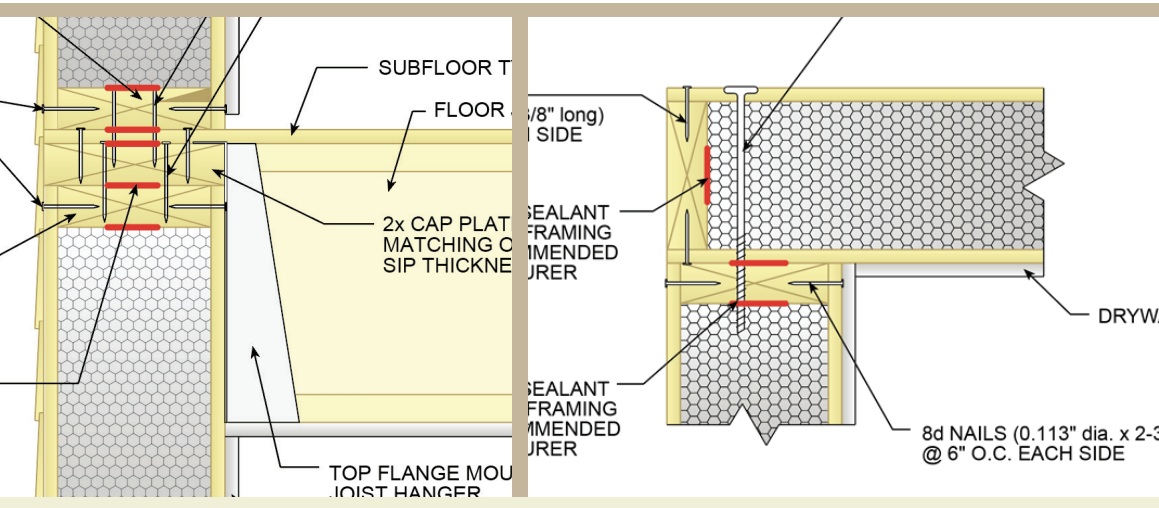
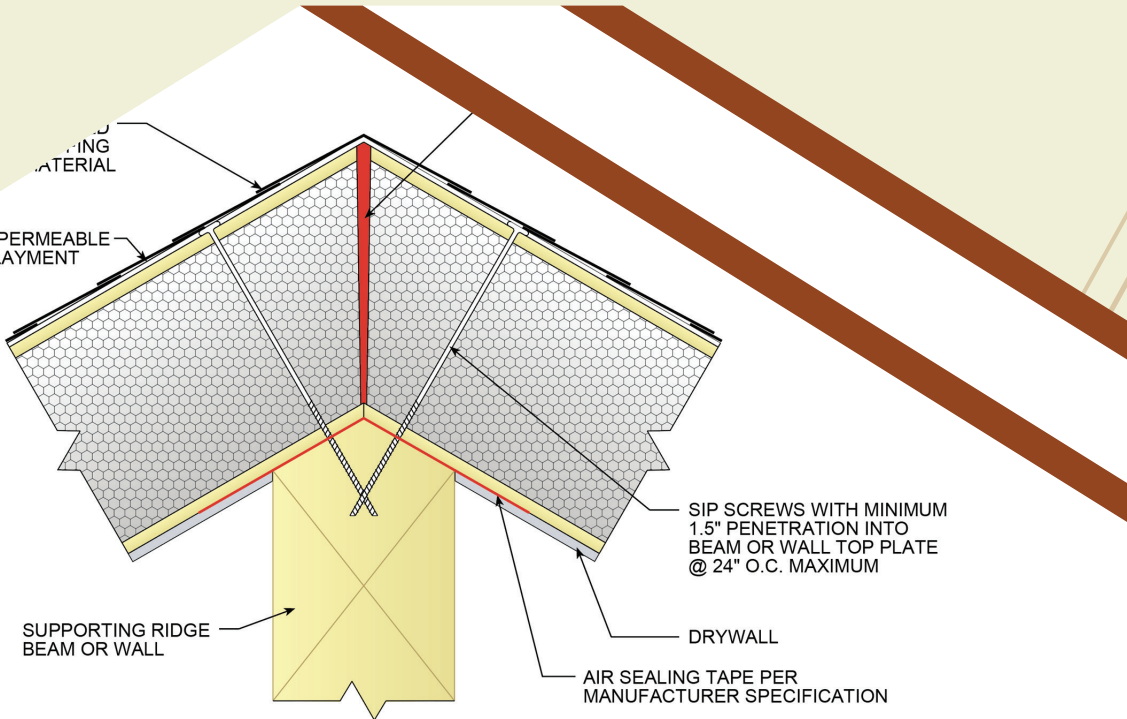


Structural Insulated Panels (SIPs) BASIC CONNECTION DETAILS



Structural Insulated Panel Association

Basic Connection Details for SIPs

Fig. 1 Wall-to-Wall Panel Connections: Corner Wall Connection

Fig. 2 Foundation Connections: SIP-Wrapped Floor System

Fig. 3 Foundation Connections: SIP Rim Panel

Fig. 4 Foundation Connections: SIP Wall on Foundation

Fig. 5 Foundation Connections: Platform-Framed Floor System (Wall Perpendicular to Joists)

Fig. 6 Foundation Connections: Platform-Framed Floor System (Wall Parallel to Joists)

Fig. 7 Surface Spline Connection

Fig. 8 Box/Block Spline Connection

Fig. 9 Lumber Spline Connection

Fig. 10 Window Header and Knee Wall Detail

Fig. 11 Door and Window Framing for Cut-Outs

Fig. 12 Rough Opening and Insulated Header

Fig. 13 2nd Floor Connection Details: Hanging Floor Joist System (Wall Perpendicular to Joists)

Fig. 14 2nd Floor Connection Details: Hanging Floor Joist System (Wall Parallel to Joists)

Fig. 15 2nd Floor Connection Details: Platform Framing with Rim Board (Wall Perpendicular to Joists)

Fig. 16 2nd Floor Connection Details: Platform Framing with Rim Board (Wall Parallel to Joists)

Fig. 17 Upper Wall to Roof Connection

Fig. 18 Roof-to-Roof Panel Connections: Beveled SIP Ridge

Fig. 18a Roof-to-Roof Panel Connections: SIP with Ridge Vent

Fig. 19 Structural Hip Panel Connection

Fig. 20 Roof Valley Connection with Valley Support: Valley Detail

Fig. 21 Roof-to-Wall Panel Connections: Beveled SIP Wall

Fig. 22 Roof-to-Wall Panel Connections: Beveled Blocking

Fig. 23 Eave Detailing: Sloped Overhang with Square Fascia

Fig. 24 Eave Detailing: Framed Level Soffit with Square Cut Roof SIP

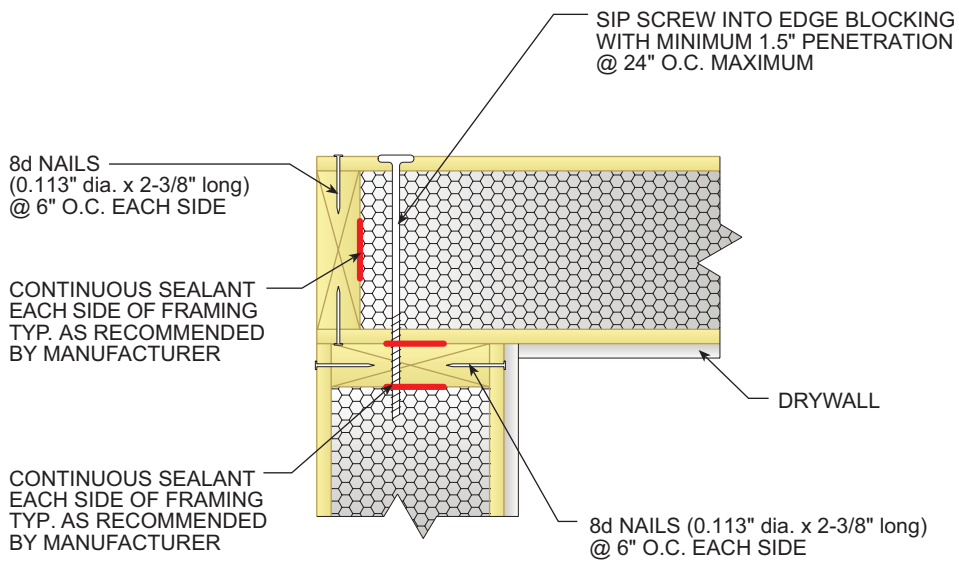
Fig. 25 Eave Detailing: Framed Level Soffit with Plumb Cut Roof SIP

Fig. 26 Eave Detailing: Fully Framed Overhang

Fig. 27 Vented Cold Roof Generic Detail

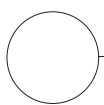
Introductory Notes

1. The connection details shown in this guide are industry minimums. Consult manufacturer for specific recommendations (e.g., CAD .dwg files).
2. Projects may require larger and/or more closely spaced fasteners than shown in these details. Please refer to the project drawings and the SIP manufacturer's code listing for specific recommendations.
3. Structurally, surface splines and block/box splines have the same capacity, can be used interchangeably, and are fastened using 8d nails (see manufacturer specifications).
4. Air sealing SIP connections is critical and varies by climate zone. Follow the SIP manufacturer's recommendations for the project's individual climate carefully. Not all air sealing specifications are listed in each of the following details for clarity. Additional information may be found in SIP DESIGN BP-8: ROOF AND WALL ASSEMBLIES (available for free download at [sips.org](https://www.sips.org).)
5. Consult the SIP manufacturer for roofing underlayment, water resistive barrier (WRB), and capillary break recommendations.
6. Failure to adhere to the SIP manufacturer's recommendations may void your warranty.



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

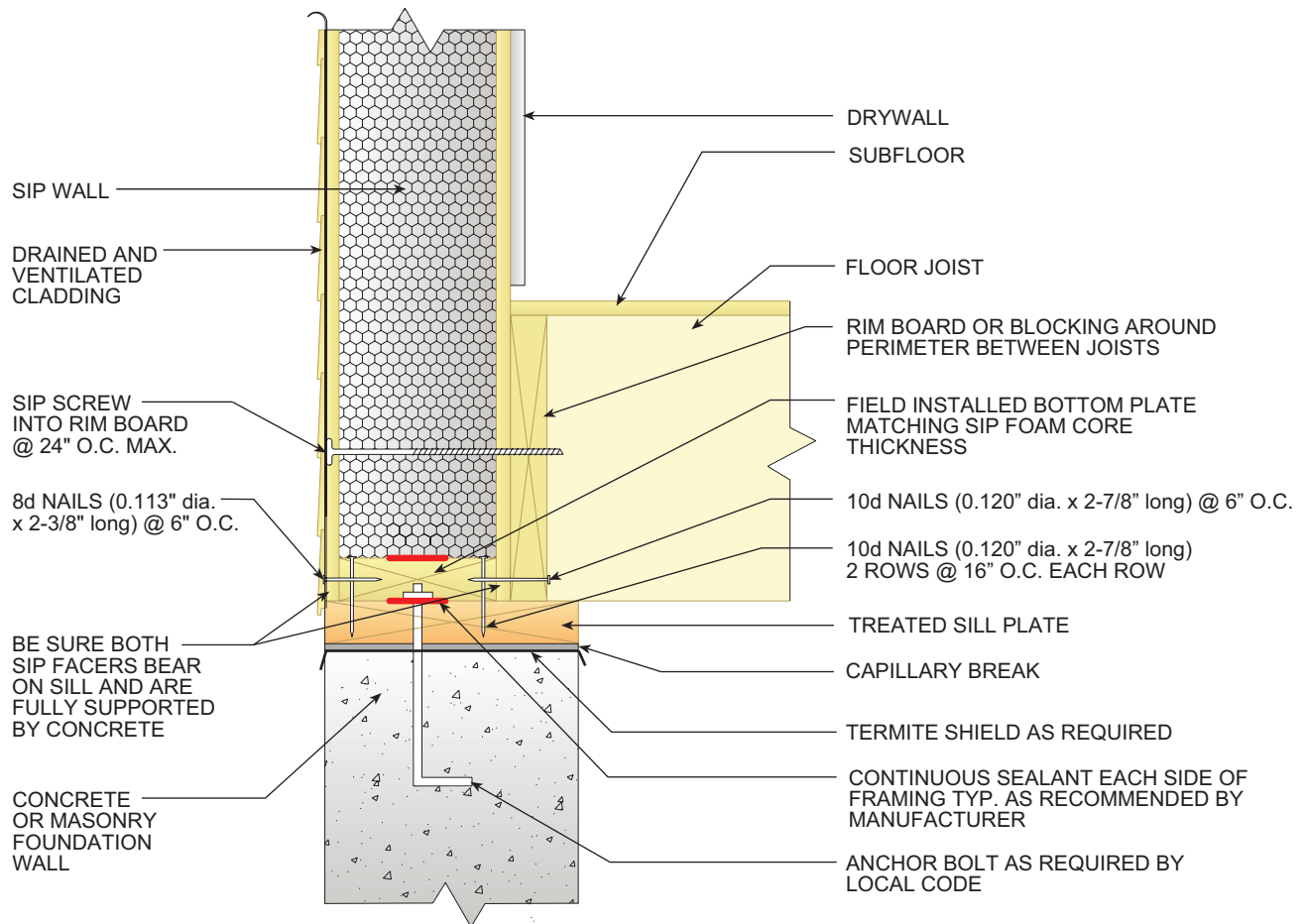
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



WALL-TO-WALL PANEL CONNECTIONS

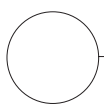
CORNER WALL CONNECTION

Fig. 1



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

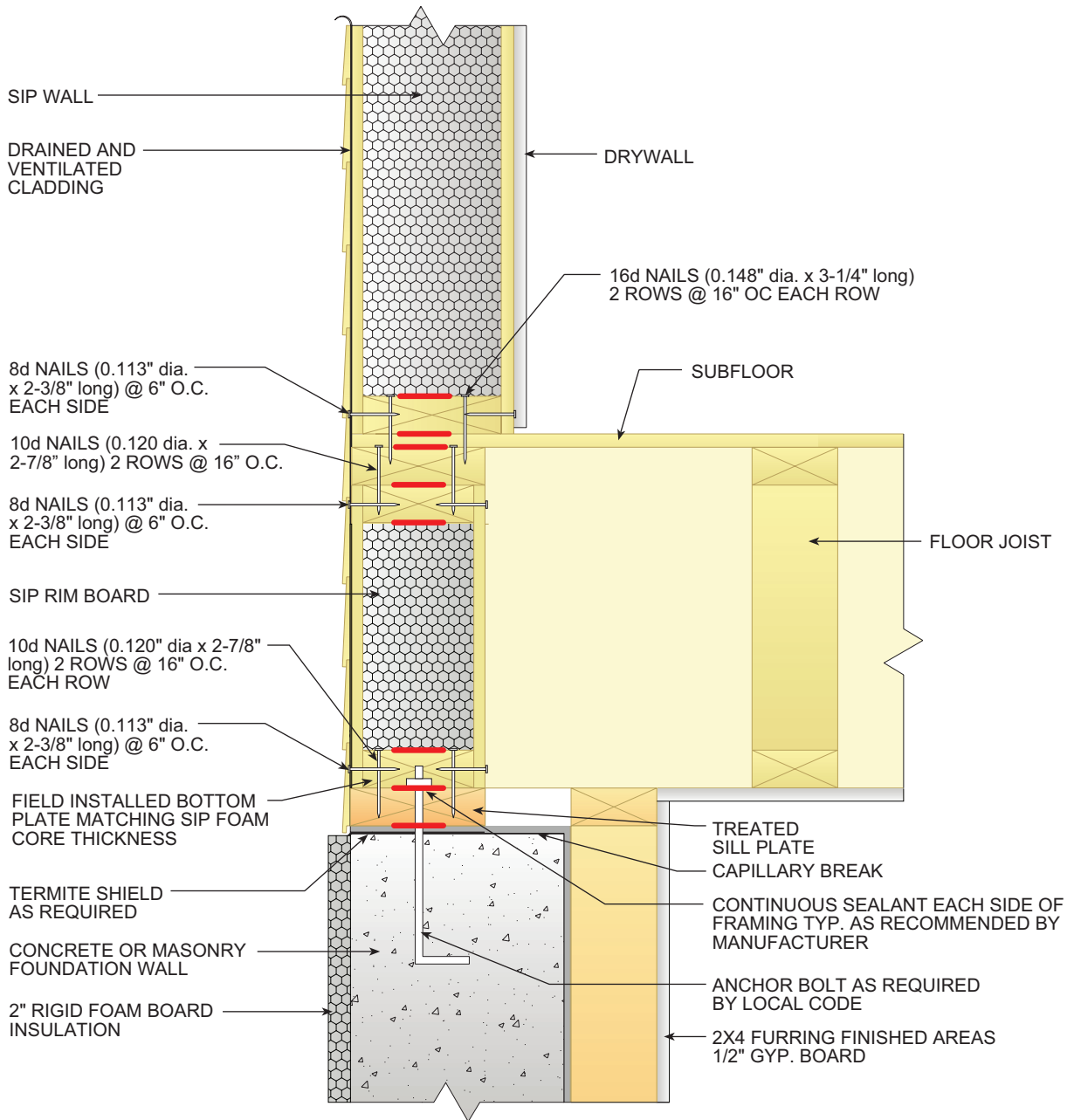
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



FOUNDATION CONNECTIONS

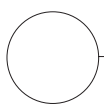
SIP-WRAPPED FLOOR SYSTEM

Fig. 2



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

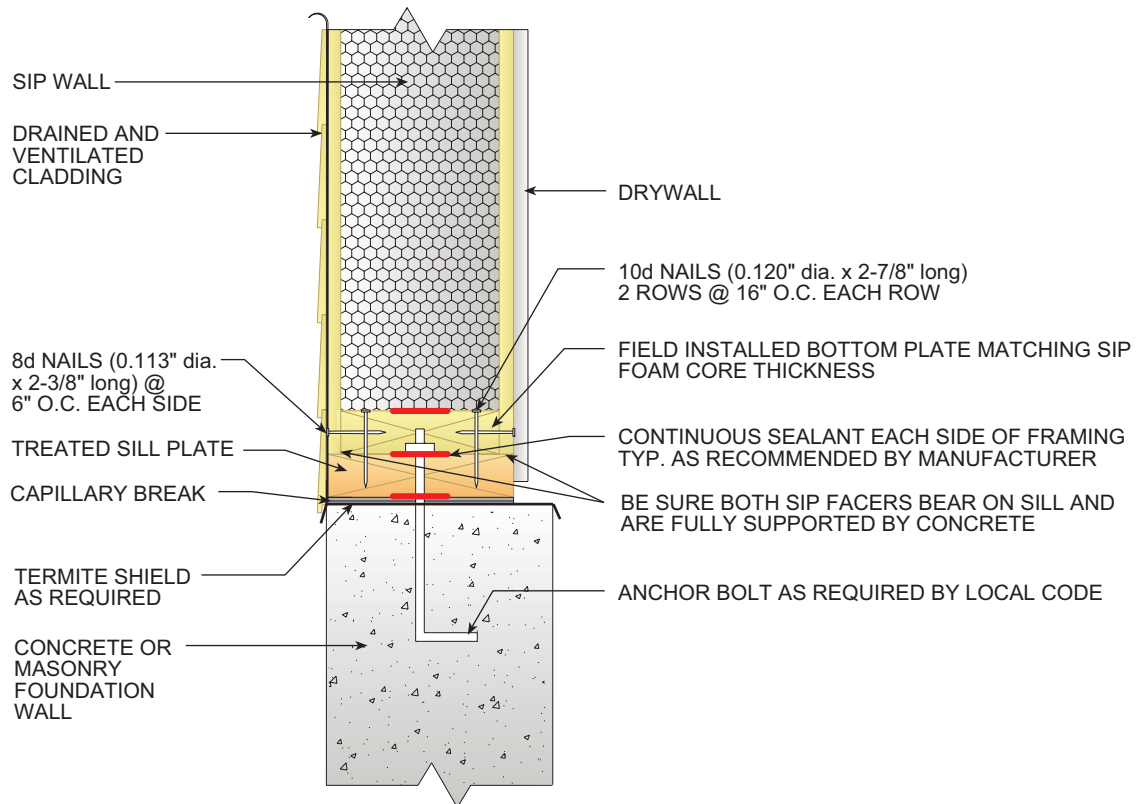
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



FOUNDATION CONNECTIONS

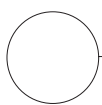
SIP RIM PANEL

Fig. 3



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

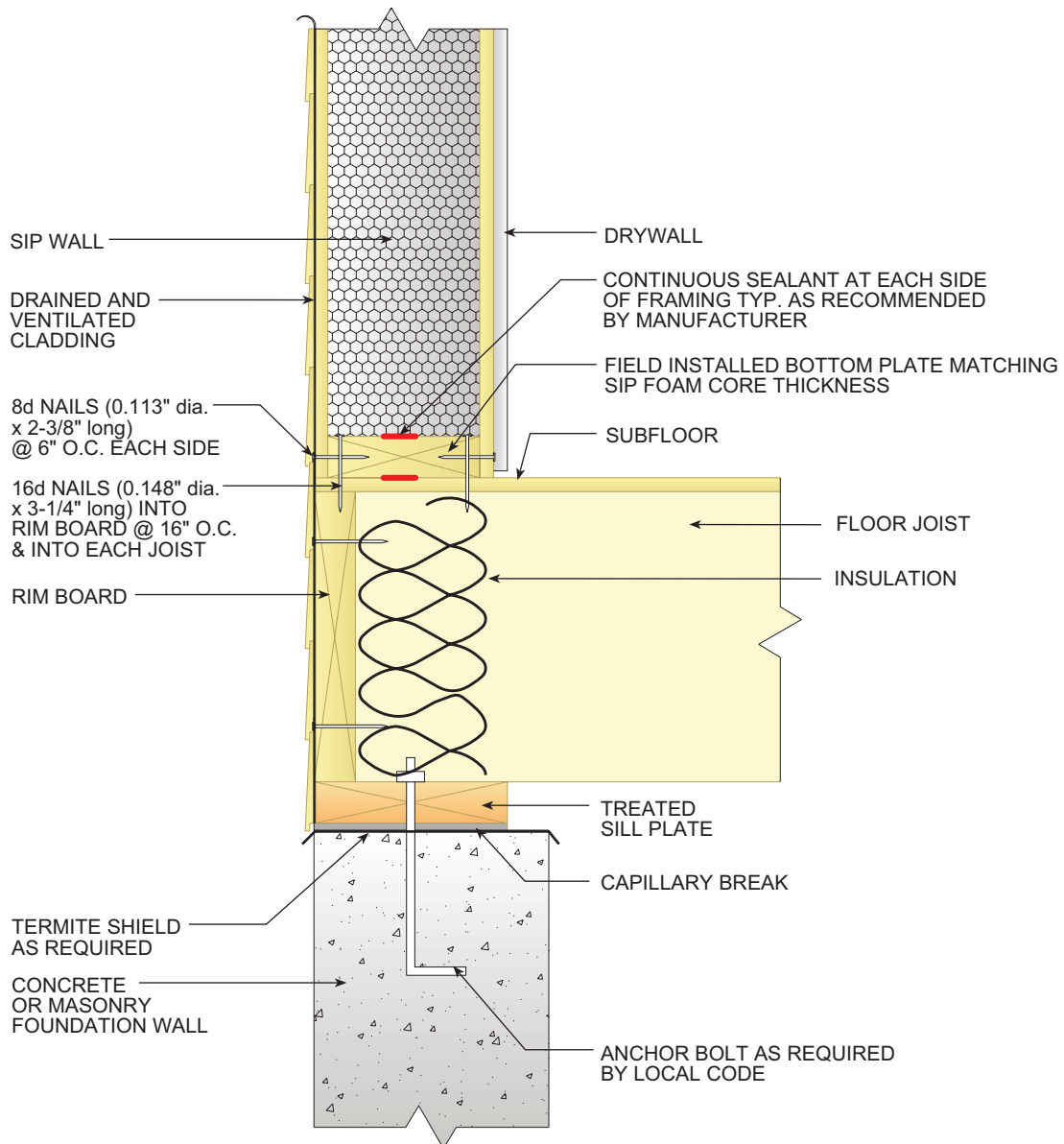
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



FOUNDATION CONNECTIONS

SIP WALL ON FOUNDATION

Fig. 4



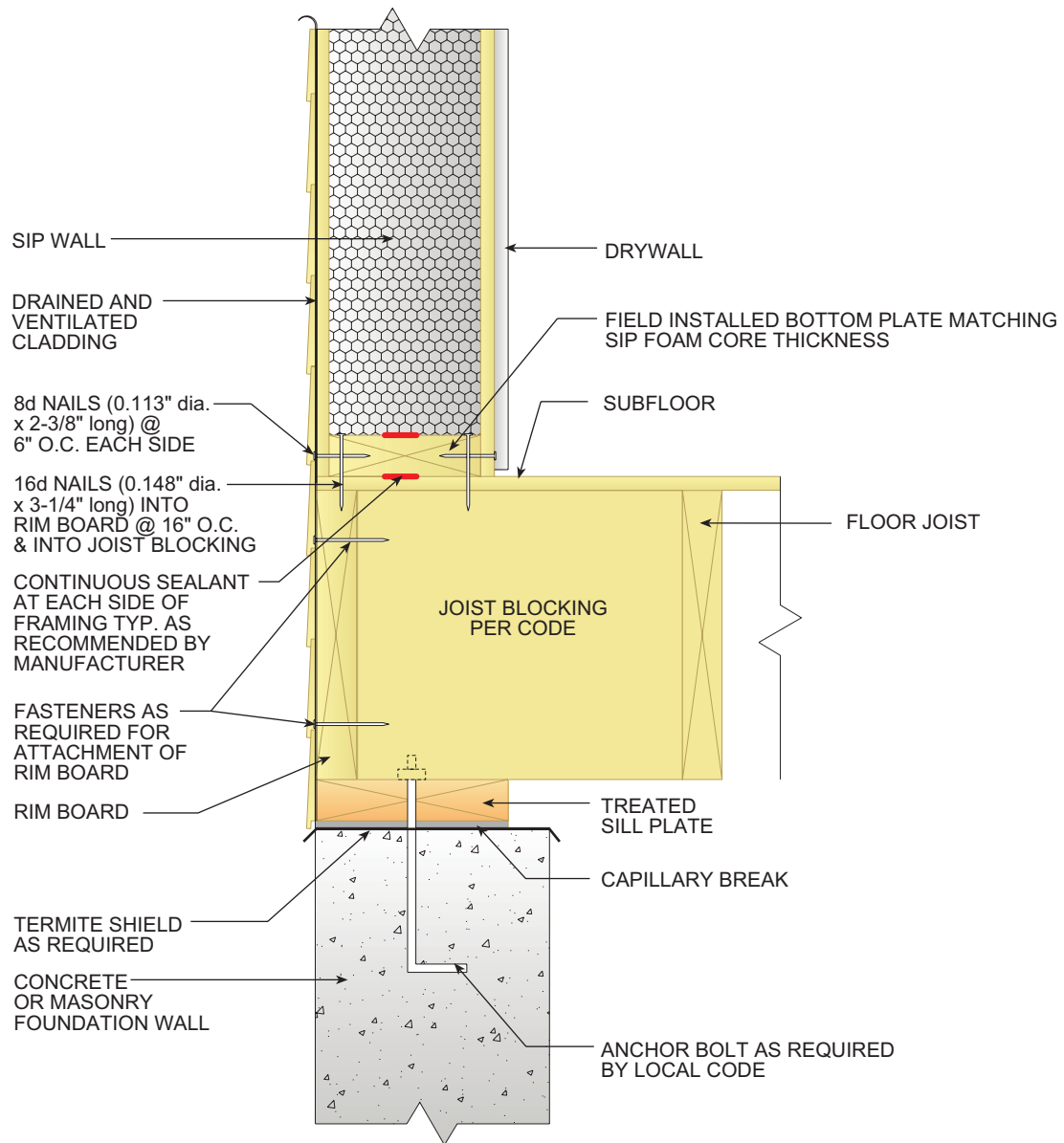
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FOUNDATION CONNECTIONS

PLATFORM-FRAMED FLOOR SYSTEM (WALL PERPENDICULAR TO JOISTS)

Fig. 5



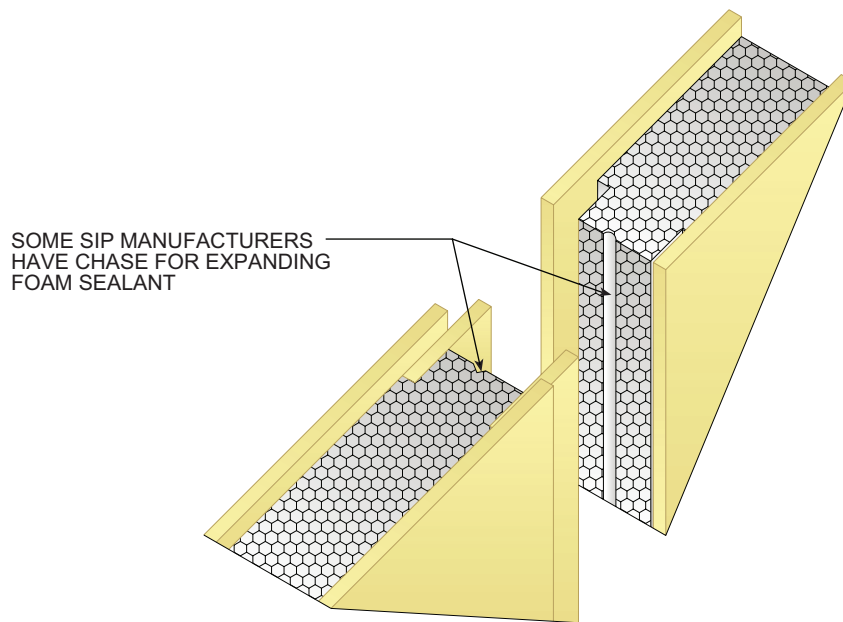
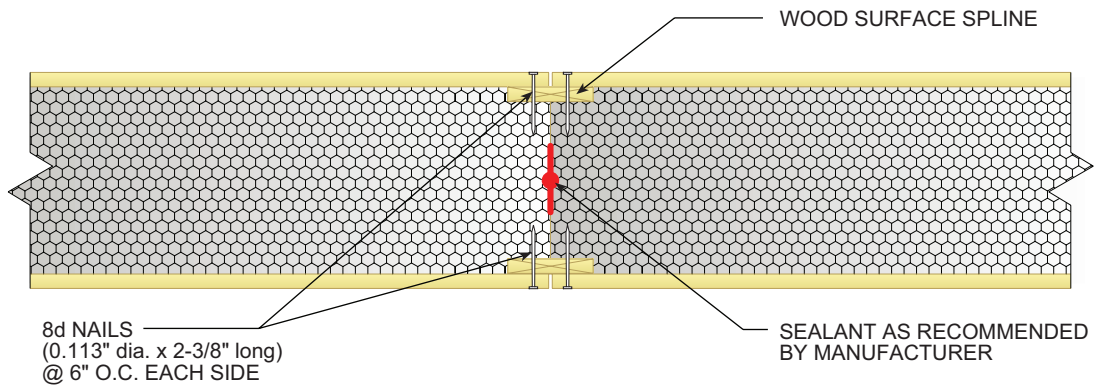
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FOUNDATION CONNECTIONS

PLATFORM-FRAMED FLOOR SYSTEM (WALL PARALLEL TO JOISTS)

Fig. 6

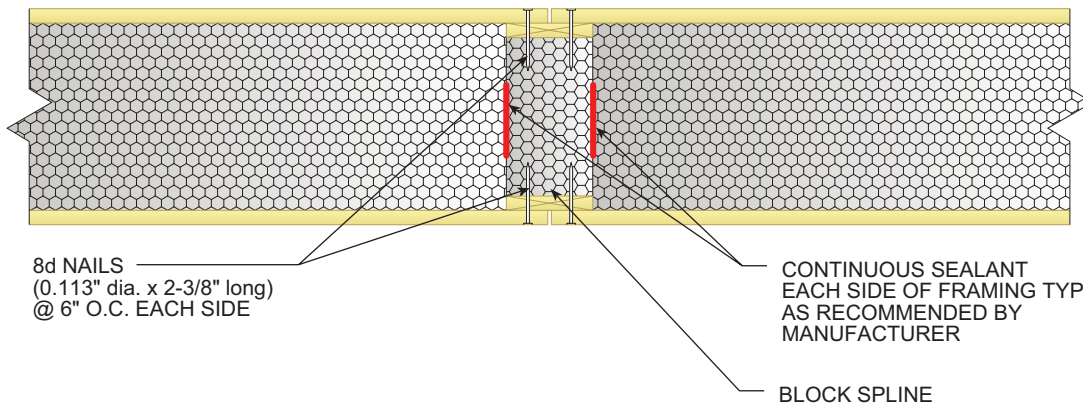


ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

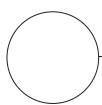
SURFACE SPLINE CONNECTION

Fig. 7



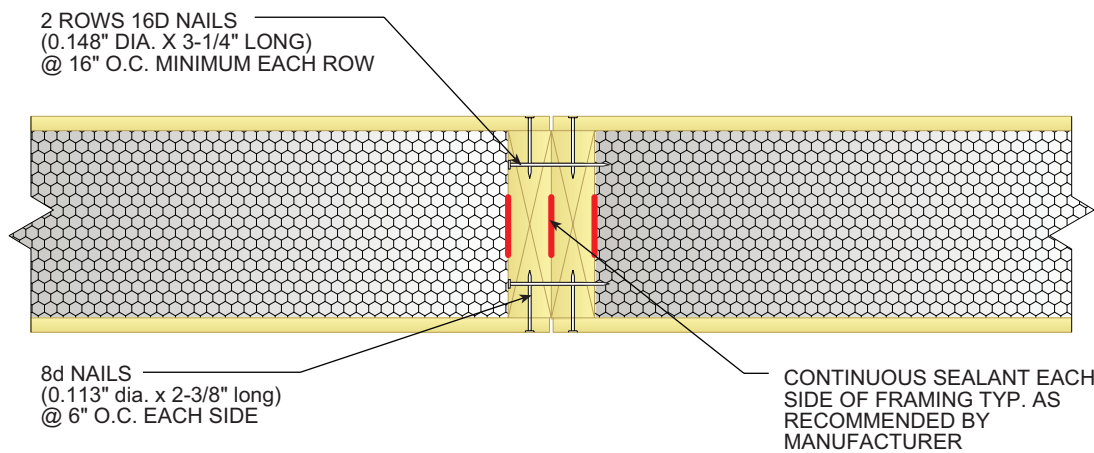
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



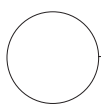
BOX/BLOCK SPLINE CONNECTION

Fig. 8



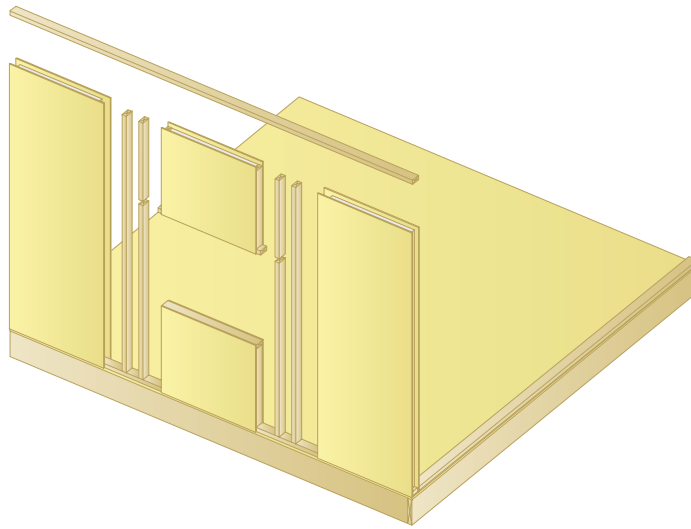
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VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



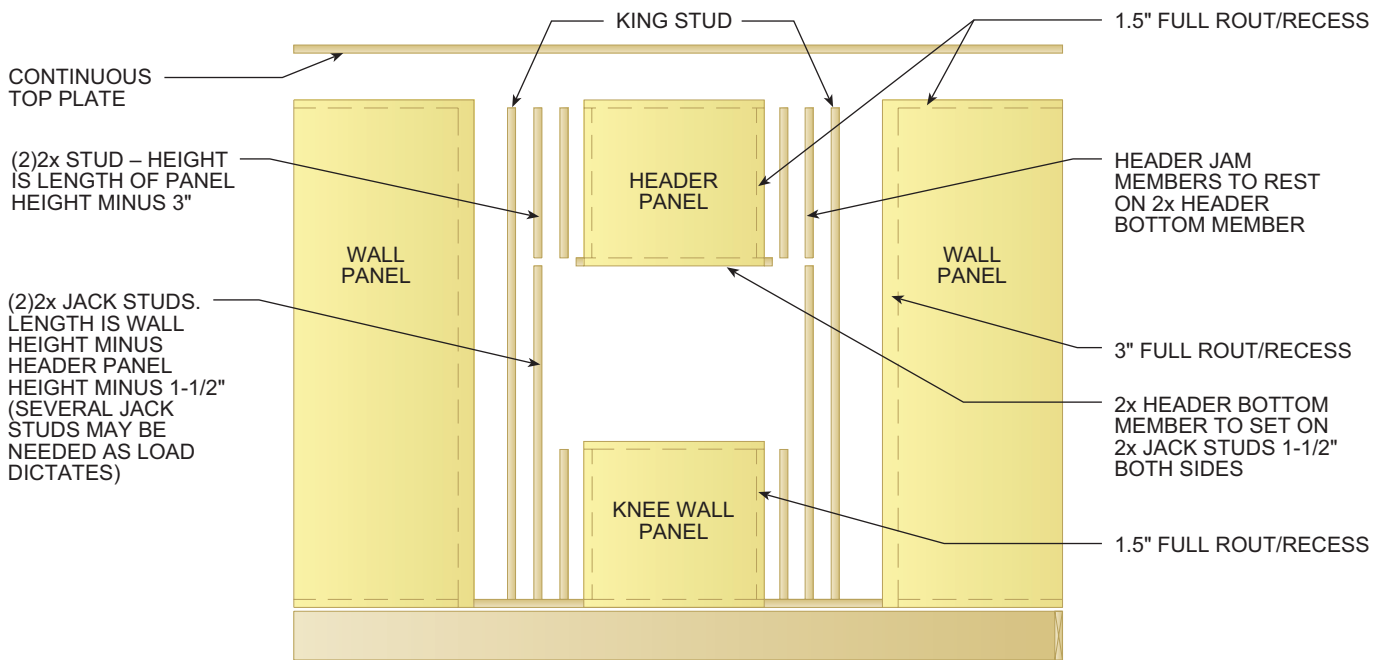
LUMBER SPLINE CONNECTION

Fig. 9



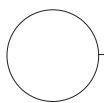
1) NAIL STUD, JACK STUD AND JAMB STUD TOGETHER W/ 16d NAILS @ 6" O.C. STAGGERED

2) NAIL PANEL SKIN TO ALL 2x WOOD MEMBER W/ 16d NAILS @ 6" O.C. BOTH SIDES.



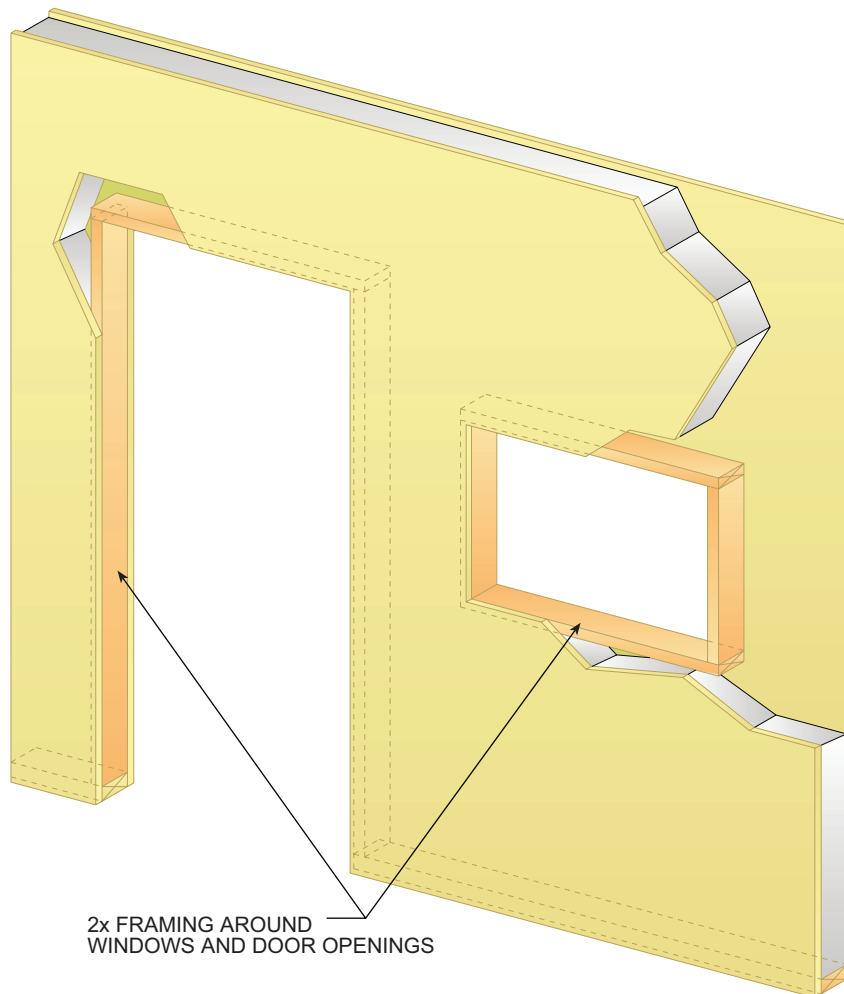
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



WINDOW HEADER AND KNEE WALL DETAIL

Fig. 10



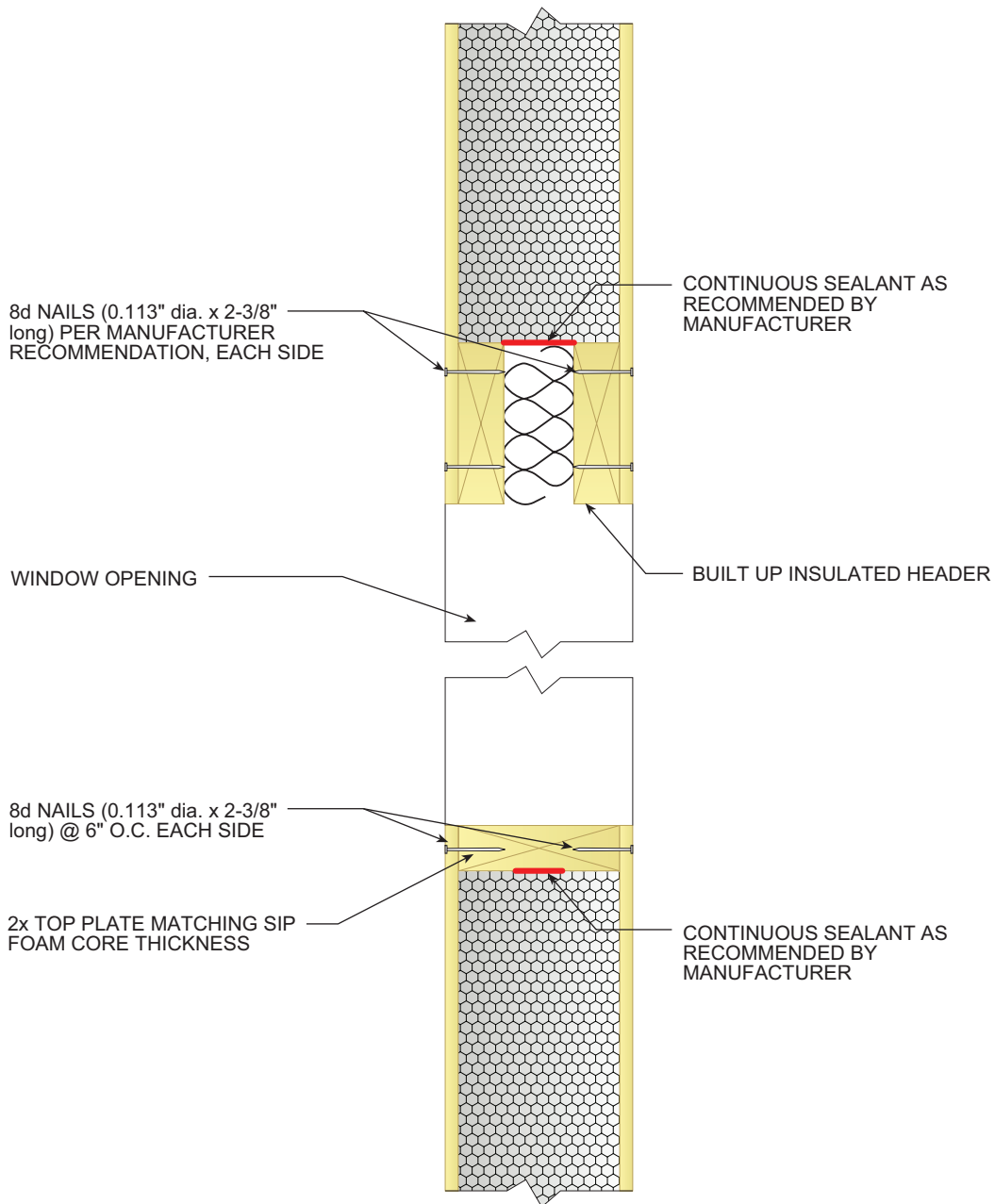
2x FRAMING AROUND
WINDOWS AND DOOR OPENINGS

ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

DOOR AND WINDOW FRAMING FOR CUT-OUTS

Fig. 11

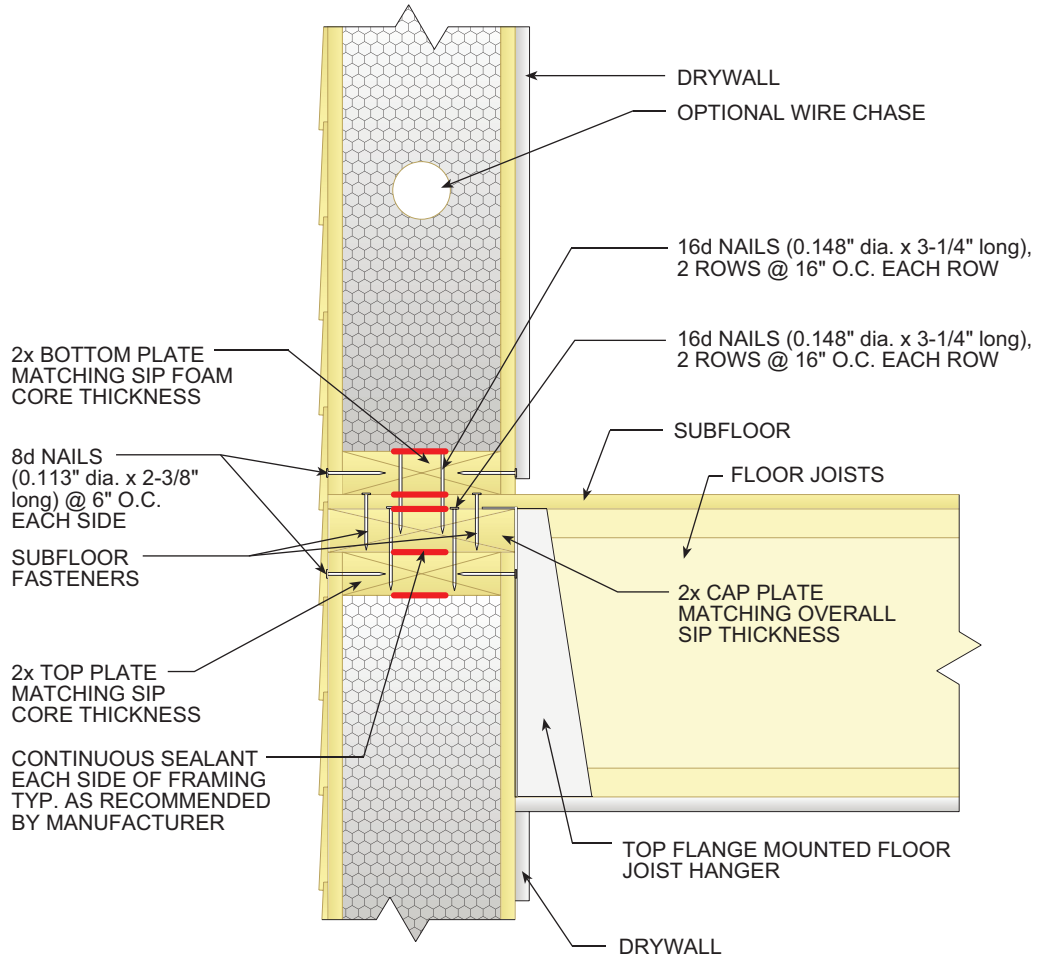


ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

ROUGH OPENING AND INSULATED HEADER

Fig. 12



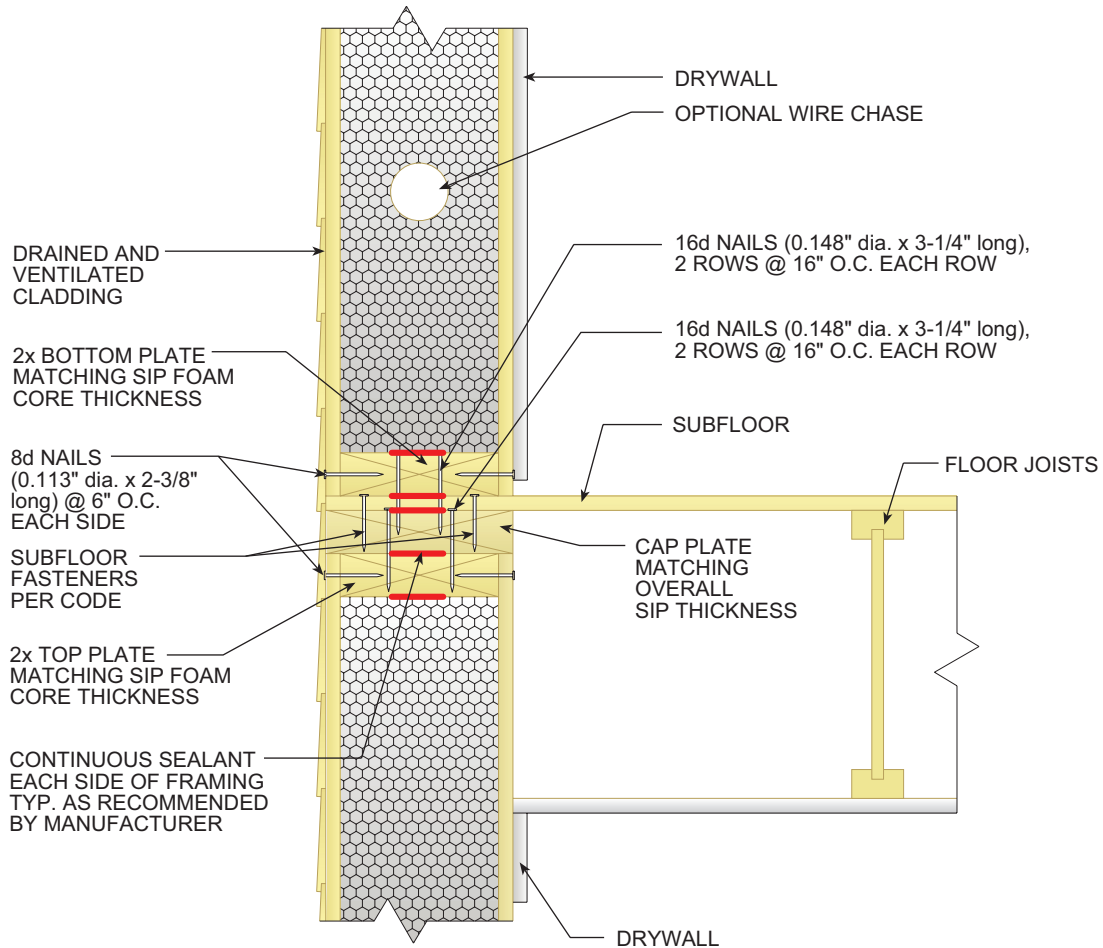
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

2ND FLOOR CONNECTION DETAILS

HANGING FLOOR JOIST SYSTEM

Fig. 13



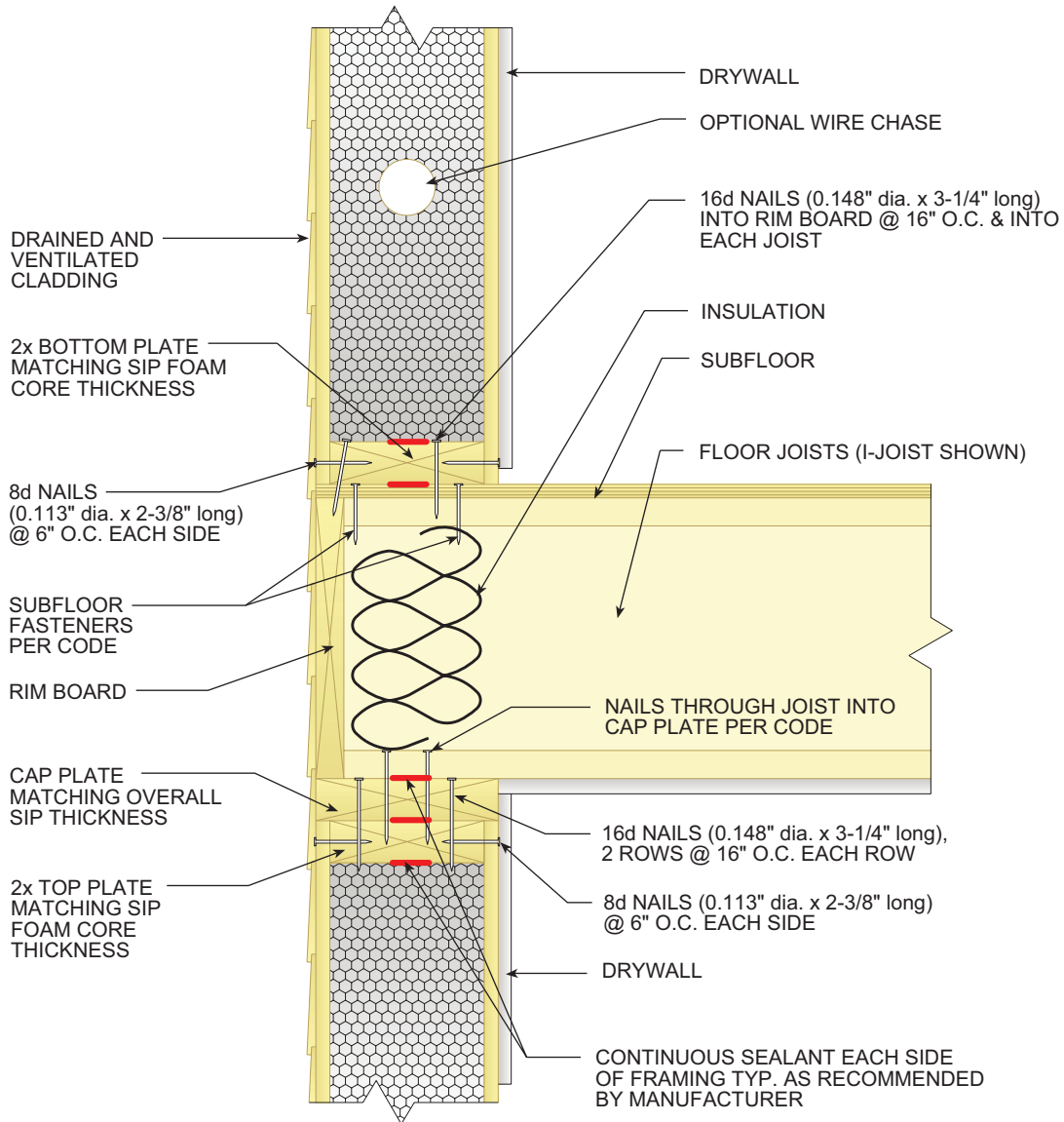
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

2ND FLOOR CONNECTION DETAILS

HANGING FLOOR JOIST SYSTEM (WALL PARALLEL TO JOISTS)

Fig. 14



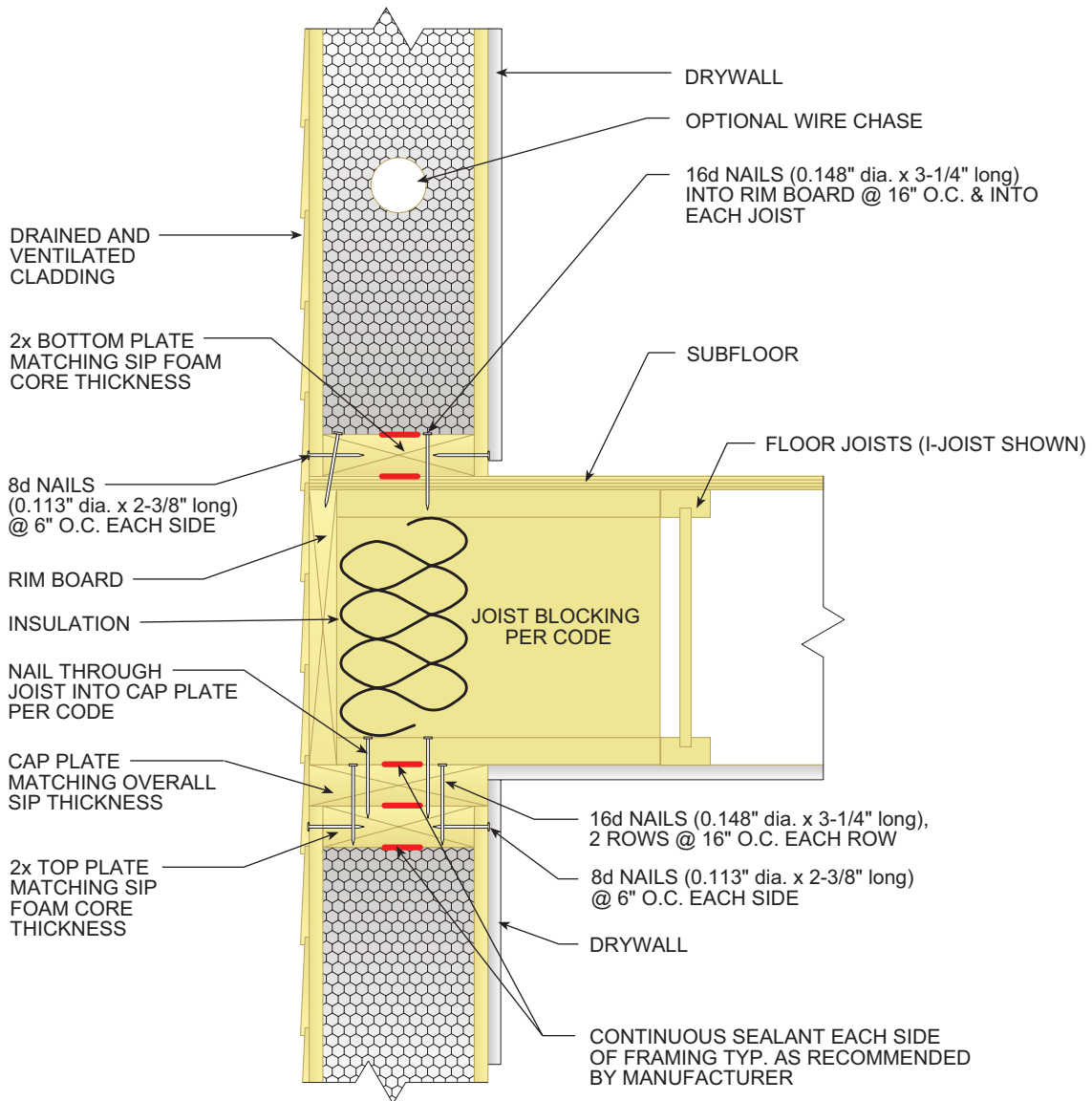
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

2ND FLOOR CONNECTION DETAILS

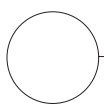
PLATFORM FRAMING WITH RIM BOARD (WALL PERPENDICULAR TO JOISTS)

Fig. 15



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



2ND FLOOR CONNECTION DETAILS

PLATFORM FRAMING (WALL PARALLEL TO JOISTS)

Fig. 16

ATTACH 2x BOTTOM PLATE THAT MATCHES CORE THICKNESS TO ROOF PANELS WITH 2 ROWS OF 8d NAILS (0.113" dia. x 2-3/8" long) @ 6" O.C. OR AS REQUIRED

SIP SCREW WITH MINIMUM 1.5" PENETRATION INTO WOOD MEMBER IN SIP WALL PANEL @ 24" O.C. MAXIMUM

8d NAILS (0.113" dia. x 2-3/8" long) @ 6" O.C. EACH SIDE

CONTINUOUS SEALANT AS RECOMMENDED BY MANUFACTURER

8d NAILS (0.113" dia. x 2-3/8" long) @ 6" O.C. EACH SIDE

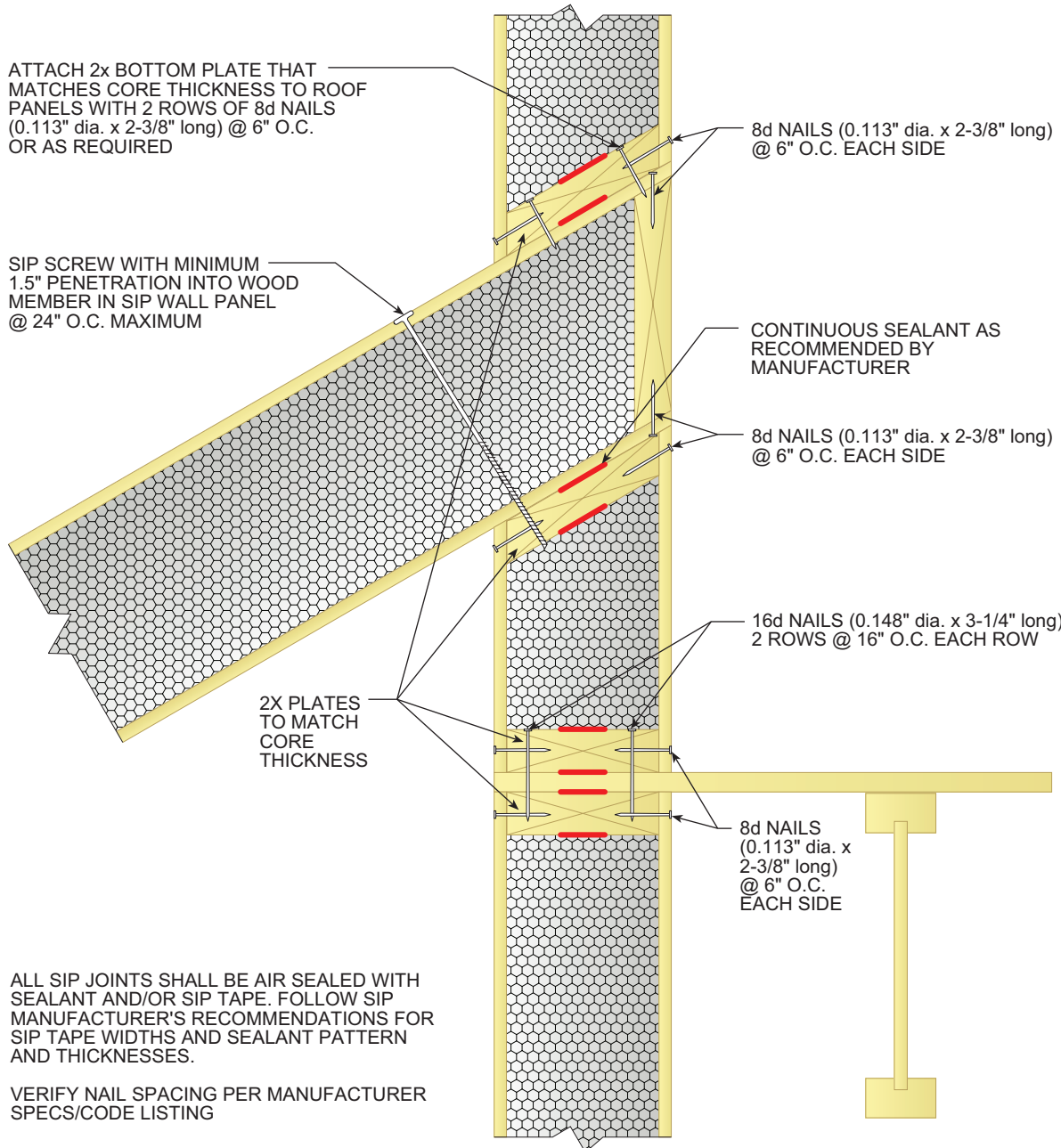
16d NAILS (0.148" dia. x 3-1/4" long), 2 ROWS @ 16" O.C. EACH ROW

2X PLATES TO MATCH CORE THICKNESS

8d NAILS (0.113" dia. x 2-3/8" long) @ 6" O.C. EACH SIDE

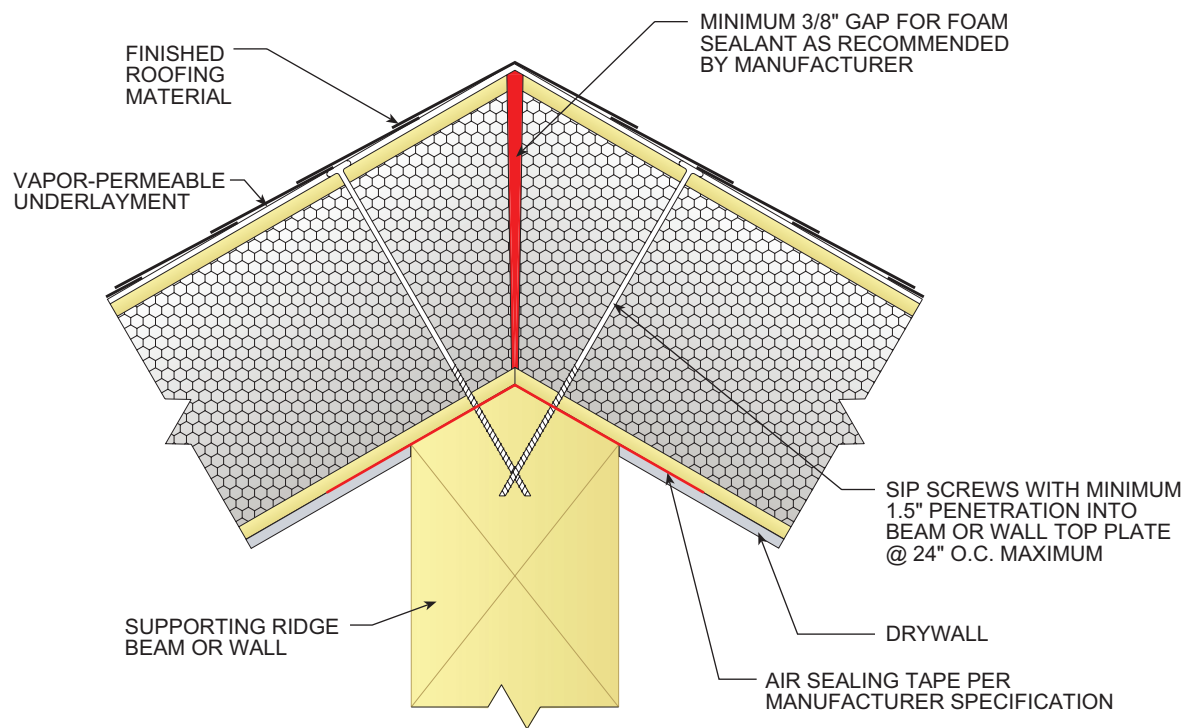
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VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



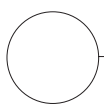
UPPER WALL TO ROOF CONNECTION

Fig. 17



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

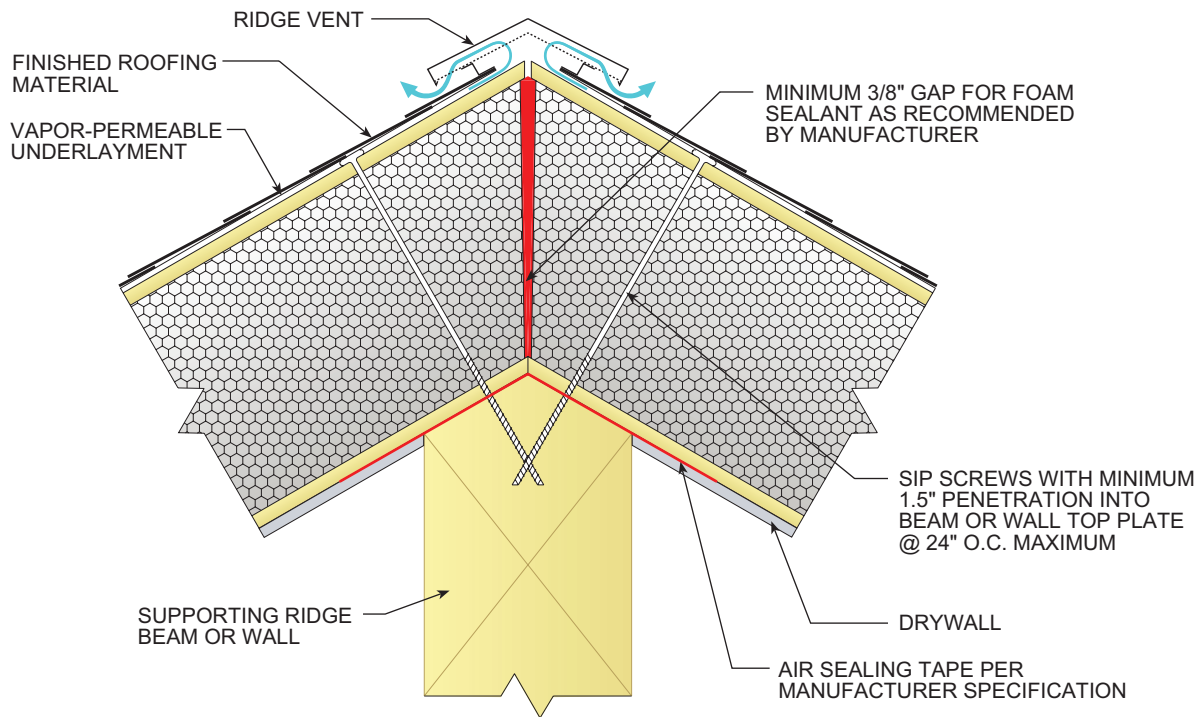
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



ROOF-TO-ROOF PANEL CONNECTIONS

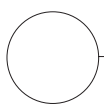
BEVELED SIP RIDGE

Fig. 18



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

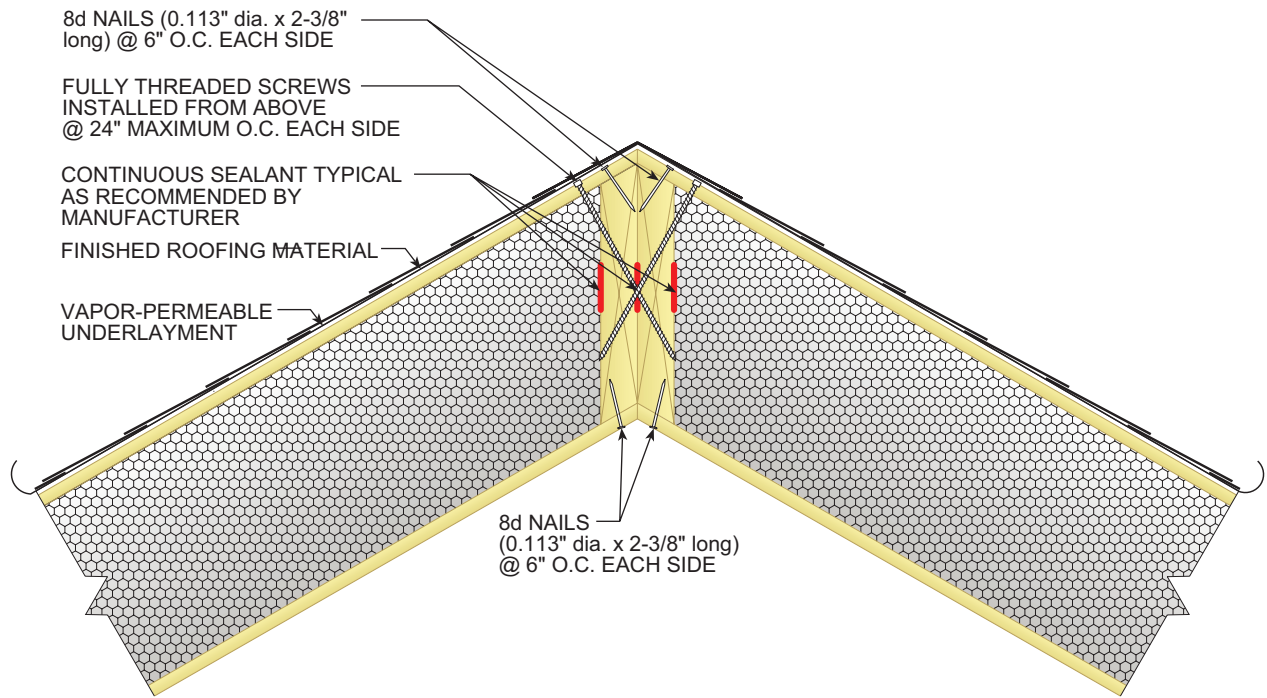
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



ROOF-TO-ROOF PANEL CONNECTIONS

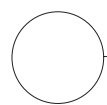
SIP WITH RIDGE VENT

Fig. 18a



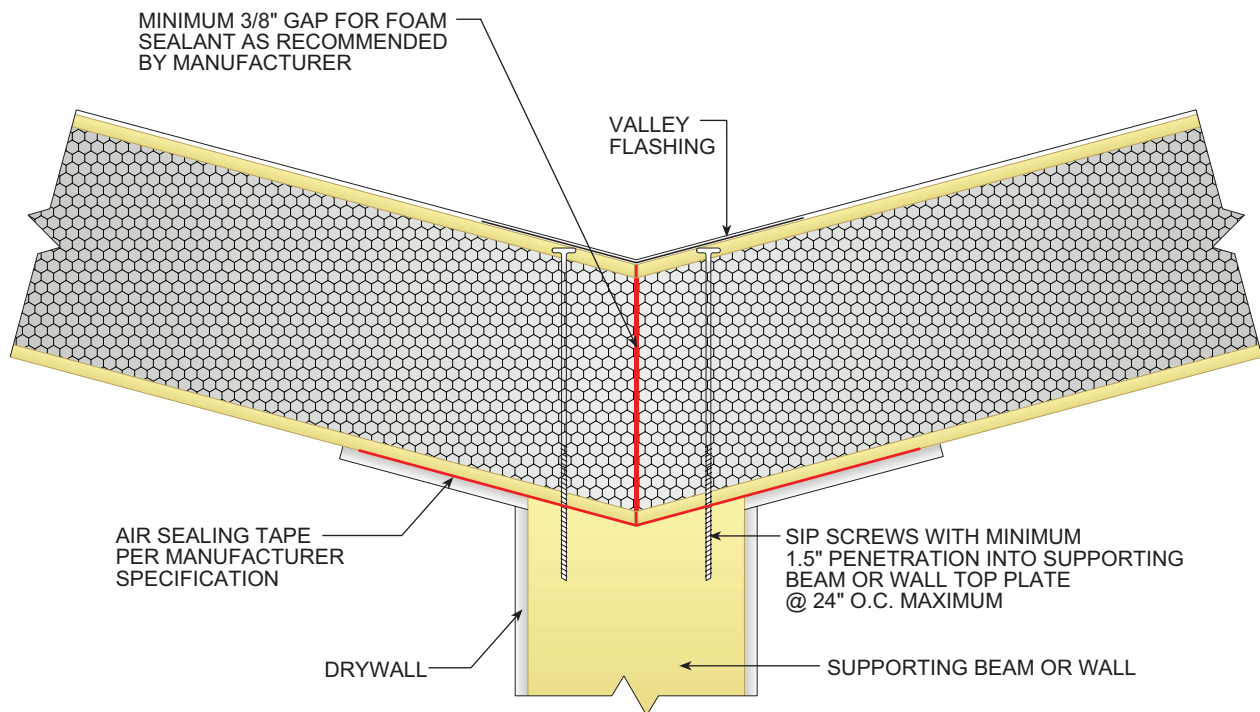
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



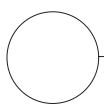
STRUCTURAL HIP PANEL CONNECTION

Fig. 19



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

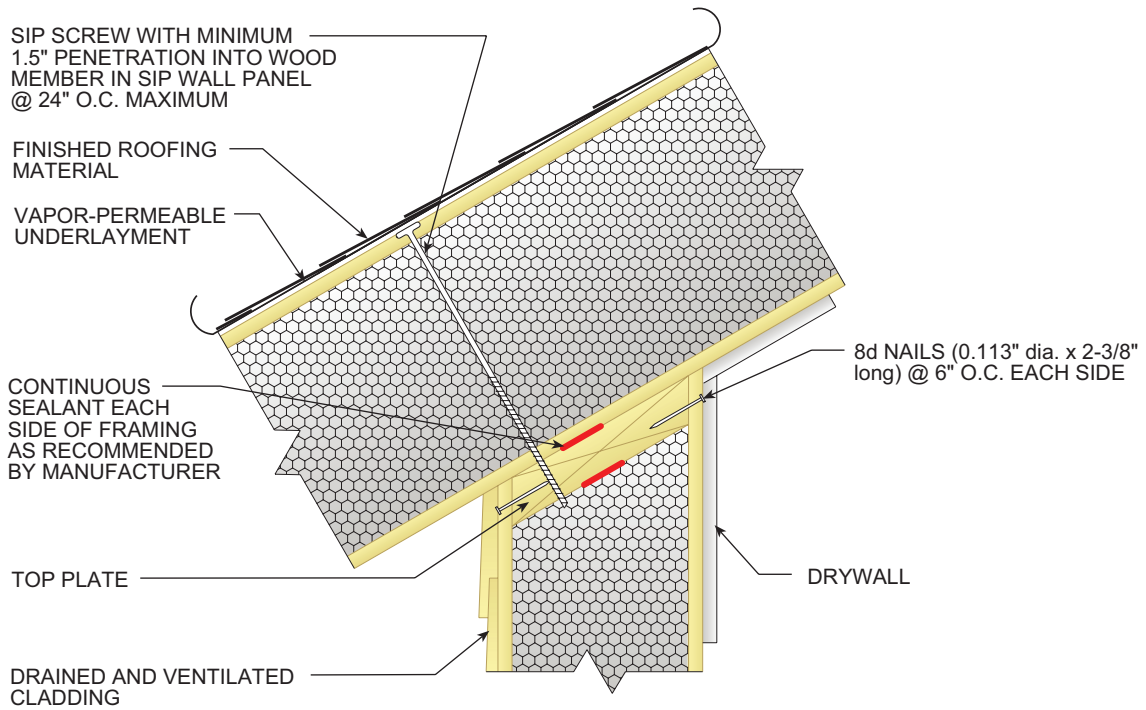
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



ROOF VALLEY CONNECTION WITH VALLEY SUPPORT

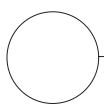
VALLEY DETAIL

Fig. 20



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

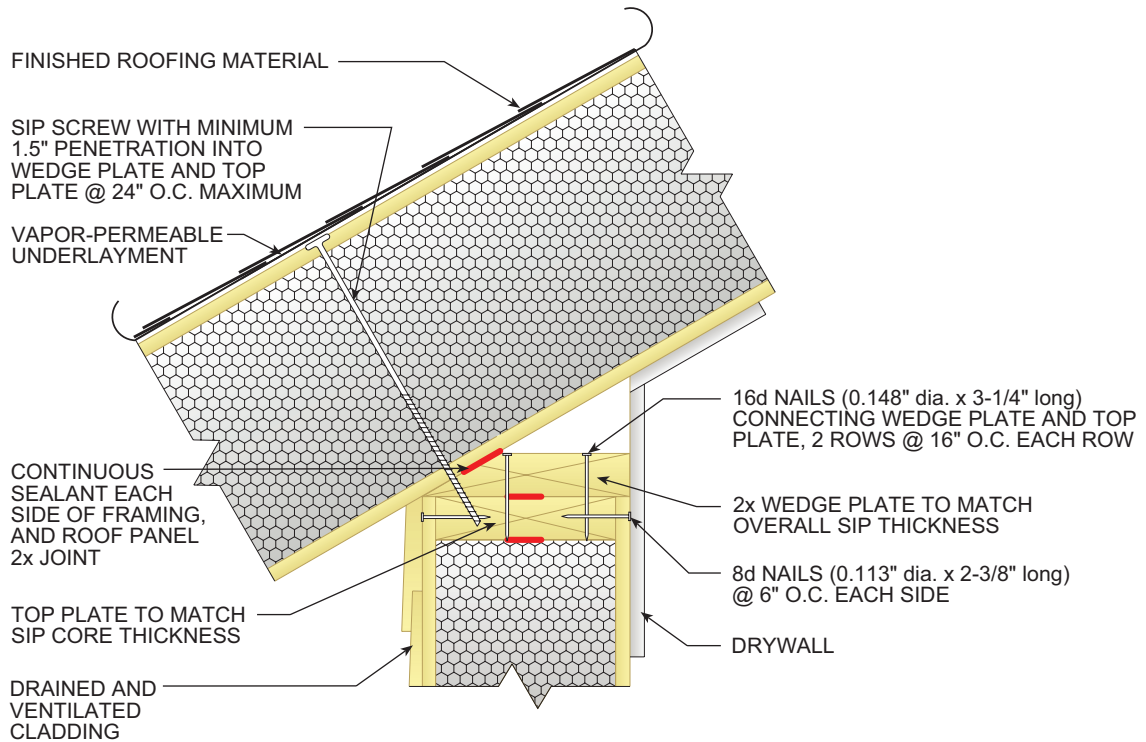
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



ROOF-TO-WALL PANEL CONNECTIONS

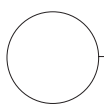
BEVELED SIP WALL

Fig. 21



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

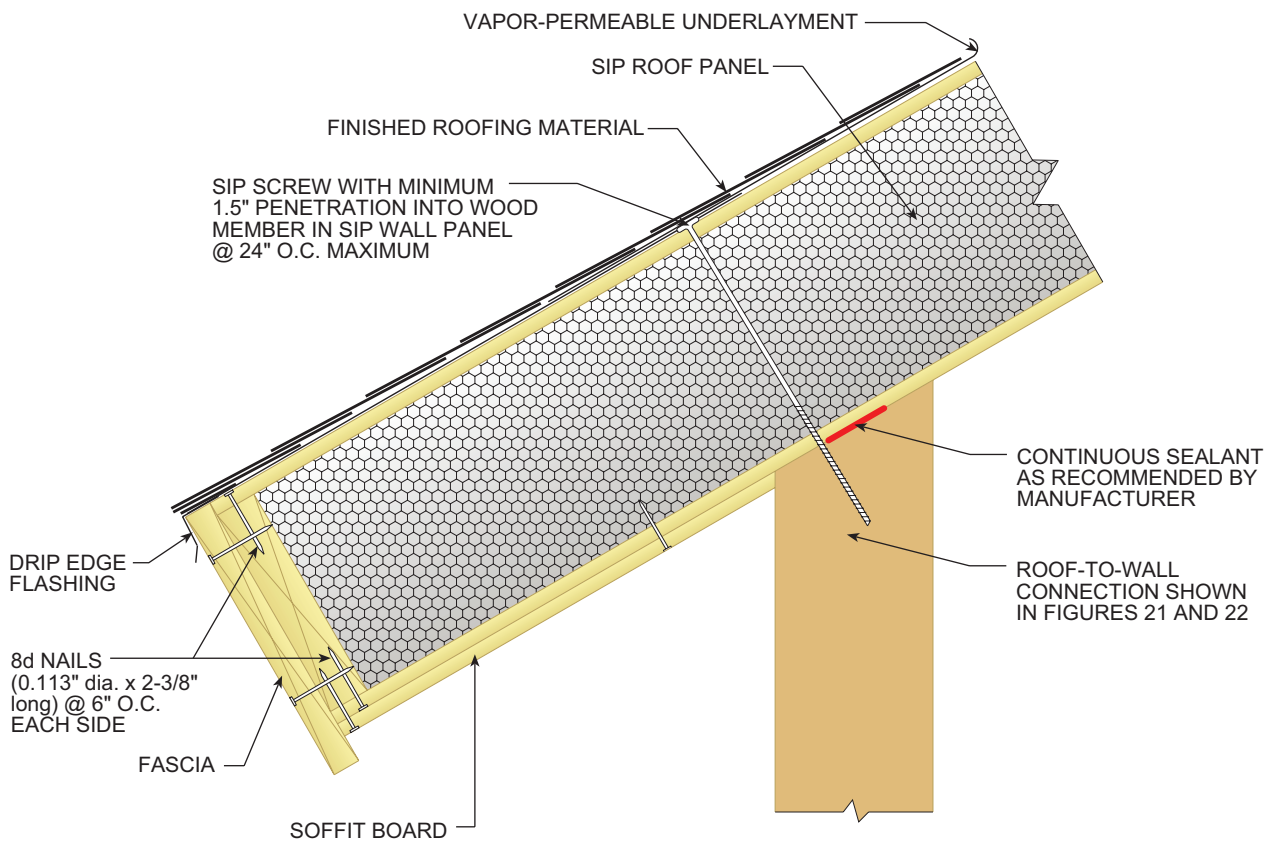
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



ROOF-TO-WALL PANEL CONNECTIONS

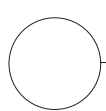
BEVELED BLOCKING

Fig. 22



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

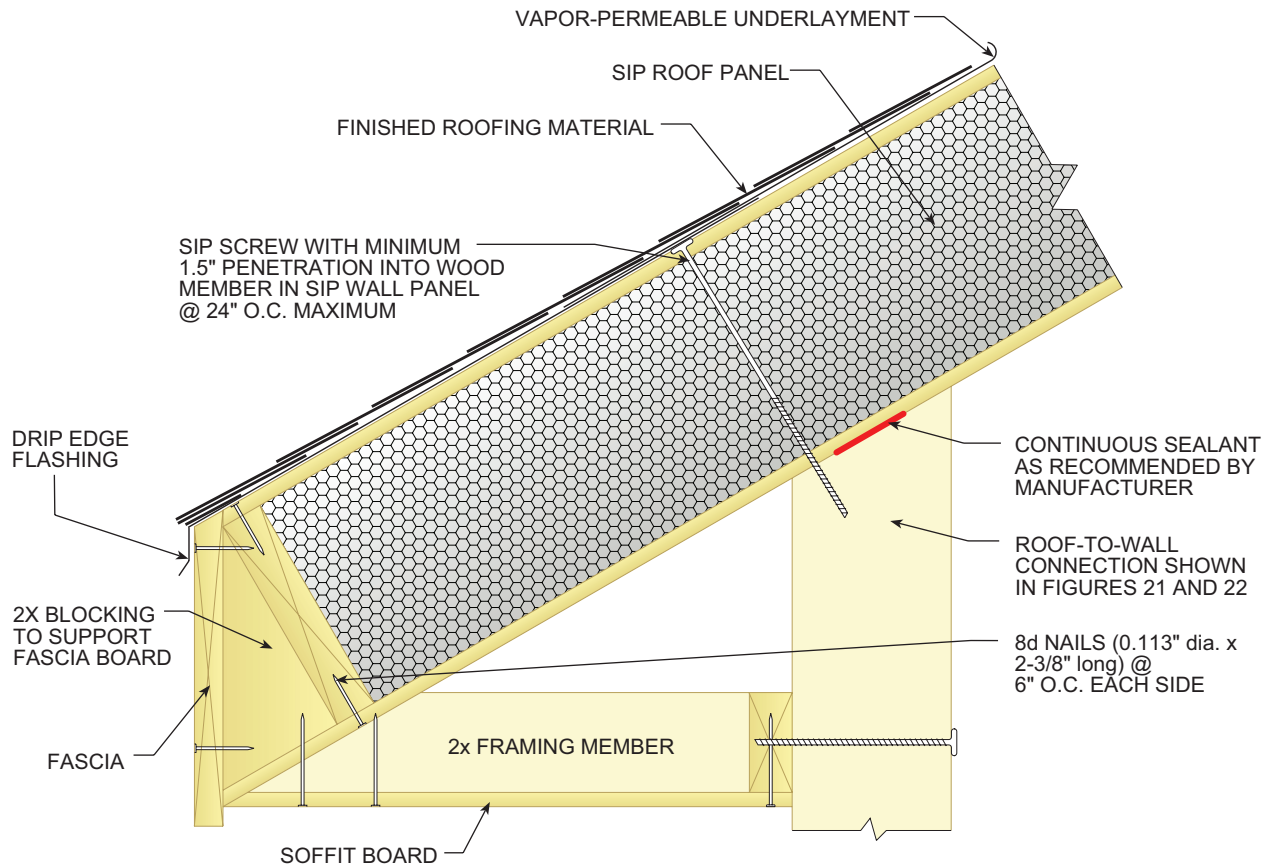
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



EAVE DETAILING

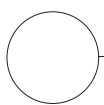
SLOPED OVERHANG WITH SQUARE FASCIA

Fig. 23



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

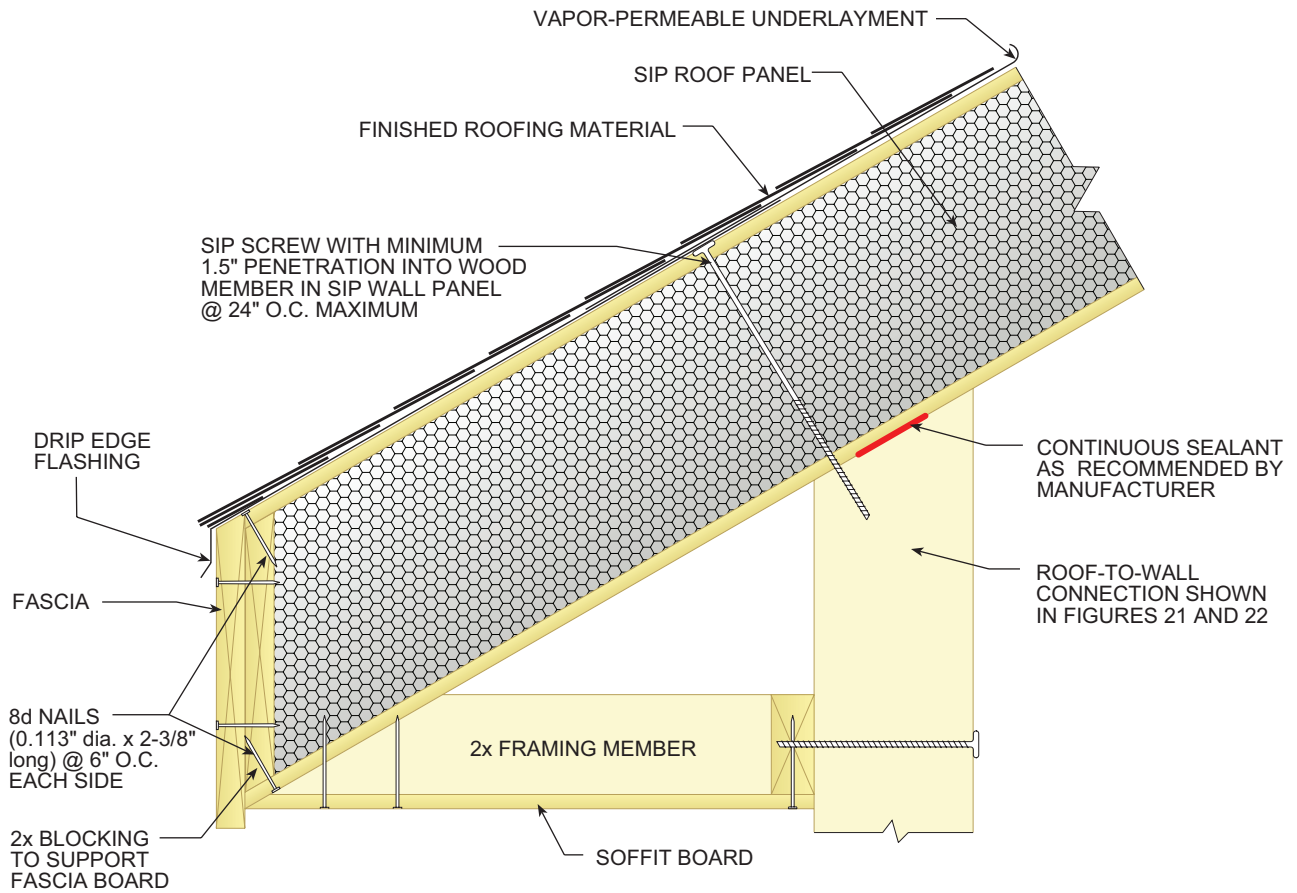
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



EAVE DETAILING

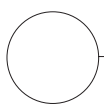
FRAMED LEVEL SOFFIT WITH SQUARE CUT ROOF SIP

Fig. 24



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

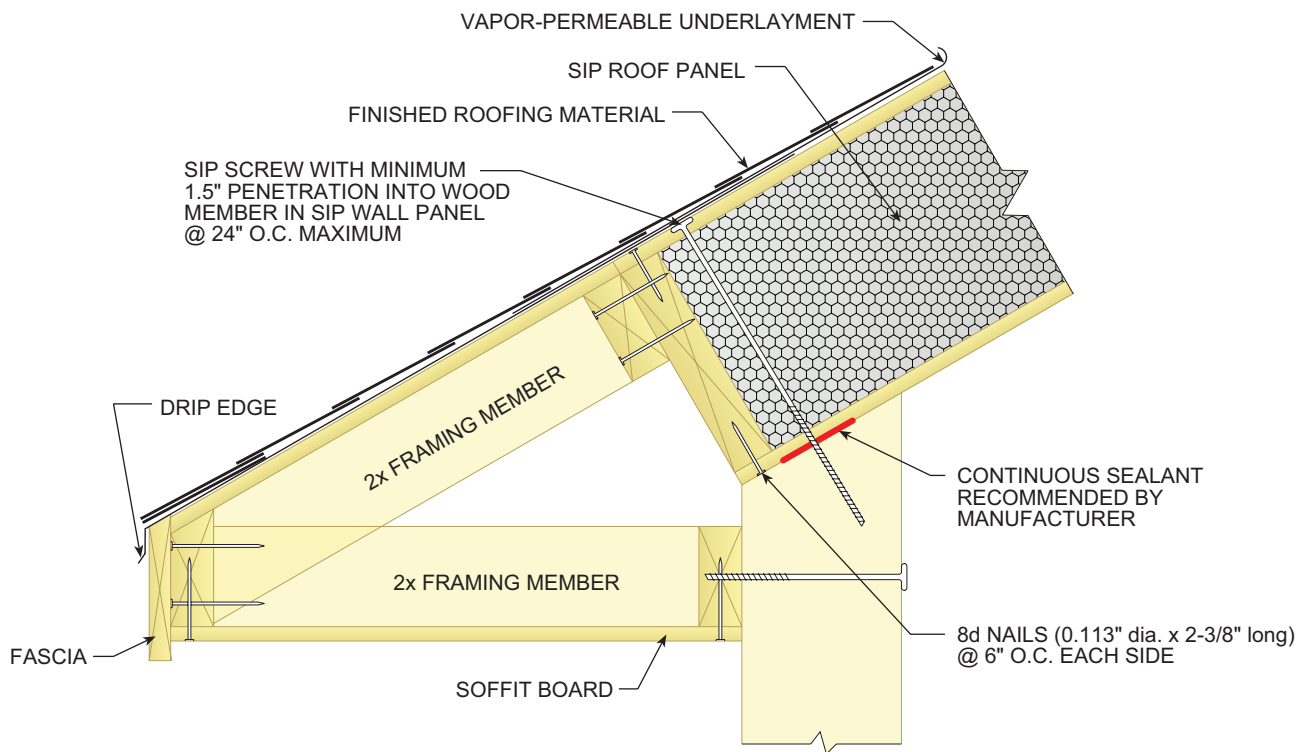
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



EAVE DETAILING

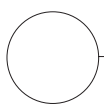
FRAMED LEVEL SOFFIT WITH PLUMB CUT ROOF SIP

Fig. 25



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

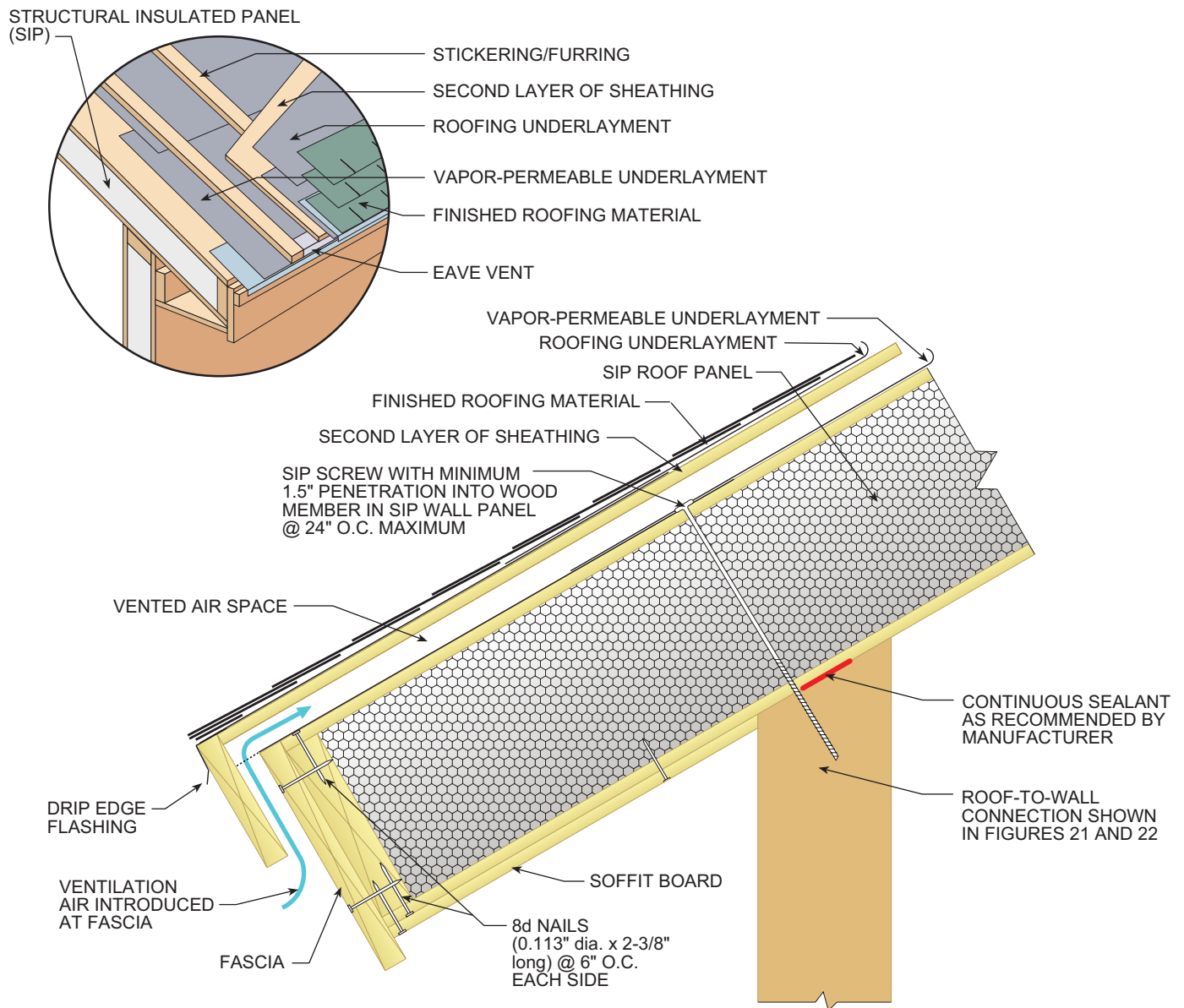
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING



EAVE DETAILING

FULLY FRAMED OVERHANG

Fig. 26



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

VENTED COLD ROOF GENERIC DETAIL

Fig. 27



**Structural Insulated
Panel Association**