

2-Door Studio Casita

Model # BXB-000009

SITE STRUCTURAL REQUIRMENTS

WIND, SNOW, & SEISMIC LIMITS
CASITA-TO-FOUNDATION CONNECTIONS
OPTIONAL TRUSS-TO-CASITA CONNECTIONS

SUITABILITY RESTRICTIONS:

MAX. ALLOWED
BASIC (ULTIMATE) WIND SPEED: 115 mph, Exposure C (without optional roof trusses)
140 mph, Exposure B (without optional roof trusses)
136 mph, Exposure B (with optional roof trusses)
111 mph, Exposure C (with optional roof trusses)

ALLOWABLE WIND PRESSURE, qh = 12.1 psf (max.)

CASITAS LOCATED ON HILLS OR NEAR AN ESCARPMENT WILL
REQUIRE SPECIAL EVALUATION BY A STRUCTURAL ENGINEER.

EXPOSURE B IS URBAN AND SUBURBAN AREAS, WOODED AREAS, OR OTHER TERRAIN w/ NUMEROUS,
CLOSELY SPACED OBSTRUCTIONS THAT HAVE A SIZE OF A SINGLE-FAMILY DWELLING. THESE CONDITIONS
PREVAIL IN THE UPWIND DIRECTION FOR A DISTANCE GREATER THAN 1,500 FT.

EXPOSURE C IS OPEN TERRAIN w/ SCATTERED OBSTRUCTIONS THAT HAVE HEIGHTS GENERALLY LESS THAN 30 FT.
THIS INCLUDES FLAT, OPEN COUNTRY AND GRASSLANDS.

FOR TRUSSED ROOFS:

MAX. ALLOWED GROUND SNOW LOAD, Pg = 100 psf (Asphalt shingles)
= 90 psf (Concrete tile - 7 psf max)
(multiply above values by 0.83 if located tight in among conifer trees)

MAX. ALLOWED ROOF SNOW LOAD = 70 psf (Asphalt shingles)
= 63 psf (Concrete tile - 7 psf max)
(multiply above values by 0.83 if located tight in among conifer trees)

SNOW NOT ALLOWED IN SEISMIC CATEGORIES D, E, & F.

SEISMIC: MAX. ALLOWED 5% DAMPED, SPECTRAL RESPONSE ACCELERATION,
Sms = 1.800 (asphalt shingles)
= 1.478 (concrete tile) FIND VALUE AT ascehazardtool.org
using Risk Category II, Soil Class D

FOR NEAR FLAT ROOFS:

MAX. ALLOWED GROUND SNOW LOAD, Pg = 41 psf (34 psf if located tight in among conifer trees)
MAX. ALLOWED ROOF SNOW LOAD, Pf = 29 psf (13 psf in Seismic Categories D, E & F)
(reduced to 11 psf if tight in among conifers)

SEISMIC: NO RESTRICTIONS

CONTACT THE LOCAL OR COUNTY BUILDING DEPARTMENT FOR TO OBTAIN THE BASIC (ULTIMATE)
WIND SPEED AND SNOW LOAD. CUSTOMER IS RESPONSIBLE FOR VERIFYING THEIR WIND AND SNOW
CONDITIONS ARE WITHIN THE ALLOWABLE LIMITS INDICATED ABOVE.

ROOF REQUIREMENTS & LIMITATIONS:

MAXIMUM SLOPE OF OPTIONAL AFTERMARKET PITCHED ROOF TRUSS ADD-ON : 5:12
MAXIMUM SLOPE OF OPTIONAL AFTERMARKET MONOSLOPE ROOF TRUSS ADD-ON : 2:12.
MAXIMUM ROOFING WEIGHT OVER OPTIONAL TRUSSES : 16 psf
MINIMUM TAPERED INSULATION SLOPE: ¼ : 12.
MAXIMUM TAPERED INSULATION SLOPE ⅝₁₆ : 12 UNLESS CONN. PL'S FOR TRUSS OPTIONS ARE
USED PER THE S4 SERIES OF DRAWINNGS.

MAXIMUM TAPERED ROOFING WEIGHT:
2 psf + 0.7 psf x (MAX. ALLOW. GROUND SNOW LOAD - ACTUAL GROUND SNOW LOAD)

MAXIMUM WEIGHT OF OPTIONAL ROOF TRUSS SYSTEM, INCLUDING SHEATHING & ROOFING = 16
psf UNLESS APPROVED BY THE ENGINEER (INCLUDES A MAXIMUM ALLOWED WT OF CONCRETE
TILE (IF USED) = 7 psf.

TRUSSES AND TAPERED ROOFING, INCLUDING THEIR ATTACHMENT TO THE BOXABL ROOF TO BE
DESIGNED & SUPPLIED BY OTHERS.

SEE ARCHITECTURAL DRAWINGS AND THE LATEST INTERNATIONAL RESIDENTIAL CODE (IRC) FOR
MORE INFORMATION ON COMPLIANT ROOF MATERIALS AND SLOPES.

PRE-ENGINEERED WOOD TRUSSES:

- 1 TRUSSES TO BE FABRICATED BY A CERTIFIED MEMBER OF THE TRUSS PLATE INSTITUTE AND SHALL
COMPLY WITH THEIR STANDARDS.
- 2 CONNECTING PLATES SHALL BE IBC/ICBO APPROVED.
- 3 ALL TRUSSES MEMBERS SHALL HAVE LUMBER GRADE STAMPS.
- 4 THE TRUSS DESIGN AND ERECTION DRAWINGS SHALL BE MADE BY A PROFESSIONAL STRUCTURAL
ENGINEER LICENSED IN THE STATE IN QUESTION.
- 5 ERECTION PLANS SHALL SHOW THE TRUSS SPACING, TRUSS MARK (CALCULATION) NUMBERS,
CONCENTRATED LOADS, & PERMANENT BRACING/BLOCKING AS REQUIRED BY THE TRUSS DESIGN.
- 6 SHOP DRAWINGS SHALL INCLUDE DIMENSIONS. CONFIGURATIONS, NOMINAL LUMBER SIZE AND
GRADE, SPECIFICATIONS FOR CONNECTOR PLATES, THEIR SIZE AND LOCATIONS.
7. SEE SHEET S5 FOR MORE INFO.

BUILDING PERMIT INFO:

THESE DRAWINGS ARE ONLY FOR USE
WHERE STRUCTURAL ENGINEERING IS NOT
REQUIRED BY LOCAL, COUNTY, OR STATE
AUTHORITIES HAVING JURISDICTION, AND
ARE ONLY INTENDED TO AID POTENTIAL
CUSTOMERS IN UNDERSTANDING WIND &
SNOW LIMITATIONS, ALONG WITH
FOUNDATION TYPE OPTIONS (TO BE
DESIGNED BY OTHERS), THE CONNECTION
REQUIREMENTS TO THE FOUNDATIONS,
ADD-ON TRUSS OPTION REQUIREMENTS
AND LIMITATIONS, AND ROOF
TRUSS-TO-CASITA CONNECTIONS.

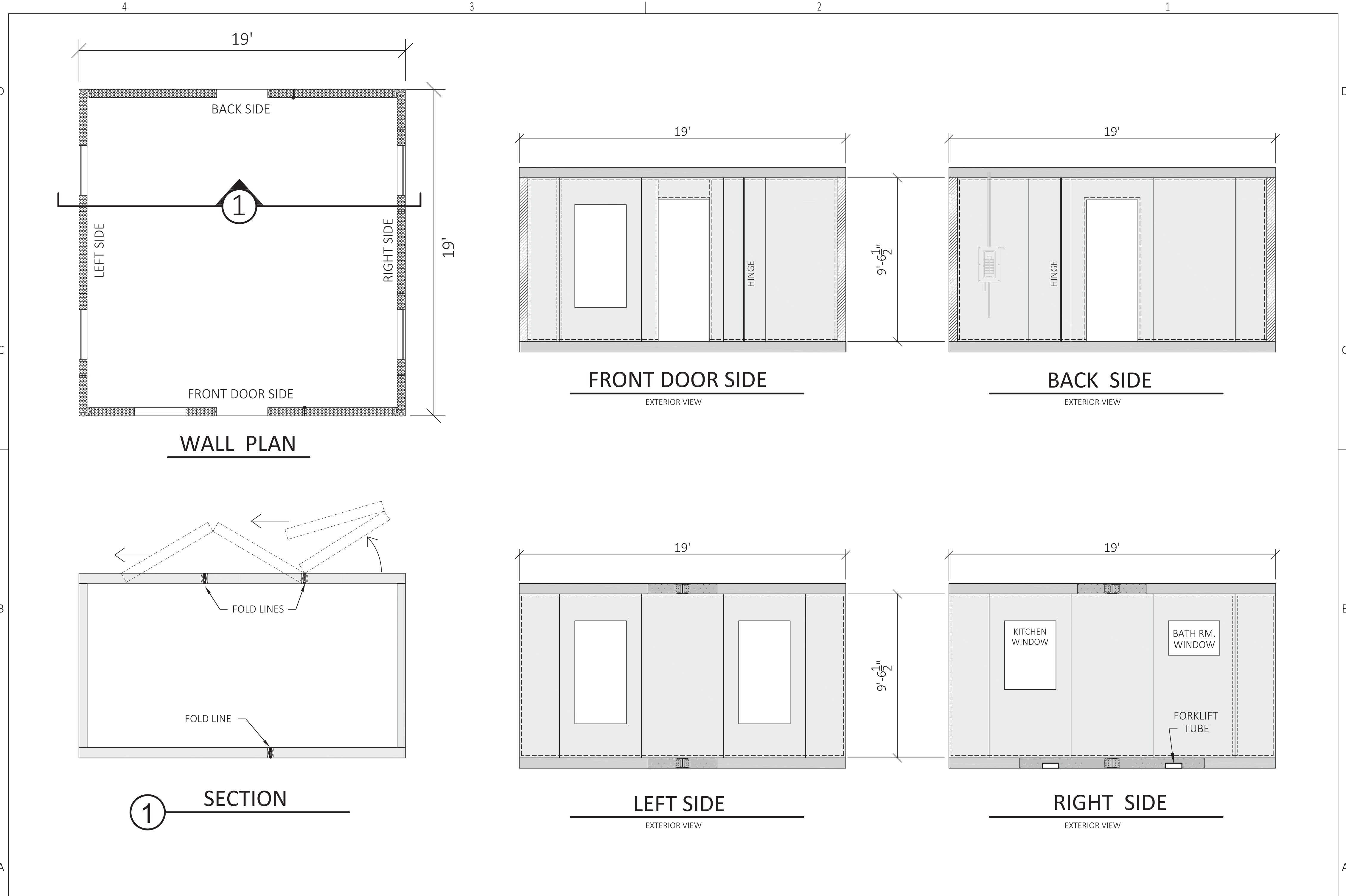
FOR PERMITS REQUIRING STRUCTURAL
ENGINEERING, OR IF DESIRED BY THE
CUSTOMER, CONTACT BOXABL, INC.

IF THE CUSTOMER DECLINES THE OPTION
FOR AN ENGINEER SEALED & SIGNED SET
OF DRAWINGS AND/OR LOCATES A CASITA
IN AN AREA WHERE THE WIND, SNOW OR
SEISMIC LIMITS ARE EXCEEDED, BOXABL,
INC. SHALL NOT ACCEPT RESPONSIBILITY OR
LIABILITY FOR THE STRUCTURAL
PERFORMANCE OF THE CASITA.

BOXABL SERVICES AVAILABLE FOR ROOF INSTALLATION:

- ROOF PITCH OPTIONS
- EPS OVER STANDARD TPO ROOFING

DATE:	REV:	DESCRIPTION:				UNITS:	FT-IN	MODEL: 2 DOOR CASITA	BOXABL INC.	
						SHEET FORMAT:	ARCH C		5345 EAST NORTH BELT ROAD	
						SHEET SCALE:	NONE	MODEL #: BXB-000009	NORTH LAS VEGAS, NV 89115, USA	
						CREATED BY:	MN		+1(702) 500-9000 HELLO@BOXABL.COM	
						RELEASE DATE:	1/17/2024			
						SHEET:	S1			



DATE:	REV:	DESCRIPTION:				UNITS:	FT-IN	MODEL: 2 DOOR CASITA	BOXABL INC.	
						SHEET FORMAT:	ARCH C			
						SHEET SCALE:	NONE	MODEL #: BXB-000009	5345 EAST NORTH BELT ROAD NORTH LAS VEGAS, NV 89115, USA	
						CREATED BY:	MN		+1(702) 500-9000 HELLO@BOXABL.COM	
						RELEASE DATE:	1/17/2024			
						SHEET:	S2			

STEMWALL FOOTING OPTION

DESIGNED BY OTHERS

SEE S3.3 FOR FOUNDATION CONCEPT
FOR EXPANSIVE SOIL CONDITIONS

NOTES:

NOT FOR USE WITH SOIL SUBJECT TO LIQUIFACTION.

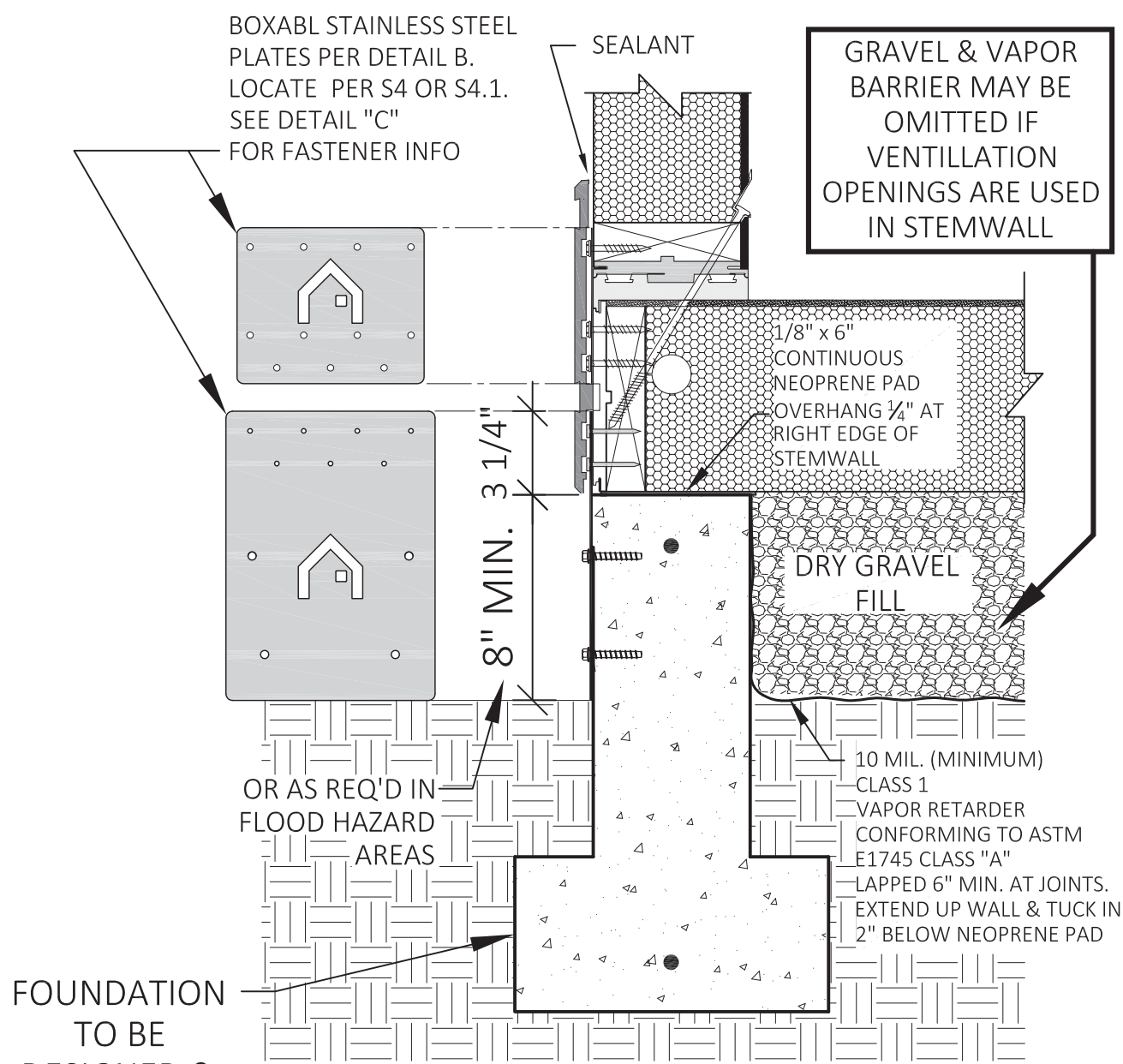
SEE S3.3 FOR EXPANSIVE SOIL FOUNDATION OPTION.

TOP SURFACE OF PERIMETER CONCRETE STEMWALL
SHALL BE FLAT AND LEVEL TO WITHIN $\frac{1}{8}$ " BETWEEN ANY
TWO POINTS AROUND THE PERIMETER.

PERIMETER & DIAGONAL DIMENSIONS HAVE NO MARGIN
FOR ERROR FOR ANCHORAGE HARDWARE TO WORK AS
INTENDED.

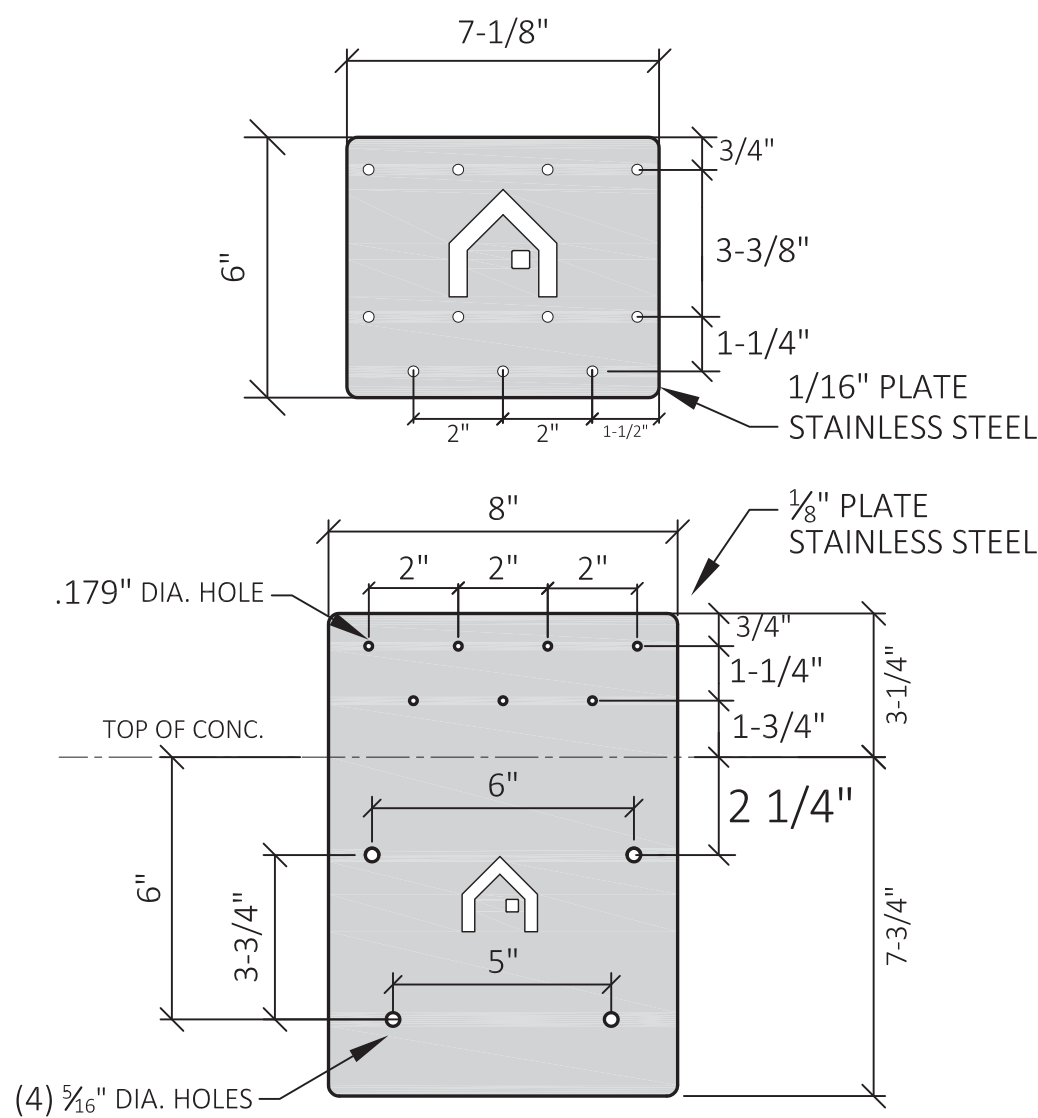
CONCRETE TO HAVE A MIN. 28 DAY COMPRESSIVE
STRENGTH, $f'c = 2,500$ psi.

FOUNDATION PLAN

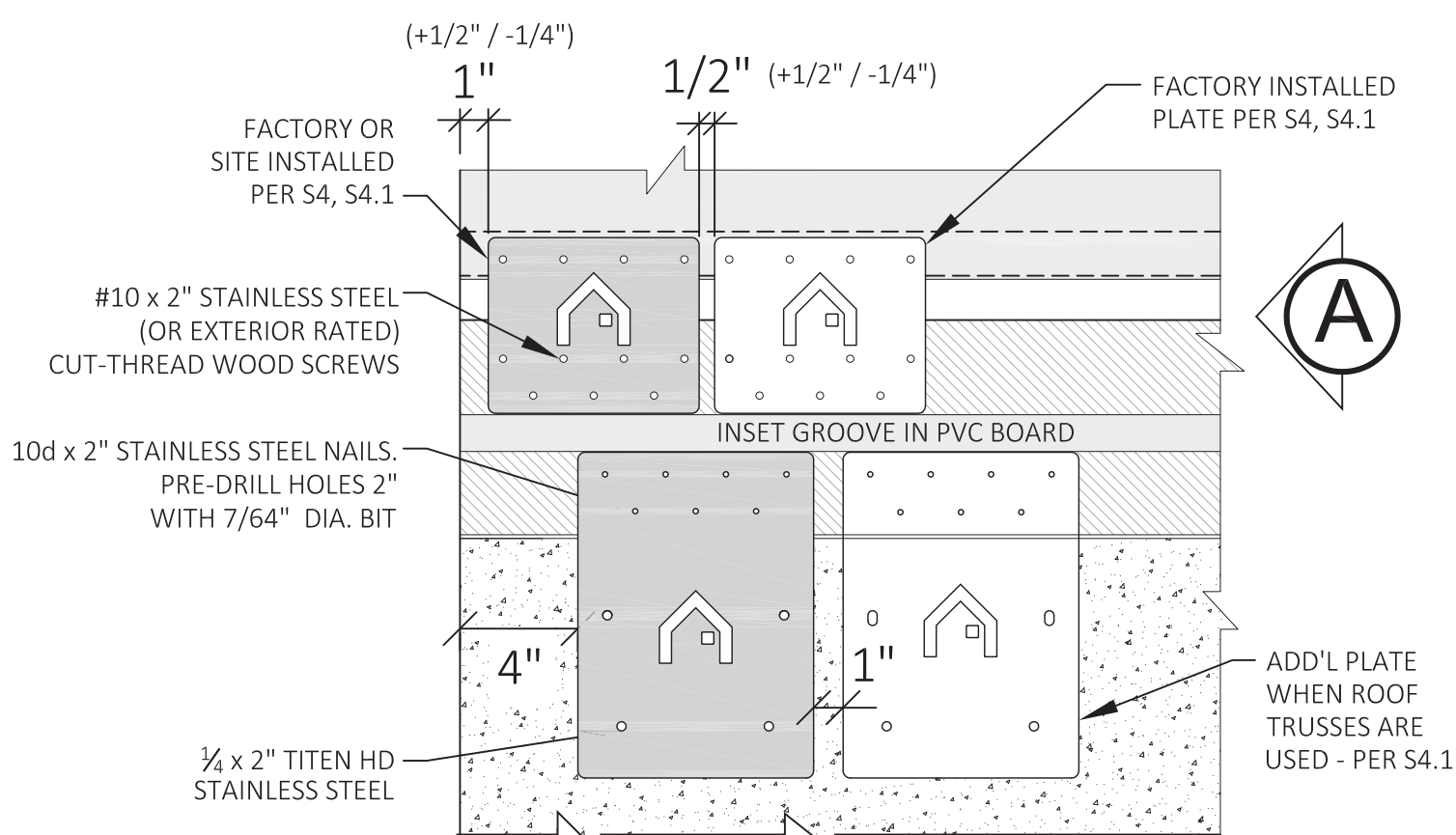


A PERIMETER FLOOR EDGE

SCALE: NONE

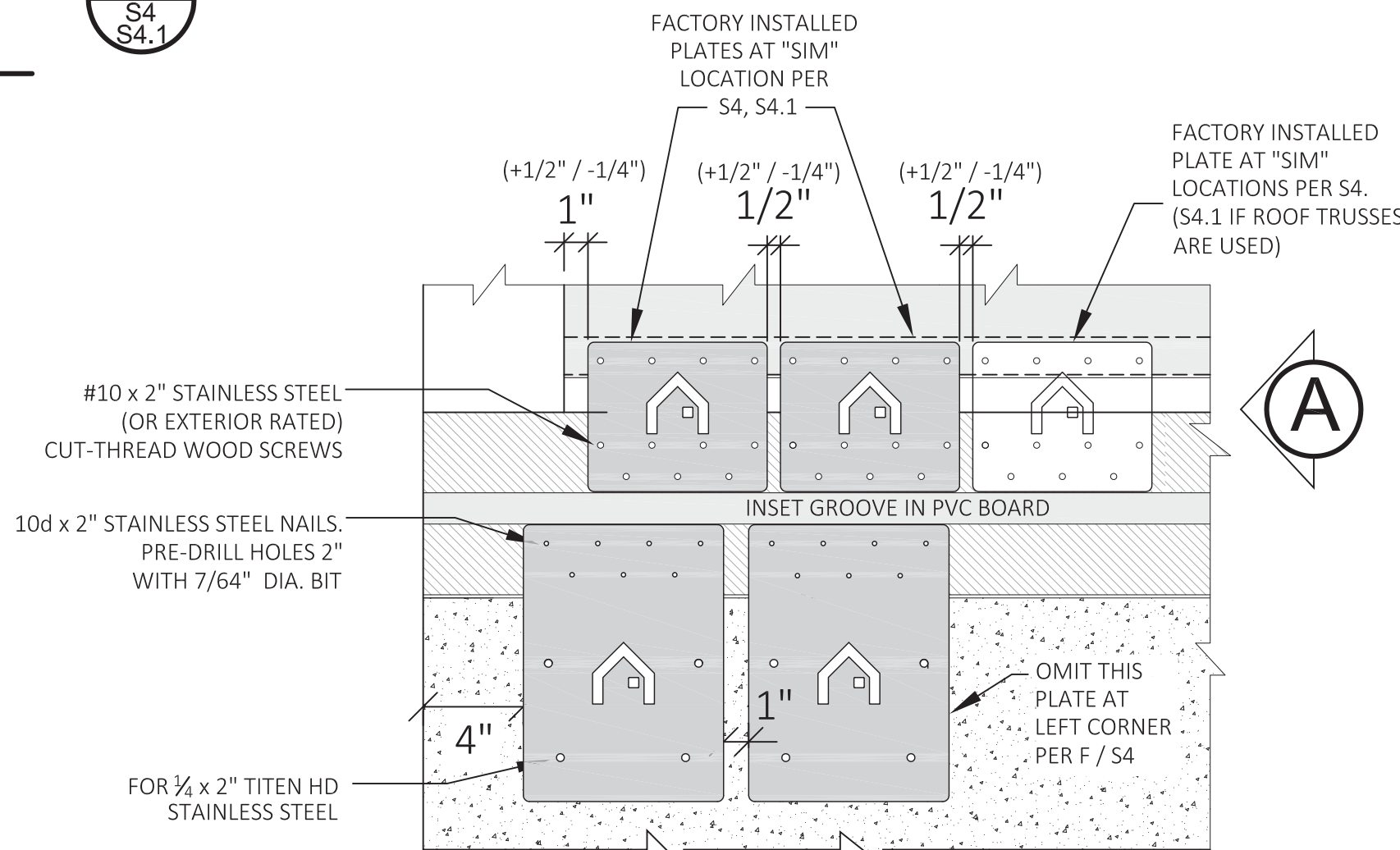


B



C HOLD-DOWN'S AT LEFT & RIGHT WALL

SEE S4 & S4.1 FOR LOCATION REFERENCE



D HOLD-DOWN'S AT FRONT & BACK WALL

SEE S4 & S4.1 FOR LOCATION REFERENCE

DATE:	REV:	DESCRIPTION:

UNITS:	FT-IN
SHEET FORMAT:	ARCH C
SHEET SCALE:	NONE
CREATED BY:	MN
RELEASE DATE:	1/17/2024
SHEET:	S3

MODEL: 2 DOOR CASITA	BOXABL INC.
MODEL #: BXB-000009	5345 EAST NORTH BELT ROAD NORTH LAS VEGAS, NV 89115, USA
	+1(702) 500-9000 HELLO@BOXABL.COM



SEE S3.3 FOR FOUNDATION CONCEPT FOR
EXPANSIVE SOIL CONDITIONS

CONCRETE TO HAVE A MIN. 28 DAY COMPRESSIVE STRENGTH, $f'_c = 2,500$ psi.



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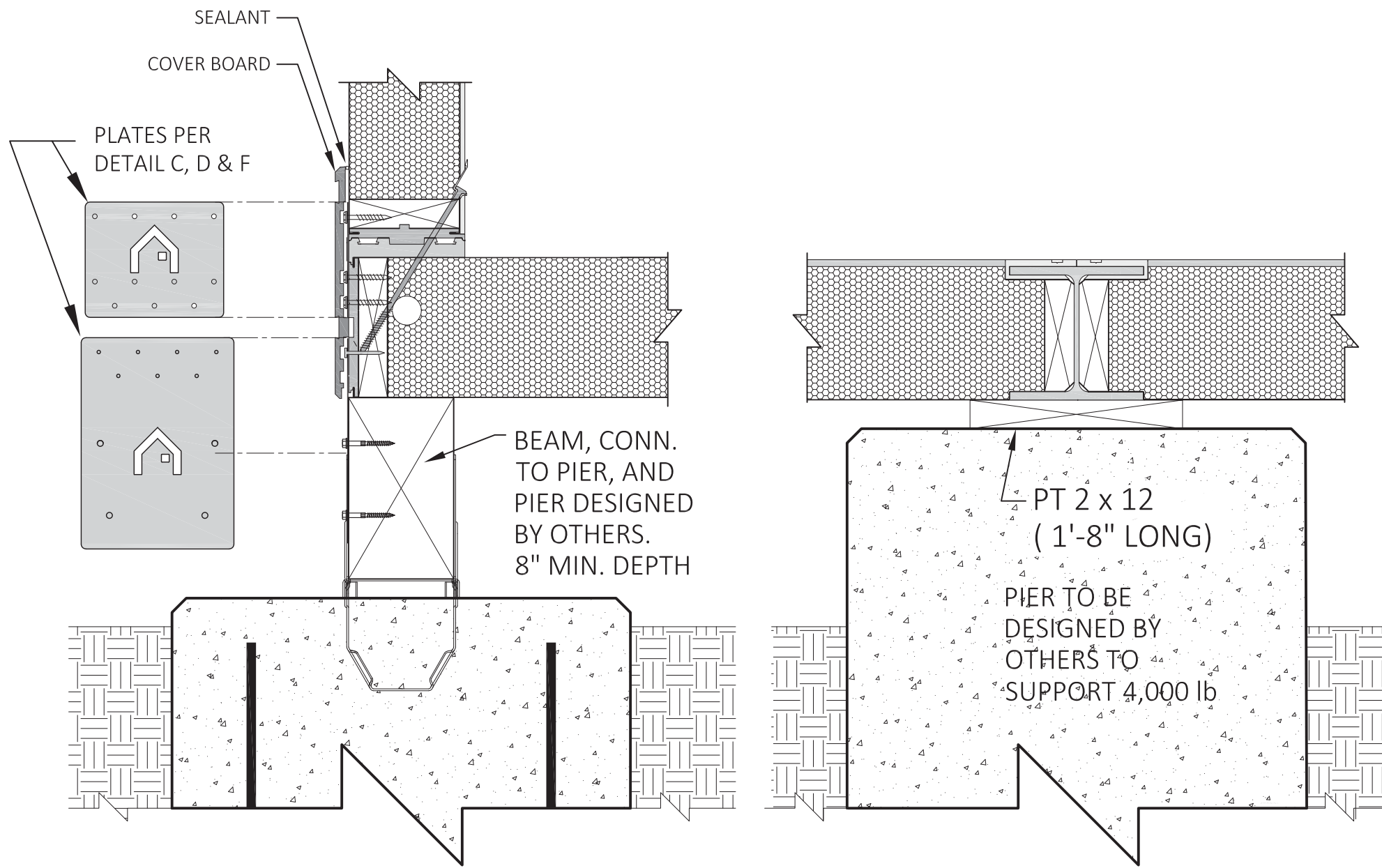
A

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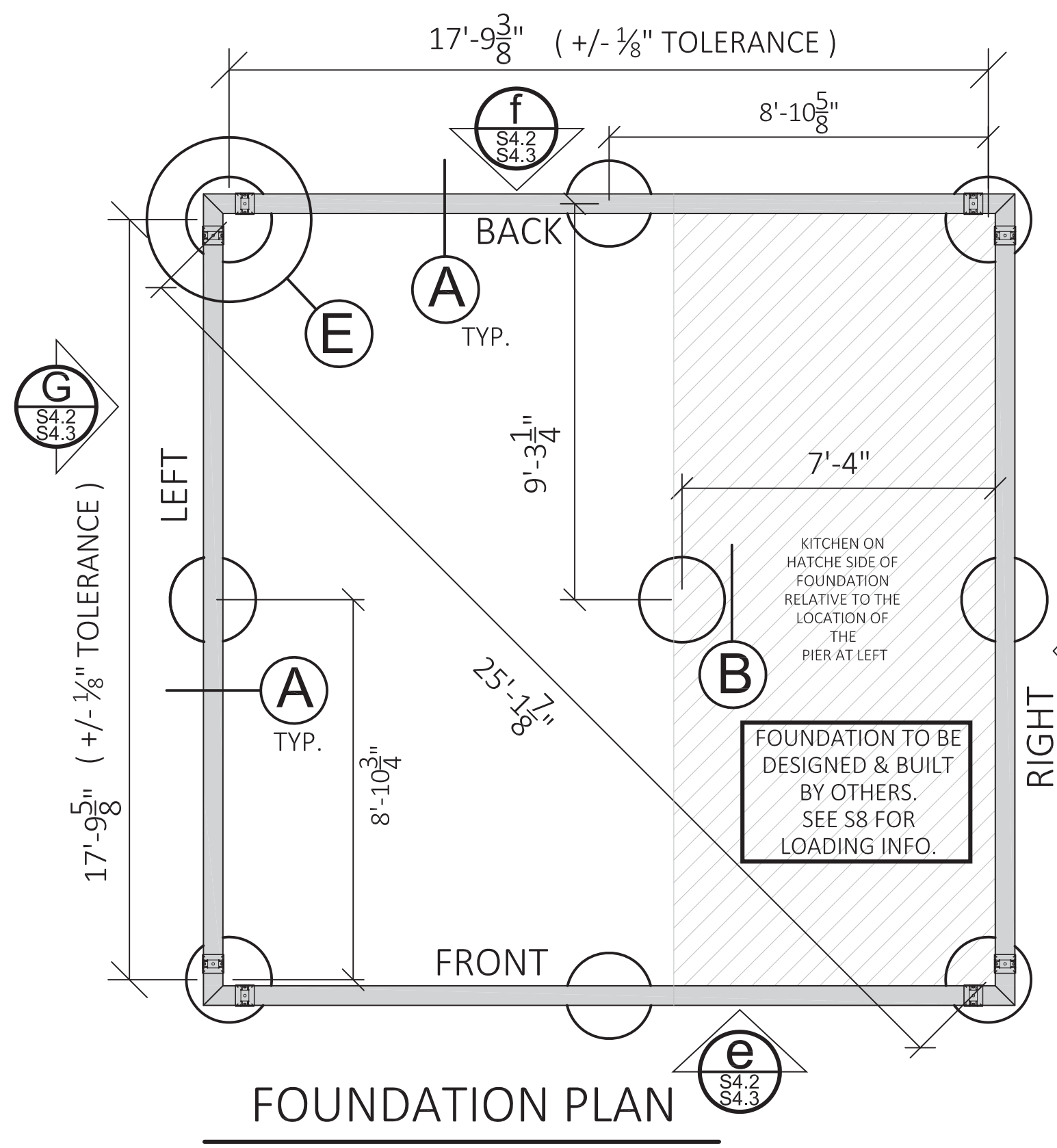
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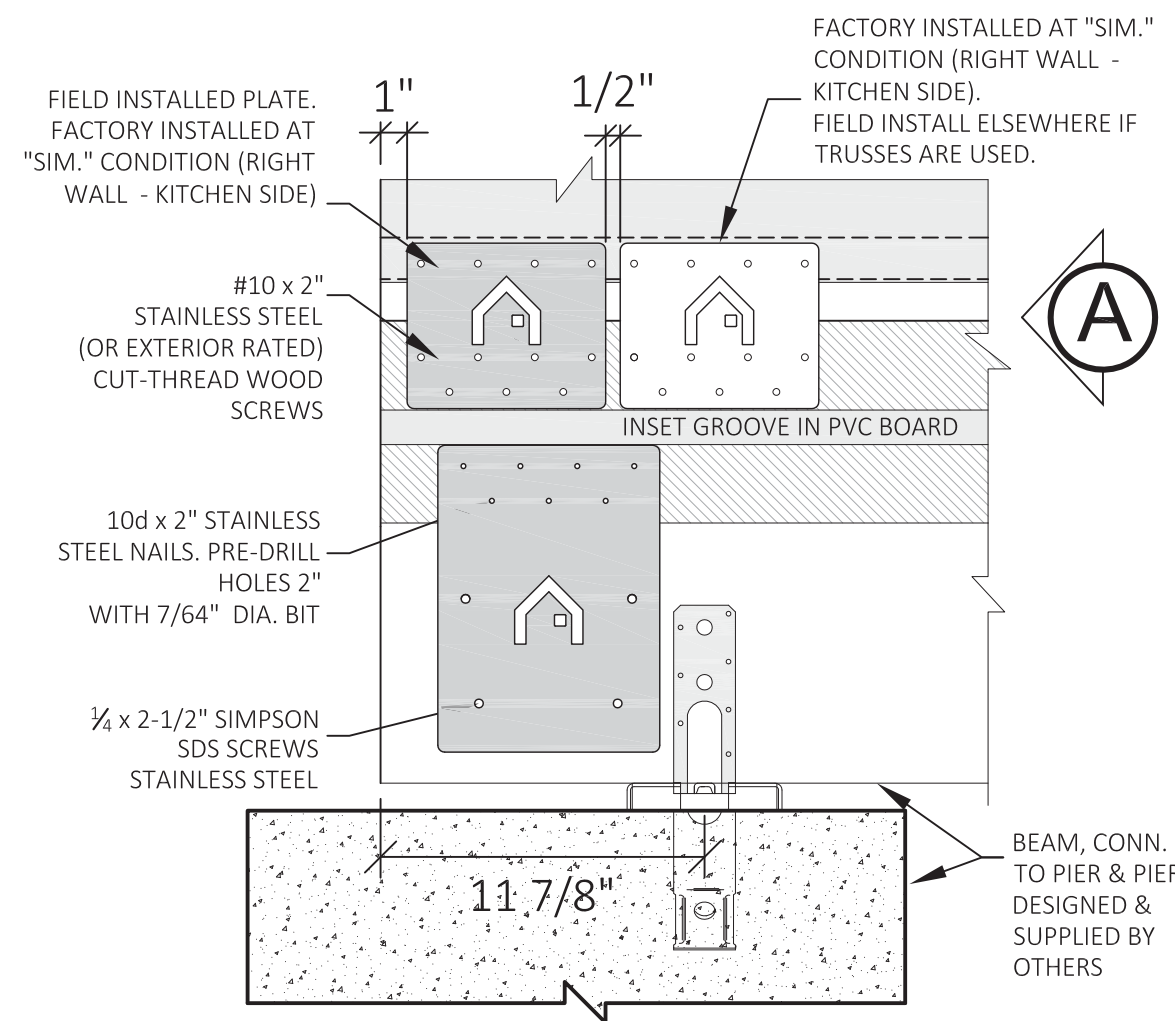
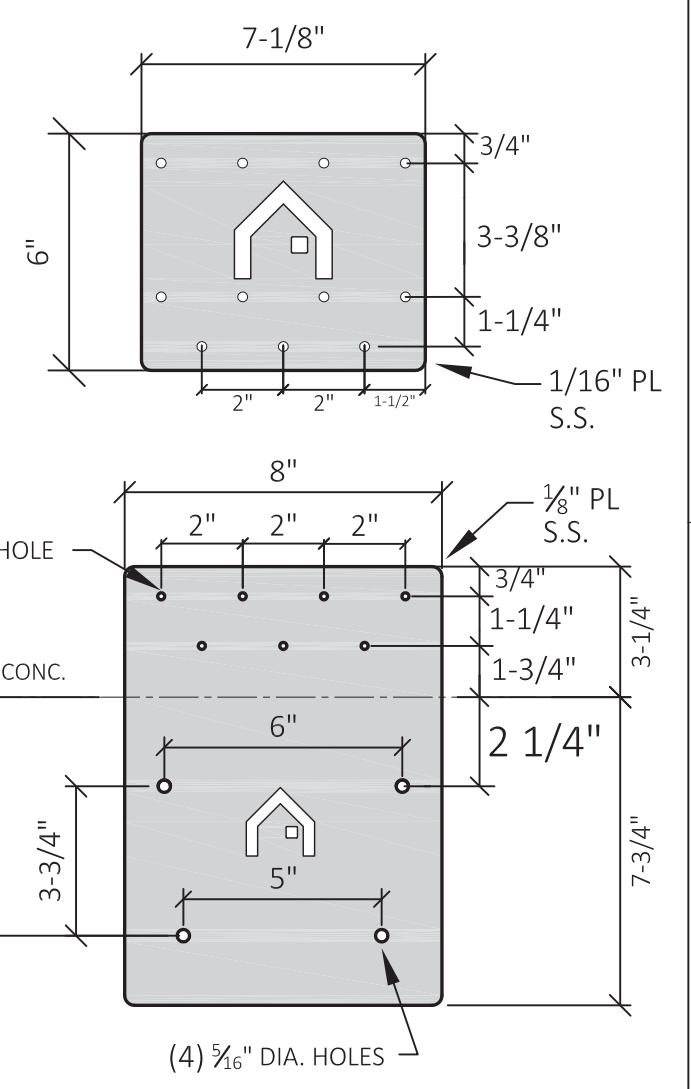
(A) TYPICAL PERIMETER PIER
SCALE: NONE

(B) INTERIOR FOOTING
SCALE: NONE

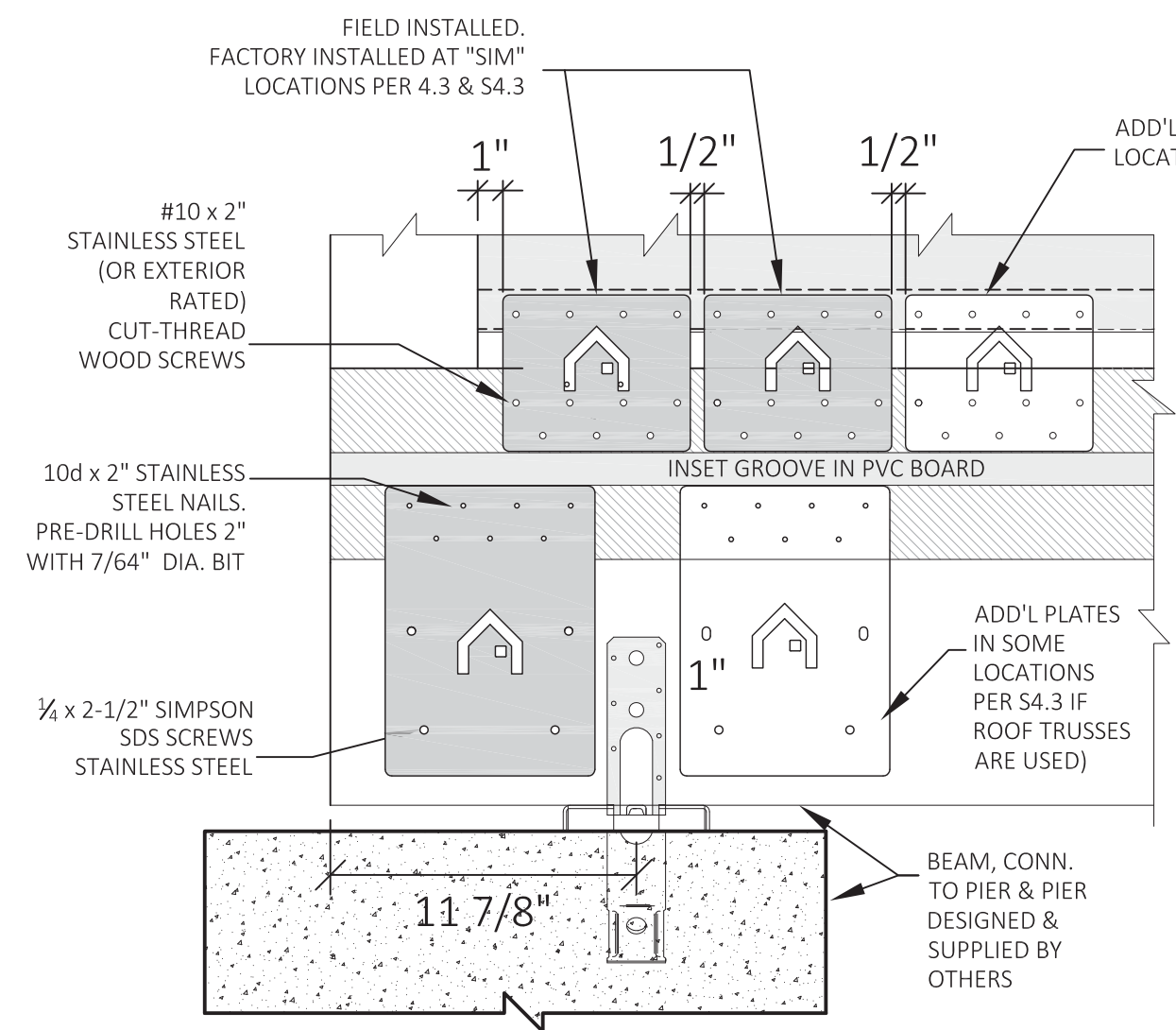


FOUNDATION PLAN

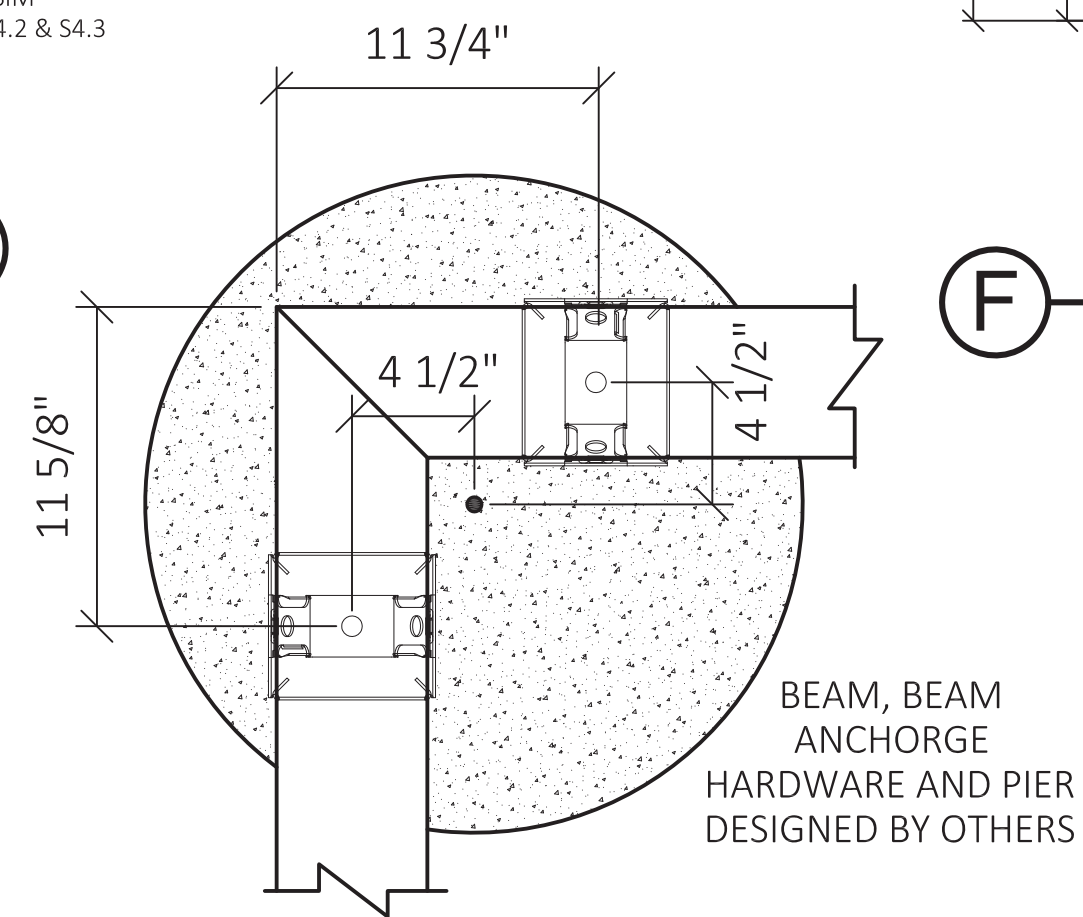
**CONCRETE
PIER & WOOD
BEAM
FOUNDATION
OPTION**
DESIGNED BY OTHERS
SEE S8 FOR LOADS
DO NOT USE FOR SOILS
SUBJECT TO LIQUIFACTION.
FOR EXPANSIVE SOILS SEE S3.3.



(C) HOLD-DOWN'S AT LEFT & RIGHT WALL
SEE S4.2 & S4.3 FOR LOCATION REFERENCE



(D) HOLD-DOWN'S AT FRONT & BACK WALL
SEE S4.2 & S4.3 FOR LOCATION REFERENCE



(E) CORNER PIERS
SCALE: NONE

DATE:	REV:	DESCRIPTION:				UNITS:	FT-IN	MODEL: 2 DOOR CASITA	BOXABL INC.	
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						SHEET SCALE:	NONE		NORTH LAS VEGAS, NV 89115, USA	
						CREATED BY:	MN	MODEL #: BXB-000009	+1(702) 500-9000 HELLO@BOXABL.COM	
						RELEASE DATE:	1/17/2024			
						SHEET:	S3.2			

4 3 2 1

GRADE BEAM OPTION

DESIGNED BY OTHERS.
SEE S8 FOR LOADING.

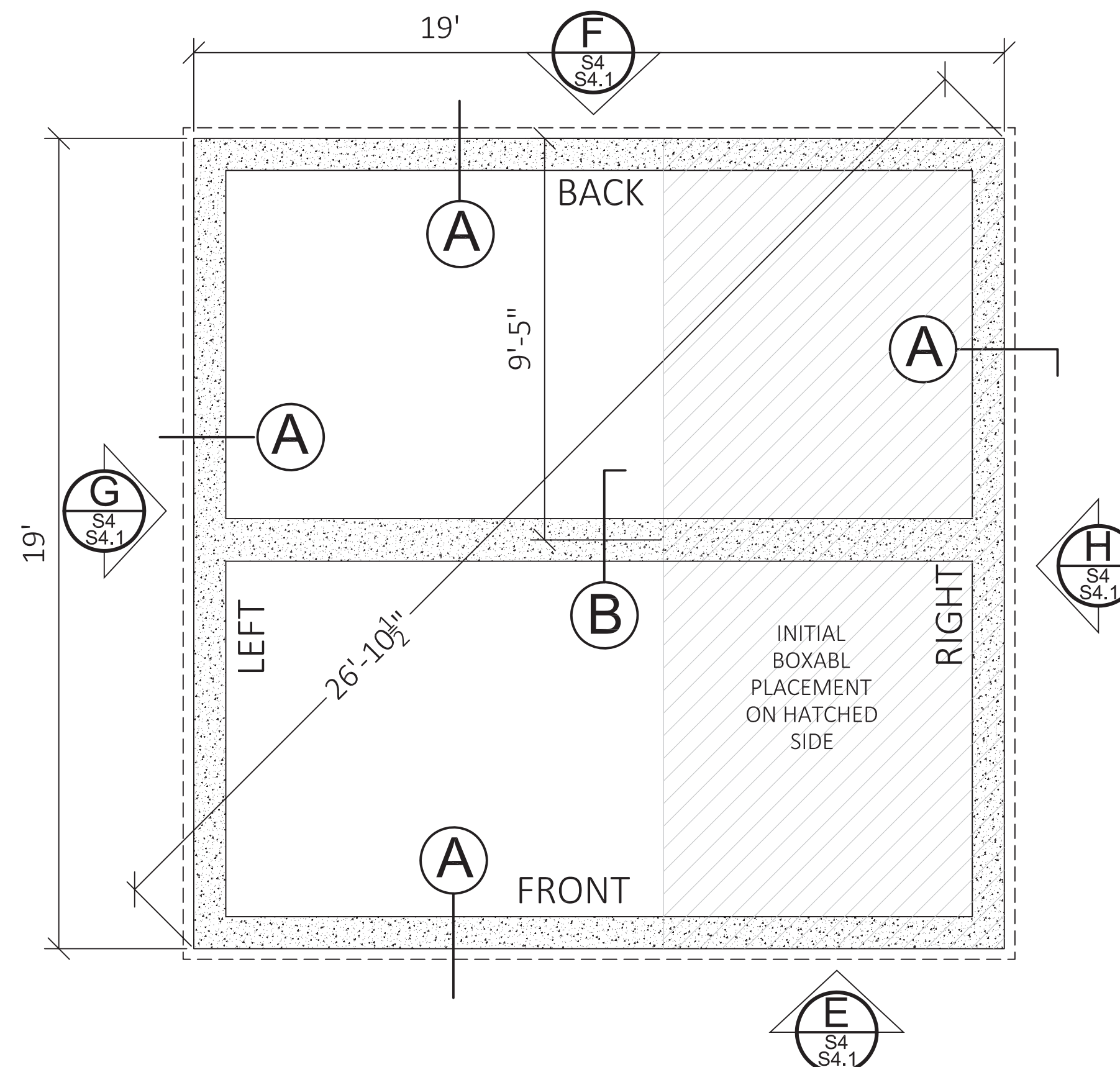
FOR EXPANSIVE SOIL CONDITIONS

NOTES:

TOP SURFACE OF PERIMETER CONCRETE STEMWALL
SHALL BE FLAT AND LEVEL TO WITHIN $\frac{1}{8}$ " BETWEEN ANY
TWO POINTS AROUND THE PERIMETER.

PERIMETER & DIAGONAL DIMENSIONS HAVE NO MARGIN
FOR ERROR FOR ANCHORAGE HARDWARE TO WORK AS
INTENDED.

CONCRETE TO HAVE A MIN. 28 DAY COMPRESSIVE
STRENGTH, $f'_c = 2,500$ psi.



FOUNDATION PLAN

EXPANSIVE SOIL NOTES:

MANY FOUNDATION OPTIONS ARE AVAILABLE TO DEAL WITH EXPANSIVE SOILS. THE MOST EFFECTIVE BEING THE MOST COSTLY, AND VICE-VERSA. THEREFORE, THE OWNER SHOULD BE INVOLVED IN THE DECISION IN WITH THE CONTRACTOR. RECOMMENDATIONS BY A LOCAL GEOTECHNICAL ENGINEER IS RECOMMENDED, PARTICULARLY IN SEVERE CASES, AND IF STRUCTURE TILTING IS UNACCEPTABLE.

THE GENERIC DETAILS SHOWN ON THIS SHEET REPRESENT A LOWER COST OPTION. GRADE BEAM DIMENSIONS AND REINFORCEMENT NEED TO BE DESIGNED BY A LICENSED PROFESSIONAL STRUCTURAL ENGINEER. THIS OPTION DOES NOT PREVENT THE BOXABL CASITA FROM TILTING CAUSED BY DIFFERENTIAL SOIL EXPANSION - THEREFORE IT'S IMPORTANT THAT PLUMBING LINES CAN ACCOMODATE MOVEMENT, AND PLUMBING CONNECTIONS ARE FLEXIBLE TO ACCOMODATE MOVEMENT. SEE PLUMBING DRAWINGS (BY OTHERS) FOR DESIGN MEASURES TO ACCOMODATE EXPANSIVE SOIL.

IF TILTING IS NOT ACCEPTABLE, THE GRADE BEAMS WILL NEED TO BE ANCHORED TO 6 TO 8 VERTICAL MOVEMENT-RESISTNG CONCRETE OR HELICAL PIERS WITH THE GRADE BEAMS POURED OVER A COMPRESSIBLE MATERIAL THAT ACCOMODATES SOIL EXPANSION WITHOUT LOADING THE GRADE BEAMS. THE SPECIFICS OF THESE MEASURES, OR ALTERNATE SYTEMS, SHOULD BE PROVIDED BY A GEOTECHNICAL ENGINEER AND DESIGNED BY A LICENSED STRUCTURAL ENGINEER.

THE FOUNDATION CONCEPT SHOWN IS NOT SUITABLE FOR SOIL SUBJECT TO LIQUIFICATION.

BOXABL STAINLESS
STEEL PLATES PER
DETAIL B / S3
LOCATE PER
ELEVATIONS ON
S4 or S4.1.
SEE DETAIL C & D / S3
FOR FASTENER INFO

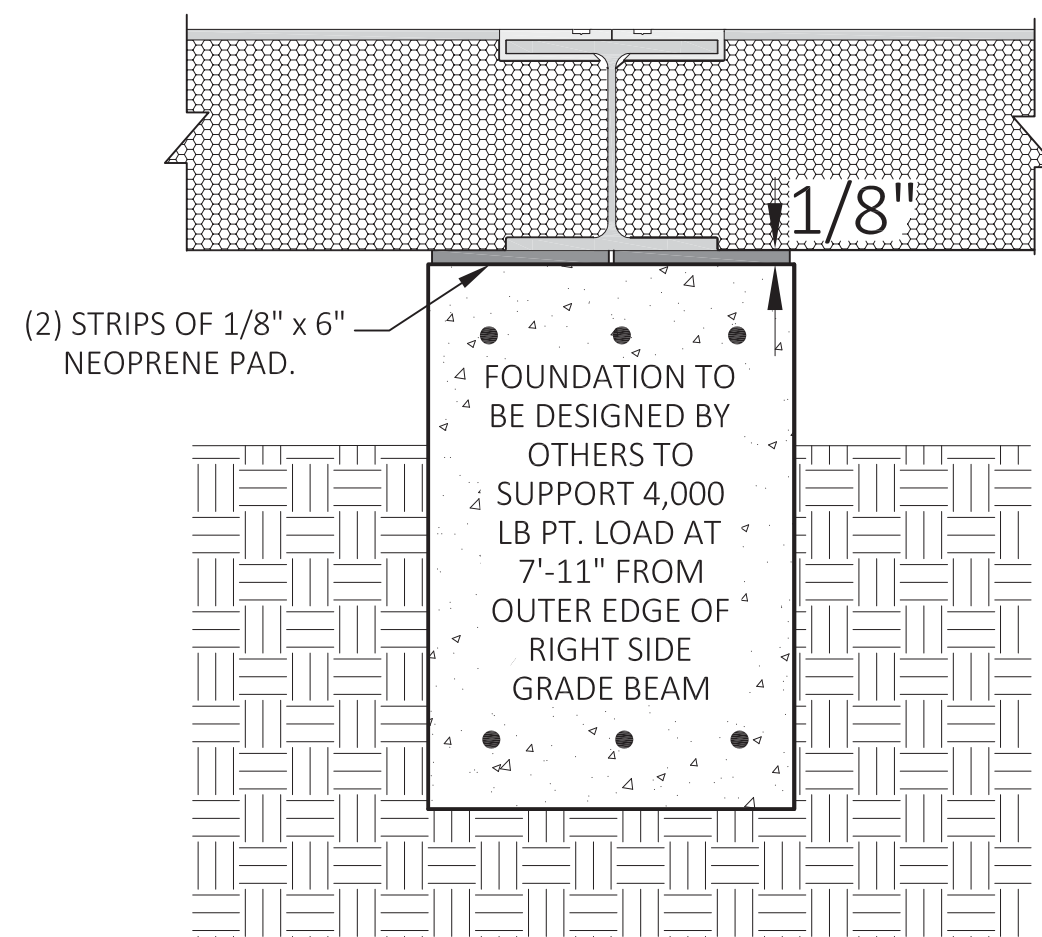
SEALANT

1/8" x 6"
CONTINUOUS
NEOPRENE PAD
OVERHANG $\frac{1}{4}$ " AT
RIGHT EDGE OF
STEMWALL

10 MIL. (MINIMUM)
CLASS 1
VAPOR RETARDER
CONFORMING TO ASTM
E1745 CLASS "A"
LAPPED 6" MIN. AT JOINTS.
EXTEND UP WALL & TUCK IN
2" BELOW NEOPRENE PAD

FOUNDATION TO
BE DESIGNED &
BUILT BY
OTHERS

A PERIMETER FLOOR EDGE SCALE: NONE



B INTERIOR BEAM SUPPORT SCALE: NONE

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						SHEET SCALE:	NONE	MODEL #: BXB-000009	NORTH LAS VEGAS, NV 89115, USA	
						CREATED BY:	MN		+1(702) 500-9000	HELLO@BOXABL.COM
						RELEASE DATE:	1/17/2024			
						SHEET:	S3.3			



D

C

B

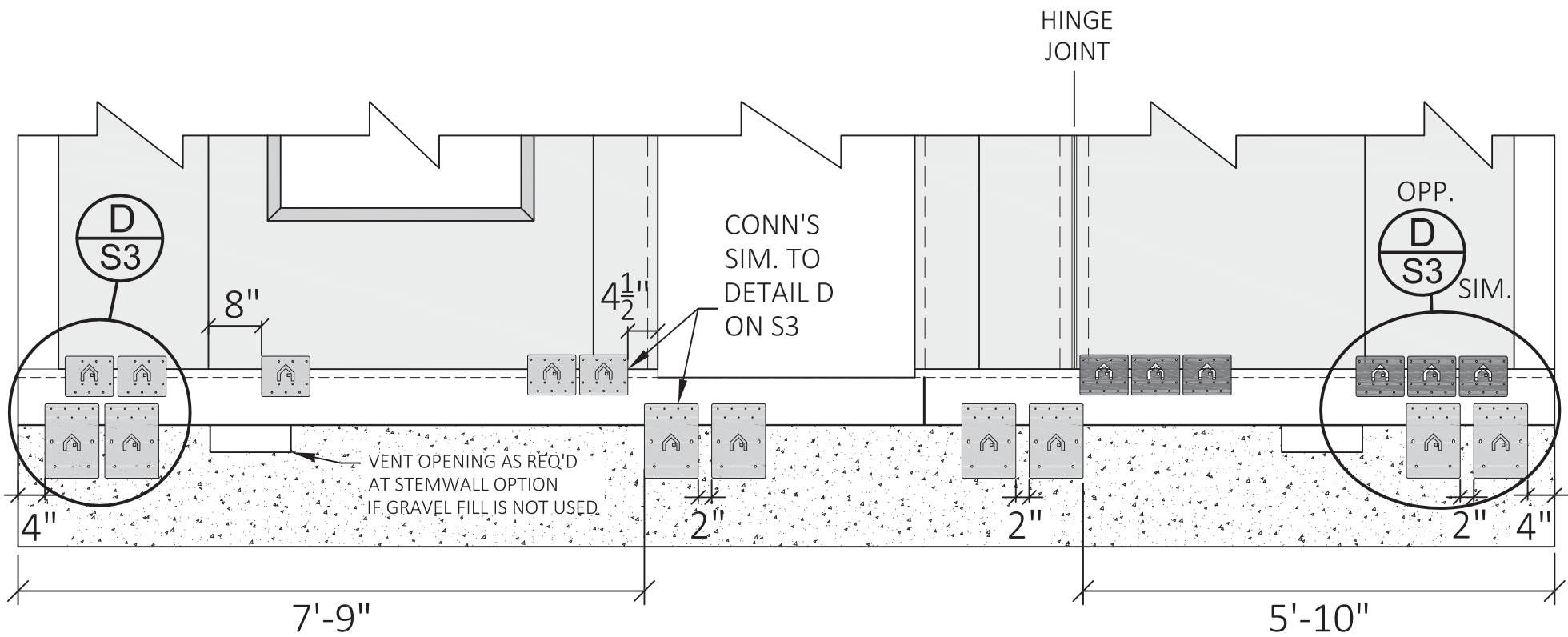
A

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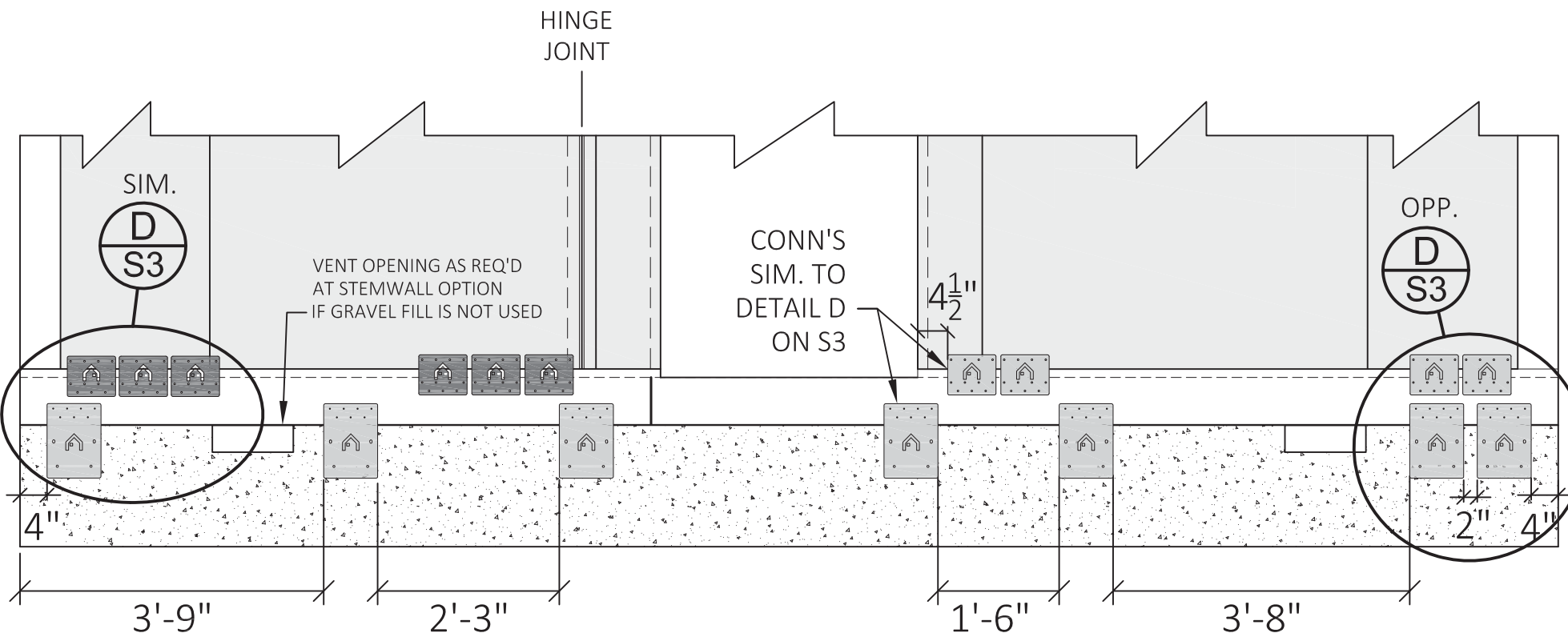
C

B

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E FRONT WALL



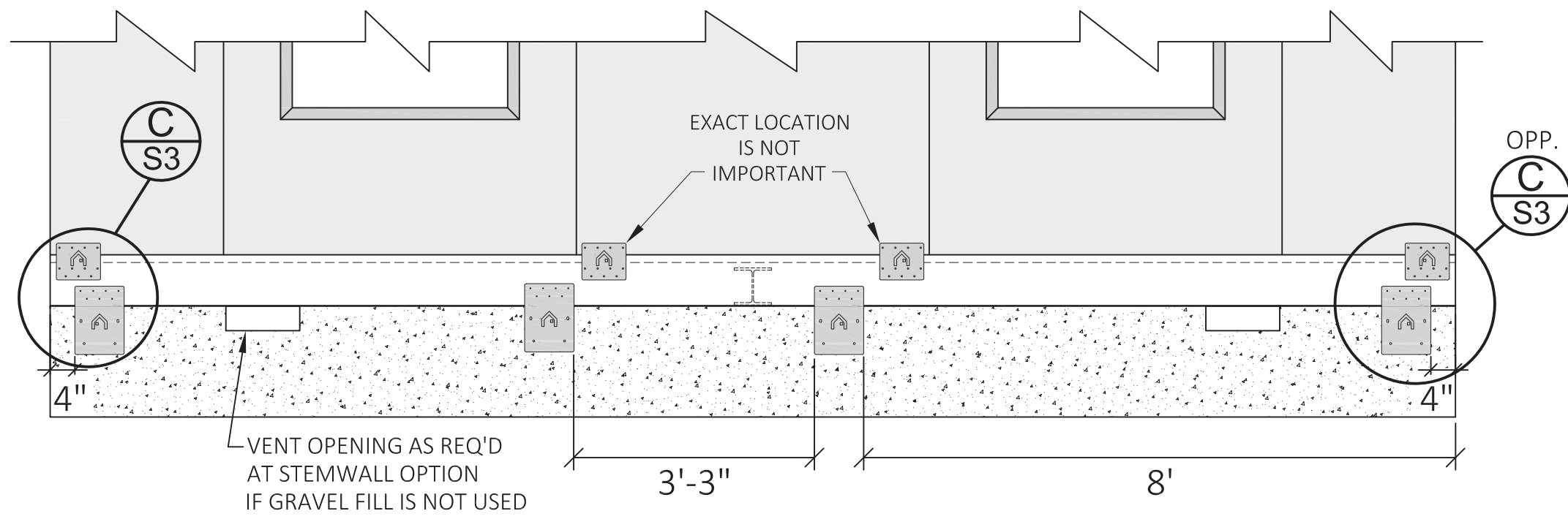
F BACK WALL

CONCRETE FOUNDATION
OPTION
DESIGNED & BUILT BY OTHERS

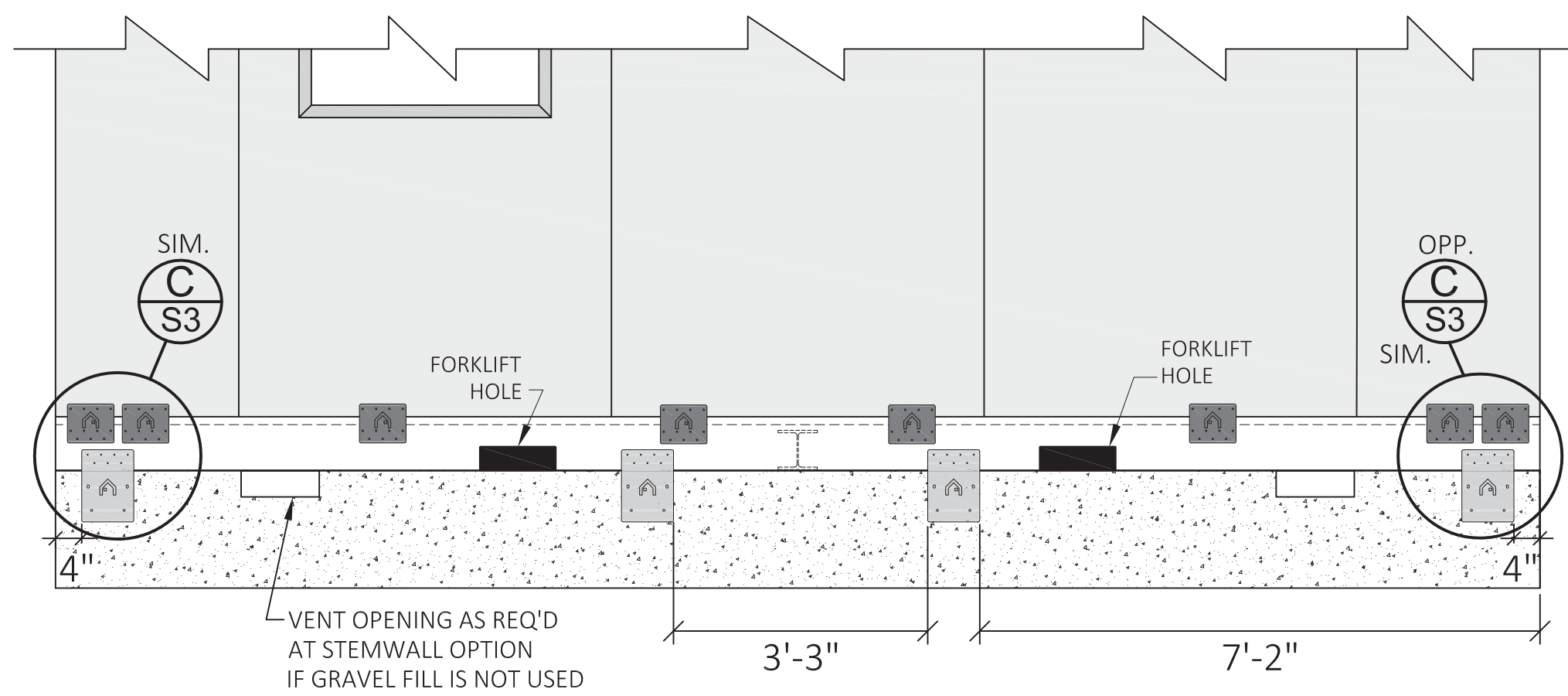
- FACTORY INSTALLED BOXABL PLATES
(FIELD INSTALL IF ANY ARE MISSING)
- FIELD INSTALLED BOXABL PLATES

ANCHOR PLATE REQ'TS FOR
BASE MODEL CONDITION

SEE S4.1 IF TRUSSES ARE USED

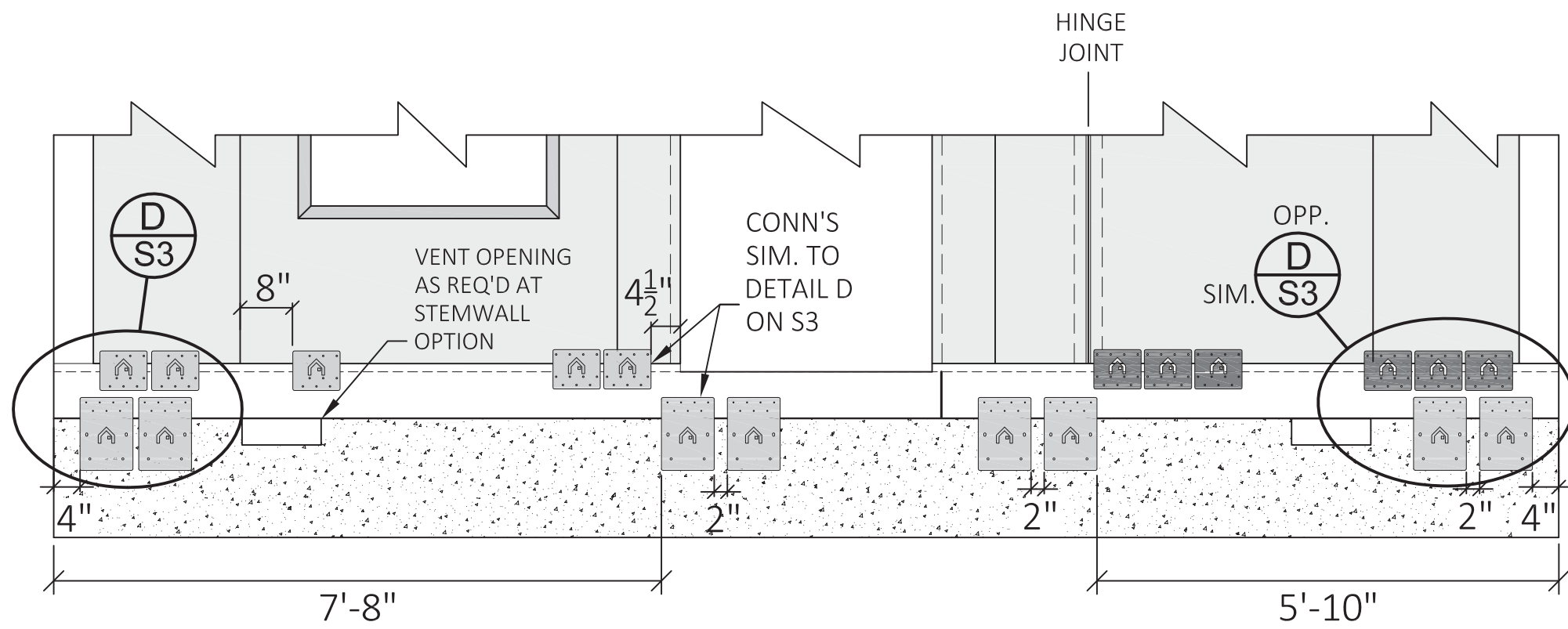


G LEFT WALL

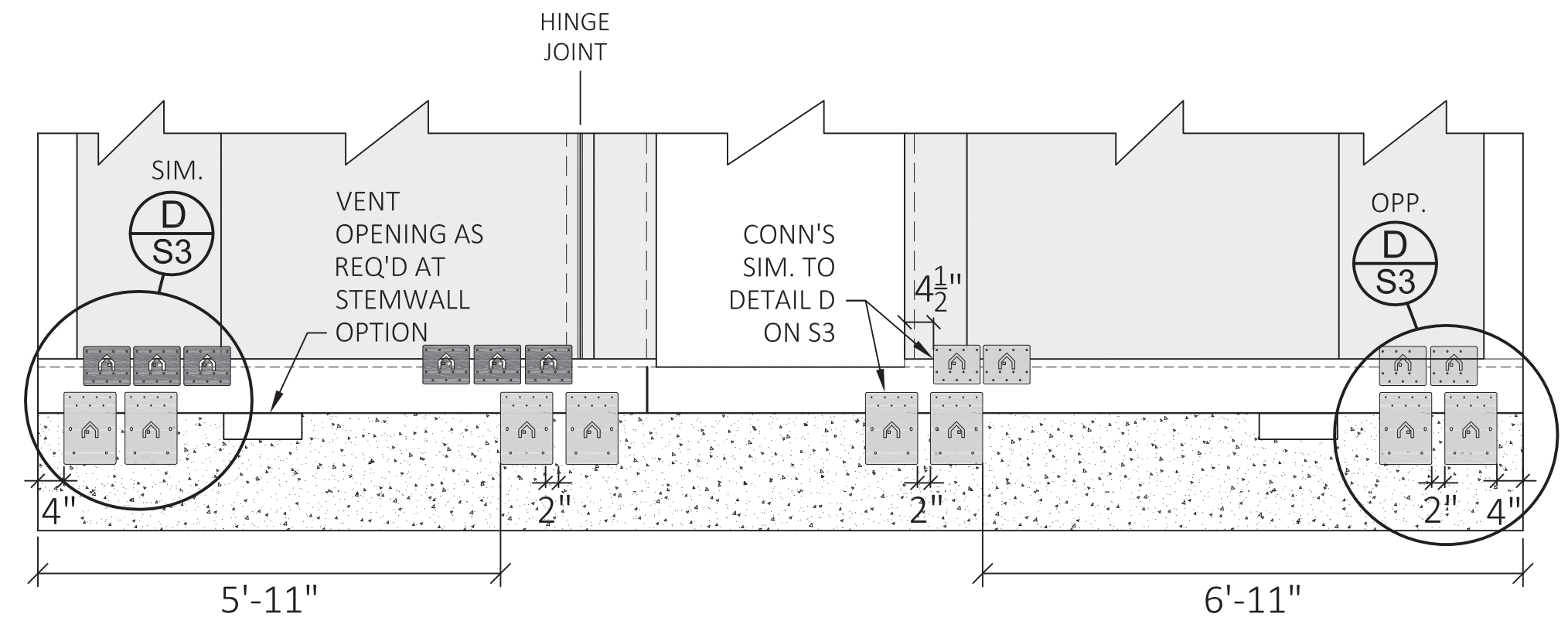


H RIGHT WALL
KITCHEN SIDE

DATE:	REV:	DESCRIPTION:			UNITS:	MODEL: 2 DOOR CASITA	BOXABL INC.	
					FT-IN		5345 EAST NORTH BELT ROAD	
					SHEET FORMAT:		NORTH LAS VEGAS, NV 89115, USA	
					SHEET SCALE:		+1(702) 500-9000 HELLO@BOXABL.COM	
					CREATED BY:			
					RELEASE DATE:			
					SHEET:	S4		



E FRONT WALL



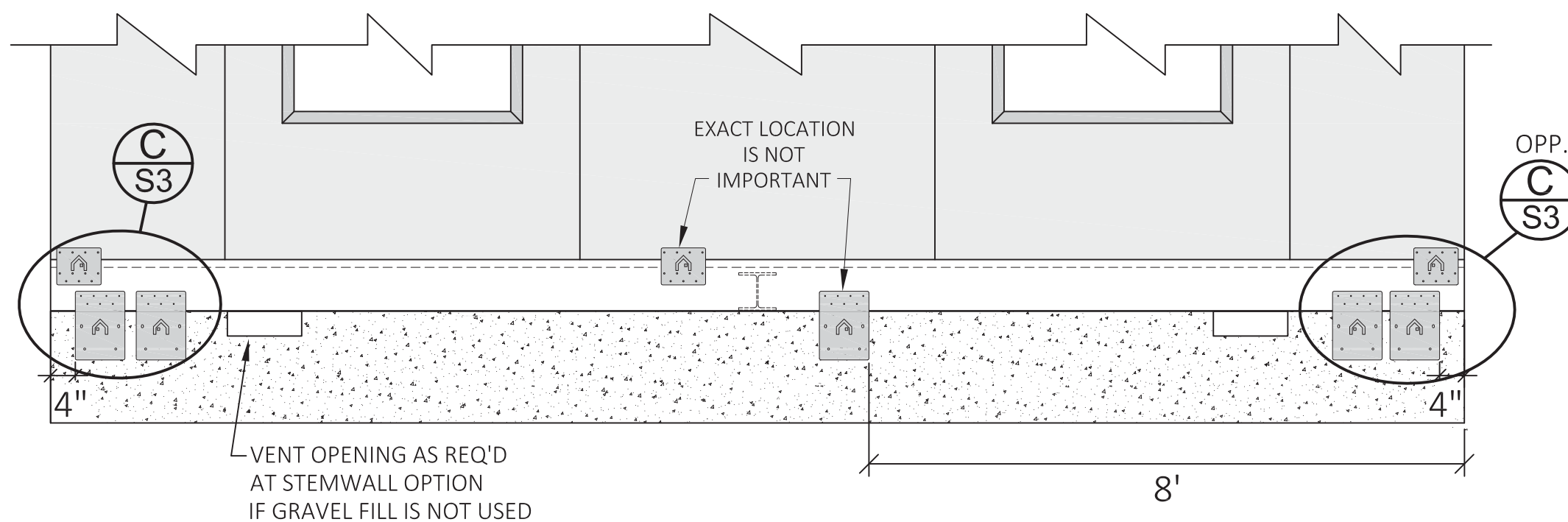
F BACK WALL

**CONCRETE FOUNDATION
OPTION**
DESIGNED & BUILT BY OTHERS

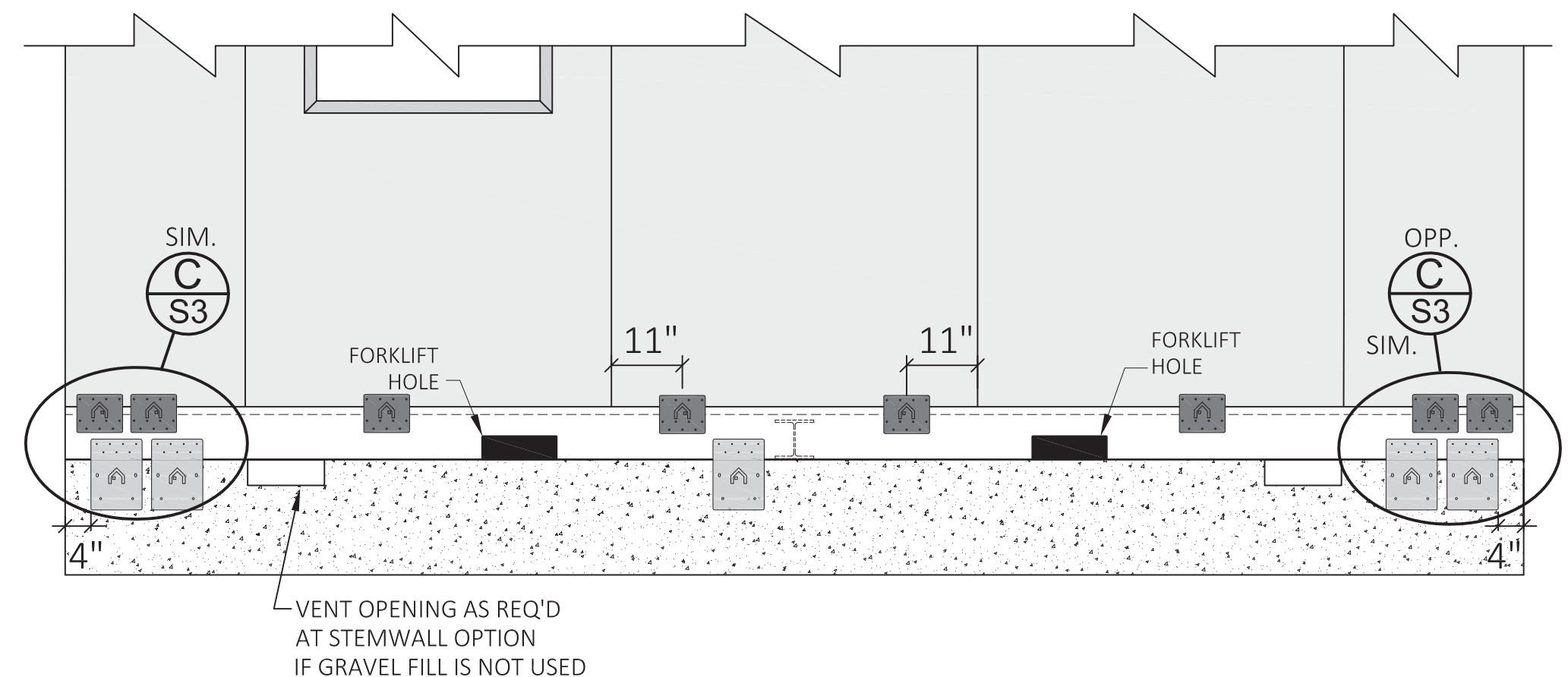
- FACTORY INSTALLED BOXABL PLATES
(FIELD INSTALL IF ANY ARE MISSING)
- FIELD INSTALLED BOXABL PLATES

**ANCHOR PLATE REQ'TS WHEN
ROOF TRUSSES ARE ADDED**

SEE S4 IF ROOF TRUSSES ARE NOT USED

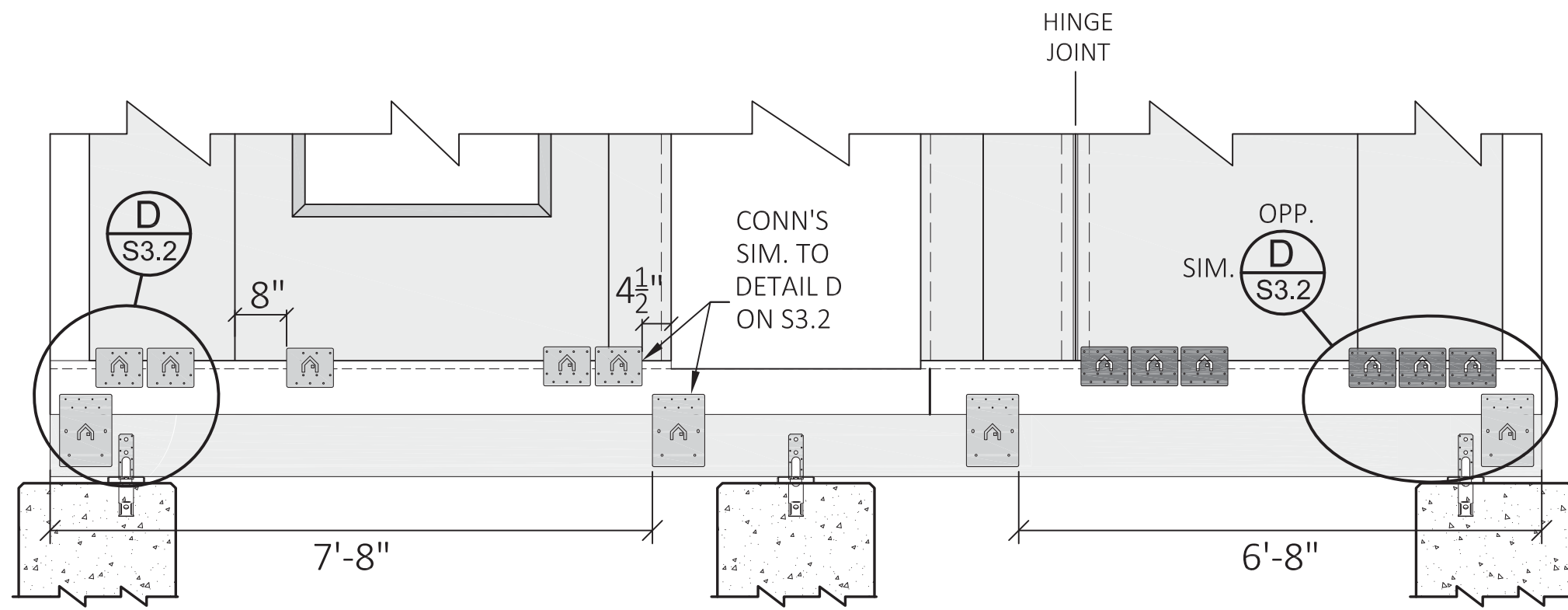


G LEFT WALL

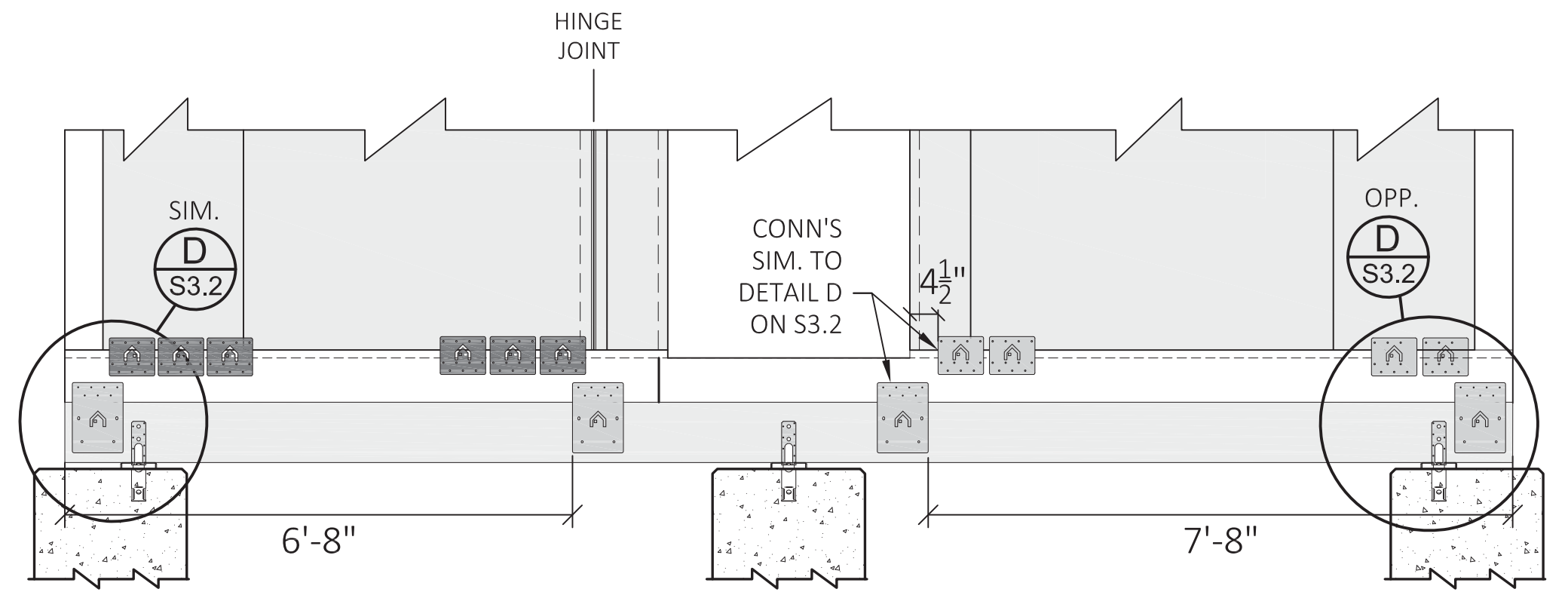


**H RIGHT WALL
KITCHEN SIDE**

DATE:	REV:	DESCRIPTION:			UNITS:	MODEL: 2 DOOR CASITA	BOXABL INC.	
					FT-IN		5345 EAST NORTH BELT ROAD	
					SHEET FORMAT: ARCH C		NORTH LAS VEGAS, NV 89115, USA	
					SHEET SCALE: NONE	MODEL #: BXB-000009	+1(702) 500-9000 HELLO@BOXABL.COM	
					CREATED BY: MN			
					RELEASE DATE: 1/17/2024			
					SHEET: S4.1			





e FRONT WALL



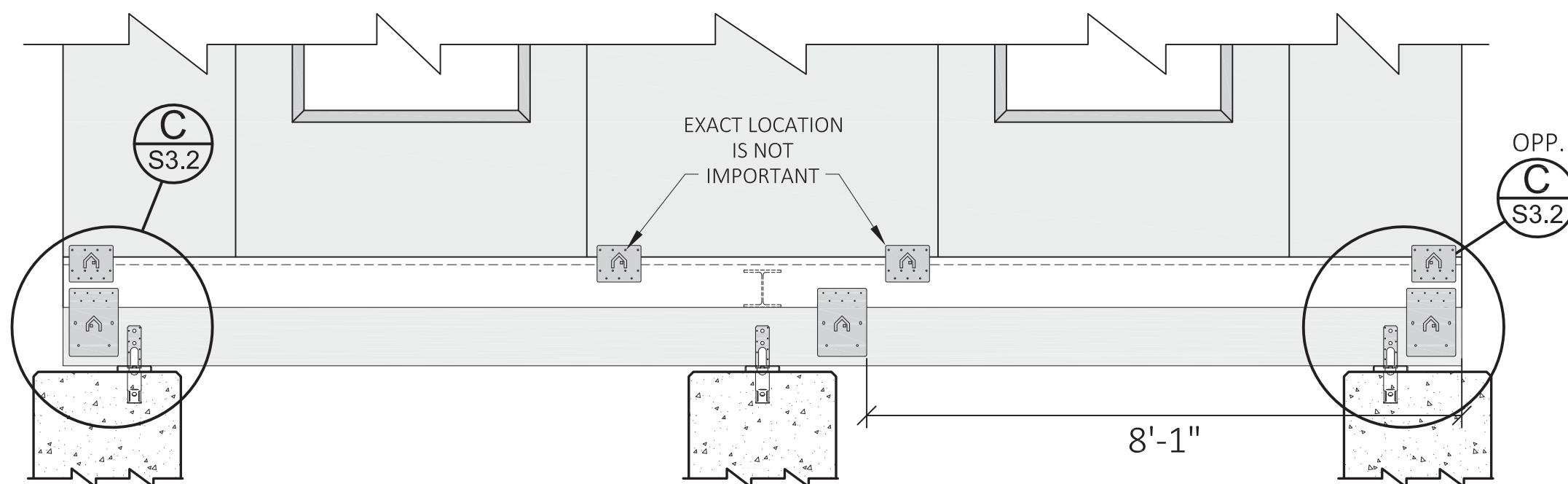
f BACK WALL

**CONCRETE PIER & BEAM
OPTION**
DESIGNED & BUILT BY OTHERS

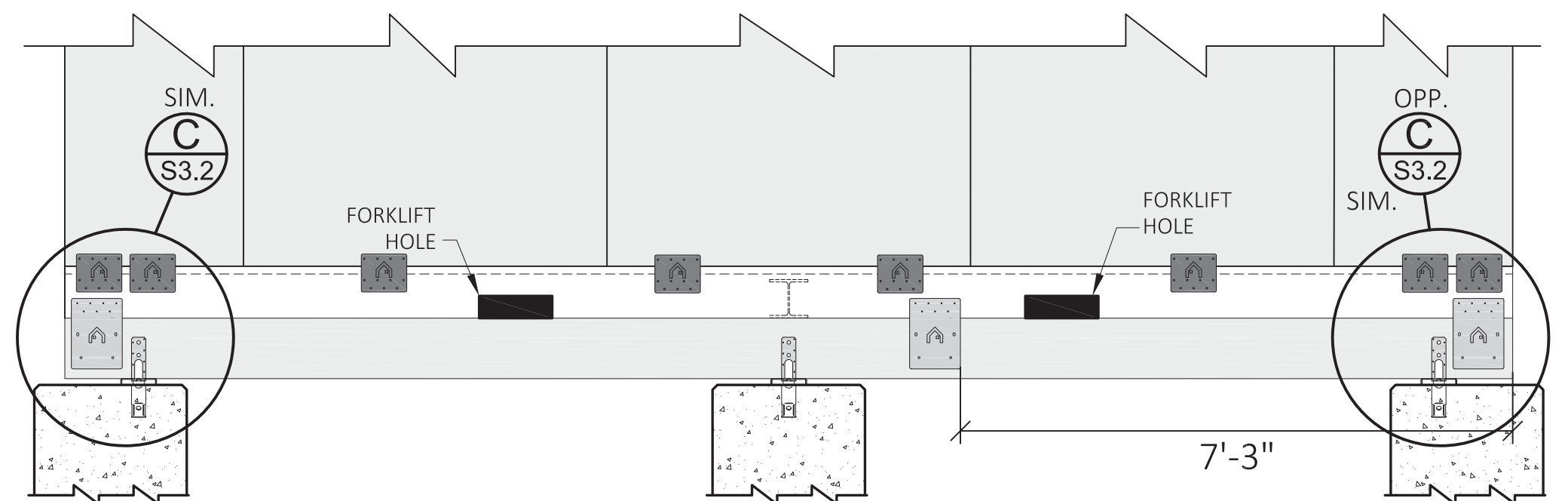
-  FACTORY INSTALLED BOXABL PLATES
(FIELD INSTALL IF ANY ARE MISSING)
-  FIELD INSTALLED BOXABL PLATES

**ANCHOR PLATE REQ'TS FOR
FLAT ROOF CONDITION**

SEE S4.3 IF TRUSSES ARE USED

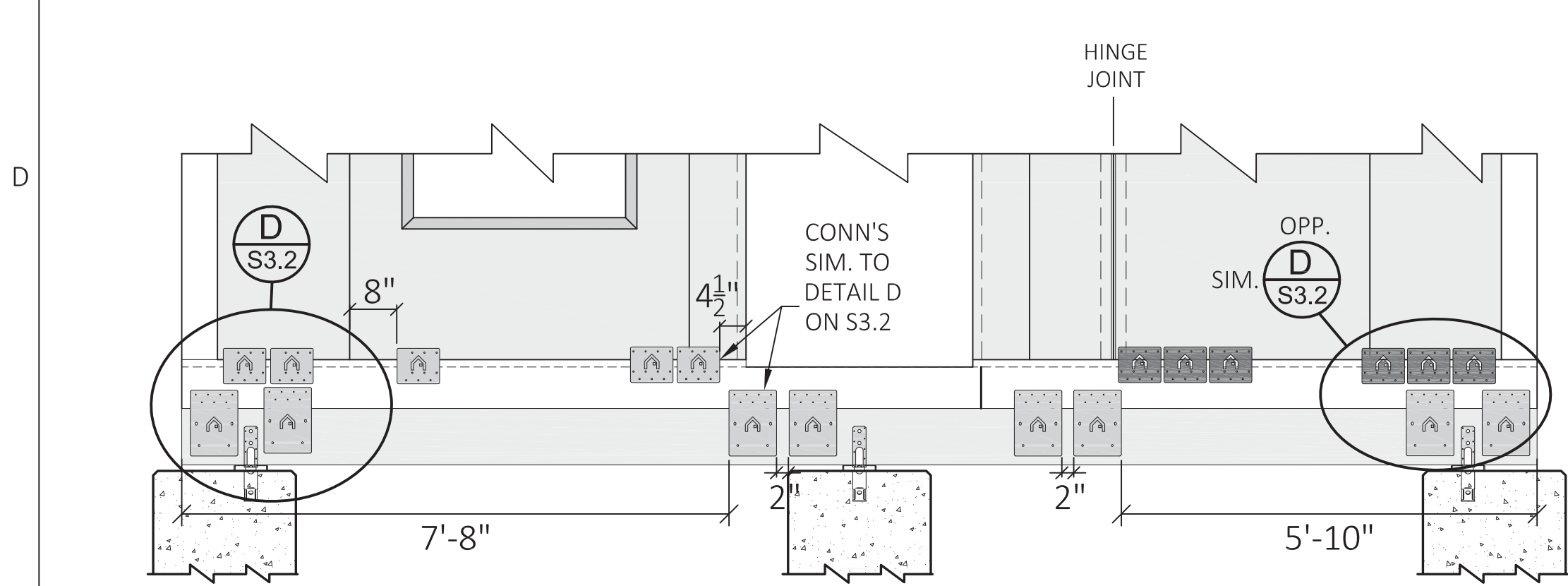


G LEFT WALL

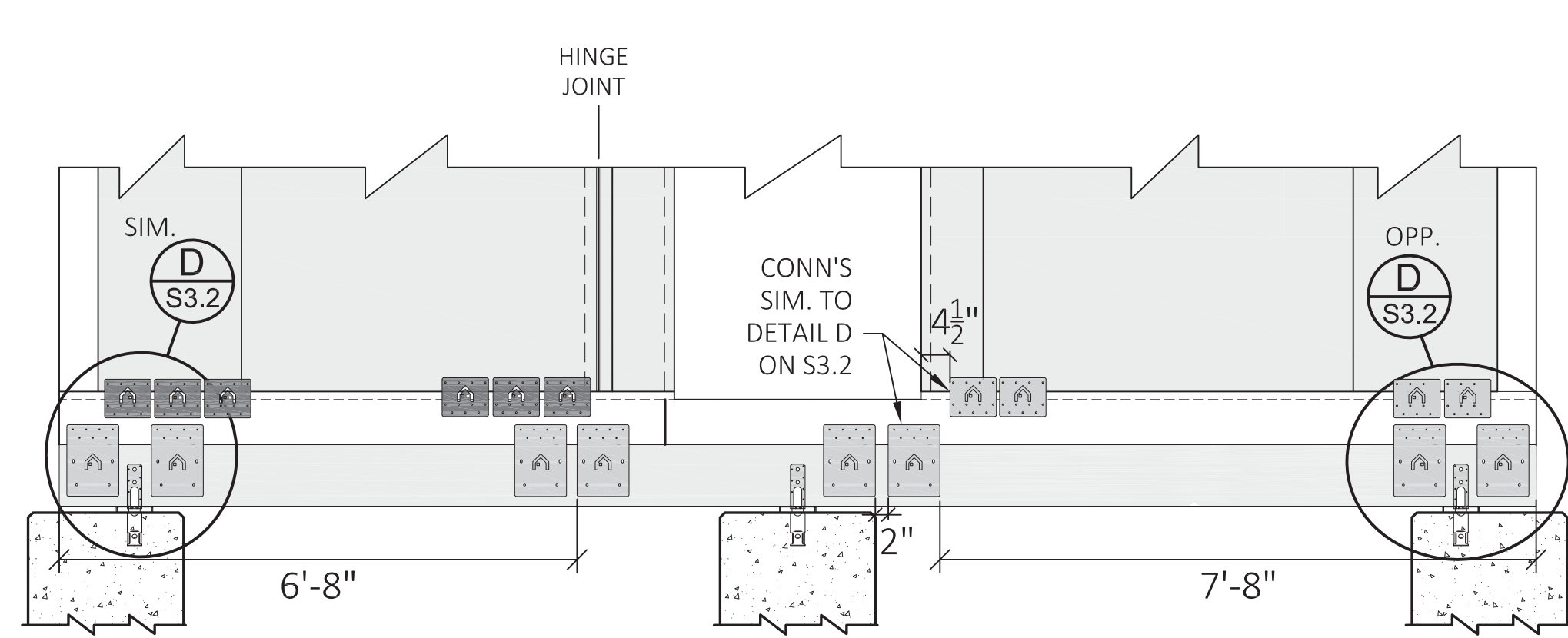


H RIGHT WALL
KITCHEN SIDE

DATE:	REV:	DESCRIPTION:			UNITS:	MODEL: 2 DOOR CASITA	BOXABL INC.	
					FT-IN		5345 EAST NORTH BELT ROAD	
					SHEET FORMAT: ARCH C		NORTH LAS VEGAS, NV 89115, USA	
					SHEET SCALE: NONE	MODEL #: BXB-000009	+1(702) 500-9000 HELLO@BOXABL.COM	
					CREATED BY: MN			
					RELEASE DATE: 1/17/2024			
					SHEET: S4.2			



e FRONT WALL



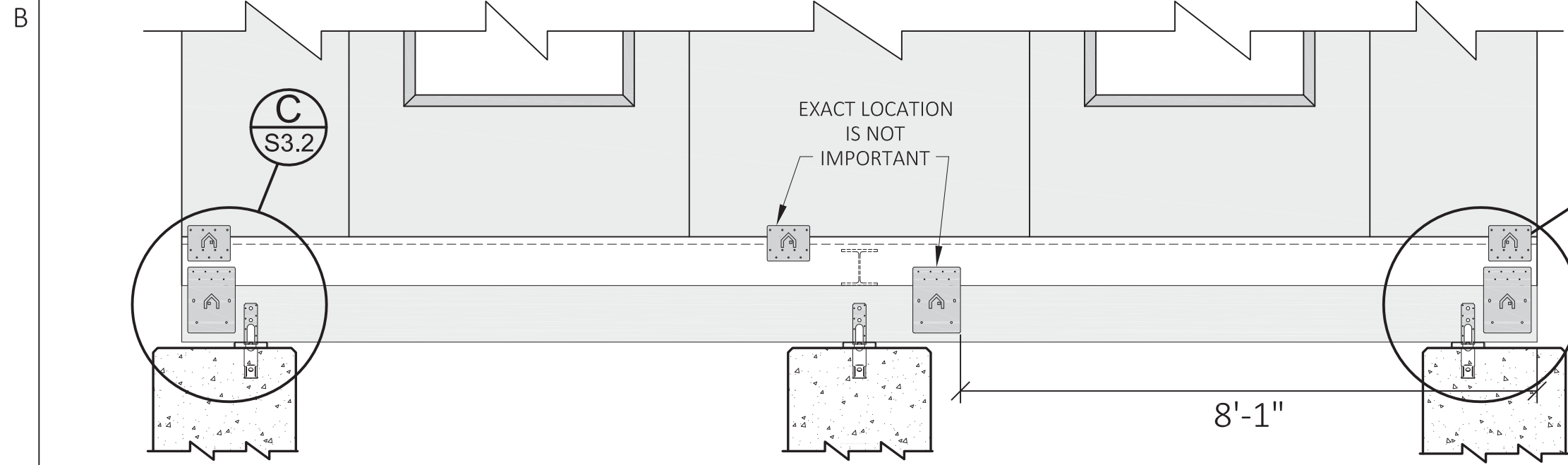
f BACK WALL

CONCRETE PIER & BEAM
OPTION
DESIGNED & BUILT BY OTHERS

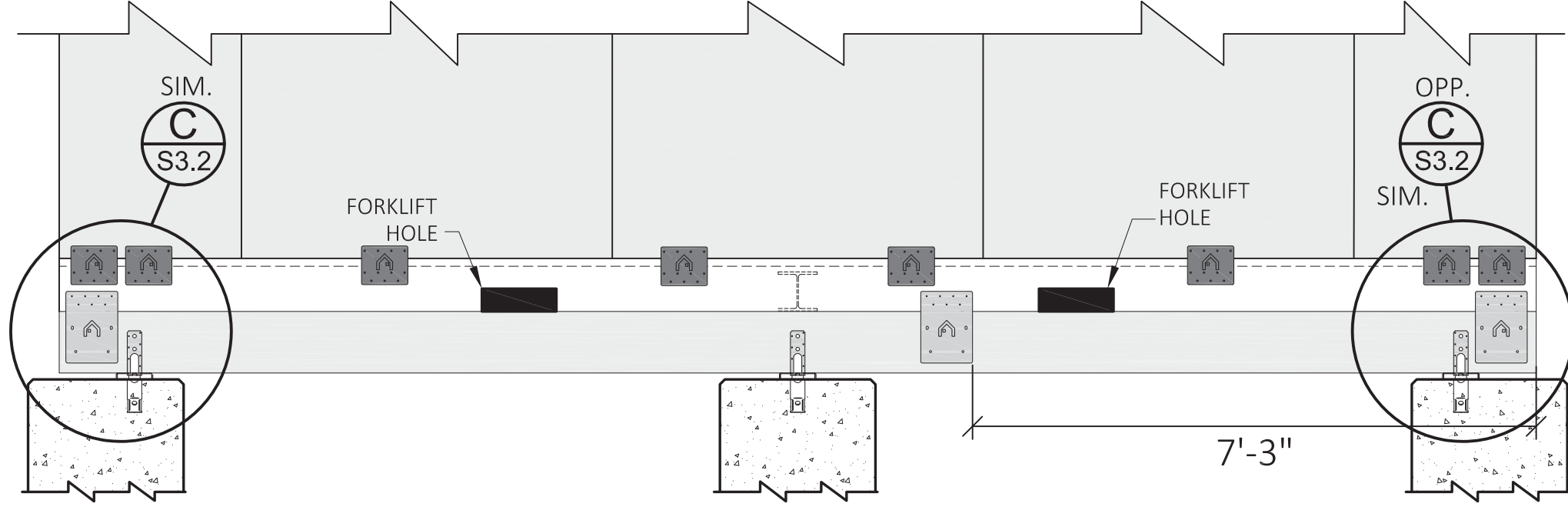
- FACTORY INSTALLED BOXABL PLATES
(FIELD INSTALL IF ANY ARE MISSING)
- FIELD INSTALLED BOXABL PLATES

ANCHOR PLATE REQ'TS WHEN
ROOF TRUSSES ARE ADDED

SEE S4.2 IF TRUSSES ARE NOT USED



G LEFT WALL



H RIGHT WALL
KITCHEN SIDE

DATE:	REV:	DESCRIPTION:			UNITS:	MODEL: 2 DOOR CASITA	BOXABL INC.	
					FT-IN		5345 EAST NORTH BELT ROAD	
					SHEET FORMAT:		NORTH LAS VEGAS, NV 89115, USA	
					SHEET SCALE:		+1(702) 500-9000 HELLO@BOXABL.COM	
					CREATED BY:			
					RELEASE DATE:			
					SHEET:	S4.3		

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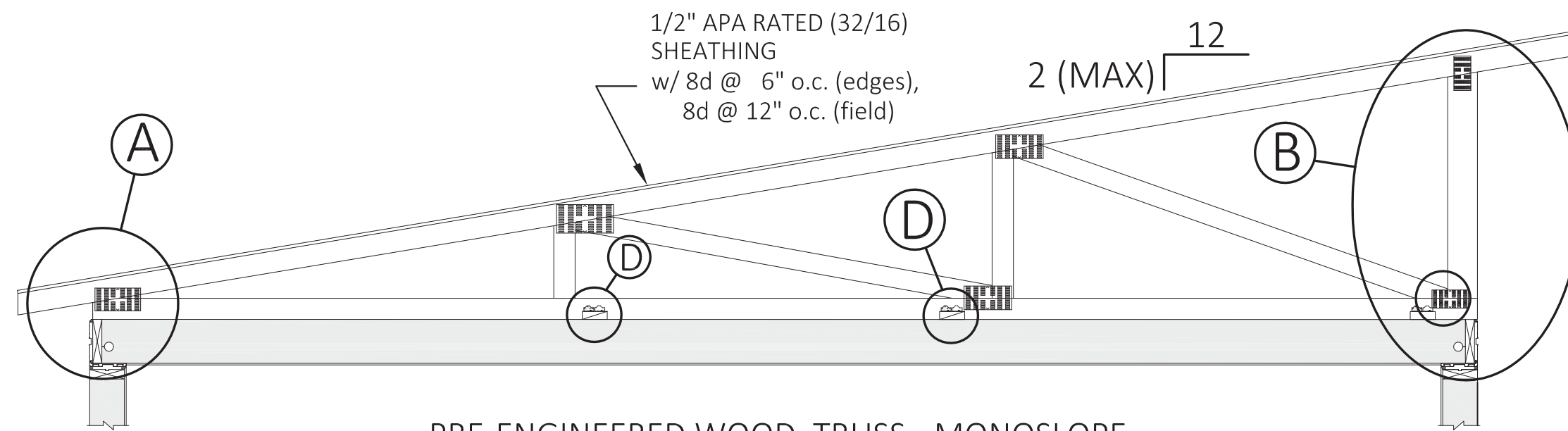
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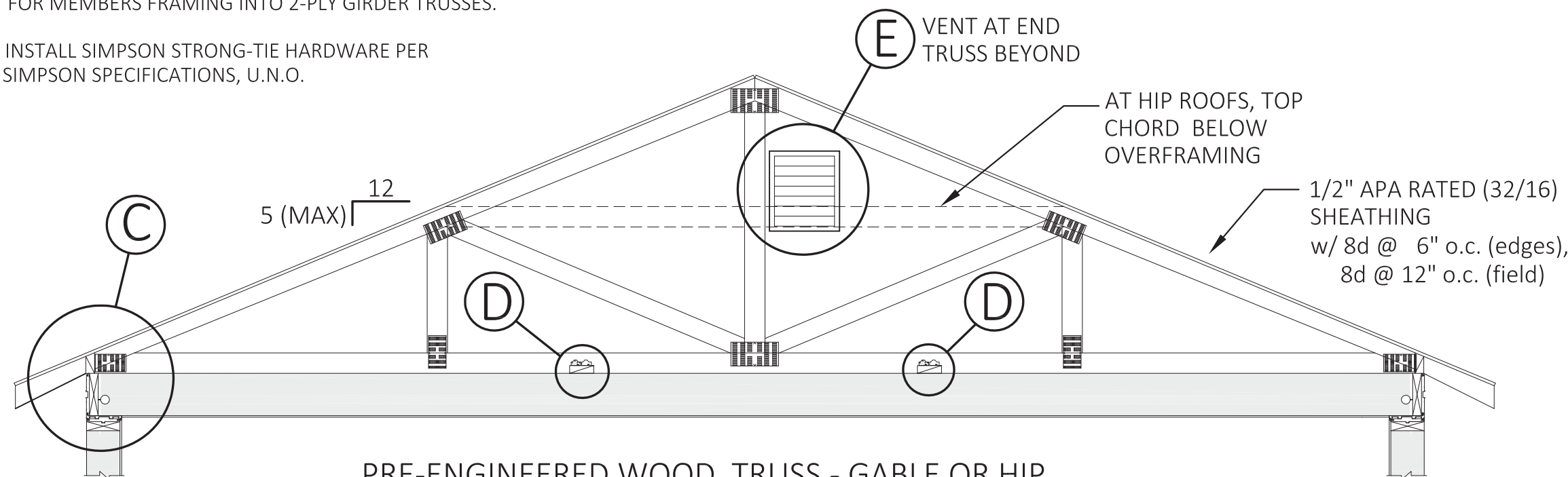
A



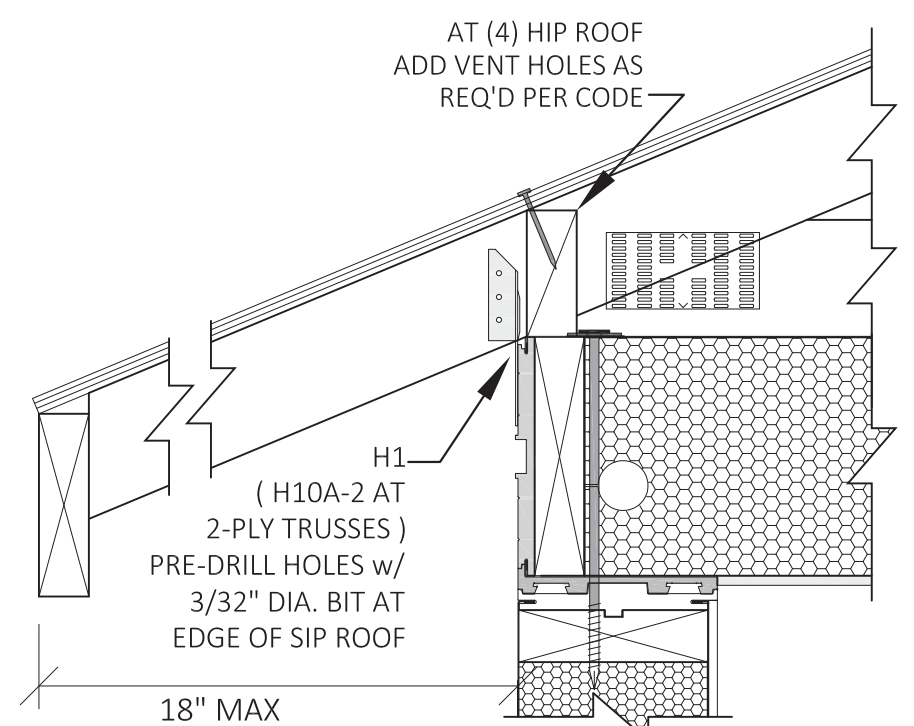
PRE-ENGINEERED WOOD TRUSS - MONOSLOPE

NOTES:

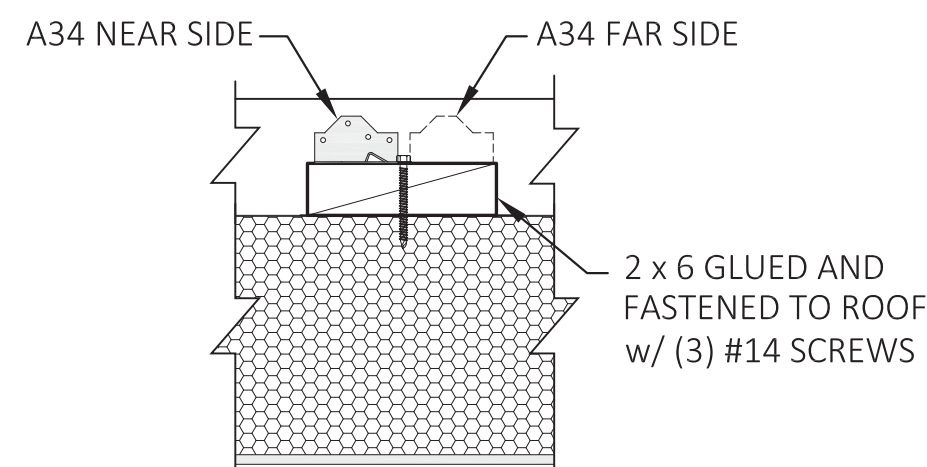
- 1) ASSUME VERTICAL TRUSS SUPPORT ONLY AT THE WALLS.
- 2) ASSUME BOTTOM CHORD OF EACH TRUSS WILL BE RESTRAINED AGAINST LATERAL MOVEMENT IN BOTH HORIZONTAL DIRECTIONS BY THE A35 CLIPS INDATED ON THE TRUSS PROFILES. DESIGN EACH TRUSS TO TRANSMIT LATERAL WIND FROM THE TOP CHORD TO THE BOTTOM CHORD.
- 3) ON HIP ROOF TRUSSES, TRUSS MNFR TO SPECIFY CONNECTION HARDWARE FOR MEMBERS FRAMING INTO 2-PLY GIRDER TRUSSES.
- 4) INSTALL SIMPSON STRONG-TIE HARDWARE PER SIMPSON SPECIFICATIONS, U.N.O.



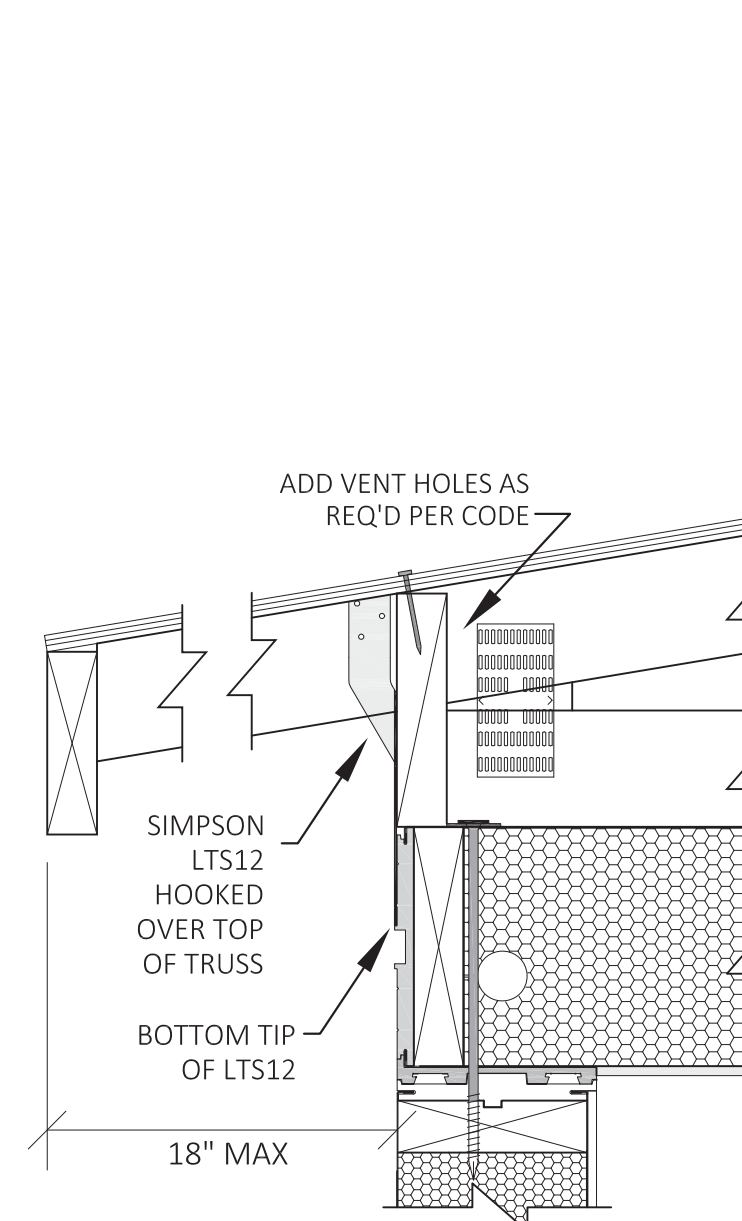
PRE-ENGINEERED WOOD TRUSS - GABLE OR HIP



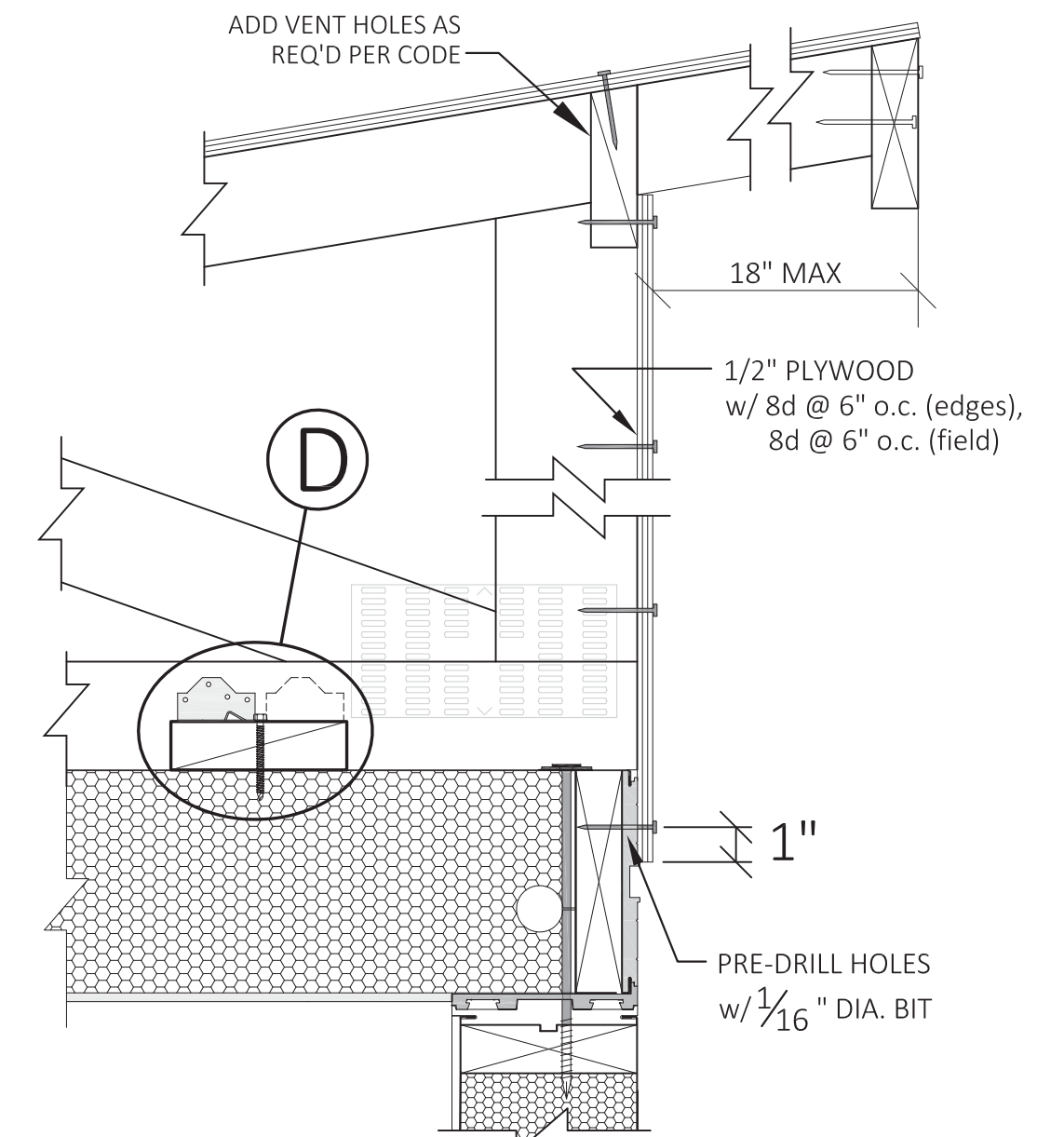
C TRUSS-TO-SIP ROOF AT EAVE
SCALE: NONE



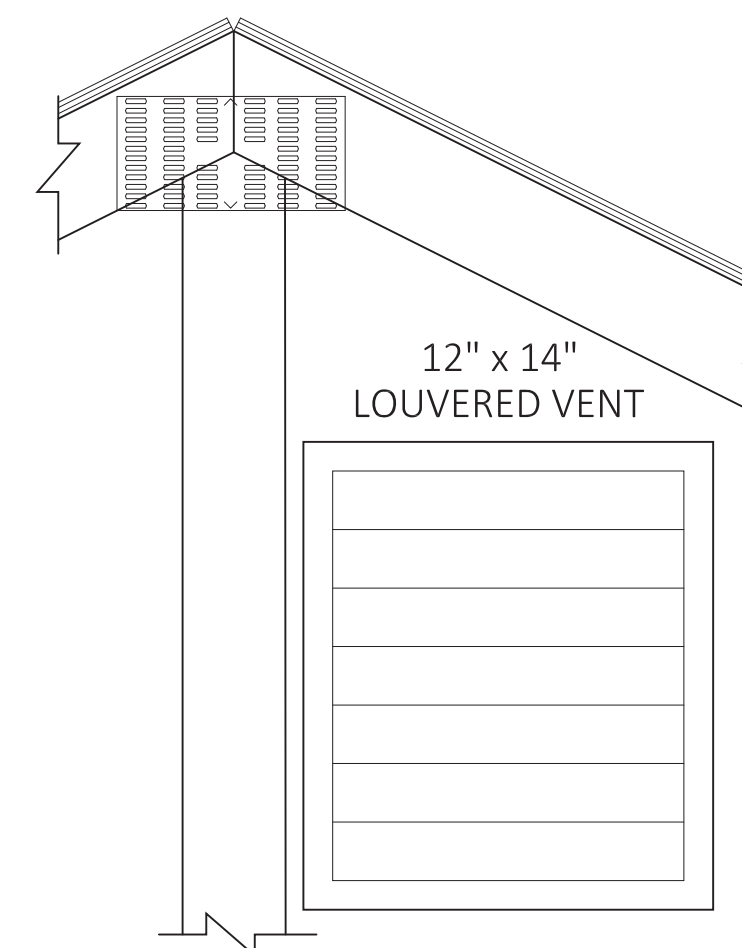
D TRUSS BOT. CHORD BRACING AGAINST UPLIFT BUCKLING
SCALE: NONE



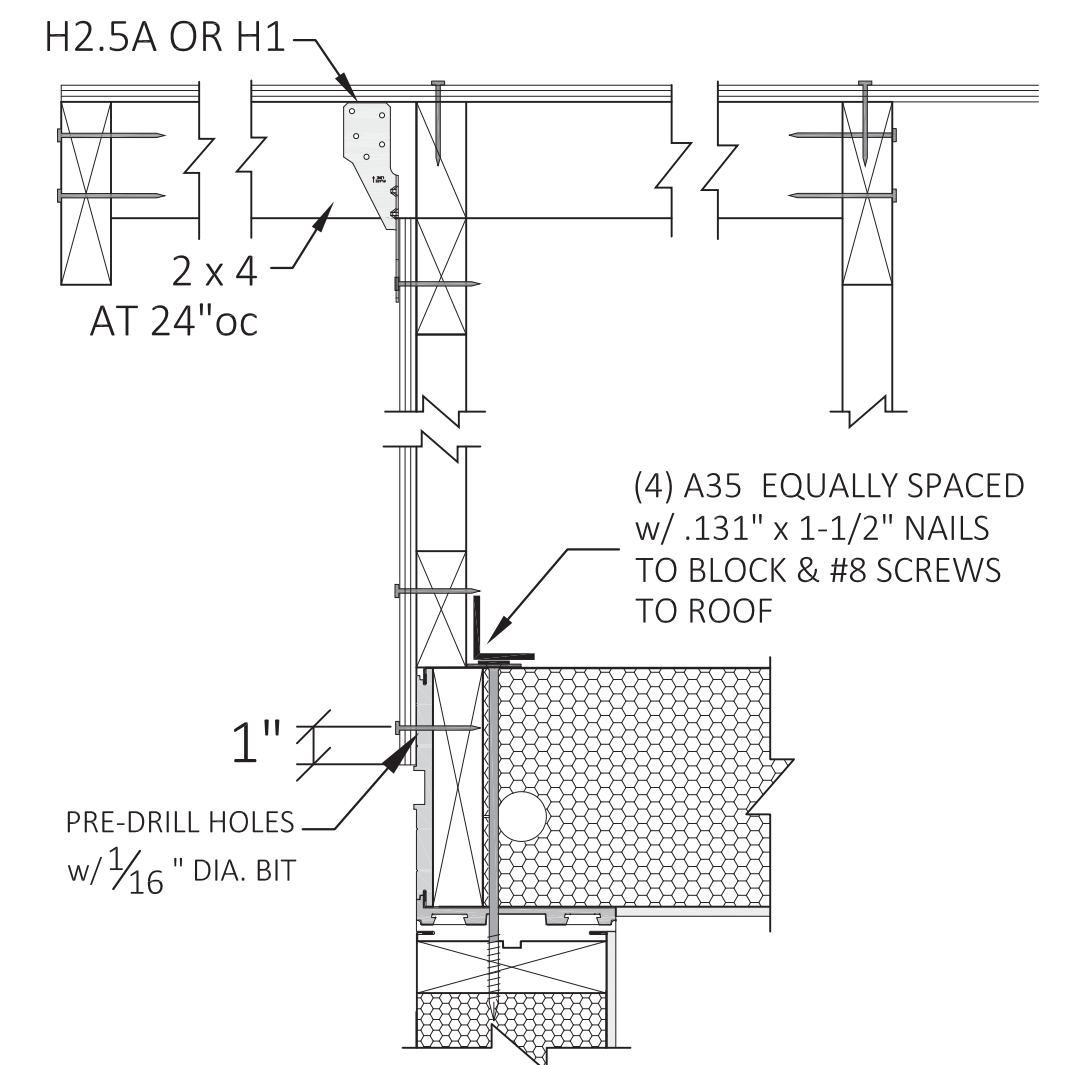
A LEFT EDGE OF MONOSLOPE
SCALE: NONE



B RIGHT EDGE OF MONOSLOPE
SCALE: NONE



E END TRUSS - VENTILATION OPENING
SCALE: NONE



GABLE END TRUSS TO ROOF EDGE
SCALE: NONE

DATE:	REV:	DESCRIPTION:	ADD-ON TRUSS ROOF OPTION CONNECTION DETAILS			UNITS:	FT-IN	MODEL: 2 DOOR CASITA	BOXABL INC.
						SHEET FORMAT:	ANSI C		5345 EAST NORTH BELT ROAD
						SHEET SCALE:	NONE	MODEL #: BXB-000009	NORTH LAS VEGAS, NV 89115, USA
						CREATED BY:	MN		+1(702) 500-9000 HELLO@BOXABL.COM
						RELEASE DATE:	1/17/2024		
						SHEET:	S5		

