

The better way to build™



## Installation Manual NAILBASE PANELS



**Thermapan**  
Structural  
Insulated  
Panels

## **NAILBASE SIPs Installation Manual**

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## **NAILBASE SIPs Installation Manual**

### **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.

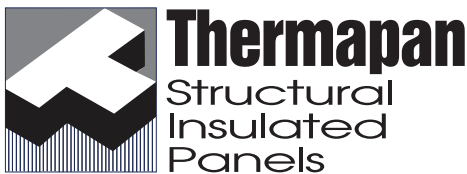
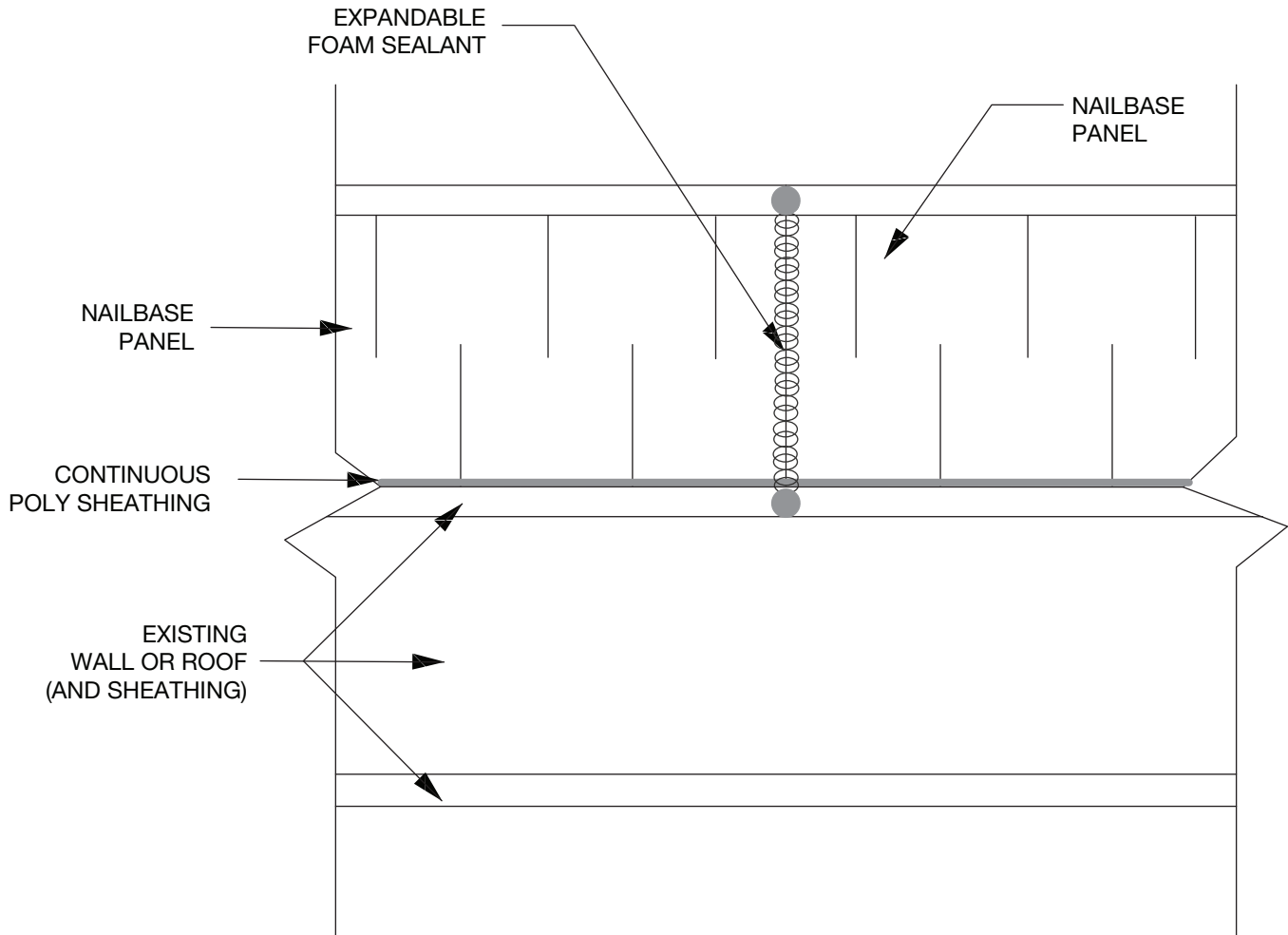
**Installers shall reference engineering design package for fastening arrangements.**

### **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 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.
- 3.2 Keep Gutters Clear:** Clean gutters and downspouts of debris so melted water can drain freely.
- 3.3 Install Heat Cables:** Install electrical heat cables along the eaves to create drainage channels, which help prevent ice from building up.
- 3.4 Regular Inspection:** Inspect the roof finish frequently for deterioration and openings for moisture entry.



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1-877-443-WALL (9255)

TITLE

AIR BARRIER DETAILS FOR  
NAILBASE PANEL BUTT JOINT

PROJECT

REFERENCE

SCALE

N.T.S.

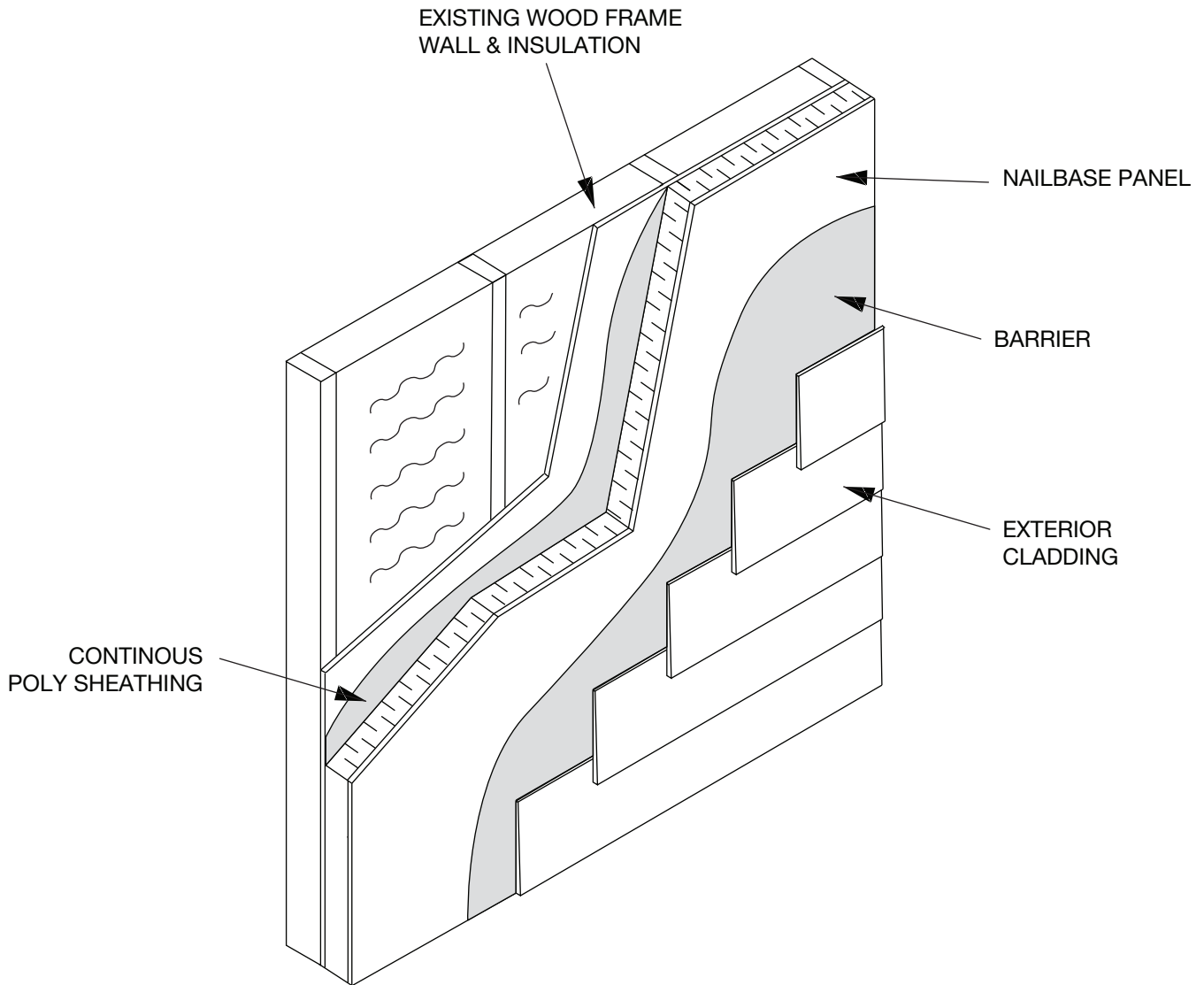
DATE

NOVEMBER 2018

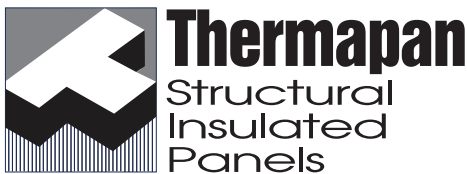
REVISION

DWG. No.

AB-1(NB)

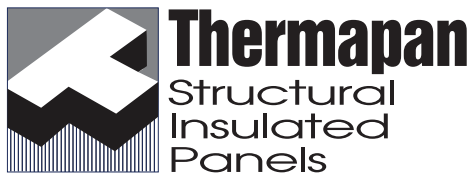
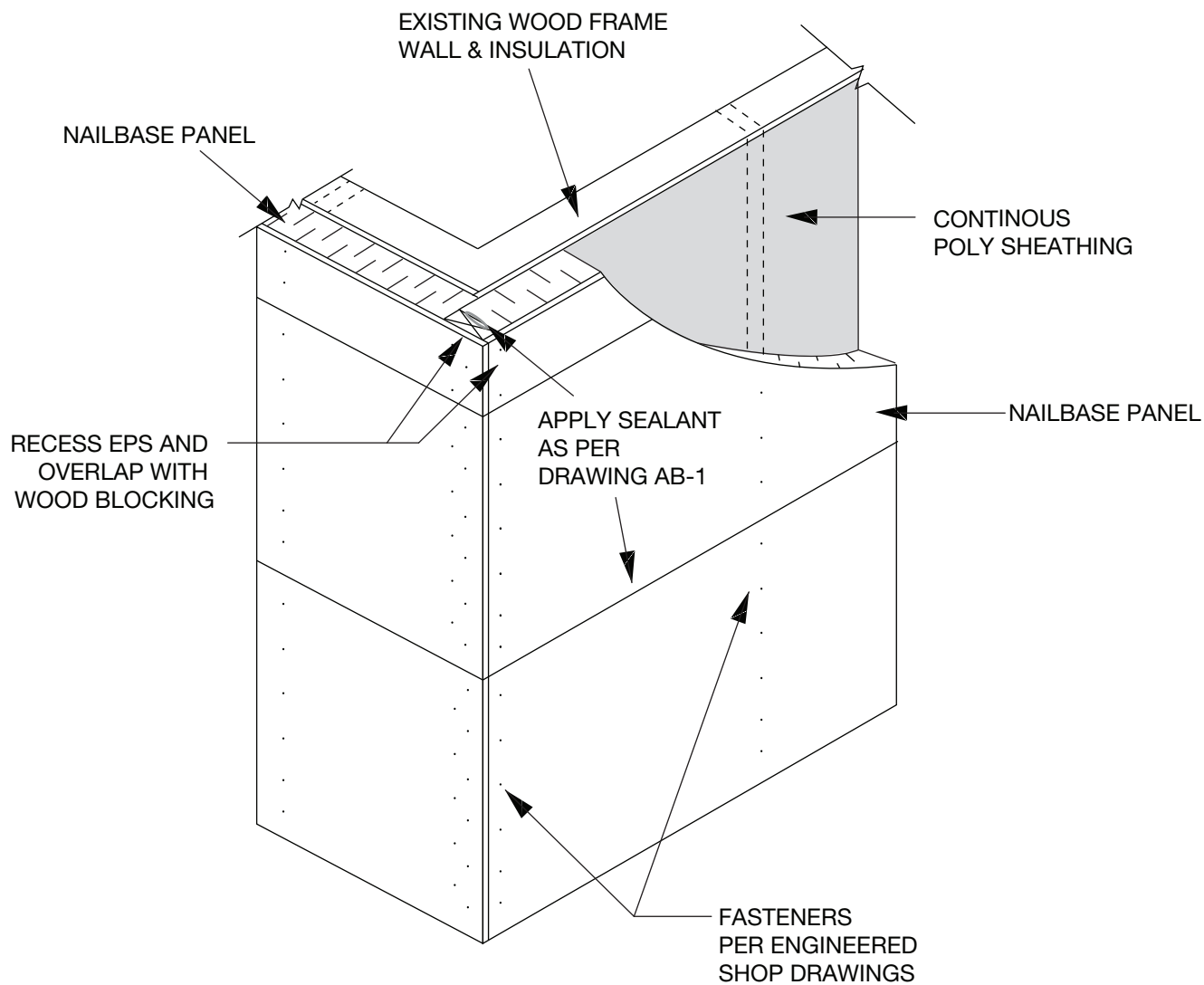


NOTE: SEE NB-10 & NB-11 FOR EXTERIOR CLADDING OPTIONS



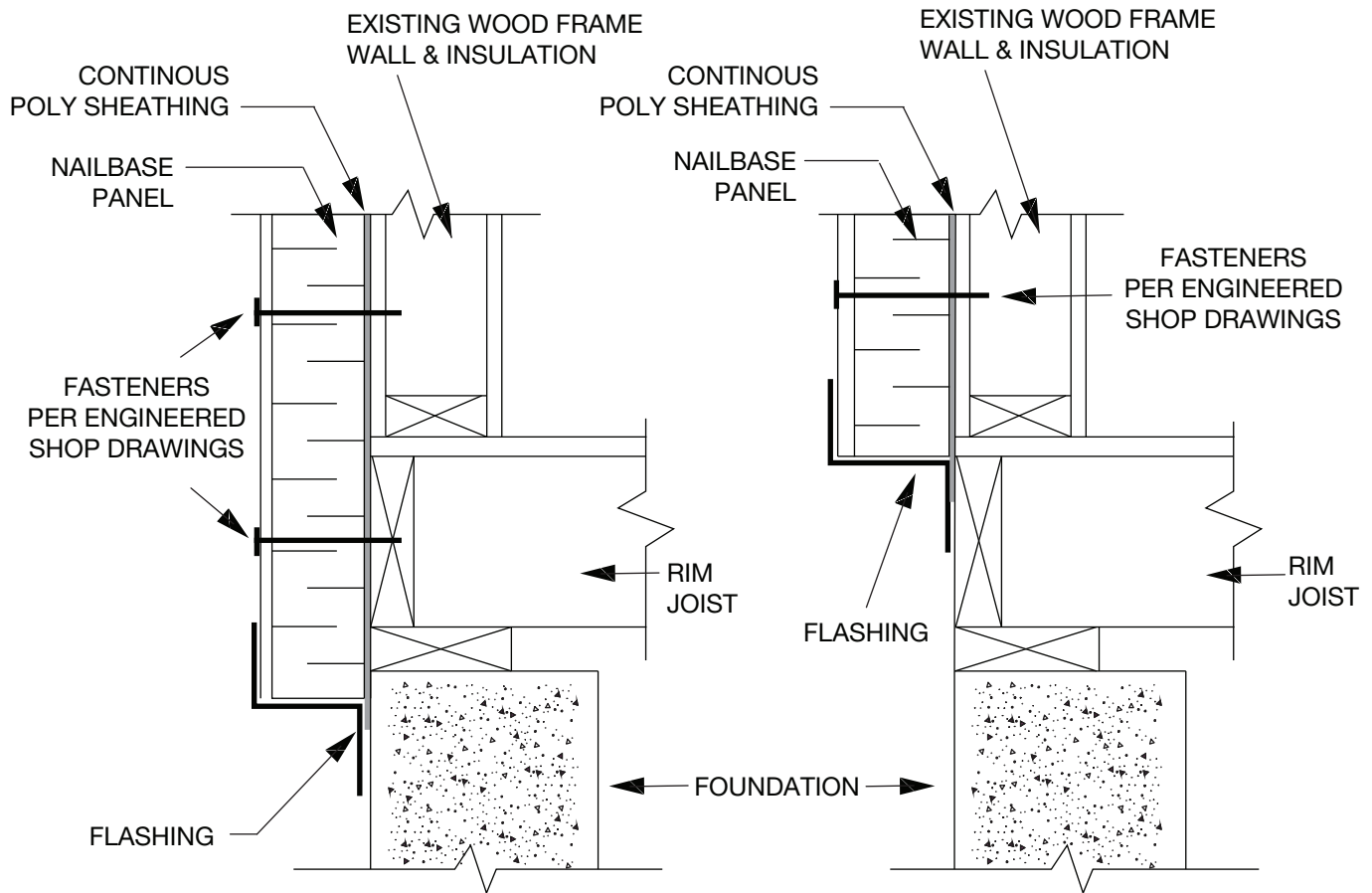
www.thermapan.com  
1-877-443-WALL (9255)

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



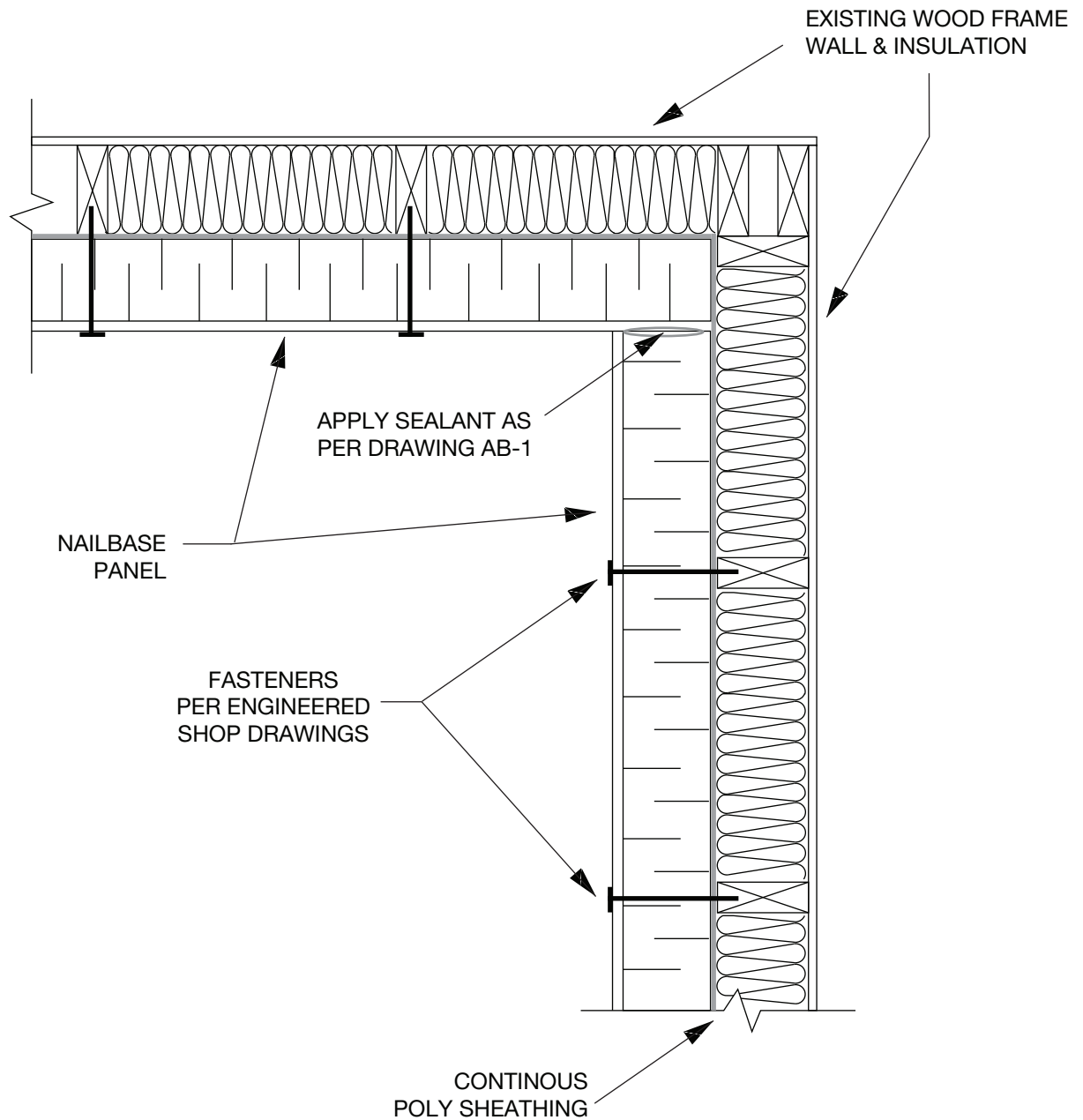
www.thermapan.com  
1-877-443-WALL (9255)

TITLE		PROJECT	
RETROFIT NAILBASE PANEL OUTSIDE CORNER			
REFERENCE	SCALE		
	N.T.S.		
DATE	REVISION	DWG. No.	
NOVEMBER 2018		NB-2	



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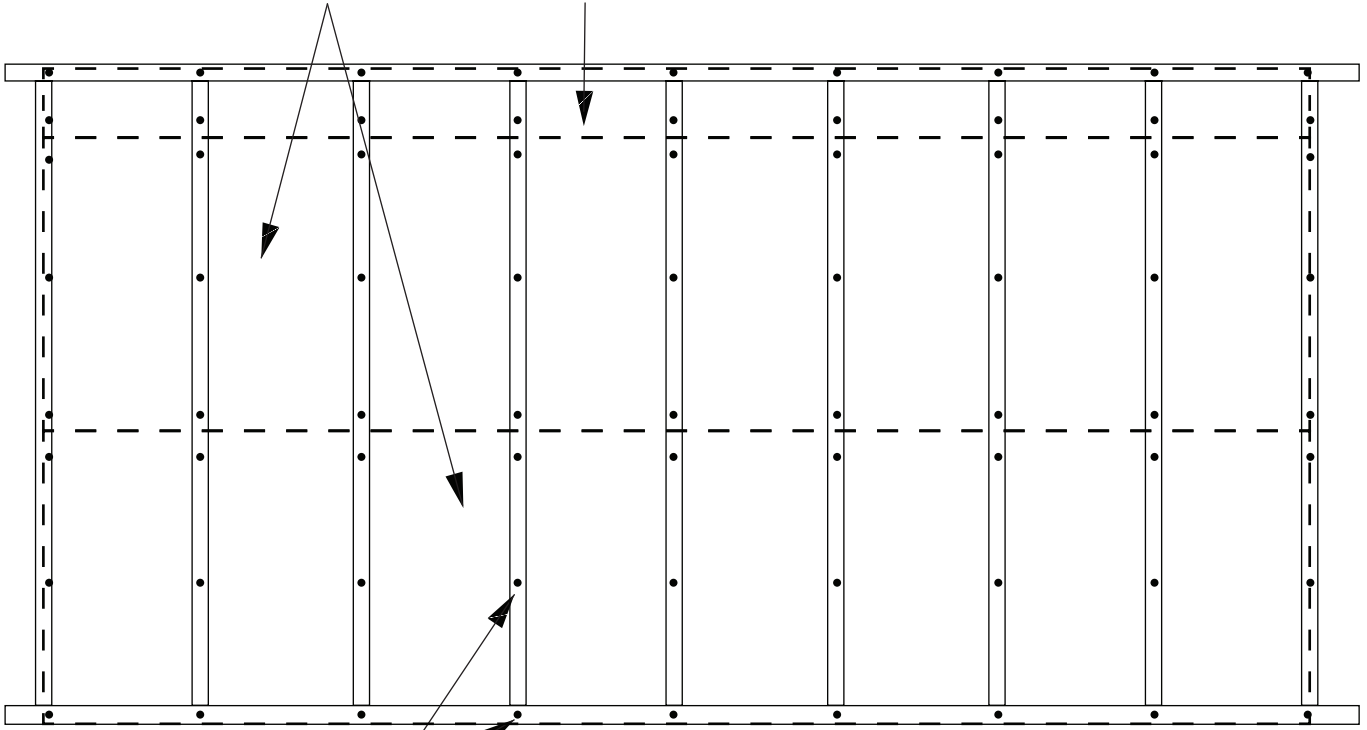
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RETROFIT NAILBASE PANEL OVER RIM JOIST			
REFERENCE	SCALE		
	N.T.S.		
DATE	REVISION	DWG. No.	
NOVEMBER 2018		NB-3	



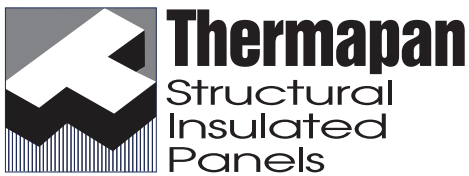
www.thermapan.com  
1-877-443-WALL (9255)

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

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

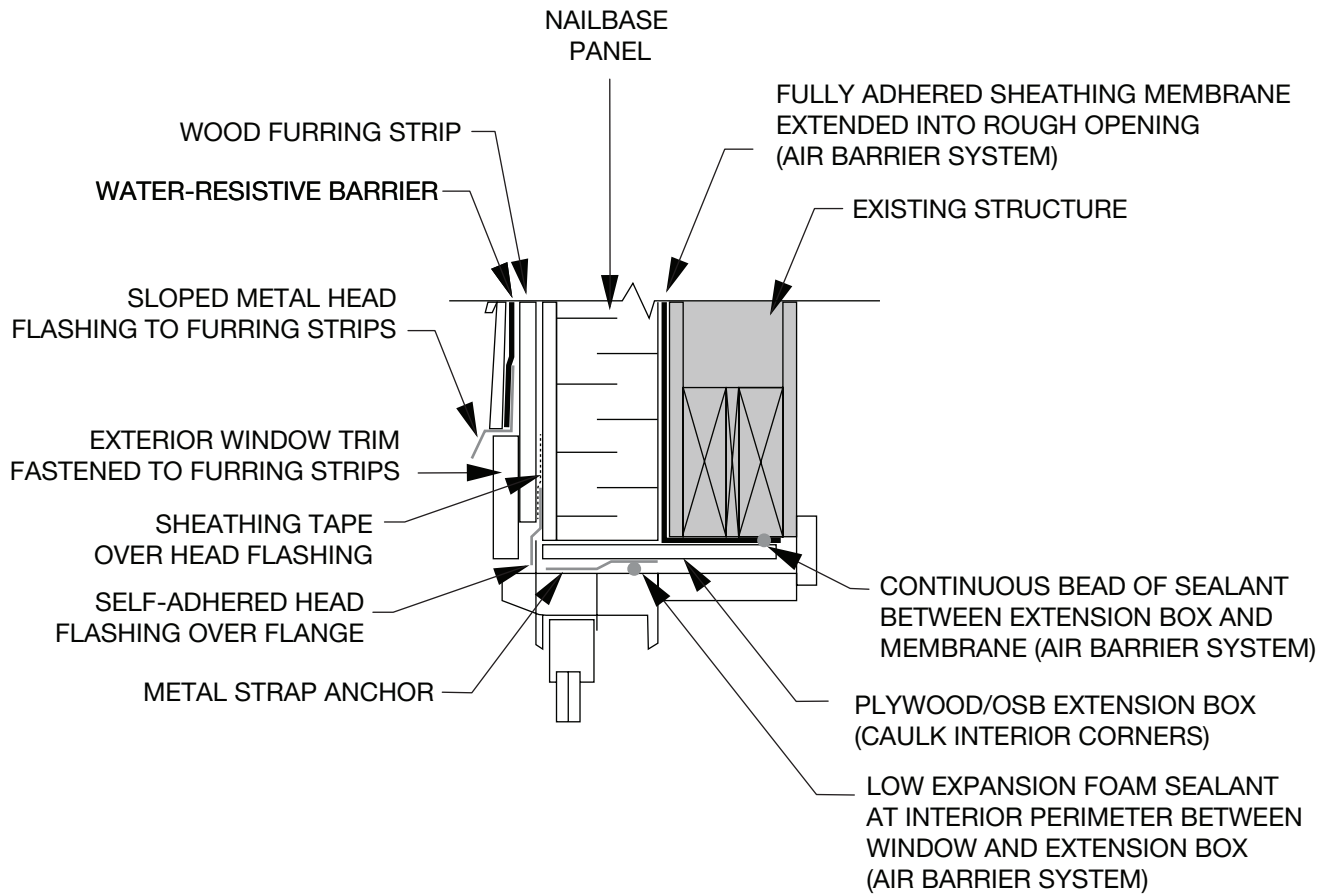


FASTENERS  
 PER ENGINEERED  
 SHOP DRAWINGS



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



NOTE: SEE NB-6B FOR SILL DETAIL



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1-877-443-WALL (9255)

TITLE

WINDOW MOUNTED  
AT EXTERIOR PLANE  
(HEADER)

PROJECT

REFERENCE

SCALE

N.T.S.

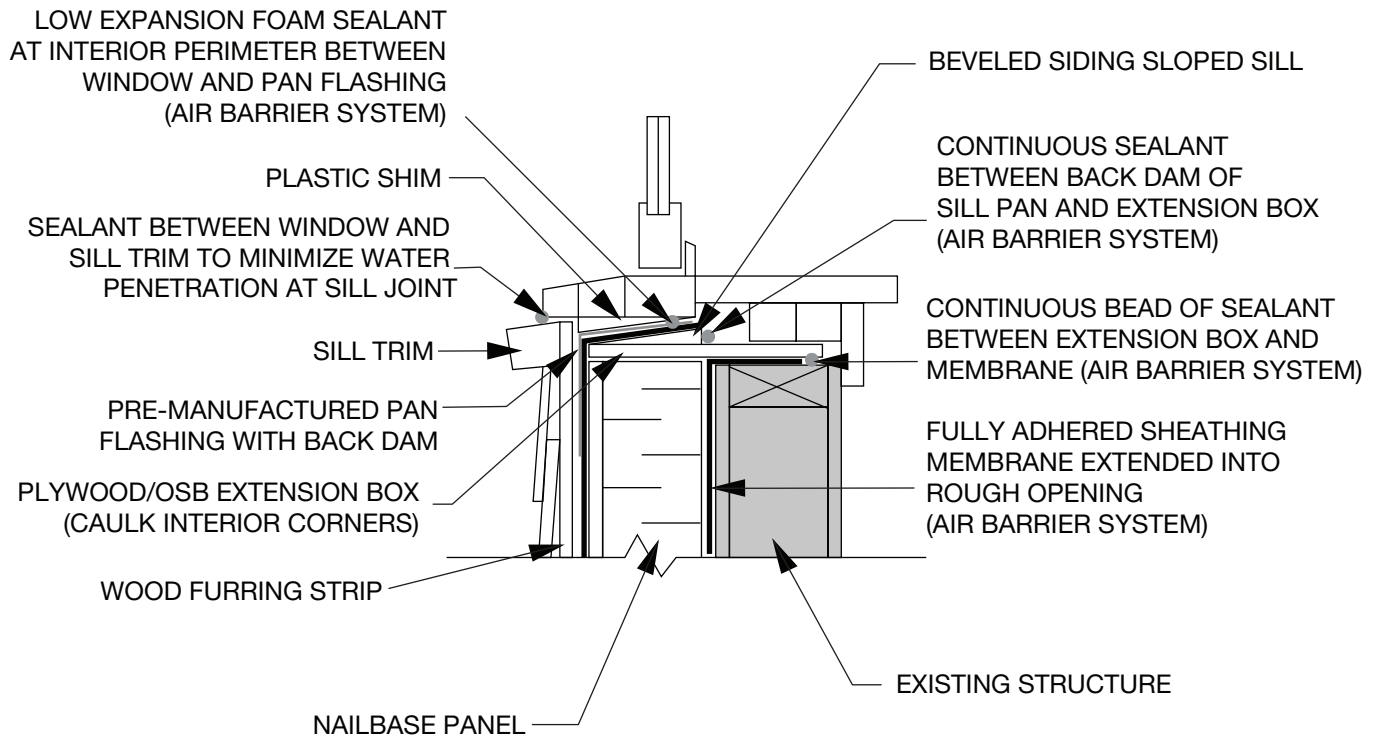
DATE

NOVEMBER 2018

REVISION

DWG. No.

NB-6A

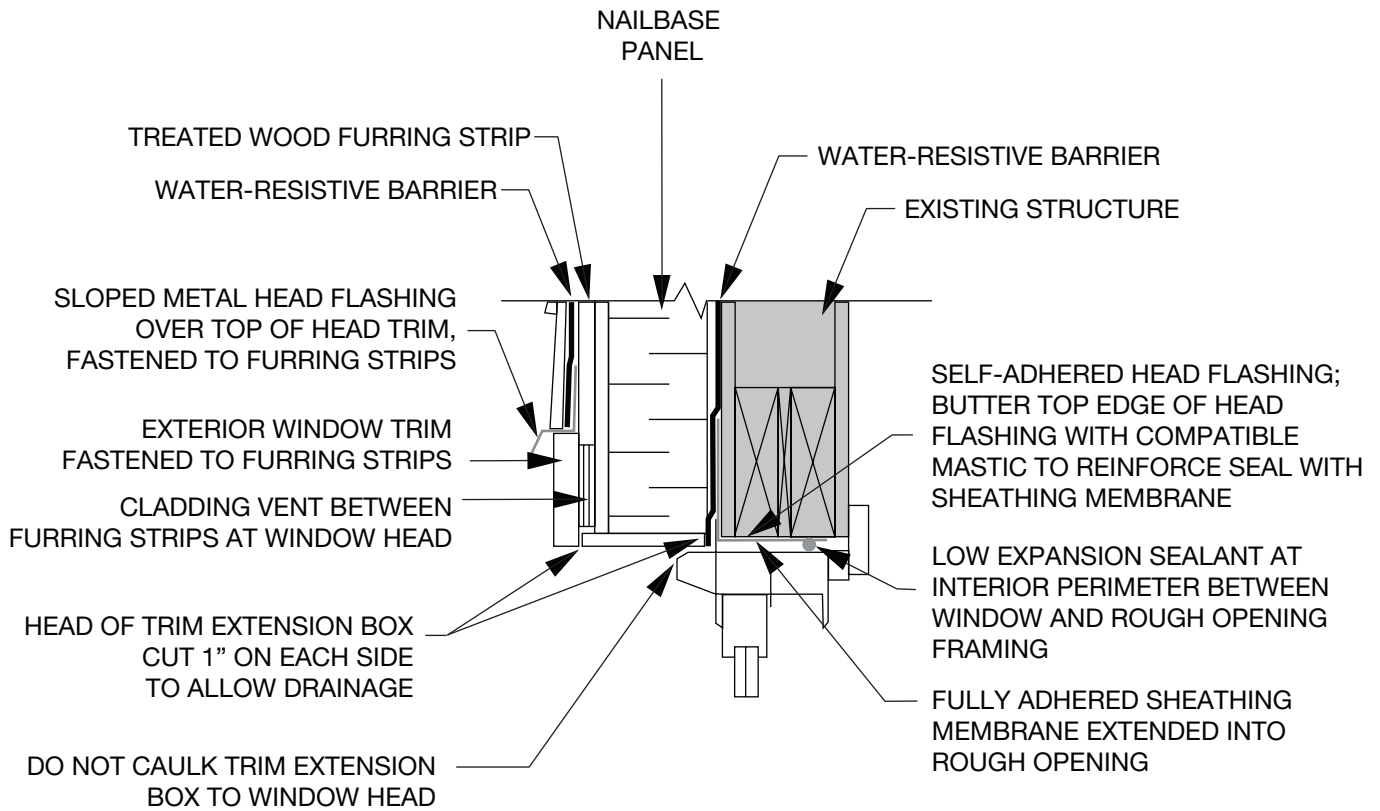


NOTE: SEE NB-6A FOR HEADER DETAIL



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1-877-443-WALL (9255)

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



NOTE: SEE NB-7B FOR SILL DETAIL



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1-877-443-WALL (9255)

TITLE

WINDOW LEFT IN PLACE  
(HEADER)

PROJECT

REFERENCE

SCALE

N.T.S.

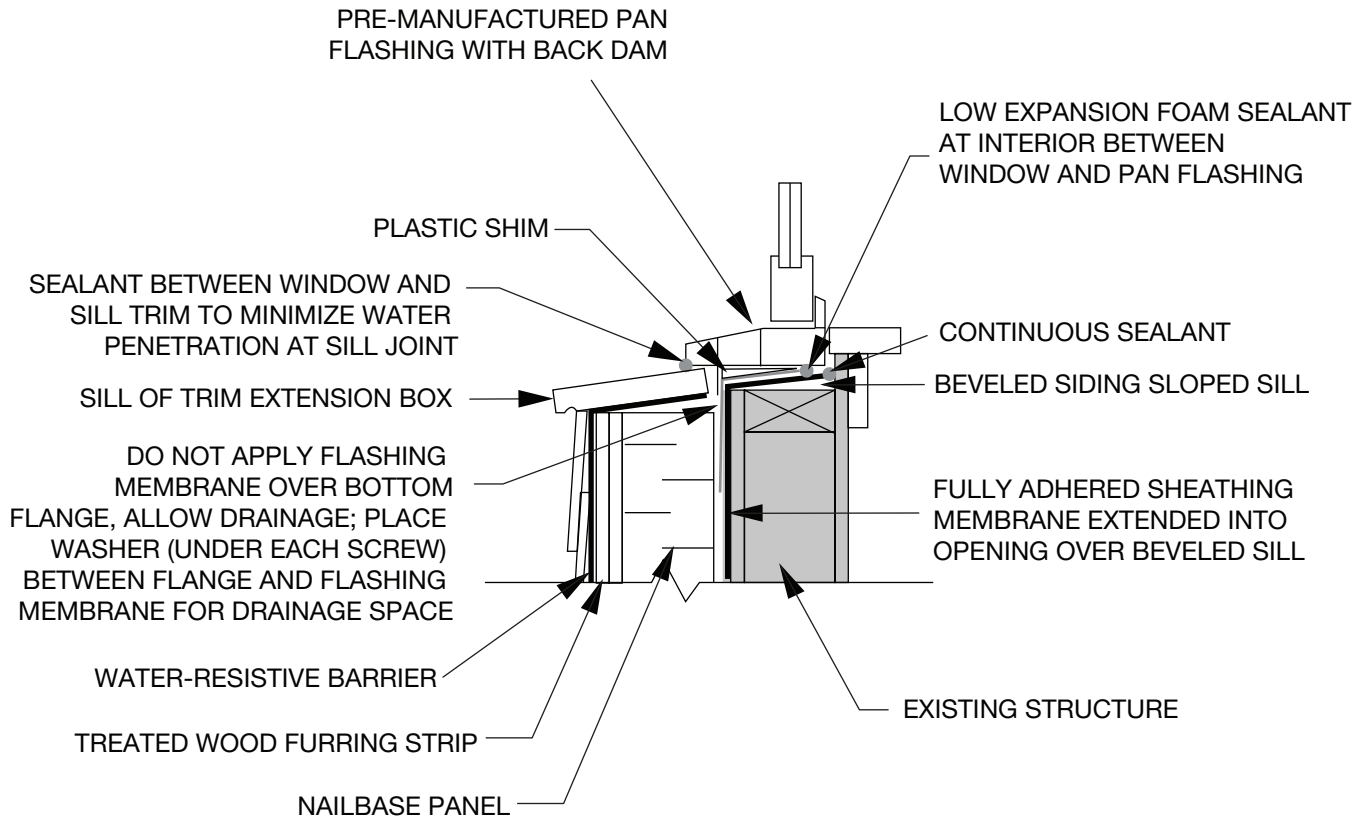
DATE

NOVEMBER 2018

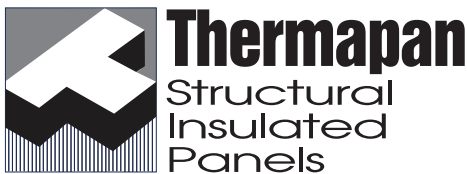
REVISION

DWG. No.

NB-7A

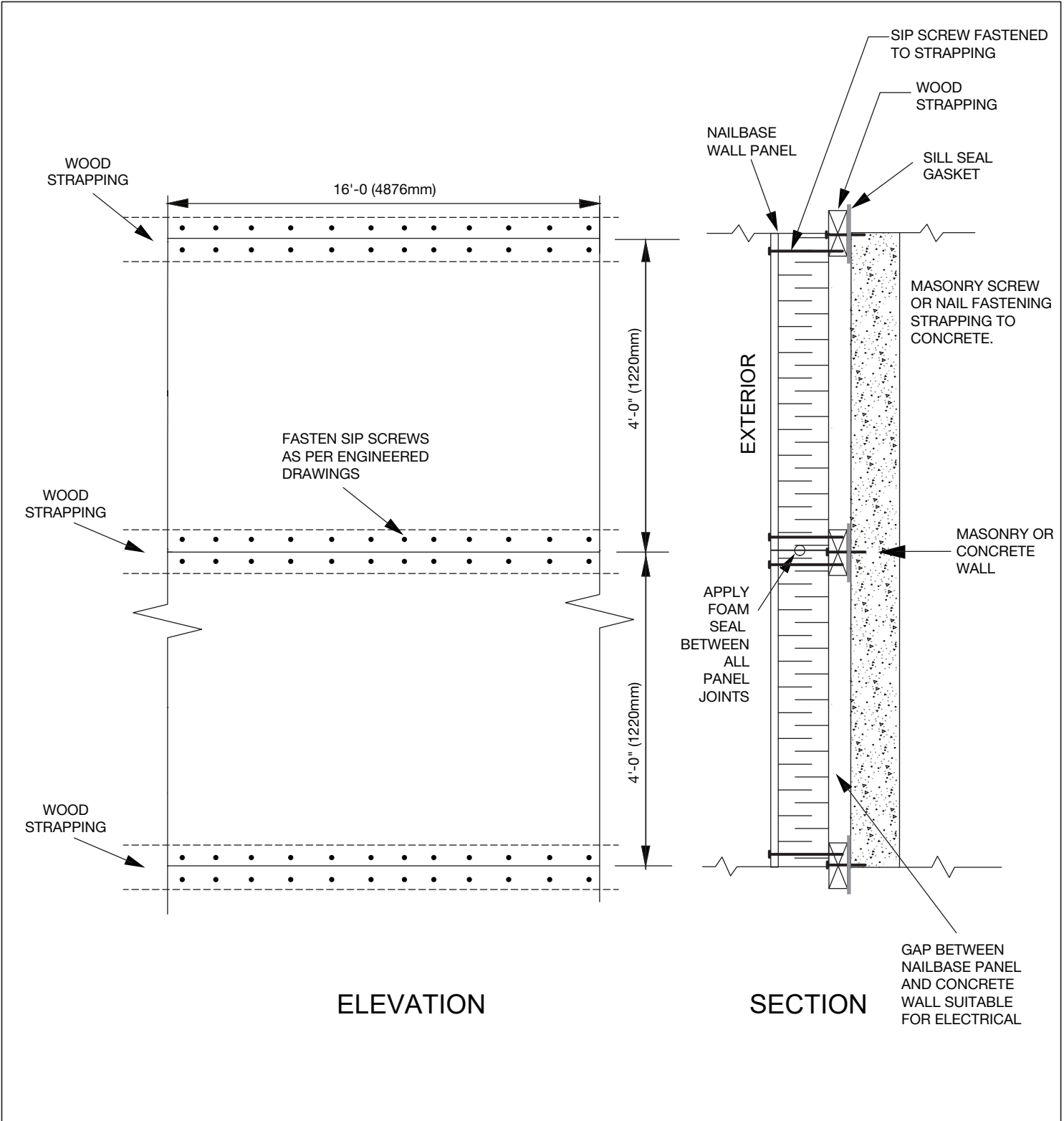



NOTE: SEE NB-7A FOR HEADER DETAIL



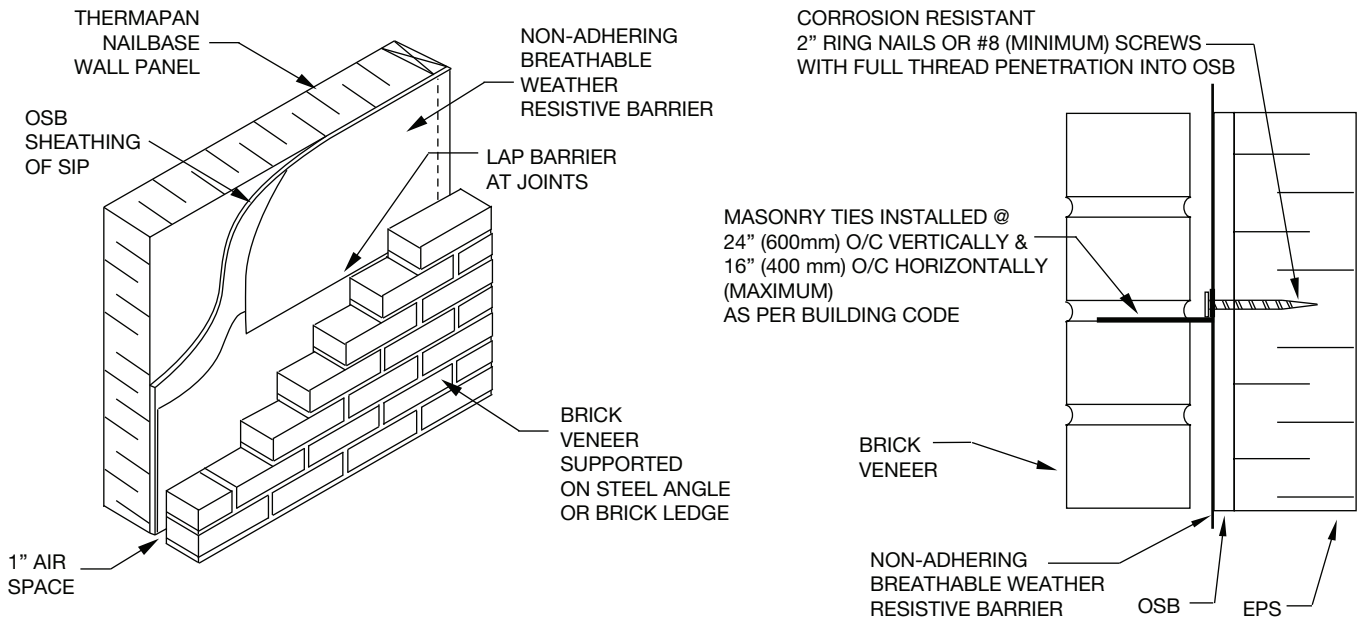
www.thermapan.com  
1-877-443-WALL (9255)

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

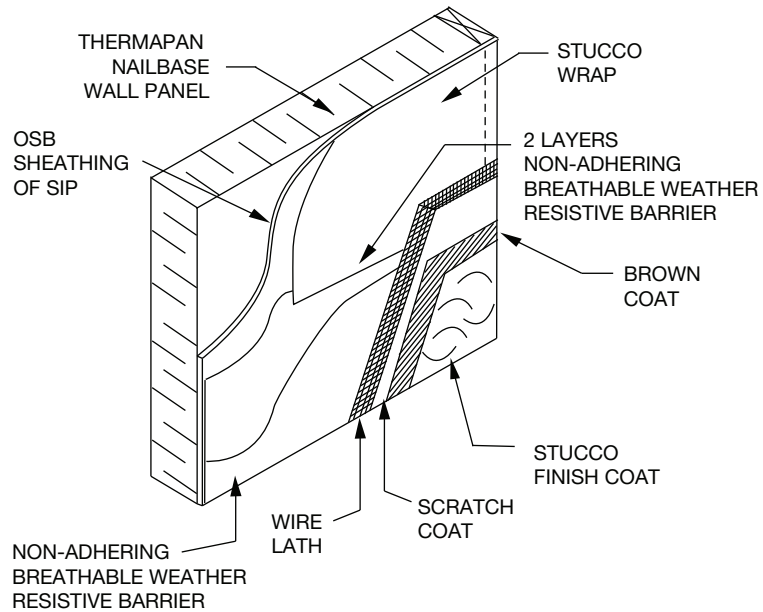


 <p><b>Thermapan</b> Structural Insulated Panels</p> <p>www.thermapan.com 1-877-443-WALL (9255)</p>	TITLE		PROJECT	
	<p>NAILBASE WALL ATTACHMENT (CONCRETE OR MASONRY WALL)</p>			
	REFERENCE	SCALE		
	N.T.S.			
DATE	REVISION	DWG. No.		
NOVEMBER 2018		NB-8		

## MASONRY VENEER



## STUCCO



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TITLE

EXTERIOR WALL CLADDING  
BRICK & STUCCO

PROJECT

REFERENCE

SCALE

N.T.S.

DATE

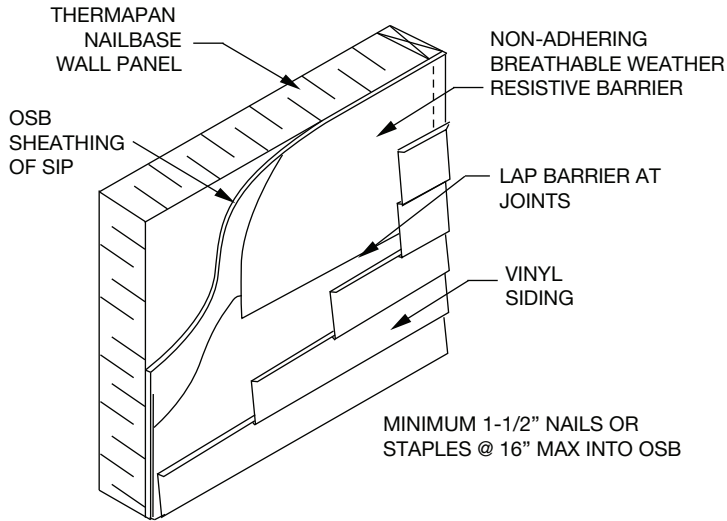
NOVEMBER 2018

REVISION

DWG. No.

NB-9

## VINYL SIDING

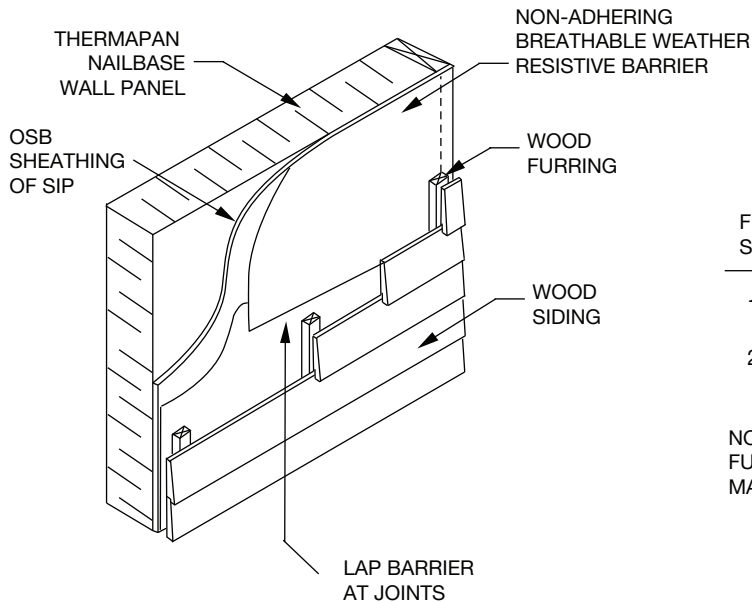


MINIMUM 1-1/2" NAILS OR STAPLES @ 16" MAX INTO OSB

## FIBRE CEMENT SIDING

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

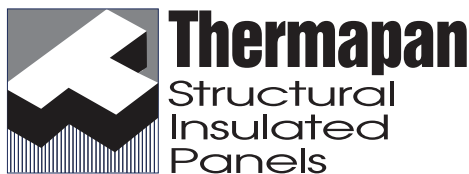
## WOOD SIDING



### 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

NOVEMBER 2018

REVISION

DWG. No.

NB-10

### MASONRY VENEER

MASONRY TIES INSTALLED @  
24" (600mm) O/C VERTICALLY &  
16" (400 mm) O/C HORIZONTALLY  
(MAXIMUM)  
AS PER BUILDING CODE

BRICK  
VENEER

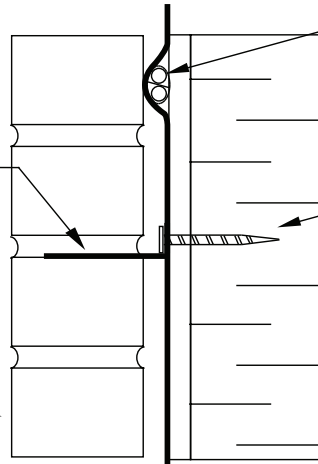
NON-ADHERING  
BREATHABLE WEATHER  
RESISTIVE BARRIER

OSB

EPS

ELECTRICAL WIRE FASTENED TO  
OSB BENEATH MEMBRANE

CORROSION RESISTANT  
2" RING NAILS OR #8 (MINIMUM) SCREWS  
WITH FULL THREAD PENETRATION INTO OSB



### WOOD SIDING

WOOD  
SIDING

VERTICAL STRAPPING  
16" O/C OR AS PER  
SIDING SPECIFICATIONS

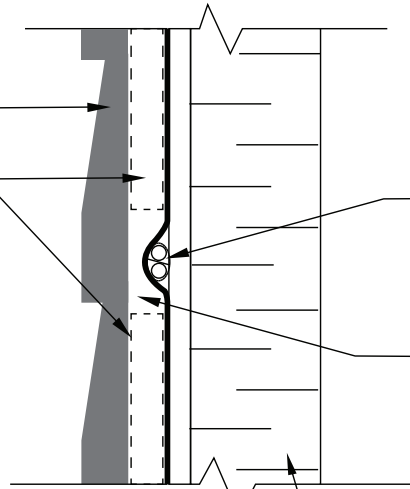
NON-ADHERING  
BREATHABLE WEATHER  
RESISTIVE BARRIER

OSB

EPS

ELECTRICAL WIRE FASTENED TO  
OSB BENEATH MEMBRANE

GAP THROUGH  
STRAPPING



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Panels

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TITLE

ELECTRICAL WIRE FASTENED  
TO NAILBASE SIP EXTERIOR

PROJECT

REFERENCE

SCALE

N.T.S.

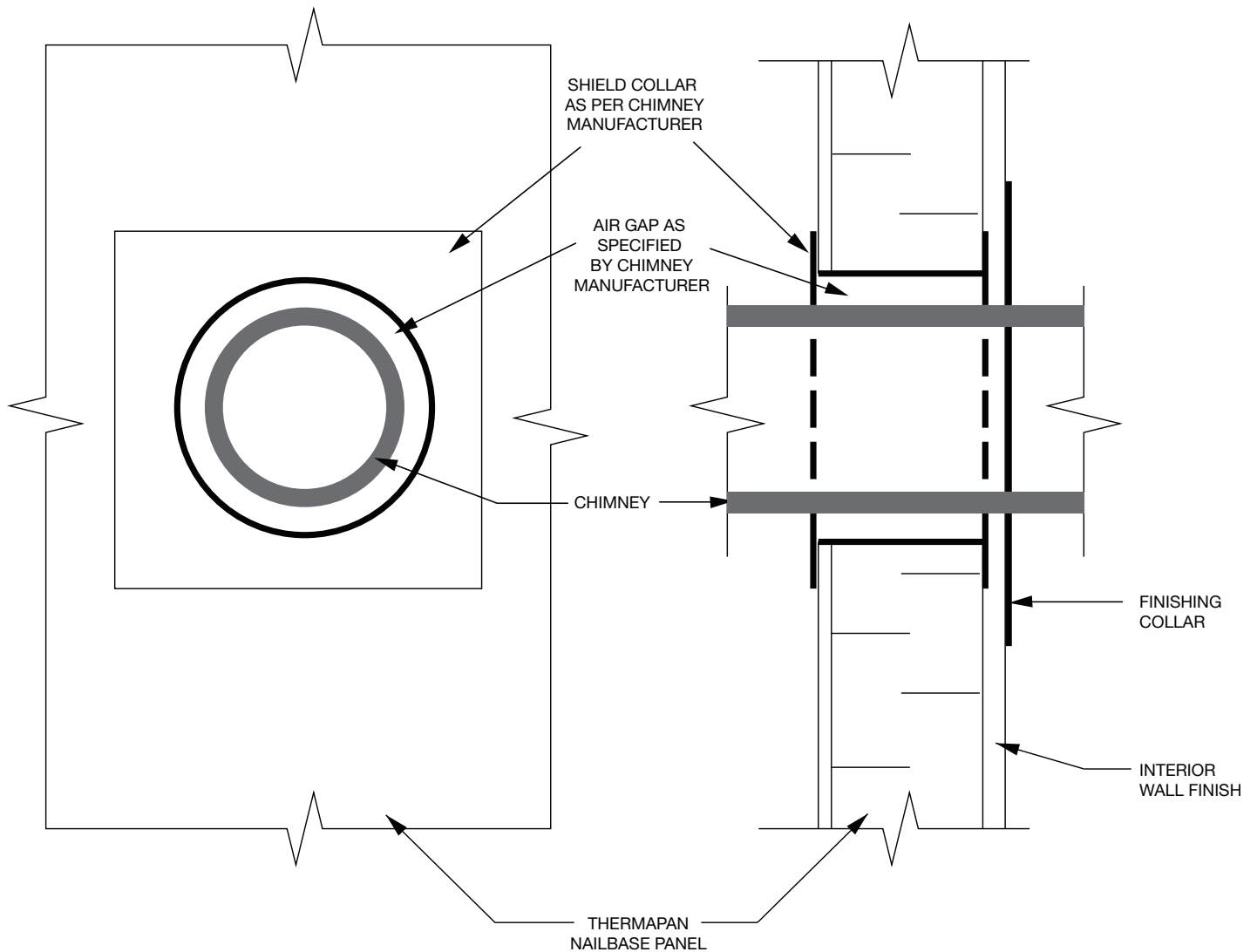
DATE

MARCH 2021

REVISION

DWG. No.

NB-11

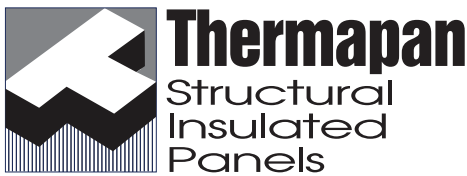
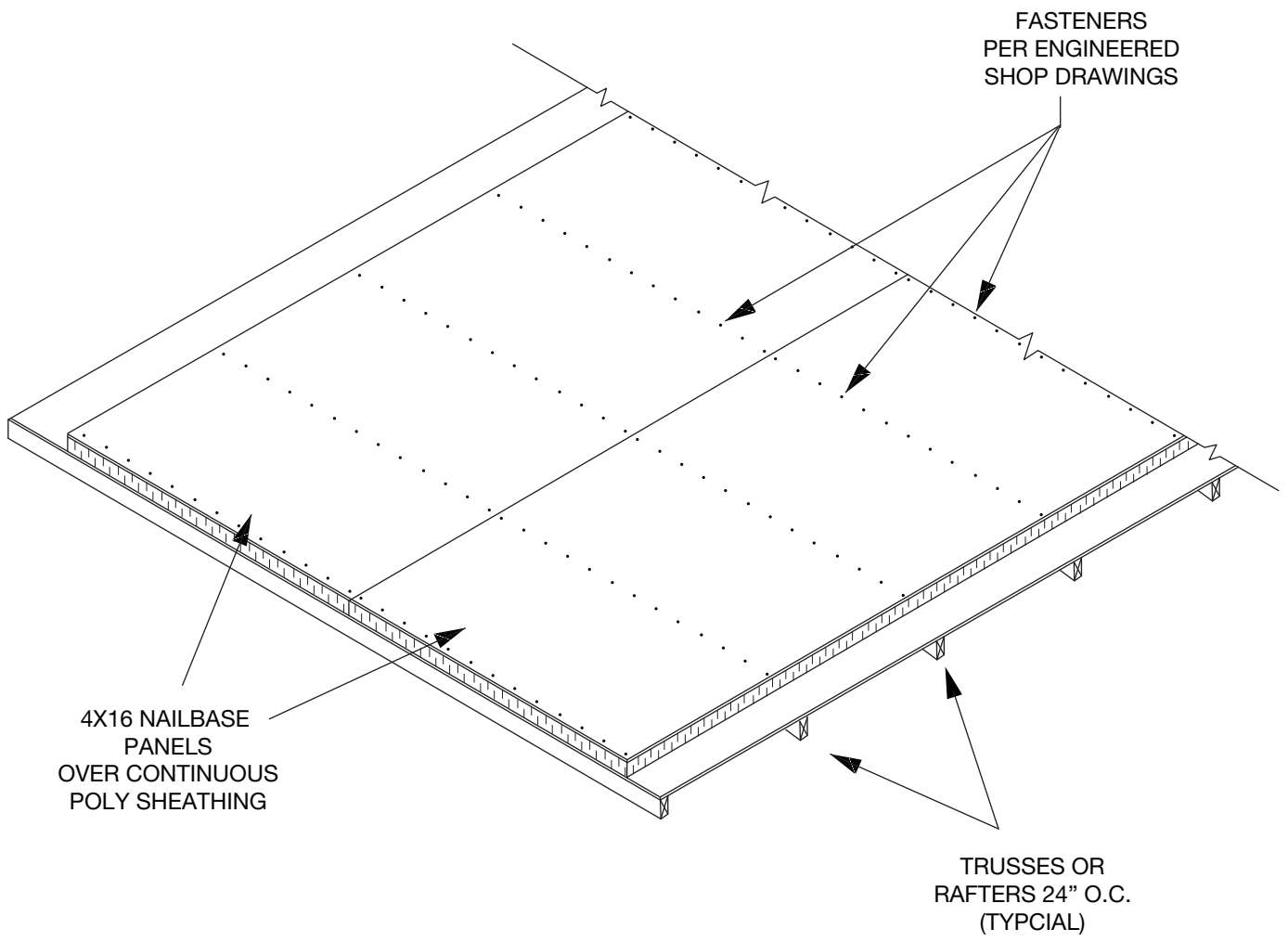


**NOTE:** ABOVE DETAILS ARE TYPICAL REQUIREMENTS TO INSTALL A PREFABRICATED METAL CHIMNEY IN A THERMAPAN STRUCTURAL INSULATED PANEL. THE CHIMNEY INSTALLATION MUST COMPLY WITH THE CHIMNEY MANUFACTURERS'S SPECIFICATION AND THE APPLICABLE BUILDING CODE.



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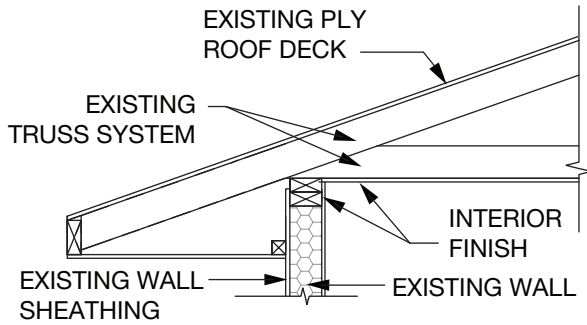
TITLE		PROJECT	
PRE-FABRICATED METAL CHIMNEY INSTALLATION IN WALL			
REFERENCE	SCALE		
	N.T.S.		
DATE	REVISION	DWG. No.	
OCTOBER 2019		NB-12	



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TITLE		PROJECT	
RETROFIT NAILBASE PANELS ON ROOF STRUCTURE			
REFERENCE	SCALE		
	N.T.S.		
DATE	REVISION	DWG. No.	
NOVEMBER 2018		NB-13	

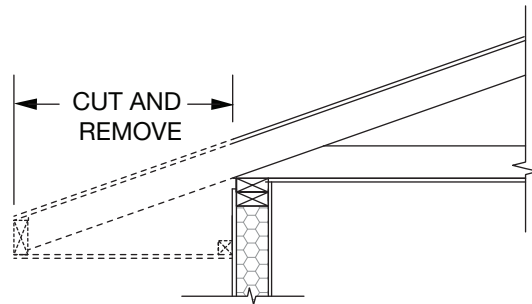
**STEP 1  
ANALYSE CONSTRUCTION DETAIL**



TYPICAL EAVE CONSTRUCTION DETAIL

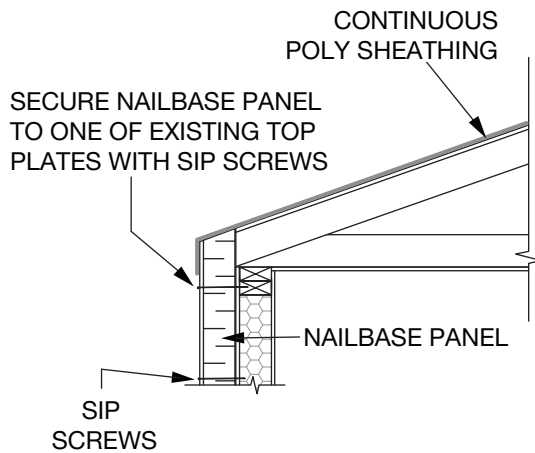
**STEP 2  
REMOVE OVERHANG PORTION AS SHOWN**

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

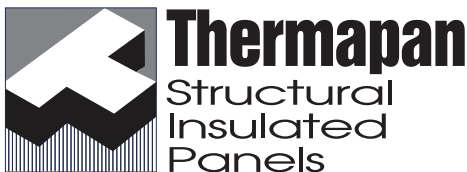
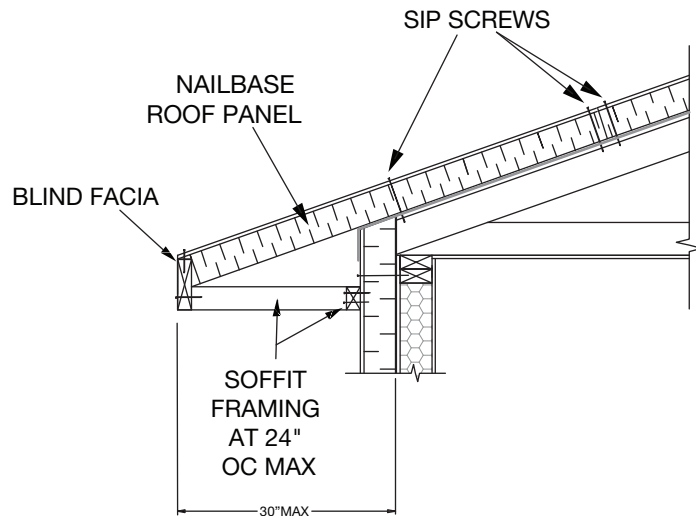


**STEP 3  
INSTALL NAIL BASE WALL PANEL AND VAPOUR BARRIER ON ROOF**

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.

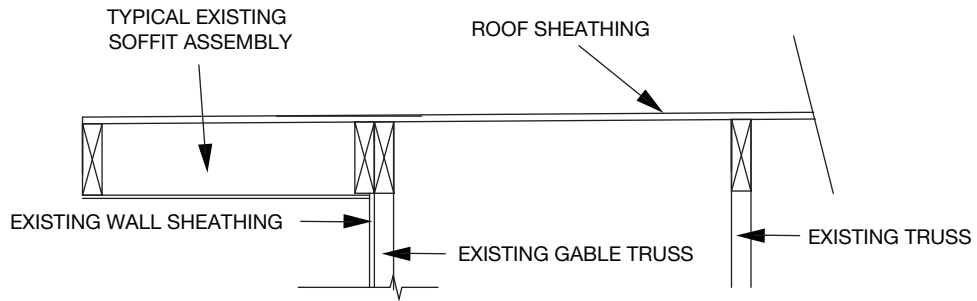
DATE

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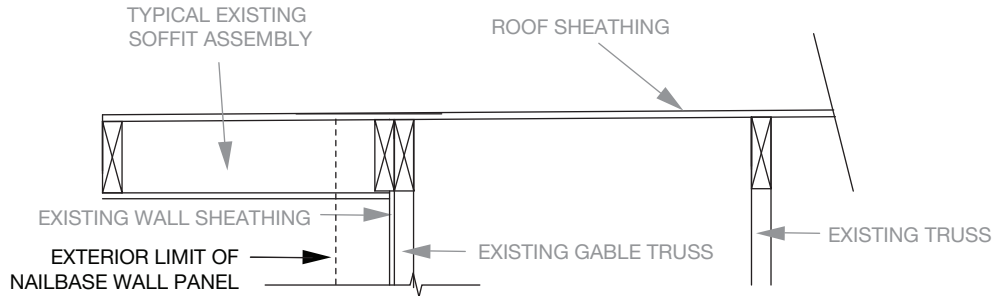
REVISION

DWG. No.

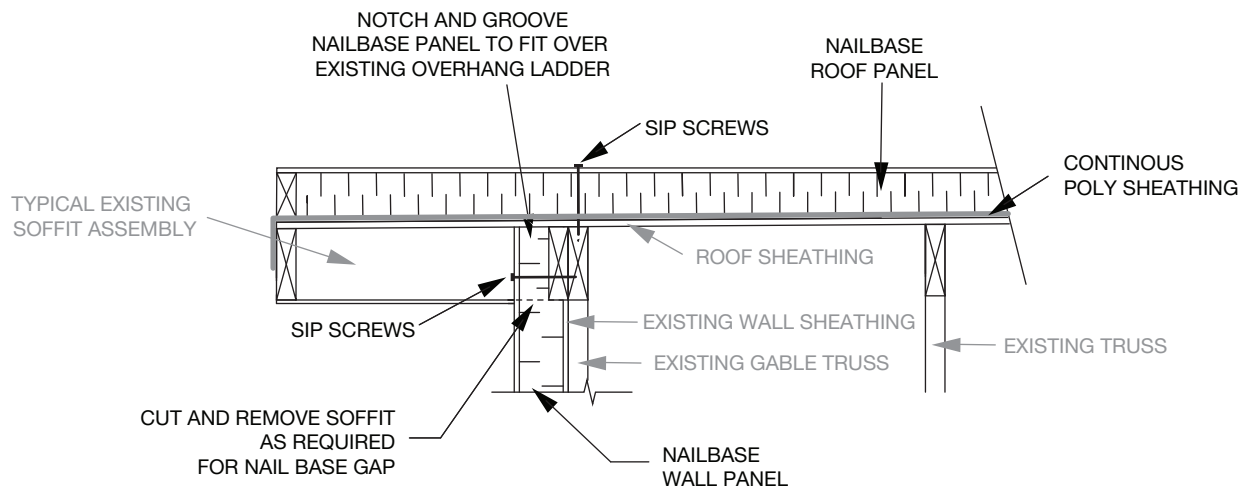
NB-14



**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

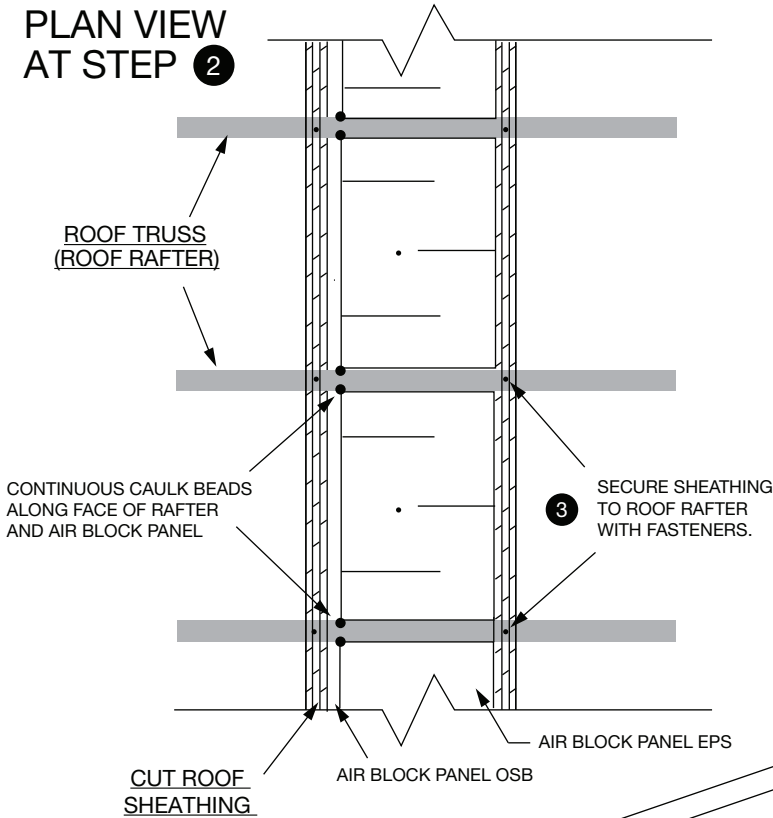
NOVEMBER 2018

REVISION

DWG. No.

NB-15

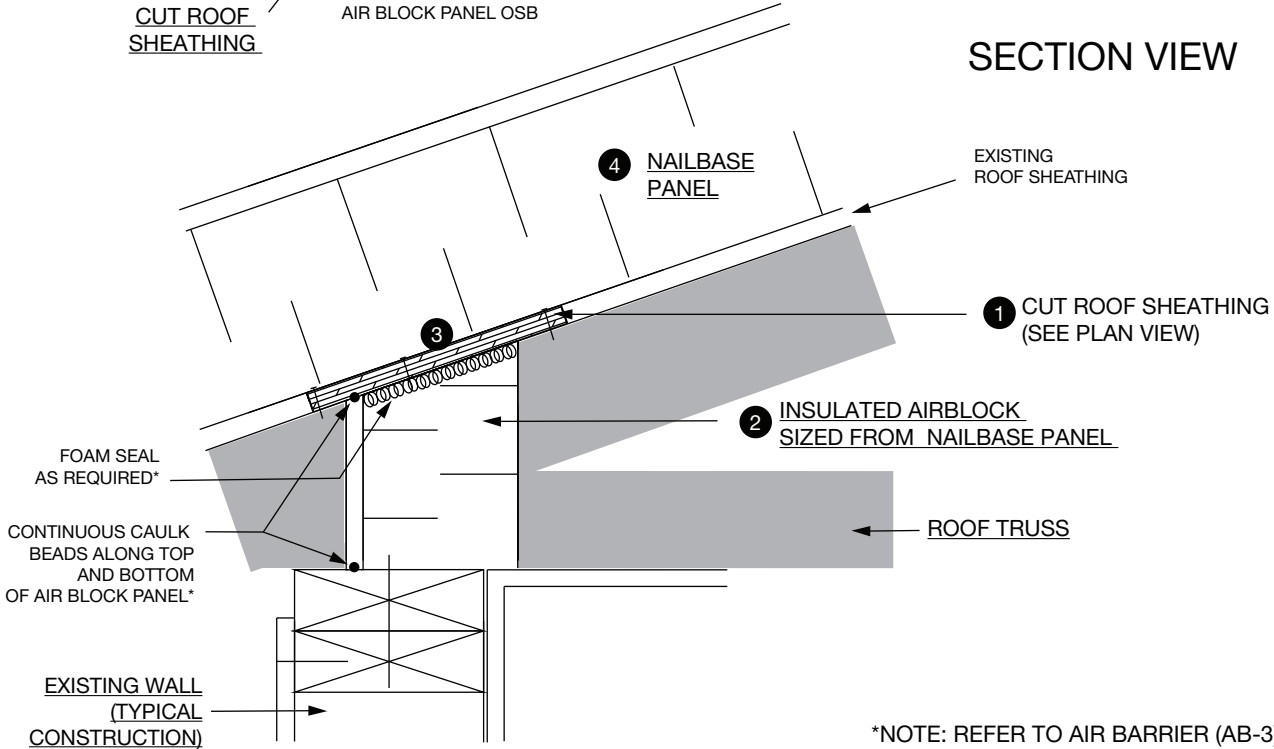
**PLAN VIEW  
AT STEP 2**



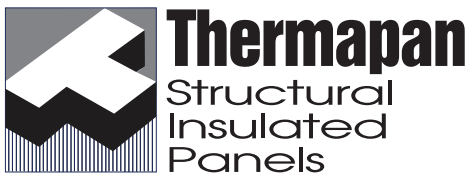
**STEPS**

- 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**

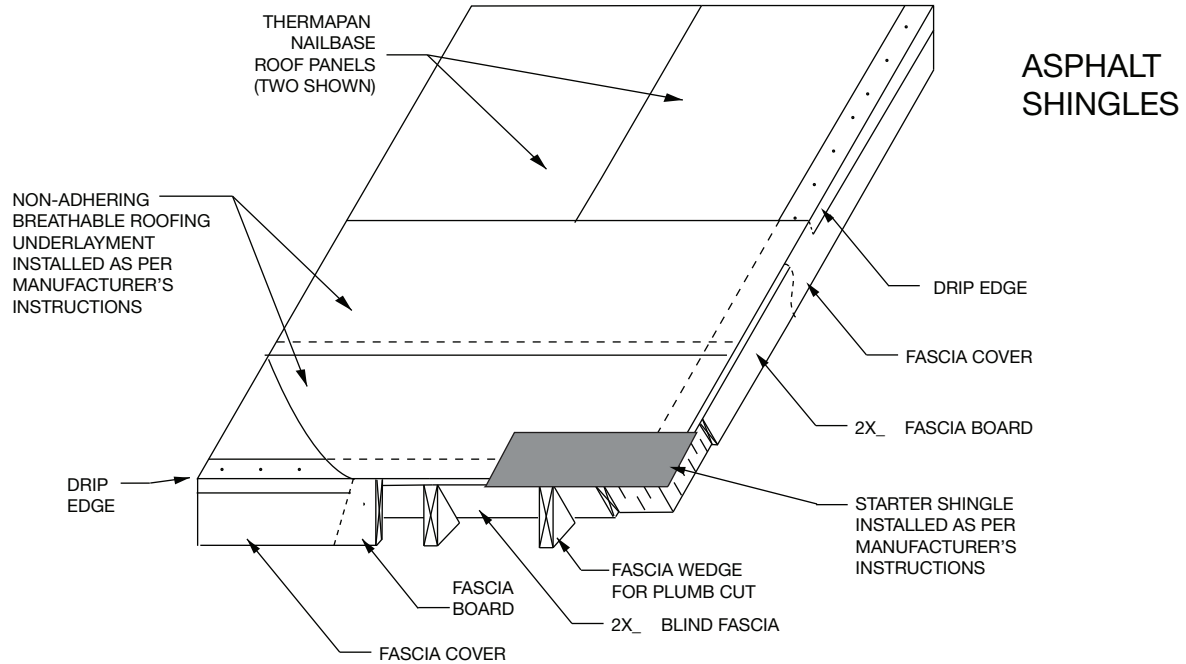


\*NOTE: REFER TO AIR BARRIER (AB-3) DETAILS FOR SEALING NAILBASE PANEL CONNECTIONS.

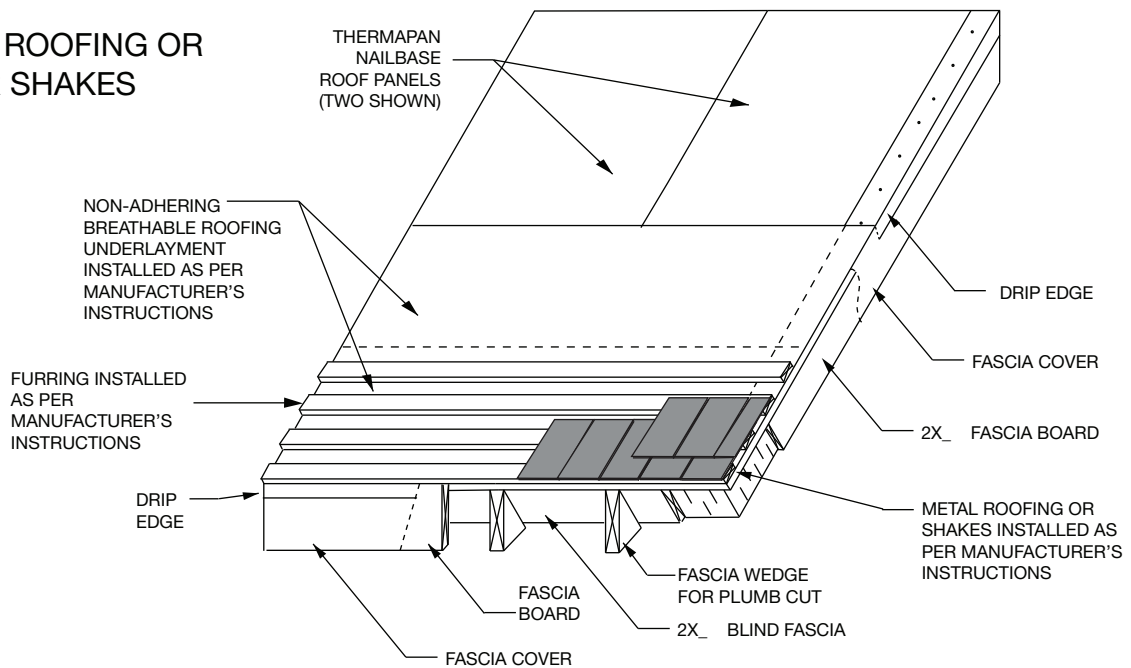


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TITLE <b>NAILBASE PANEL ATTIC AIR BLOCK</b>		PROJECT	
REFERENCE	SCALE <b>N.T.S.</b>		
DATE <b>MARCH 2020</b>	REVISION	DWG. No. <b>NB-16</b>	



**METAL ROOFING OR CEDAR SHAKES**



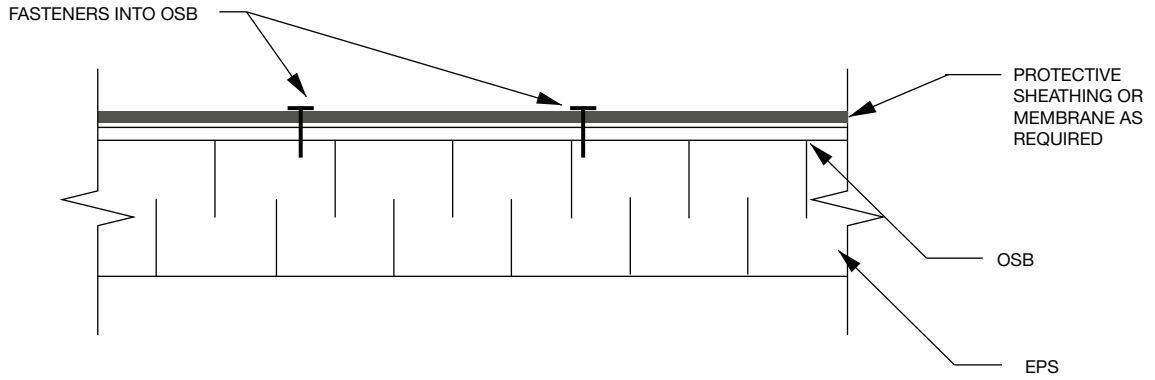
NOTE: VENTILATION OF ROOF NOT REQUIRED.



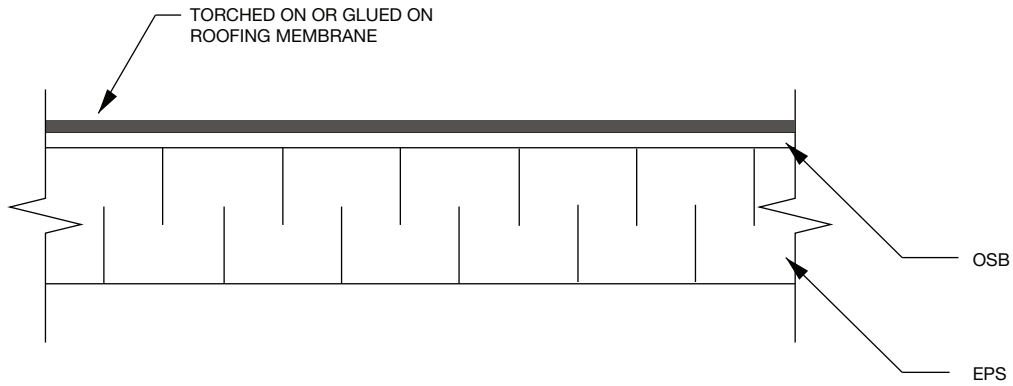
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1-877-443-WALL (9255)

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

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



**ADHERED ROOFING MEMBRANE**



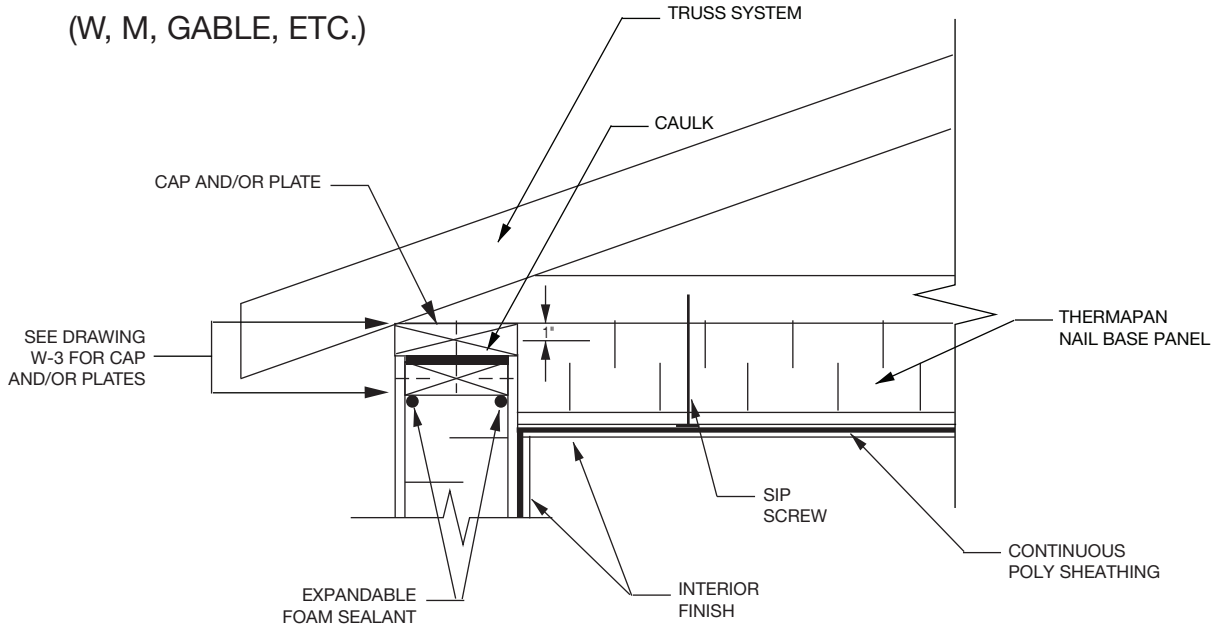
- NOTES:
- NAILBASE SURFACE TO BE DRY AND FREE OF MOISTURE.
  - INSTALL MEMBRANE ACCORDING TO MEMBRANE MANUFACTURER'S DETAILS AND CONFORM TO REQUIREMENTS OF LOCAL BUILDING CODE.
  - SOLVENT BASED ADHESIVES ARE NOT PERMITTED.



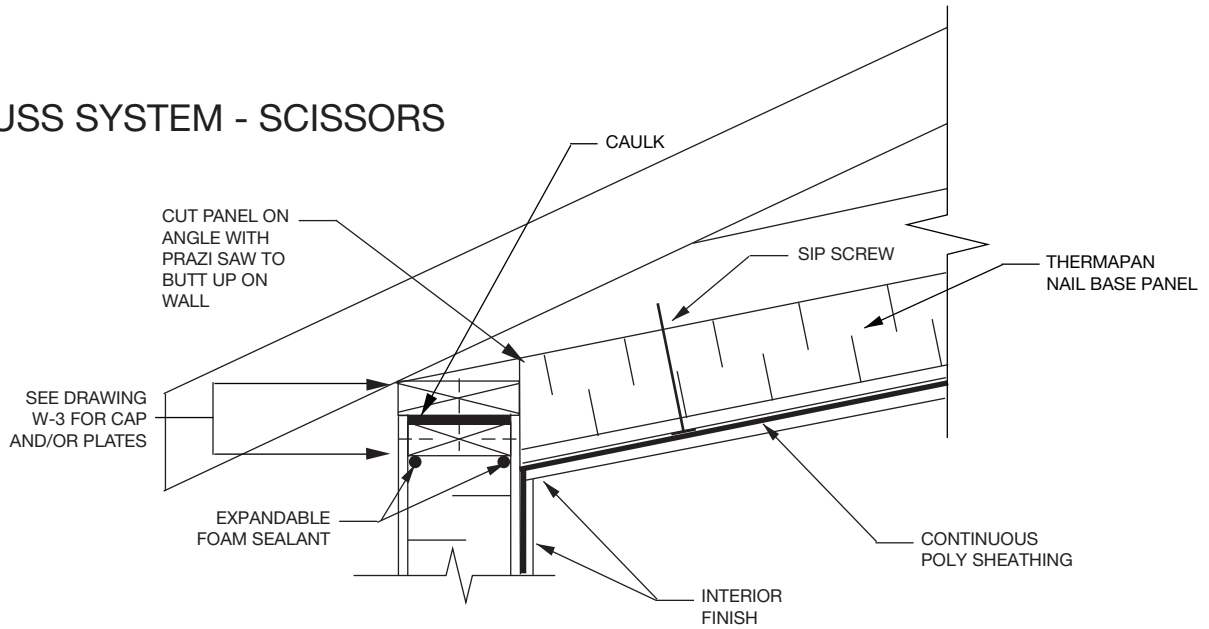
www.thermapan.com  
1-877-443-WALL (9255)

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

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



# TRUSS SYSTEM - SCISSORS



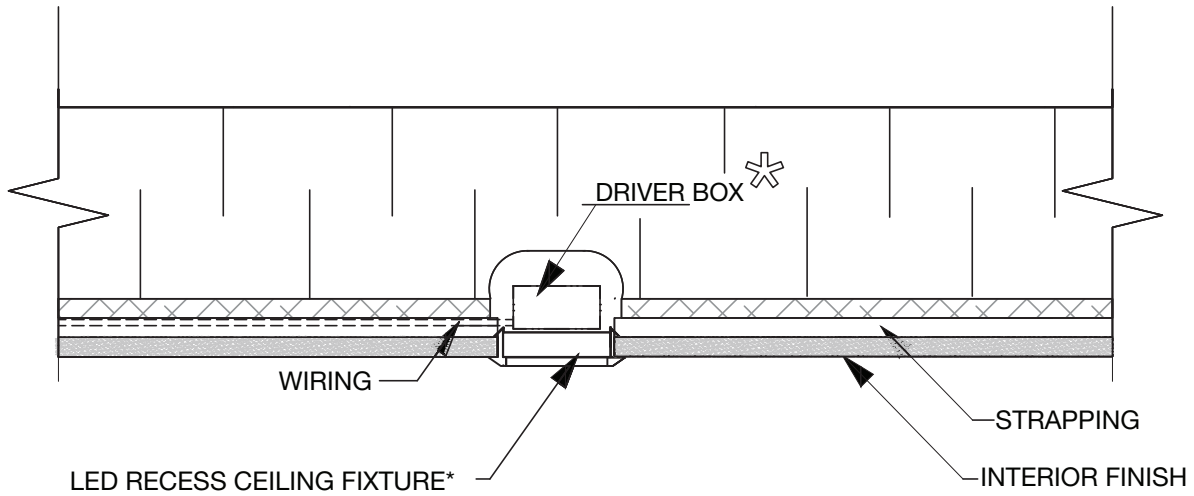
NOTES: SIP SCREWS TO BE INSTALLED EVERY 2' O/C BOTH DIRECTIONS.  
REFER TO AIR BARRIER (AB-3) DETAILS FOR SEALING  
NAILBASE PANEL CONNECTIONS.



**Thermapan**  
Structural  
Insulated  
Panels

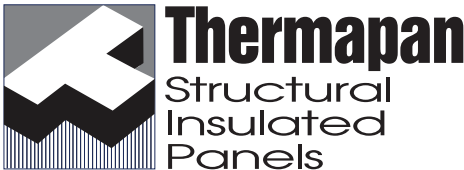
www.thermapan.com  
1-877-443-WALL (9255)

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

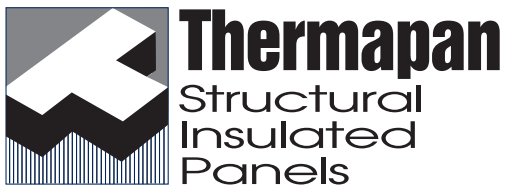
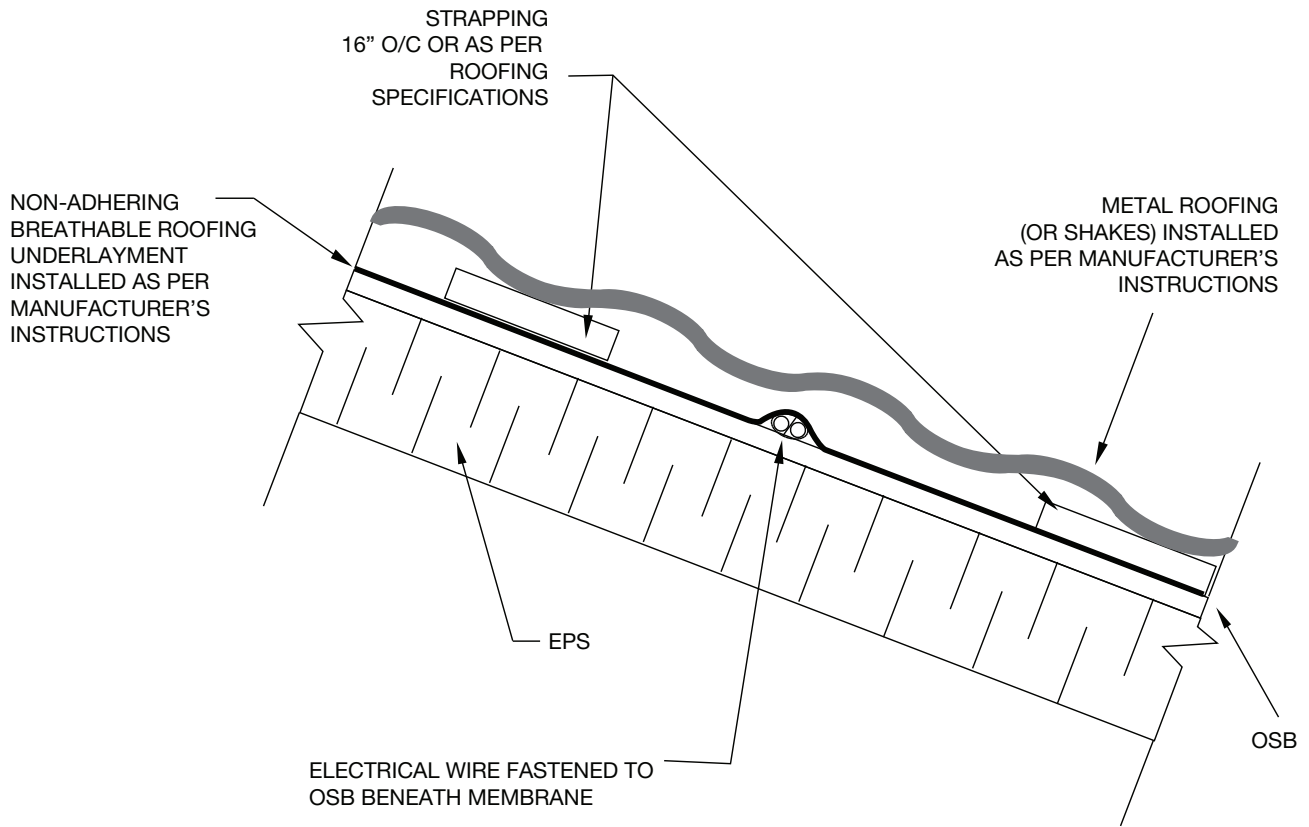


**\* FIXTURE SPECIFICATIONS**

FIXTURE TO HAVE AMBIENT OPERATING TEMPERATURE +140F(+40C) MAXIMUM  
 INSTALL AS PER MANUFACTURERS SPECIFICATIONS

 <p>www.thermapan.com 1-877-443-WALL (9255)</p>	TITLE		LED POT LIGHT INSTALLATION IN CEILING SIPS	PROJECT
	REFERENCE	SCALE		
	DATE	REVISION	DWG. No.	
	NOVEMBER 2018		N.T.S.	NB-20

# METAL ROOFING OR CEDAR SHAKES



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1-877-443-WALL (9255)

TITLE

**ELECTRICAL WIRE  
FASTENED TO NAILBASE  
ROOF SIP**

PROJECT

REFERENCE

SCALE

N.T.S.

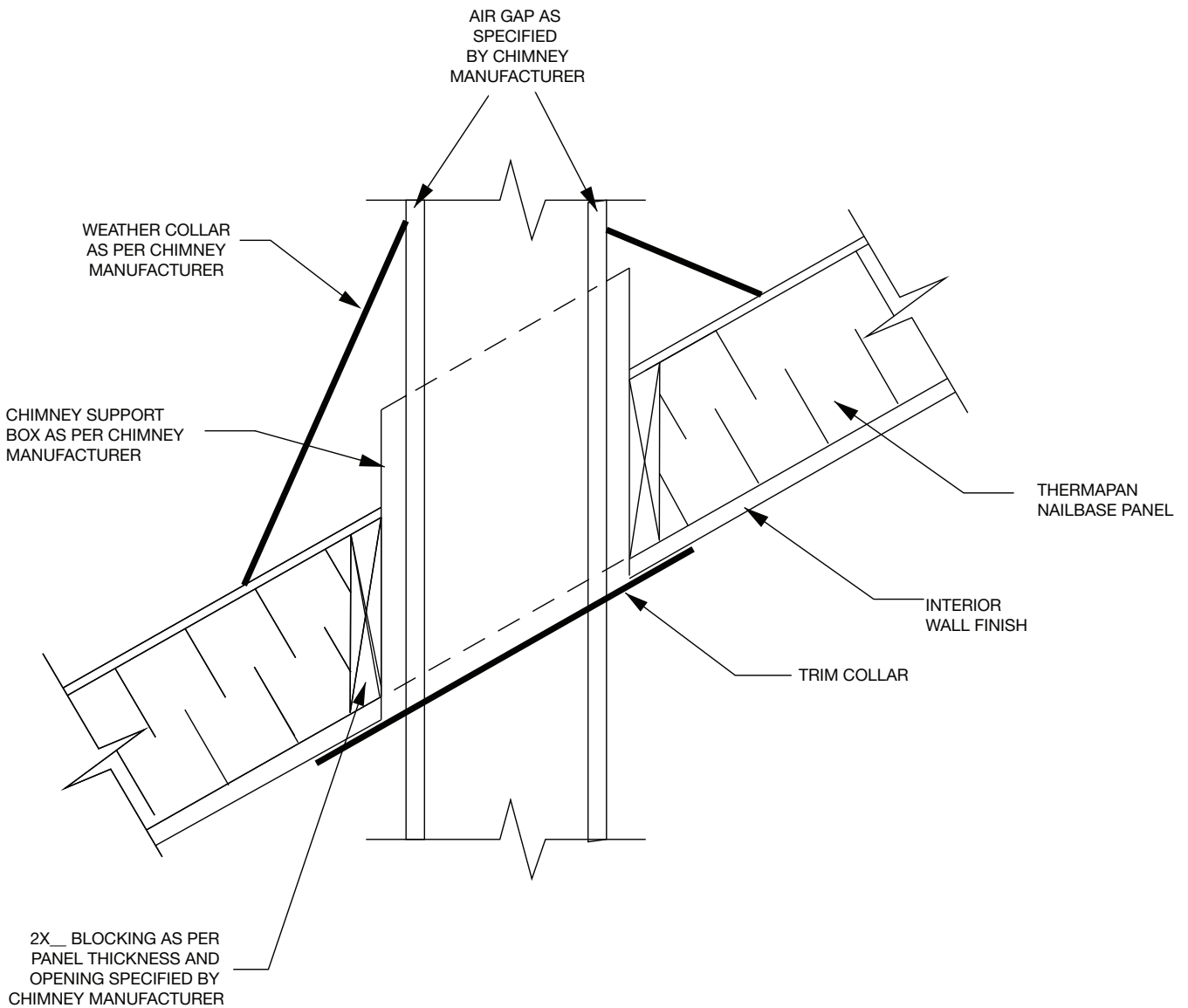
DATE

MARCH 2021

REVISION

DWG. No.

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

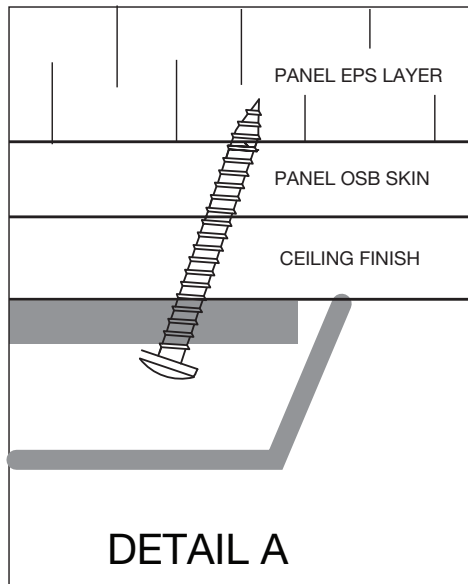
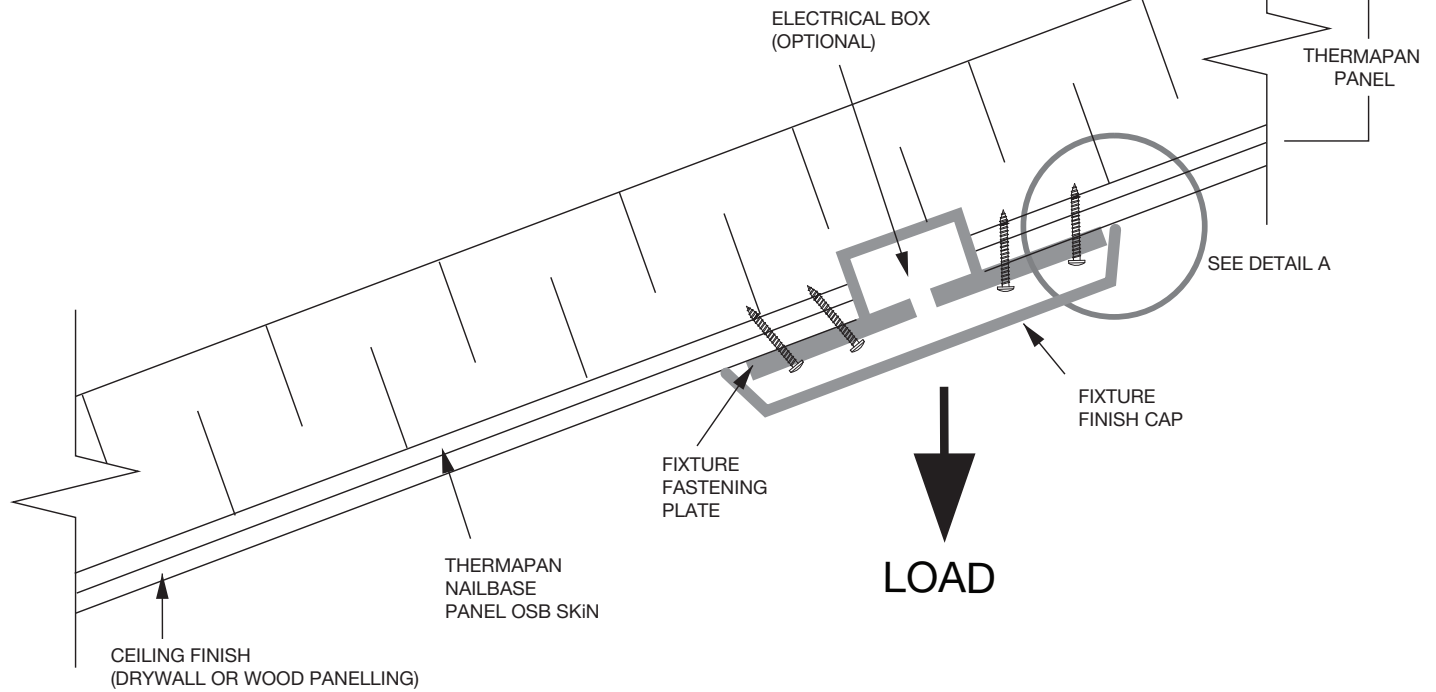
OCTOBER 2019

REVISION

DWG. No.

NB-22

# TYPICAL SIP ROOF SECTION



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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1-877-443-WALL (9255)

TITLE

**SCREW FASTENER DETAIL  
FOR SECURING LOAD TO  
NAILBASE CEILING PANEL**

PROJECT

REFERENCE

SCALE

N.T.S.

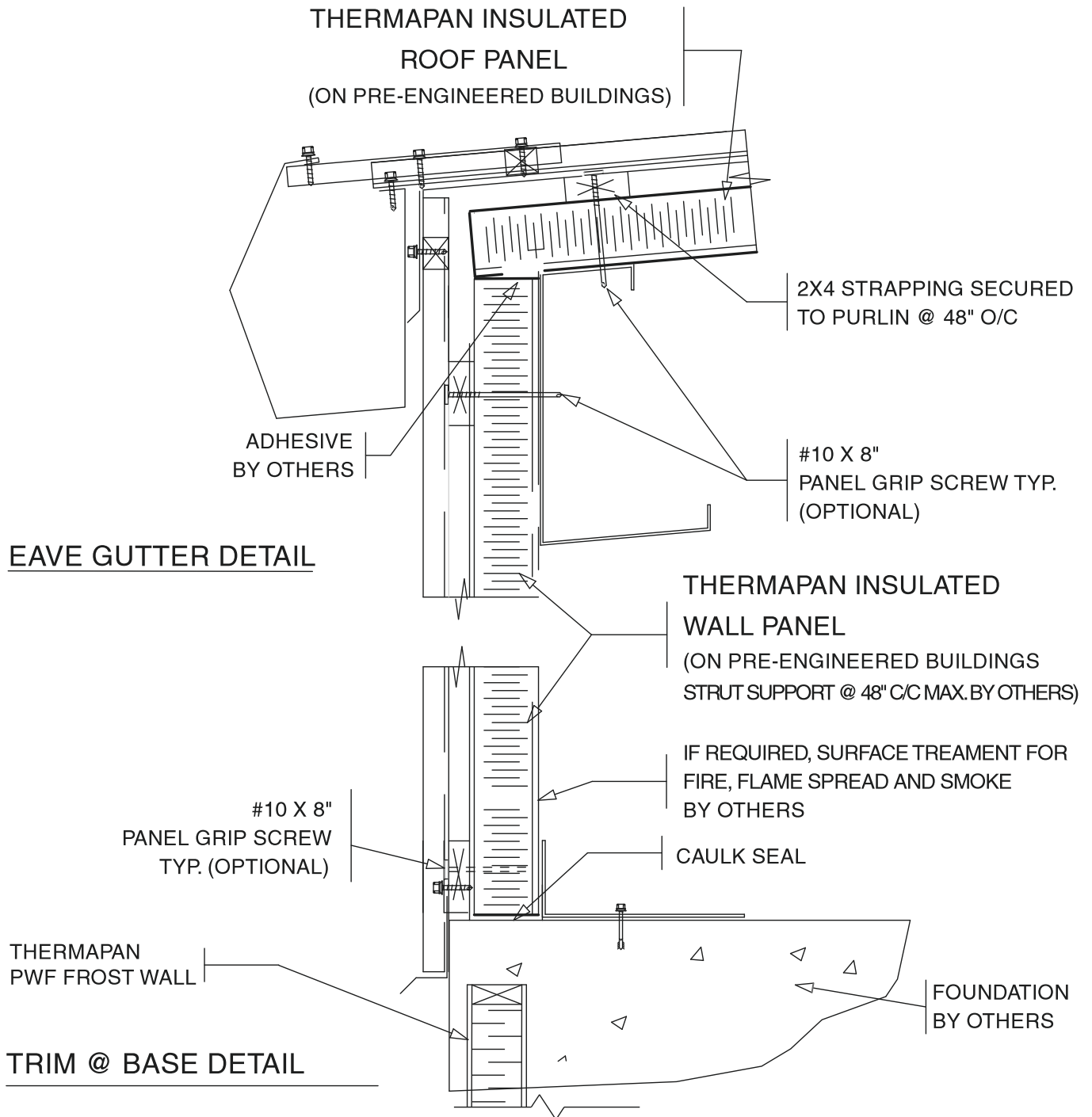
DATE

FEBRUARY 2020

REVISION

DWG. No.

NB-23



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1-877-443-WALL (9255)

TITLE

**TYPICAL WALL DETAIL**

NOTE  
THERMAPAN INSULATED PANEL DETAILING TO COMPLEMENT PRE-ENGINEERED BUILDING

REFERENCE

SCALE

NTS

DATE

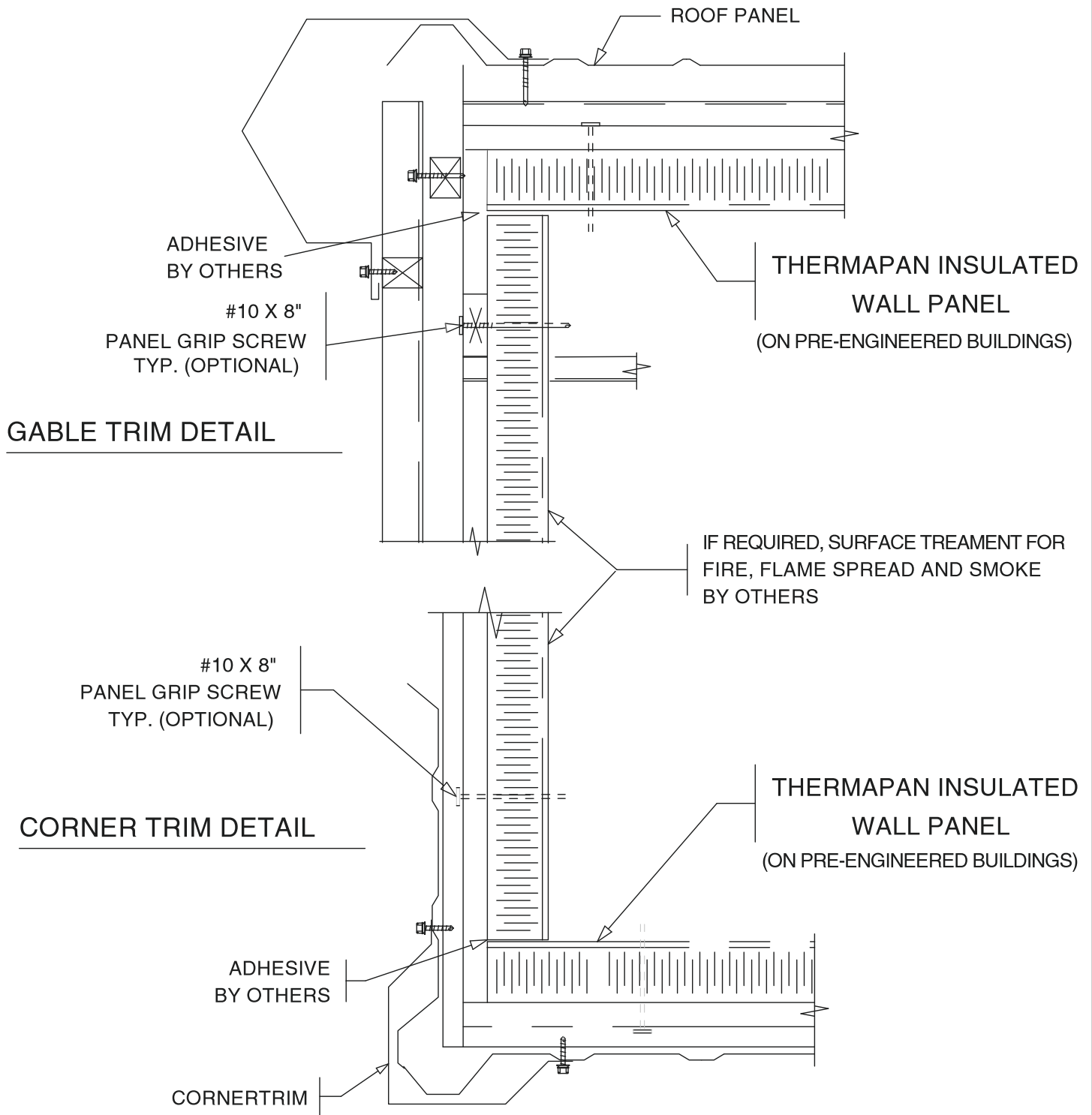
REVISION

DWG. No.

JAN. 10, 2005

5

IN-1



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1-877-443-WALL (9255)

TITLE

GABLE & CORNER TRIM DETAIL

NOTE  
THERMAPAN  
INSULATED PANEL  
DETAILING TO  
COMPLEMENT  
PRE-ENGINEERED  
BUILDING

REFERENCE

SCALE

NTS

DATE

JAN. 10, 2005

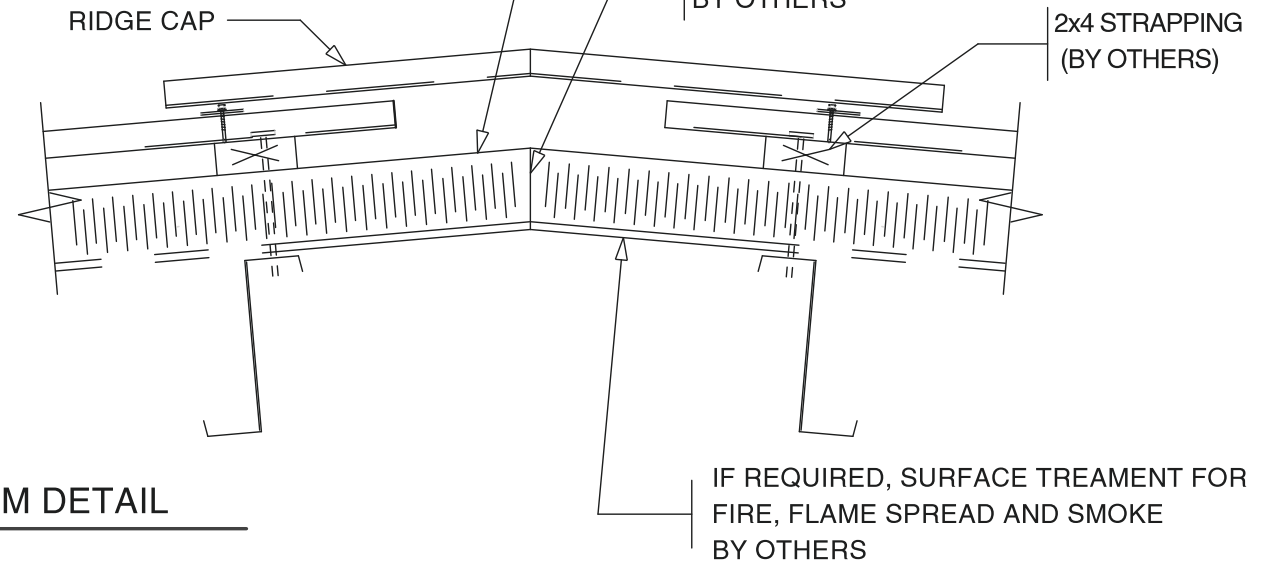
REVISION

5

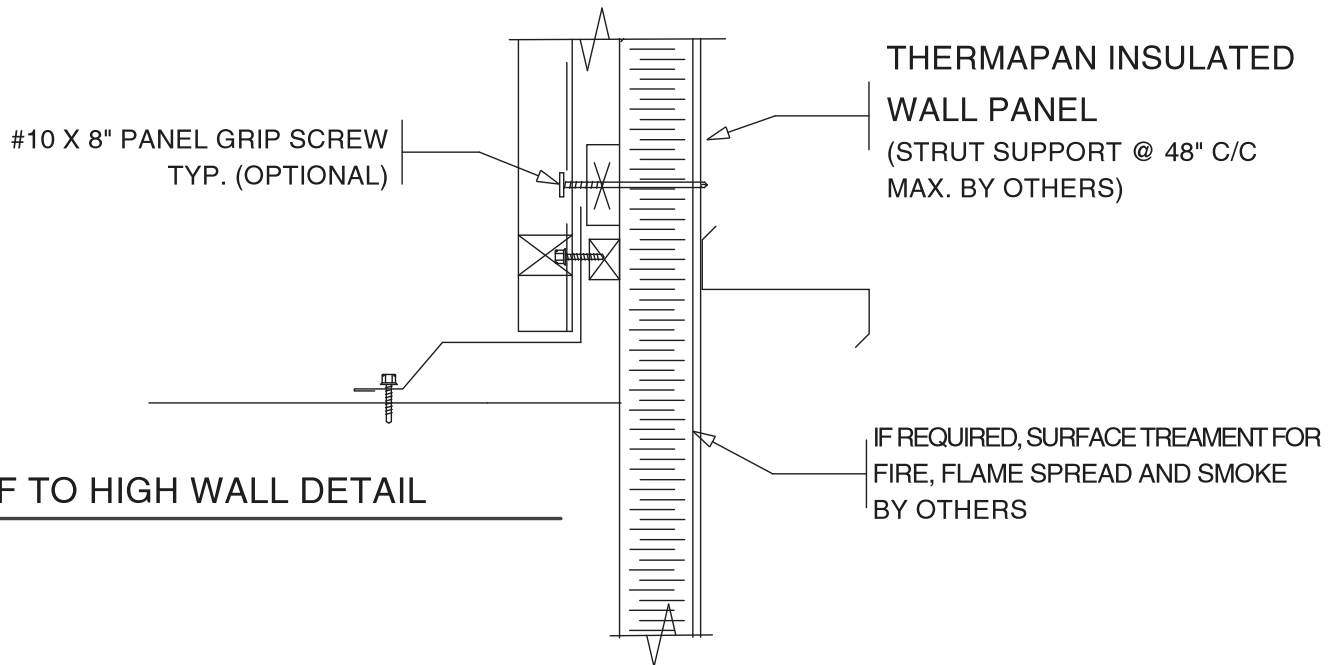
DWG. No.

IN-2

THERMAPAN INSULATED  
ROOF PANEL  
(ON PRE-ENGINEERED BUILDINGS)



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

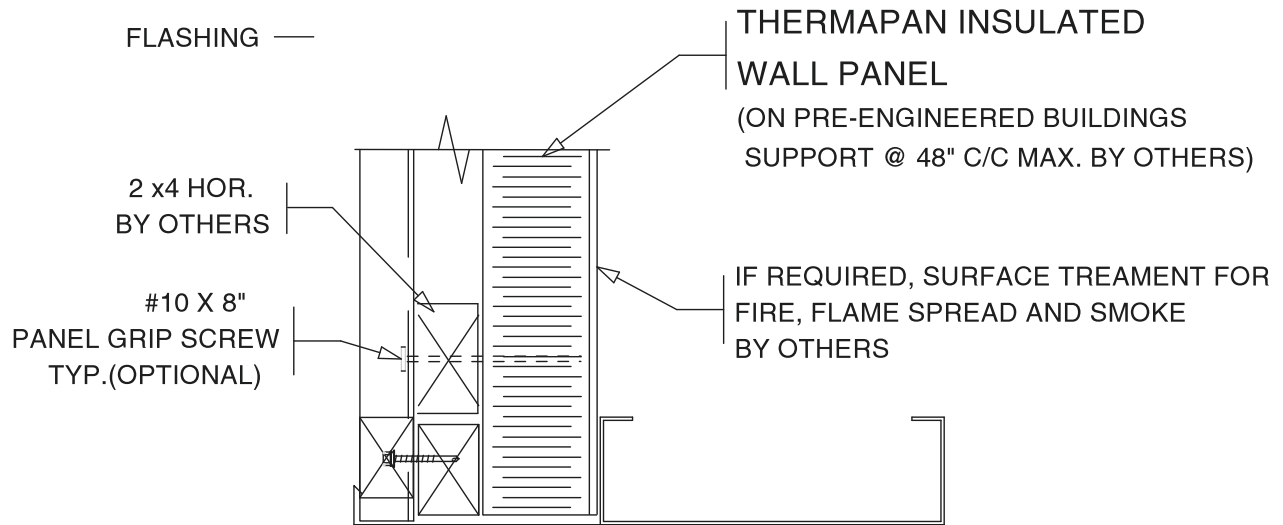
JAN. 10, 2005

REVISION

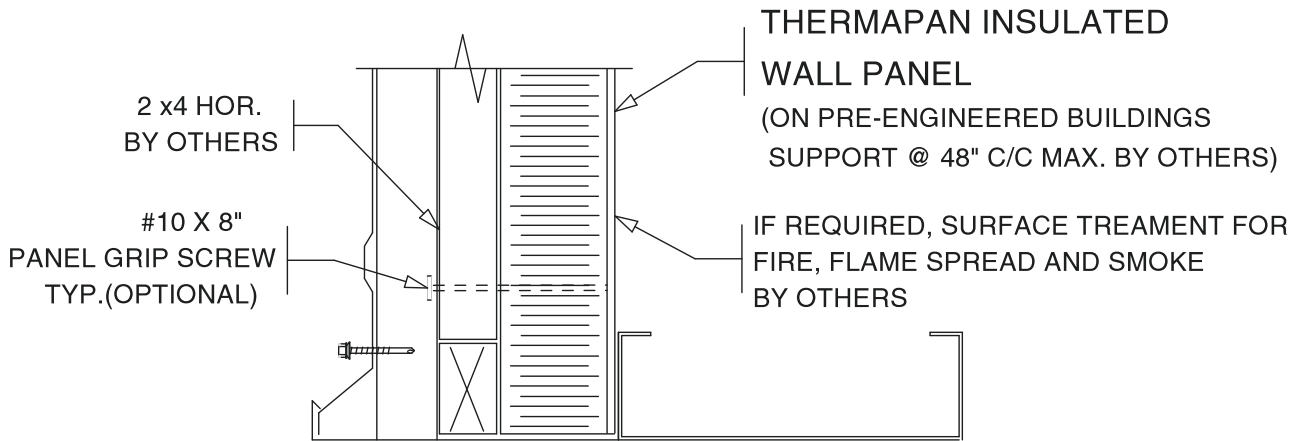
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DWG. No.

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

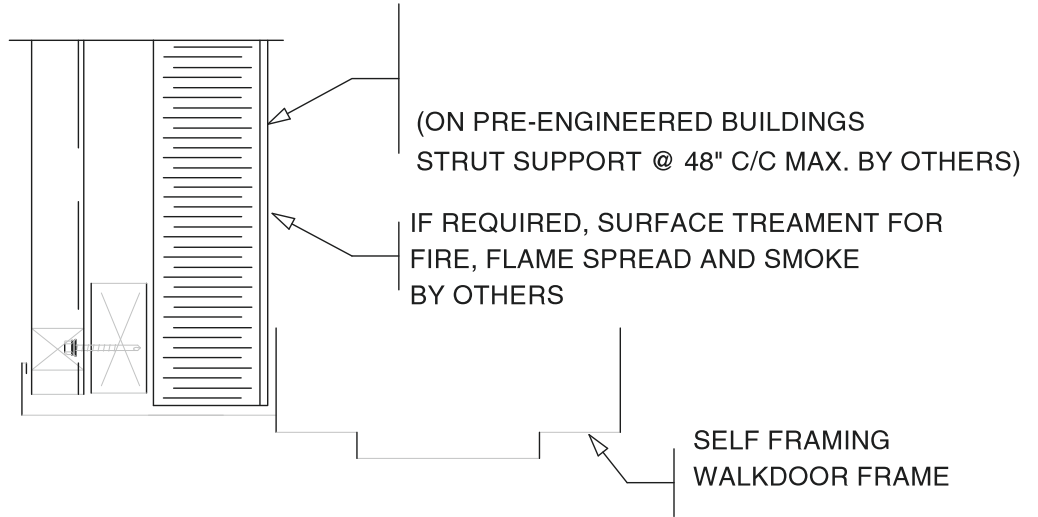
JAN. 10, 2005

REVISION

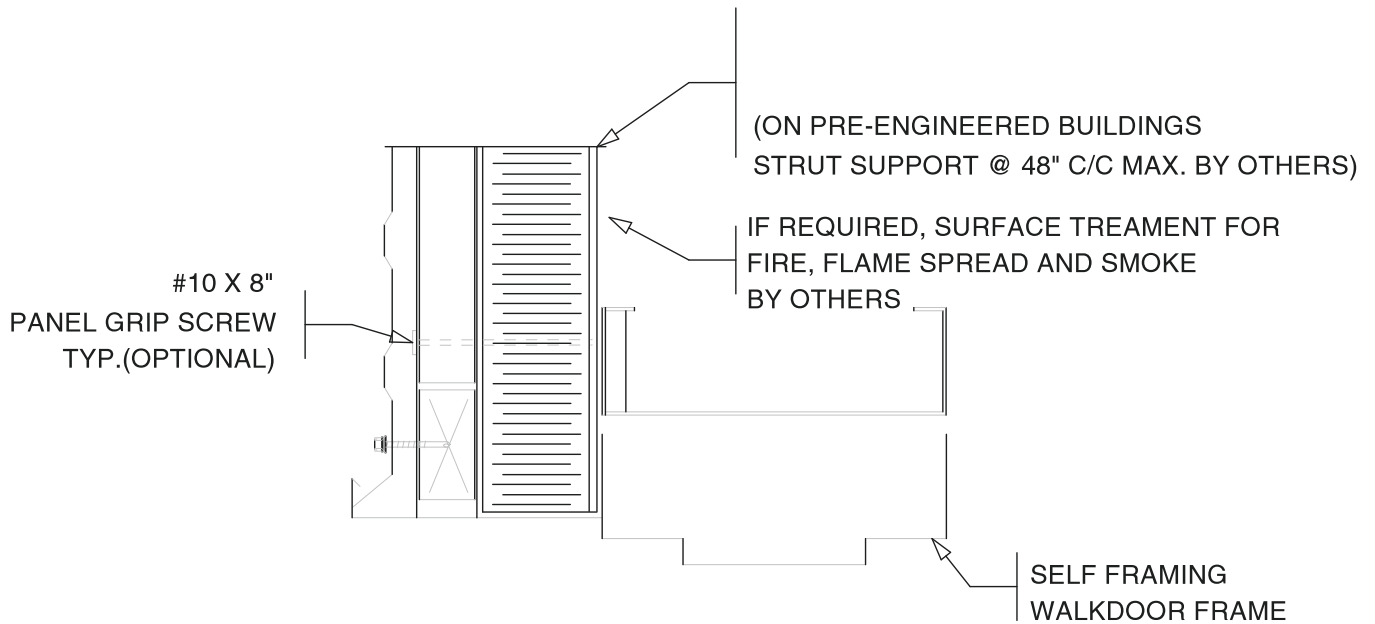
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DWG. No.

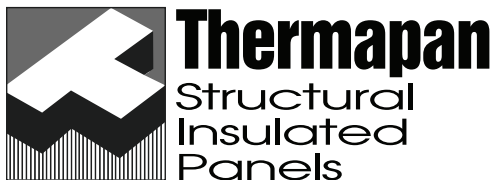
IN-4



HEAD TRIM



JAMB TRIM



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