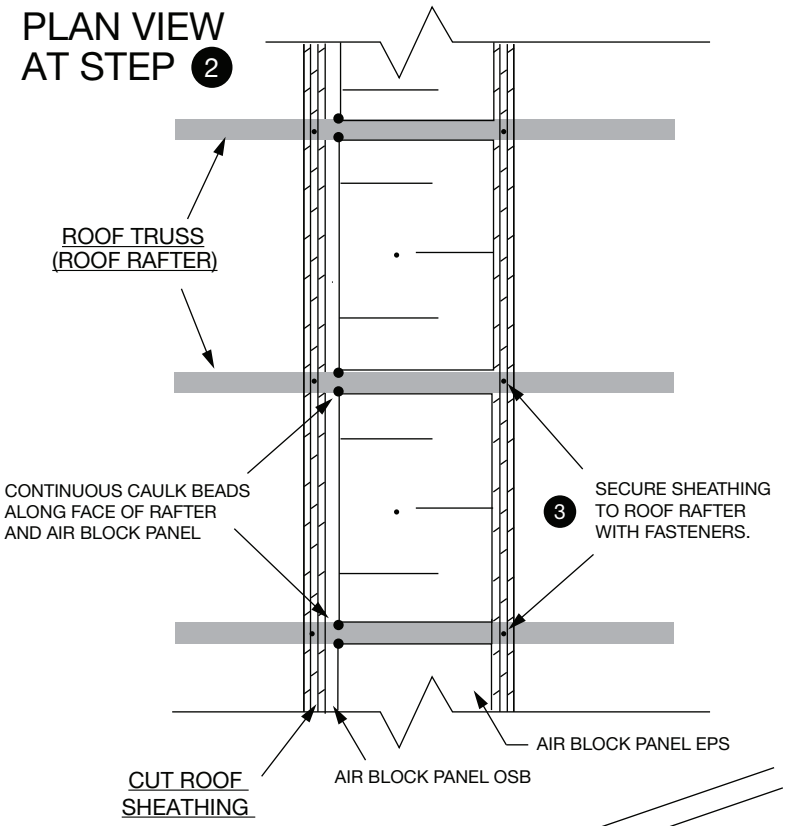
TITLE: NAILBASE ROOF OVERHANG DETAILS		PROJECT:
REFERENCE:	SCALE: N.T.S.	
DATE: NOVEMBER 2018	REVISION:	DWG. No.: NB-15

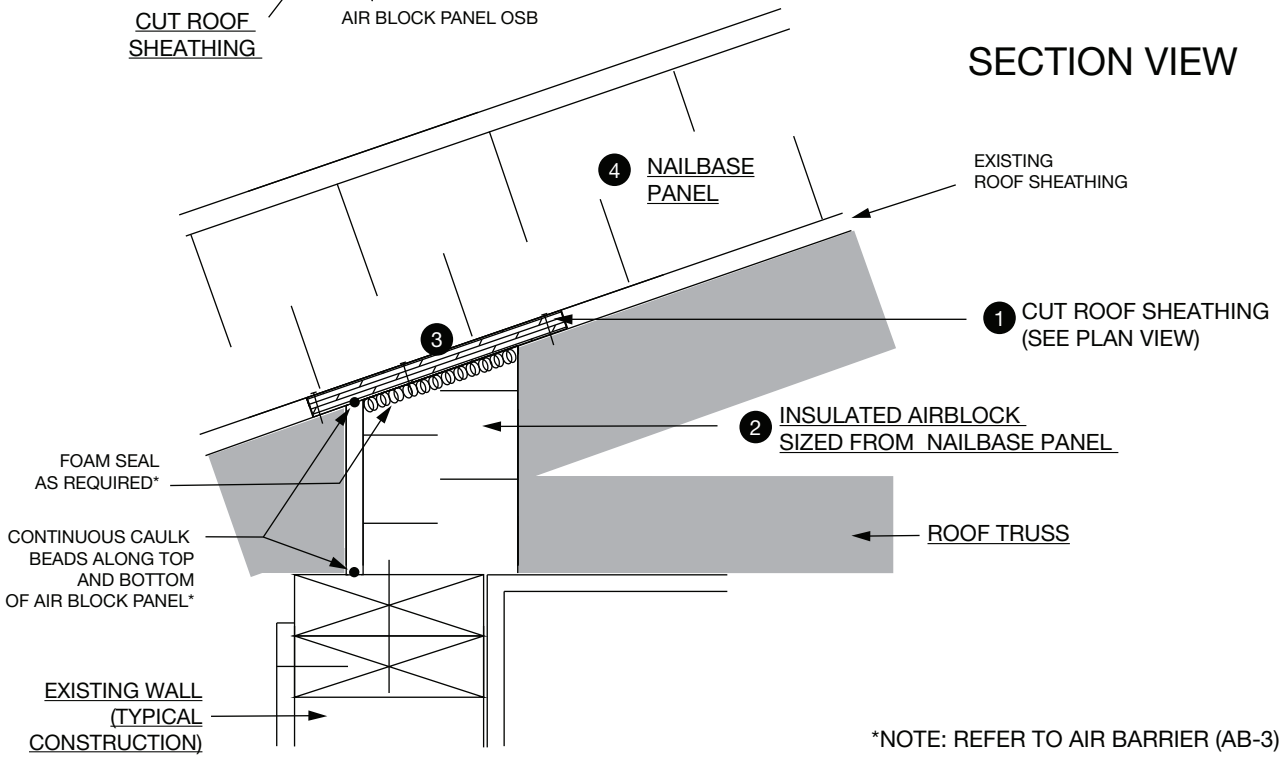
PLAN VIEW AT STEP 2



STEPS

1. CUT EXISTING ROOF SHEATHING AS REQUIRED
2. INSERT, FASTEN AND SEAL AIR BLOCK SIZED FROM NAILBASE PANEL (ENSURE BLOCKING FIT IS SUCH TO PREVENT AIR LEAKAGE WHEN SHEATHING IS RE-INSTALLED)
3. SEAL AND FASTEN ROOF SHEATHING CUT PIECE TO ROOF RAFTER WITH FASTENERS
4. APPLY NAILBASE PANEL (SEE NB-12)

SECTION VIEW



*NOTE: REFER TO AIR BARRIER (AB-3) DETAILS FOR SEALING NAILBASE PANEL CONNECTIONS.

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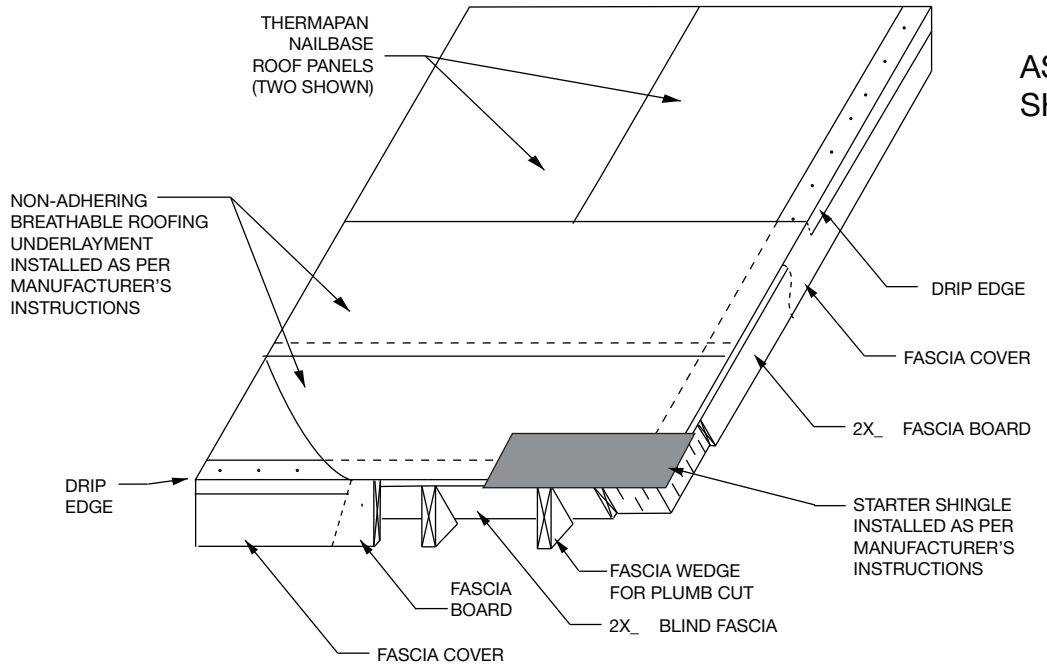
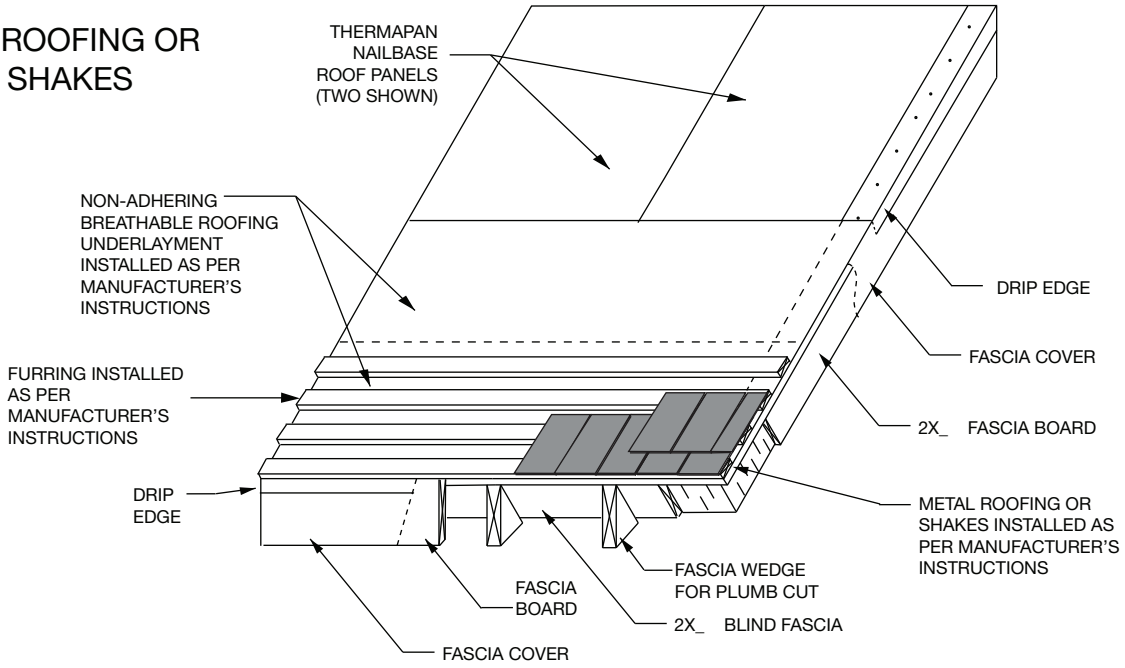
TITLE: NAILBASE PANEL ATTIC AIR BLOCK			PROJECT
REFERENCE	SCALE: N.T.S.		
DATE: MARCH 2020	REVISION	DWG. No.: NB-16	

ASPHALT SHINGLES



METAL ROOFING OR CEDAR SHAKES



NOTE: VENTILATION OF ROOF NOT REQUIRED.

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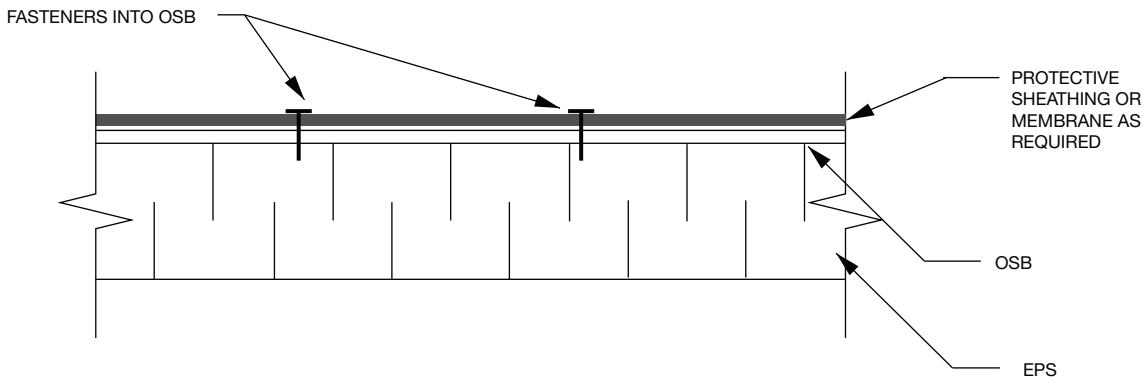
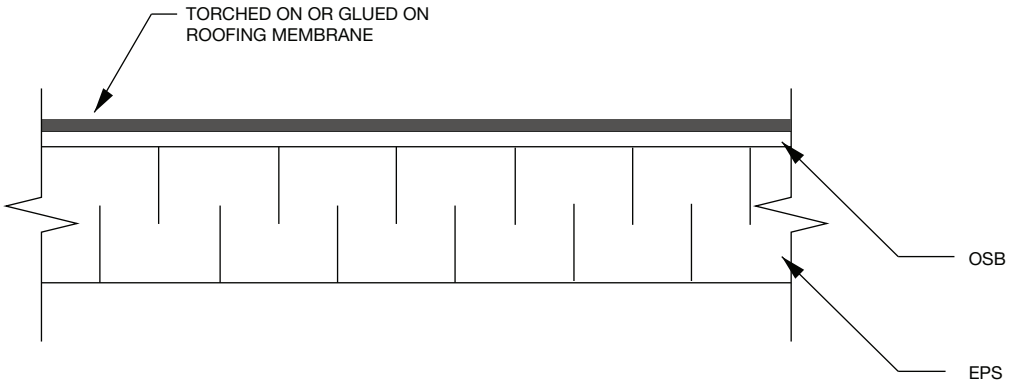
TITLE: SLOPED ROOFING APPLIED TO NAILBASE SIPS		PROJECT
REFERENCE	SCALE: N.T.S.	
DATE: NOVEMBER 2018	REVISION	DWG. No.: NB-17

NON-ADHERED MEMBRANE
(EPDM, PVC, TPO, ETC.)



ADHERED ROOFING MEMBRANE



NOTES:
- NAILBASE SURFACE TO BE DRY AND FREE OF MOISTURE.
- INSTALL MEMBRANE ACCORDING TO MEMBRANE MANUFACTURER'S DETAILS AND CONFORM TO REQUIREMENTS OF LOCAL BUILDING CODE.
- SOLVENT BASED ADHESIVES ARE NOT PERMITTED.

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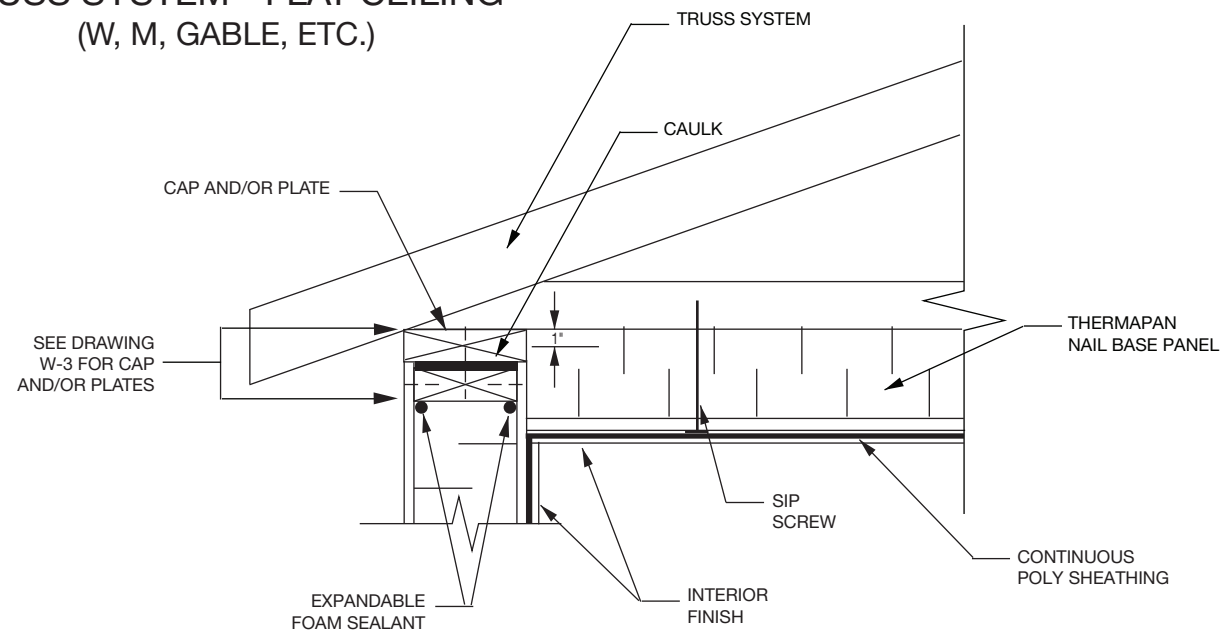
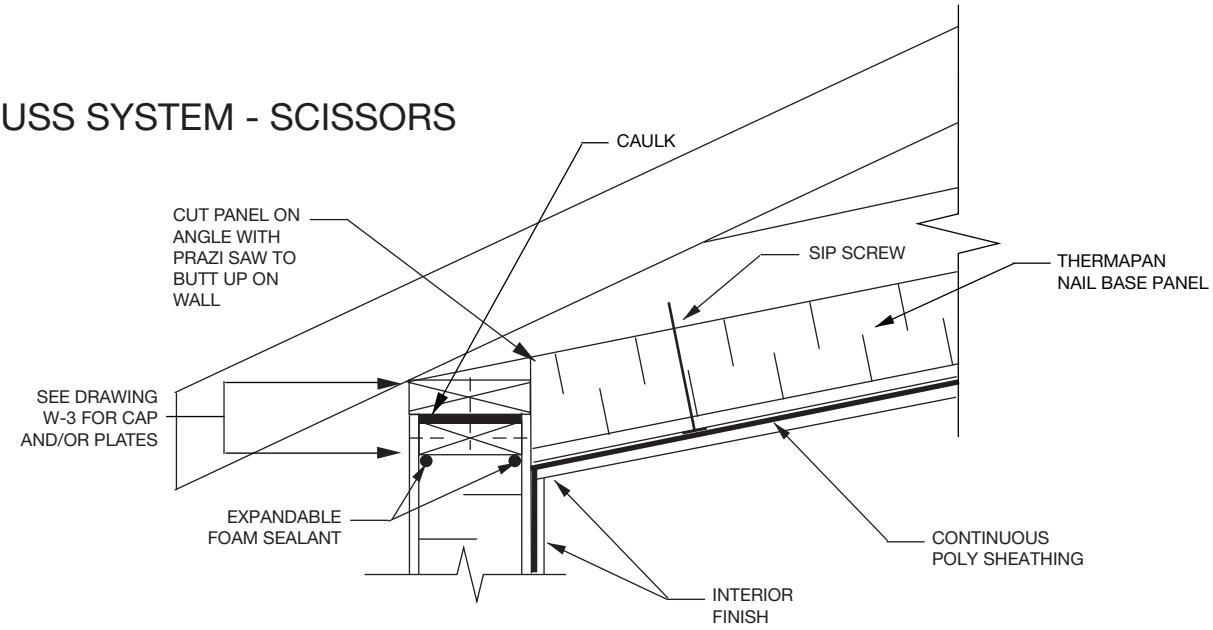
TITLE: FLAT ROOFING APPLIED TO NAILBASE SIPS			PROJECT
REFERENCE	SCALE: N.T.S.		
DATE: MAY 2023	REVISION: 1	DWG. No.: NB-18	

TRUSS SYSTEM - FLAT CEILING
(W, M, GABLE, ETC.)



TRUSS SYSTEM - SCISSORS



NOTES: SIP SCREWS TO BE INSTALLED EVERY 2' O/C BOTH DIRECTIONS.
REFER TO AIR BARRIER (AB-3) DETAILS FOR SEALING
NAILBASE PANEL CONNECTIONS.

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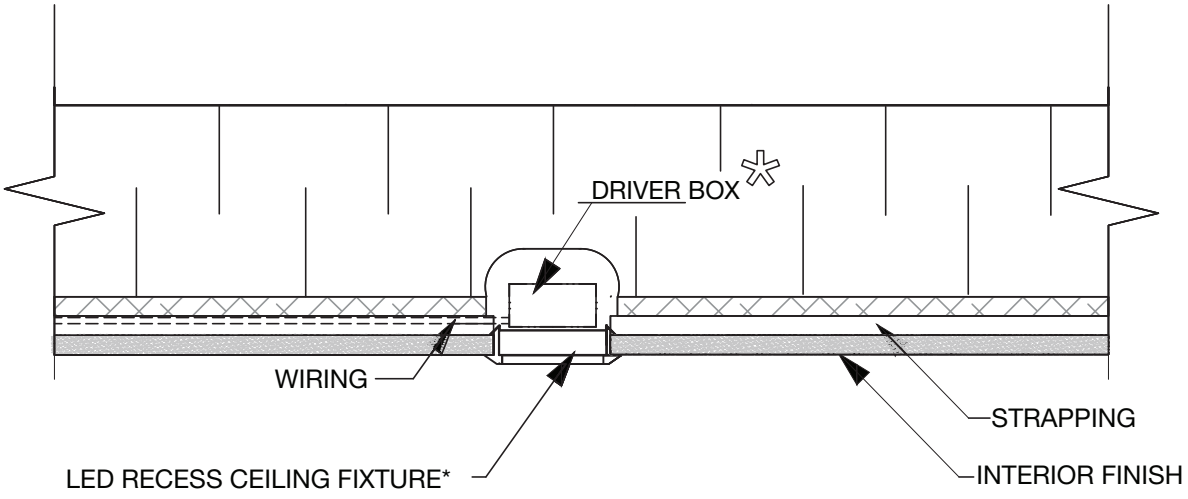
TITLE: NAILBASE CEILING PANEL		PROJECT
REFERENCE	SCALE: N.T.S.	
DATE: NOVEMBER 2018	REVISION	DWG. No.: NB-19



* FIXTURE SPECIFICATIONS

FIXTURE TO HAVE AMBIENT OPERATING TEMPERATURE +140F(+40C) MAXIMUM

INSTALL AS PER MANUFACTURERS SPECIFICATIONS

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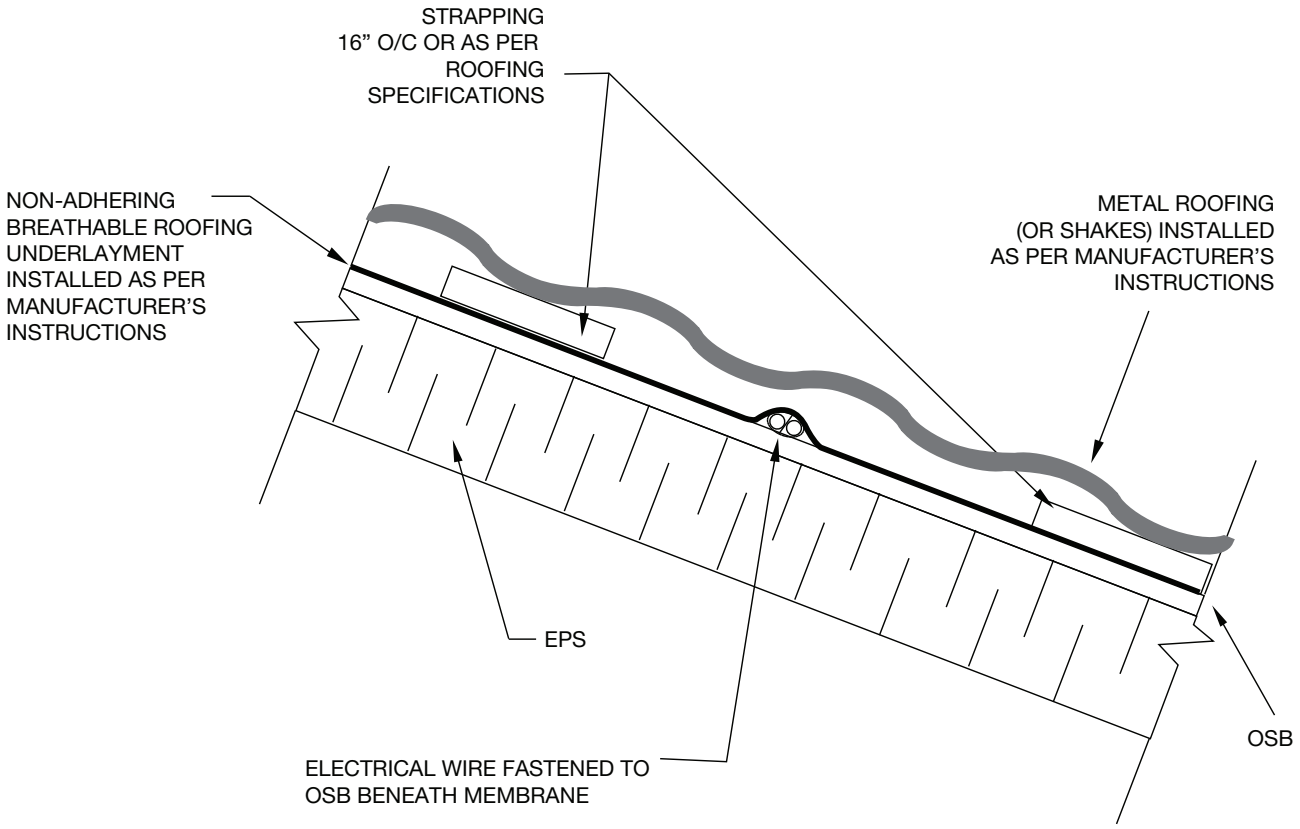
TITLE: LED POT LIGHT INSTALLATION IN CEILING SIPS		PROJECT
REFERENCE	SCALE: N.T.S.	
DATE: NOVEMBER 2018	REVISION	DWG. No.: NB-20

METAL ROOFING OR CEDAR SHAKES



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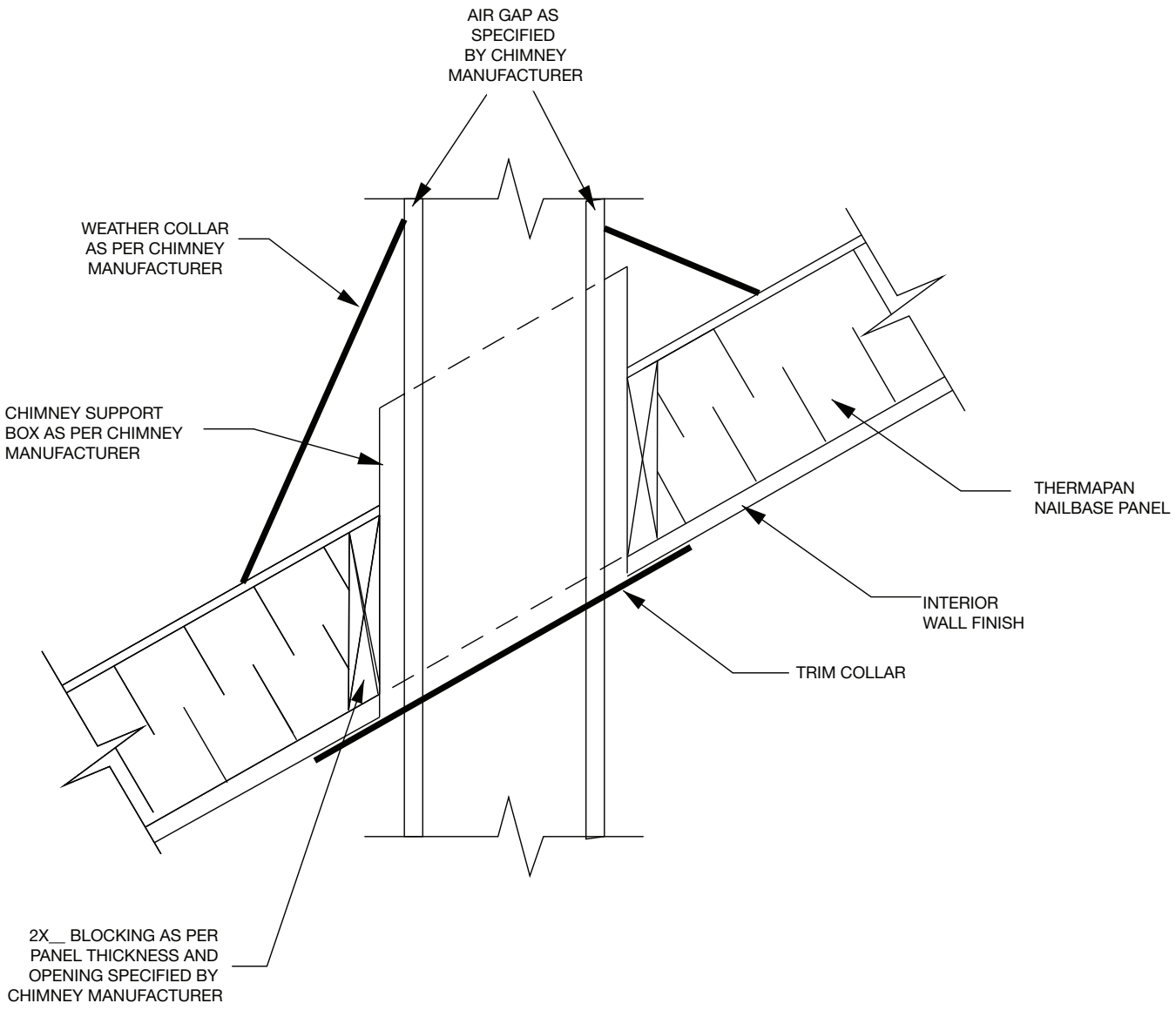
TITLE			PROJECT
ELECTRICAL WIRE FASTENED TO NAILBASE ROOF SIP			
REFERENCE	SCALE		
	N.T.S.		
DATE	REVISION	DWG. No.	
MARCH 2021		NB-21	



NOTE: ABOVE DETAILS ARE TYPICAL REQUIREMENTS TO INSTALL A PREFABRICATED METAL CHIMNEY IN A THERMAPAN STRUCTURAL INSULATED PANEL. THE CHIMNEY INSTALLATION MUST COMPLY WITH THE CHIMNEY MANUFACTURERS'S SPECIFICATION AND THE APPLICABLE BUILDING CODE.

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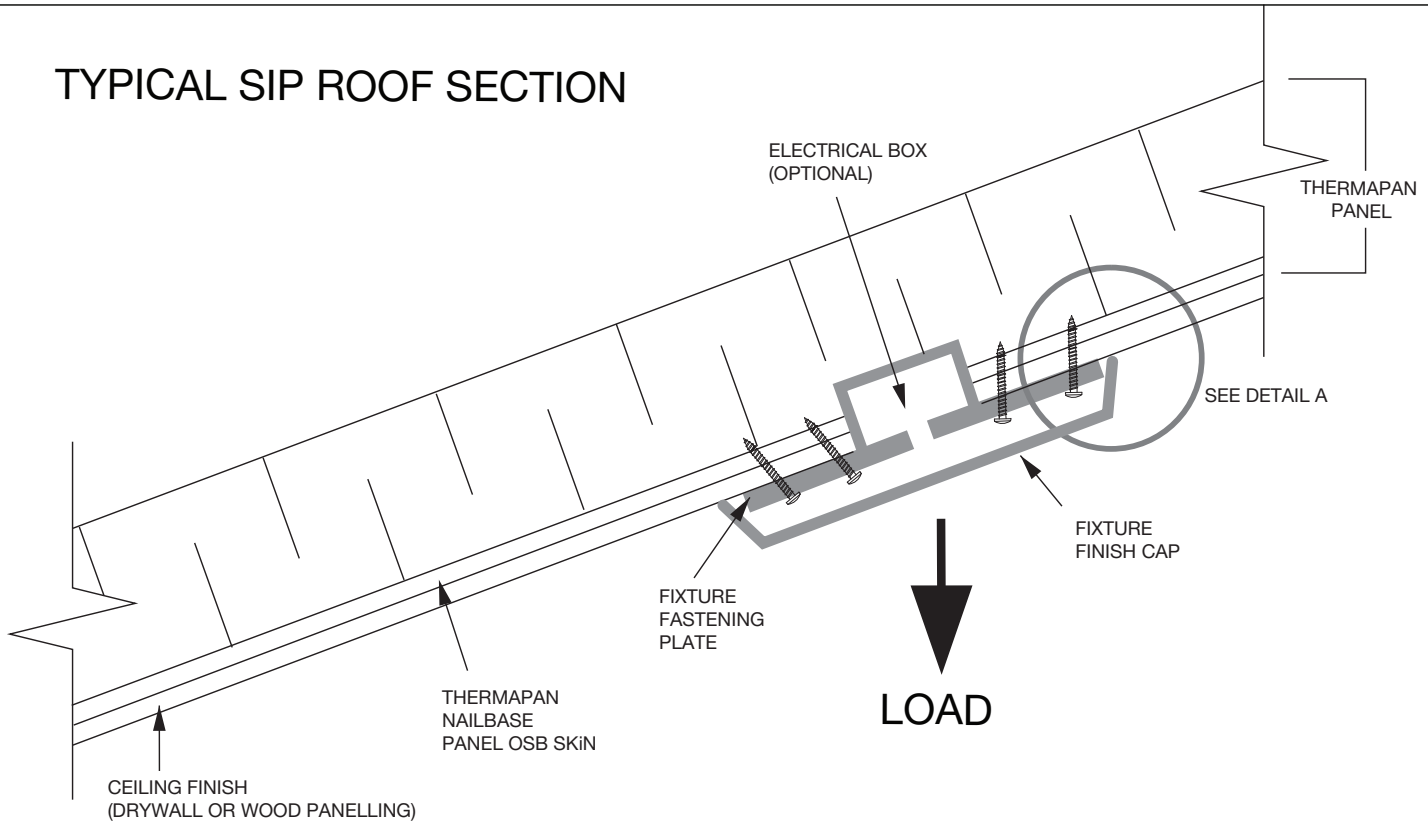
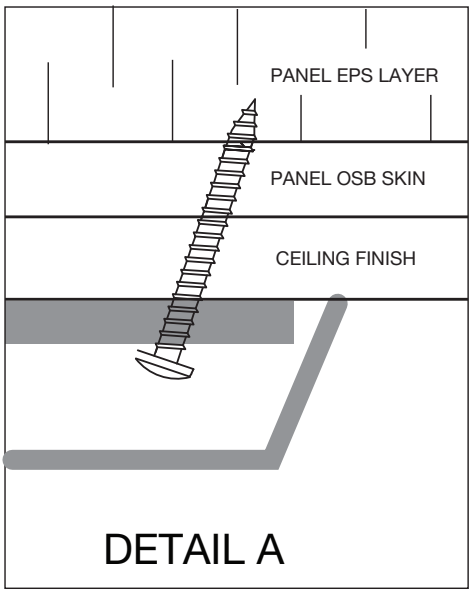
TITLE: PRE-FABRICATED METAL CHIMNEY – ROOF INSTALLATION			PROJECT:
REFERENCE:	SCALE: N.T.S.		
DATE: OCTOBER 2019	REVISION:	DWG. No.: NB-22	

TYPICAL SIP ROOF SECTION





DETAIL A

CEILING LOAD RESISTANCE CAN BE ACHIEVED WITH NUMBER 10 SHEET METAL SCREWS INSTALLED TO A SIP CEILING FINISH AS DETAILED OR TO THE SIP SKIN DIRECTLY.

EACH SCREW CAN RESIST A PULL OUT OF 90 POUNDS IN 7/16" OSB. CONTRACTOR TO CONFIRM LOAD TO BE SECURED AND NUMBER OF FASTENERS REQUIRED. MINIMUM 4 SCREWS PER FIXTURES. FULL THICKNESS OF OSB TO RECEIVE SCREW THREAD ON ANGLE AS DETAILED

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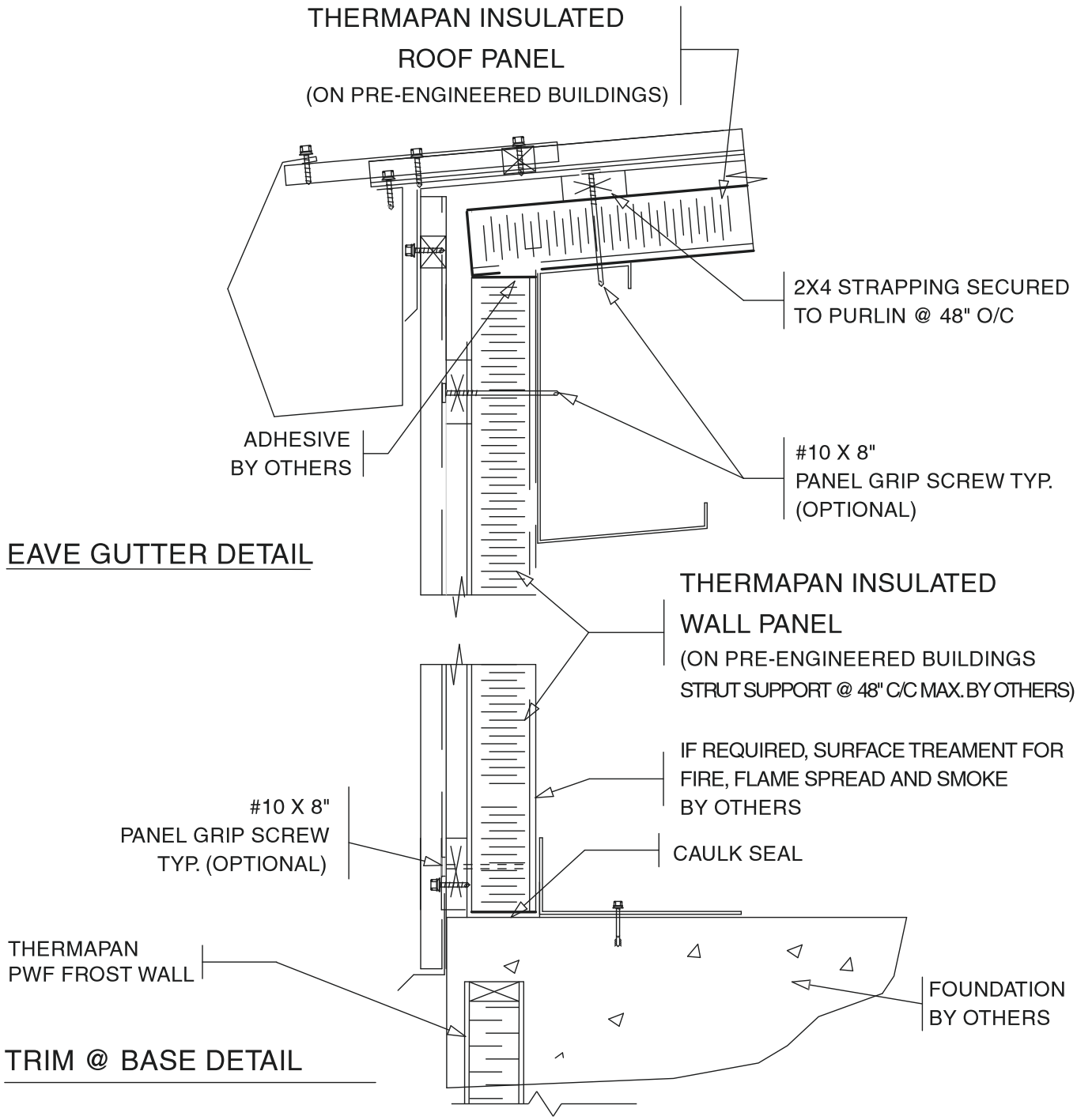
TITLE: SCREW FASTENER DETAIL FOR SECURING LOAD TO NAILBASE CEILING PANEL			PROJECT
REFERENCE	SCALE: N.T.S.		
DATE: FEBRUARY 2020	REVISION	DWG. No.: NB-23	



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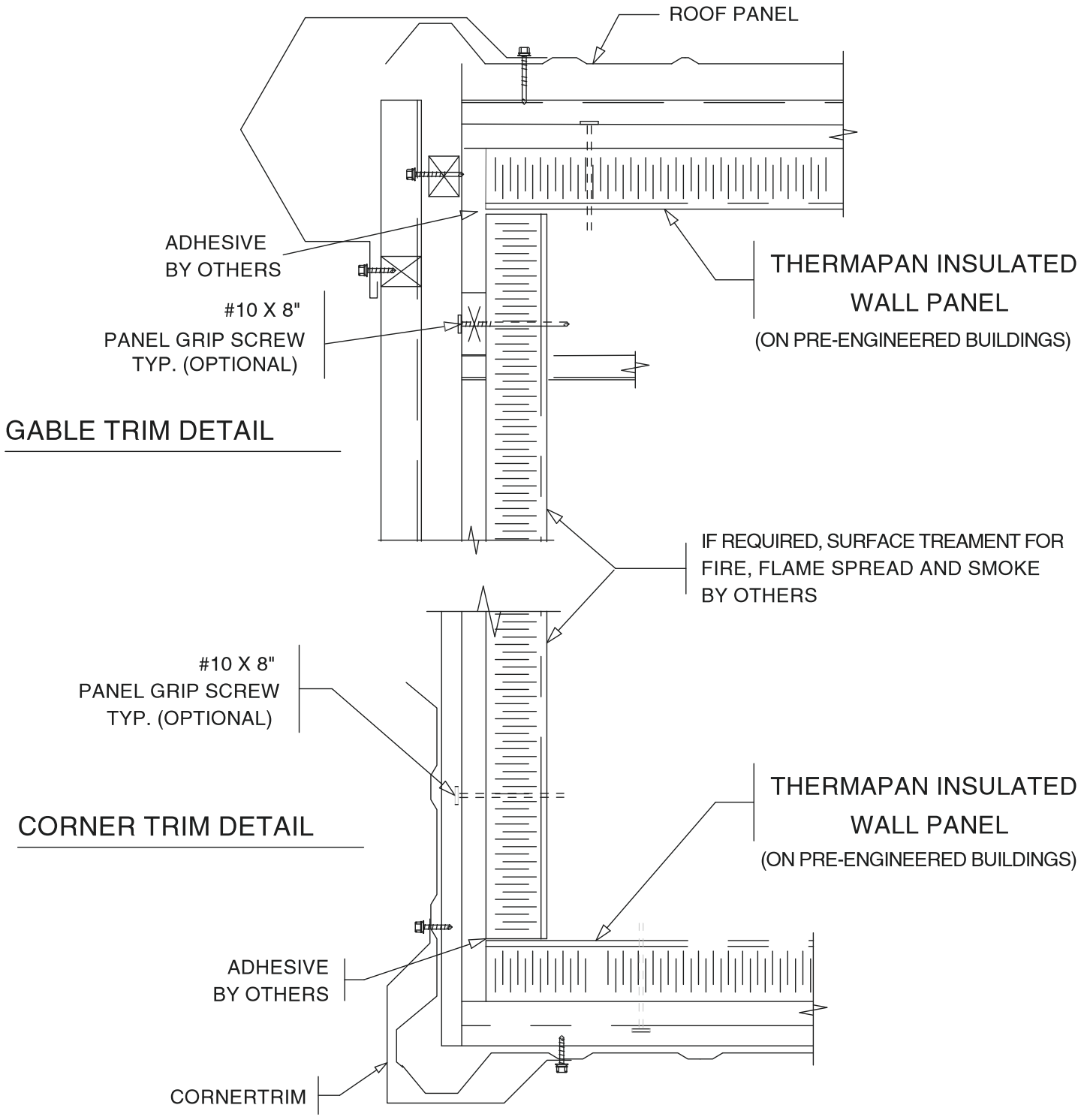
TITLE: TYPICAL WALL DETAIL			NOTE: THERMAPAN INSULATED PANEL DETAILING TO COMPLEMENT PRE-ENGINEERED BUILDING
REFERENCE	SCALE: NTS		
DATE: JAN. 10, 2005	REVISION: 5	DWG. No.: IN-1	



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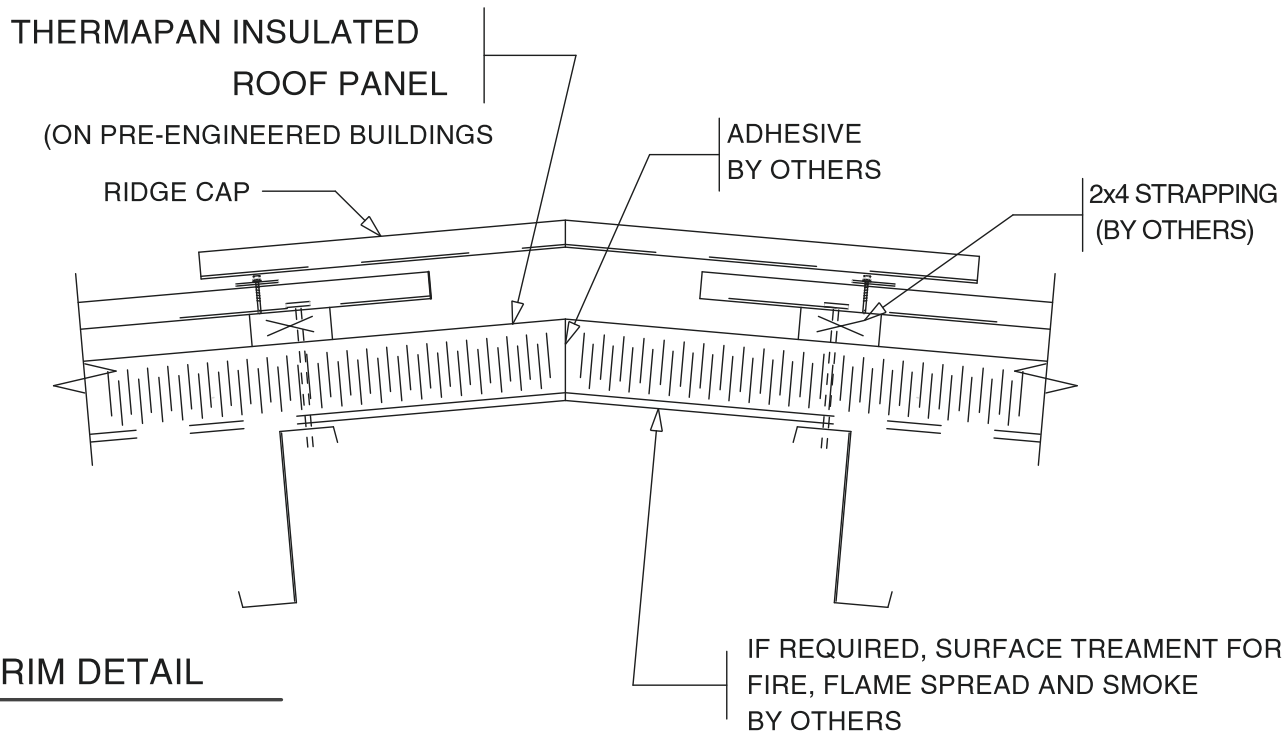
TITLE

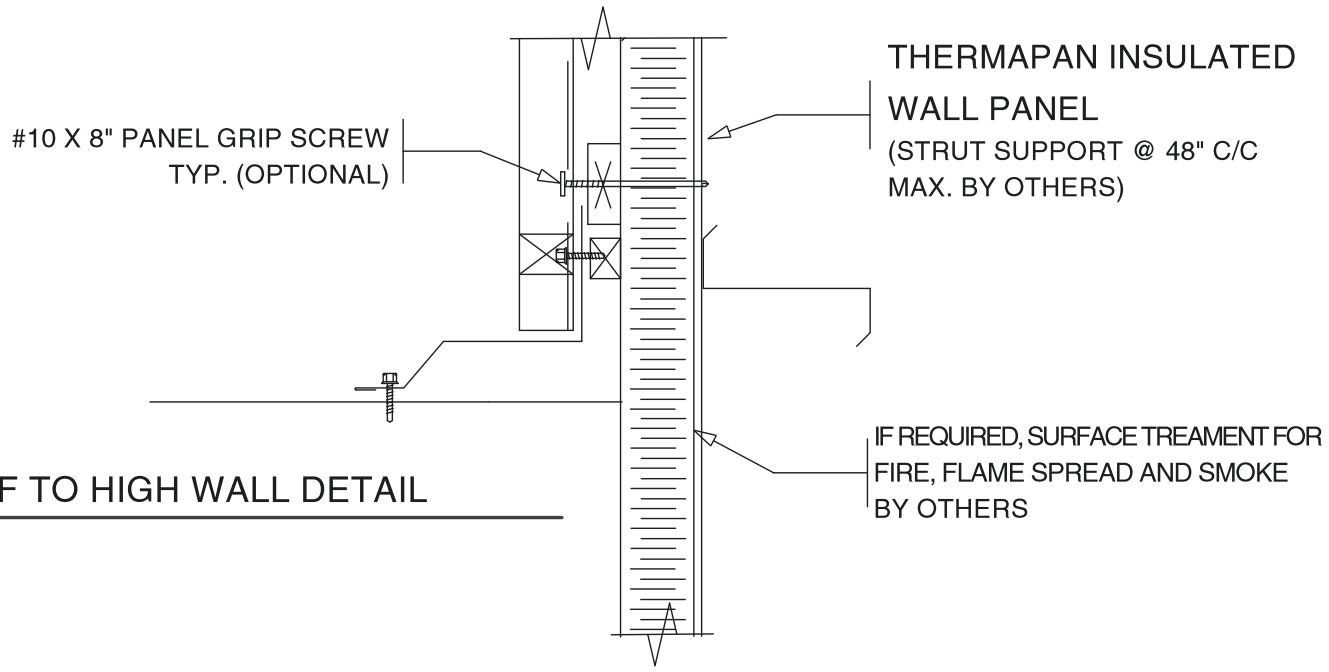
GABLE & CORNER TRIM DETAIL

NOTE
THERMAPAN INSULATED PANEL DETAILING TO COMPLEMENT PRE-ENGINEERED BUILDING

REFERENCE	SCALE	
	NTS	
DATE	REVISION	DWG. No.
JAN. 10, 2005	5	IN-2



PEAK TRIM DETAIL



ROOF TO HIGH WALL DETAIL

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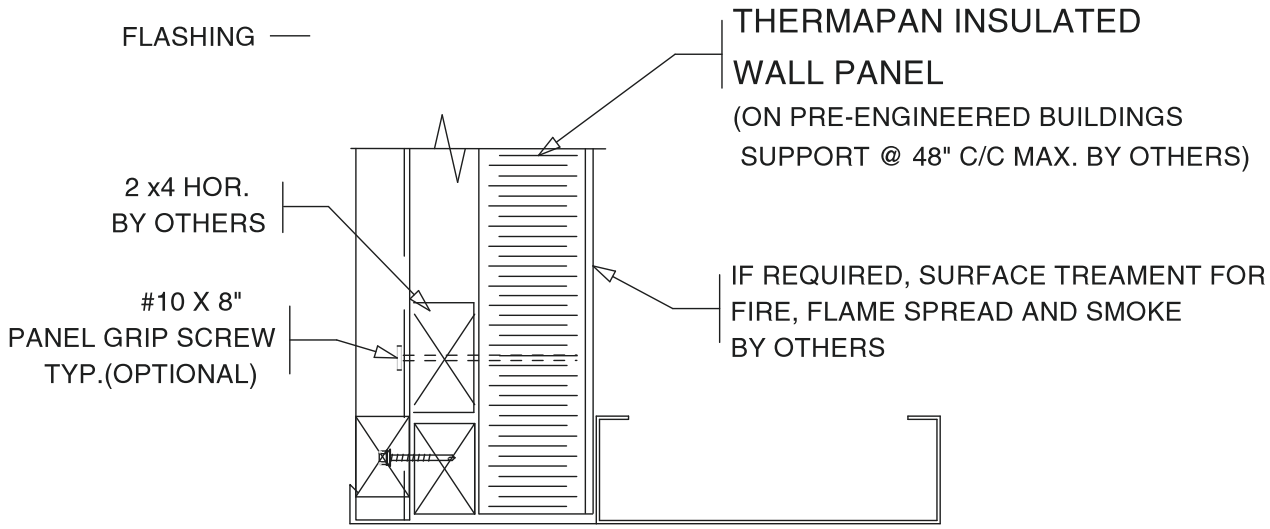
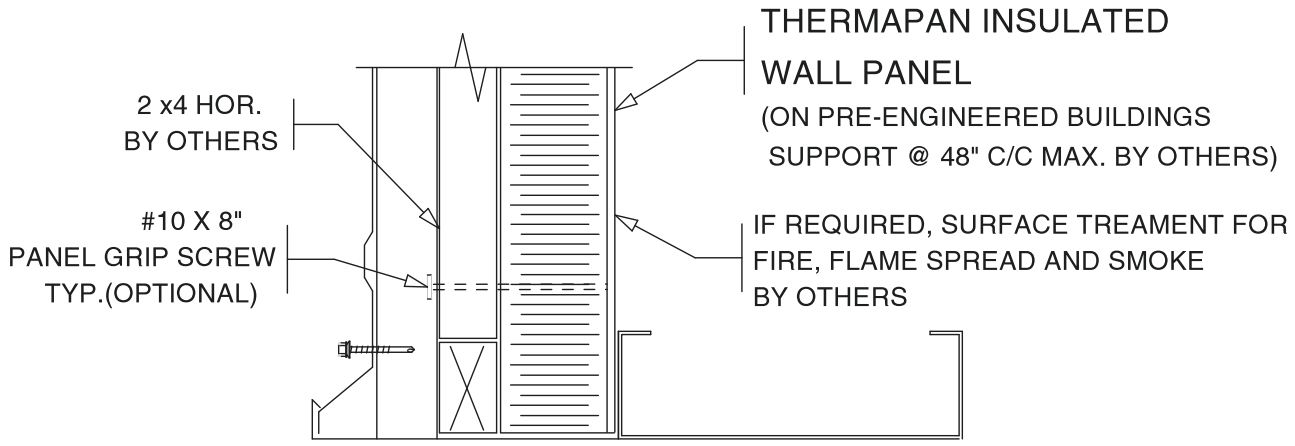
TITLE: PEAK & HIGH WALL DETAIL			NOTE: THERMAPAN INSULATED PANEL DETAILING TO COMPLEMENT PRE-ENGINEERED BUILDING
REFERENCE	SCALE: NTS		
DATE: JAN. 10, 2005	REVISION: 5	DWG. No.: IN-3	



HEADER



DOOR JAMB

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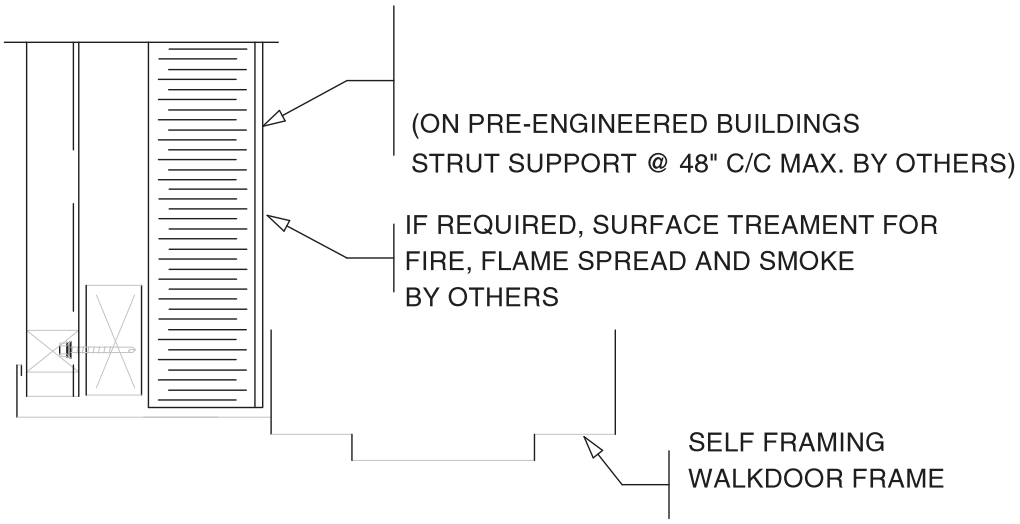
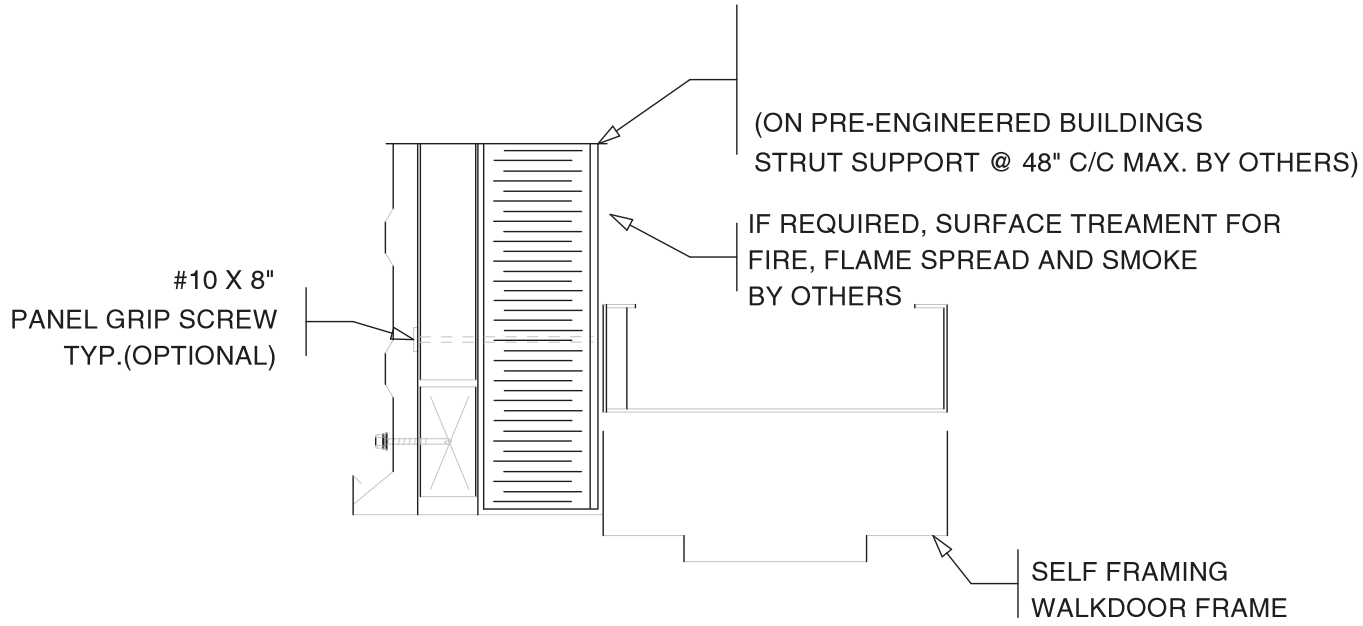
TITLE: HEADER & JAMB TRIM @ OVERHEAD DOOR			NOTE: THERMAPAN INSULATED PANEL DETAILING TO COMPLEMENT PRE-ENGINEERED BUILDING
REFERENCE	SCALE: NTS		
DATE: JAN. 10, 2005	REVISION: 5	DWG. No.: IN-4	



HEAD TRIM



JAMB TRIM

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TITLE: HEADER & TRIM @ SELF FRAMING WALKDOOR		NOTE: THERMAPAN INSULATED PANEL DETAILING TO COMPLEMENT PRE-ENGINEERED BUILDING
REFERENCE	SCALE: NTS	
DATE: JAN. 10, 2005	REVISION: 5	DWG. No.: IN-5