

**RULES:**

1. One all-thread rod at each corner.
2. One all-thread rod at each end of sheanwalls.
3. One all-thread rod at each end of opening headers greater than 3'-0"
4. Check sub-sheathing to top plate connection for horizontal transfer capability.
5. If necessary, add all-thread rods to girders individually to exclude the from average uplift plf.
6. Check sole plate to slab connection, additional anchors may be required for lateral and shear load transfer.

ALLOWABLE VALUES	
Connection Type	Allowable Value
Foundation / S.Y.P. Top Plate	3840 lbs.
Foundation / Spruce-Pine-Fir Top Plate	3840 lbs.
Lintel or Bond Beam / S.Y.P. Top Plate	3840 lbs.
Lintel or Bond Beam / Spruce-Pine-Fir Top Plate	3840 lbs.

**Placement at slab level:**

**Corners**  
When presetting the all-thread rod at a building corner, the rod should be placed 8 to 12 inches away from the corner so it does not set under the corner framing members. When an all-thread rod is specified at a building corner, it may be placed on either side of the corner.

**Header ends**  
When presetting the all-thread rod at a header end, the rod should be placed 8 to 12 inches away from the header end so it does not fall under the stud pack framing members.

**Top Connections**  
Top connections made at corners and header ends shall be made within 2 inches of the framing pack. A nut and 3X3 washer shall be applied to the top plates and tightened securely.

**Intermediate Coupler Connections**  
When using the rod coupler, care should be taken to ensure full and equal thread engagement. This is easily achieved by threading the coupler all the way onto the rod, then standing the two rods end to end, then threading the coupler back over the rod joint so each rod is halfway into the coupler.

**Retro-fits**  
In the case of an all thread rod misplacement, the rod may be epoxied into the concrete.

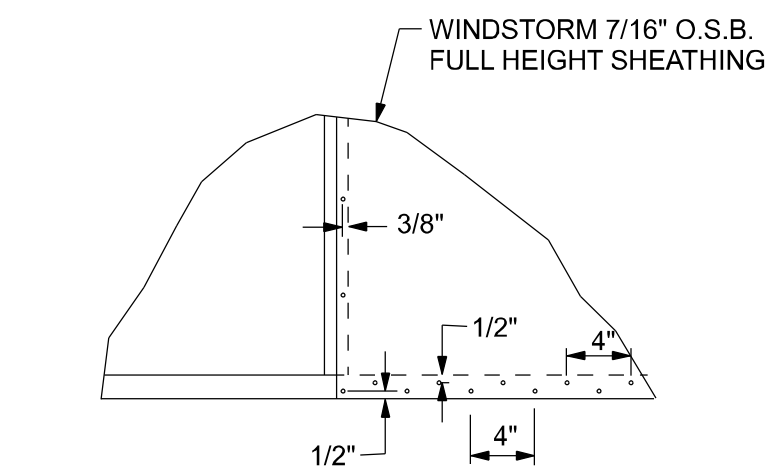
**Sole plate to slab connection:**  
The slab level sole plate shall be connected to the slab with the connectors specified and at the spacing specified within the design documents. All-thread rods shall be placed as per the design specifications. All-thread rods with a nut and washer at the sole plate will qualify as a sole plate connection but may require other anchors intermediate of the all-thread rod locations to qualify the specified spacing requirements.

**System Tightening:**  
On multiple story applications, the all-thread rod system shall be rechecked for proper tension just before the walls are veneered. This will allow the all-thread rod system to compensate for the buildings dead load compression.

**SHEARWALL NOTES:**

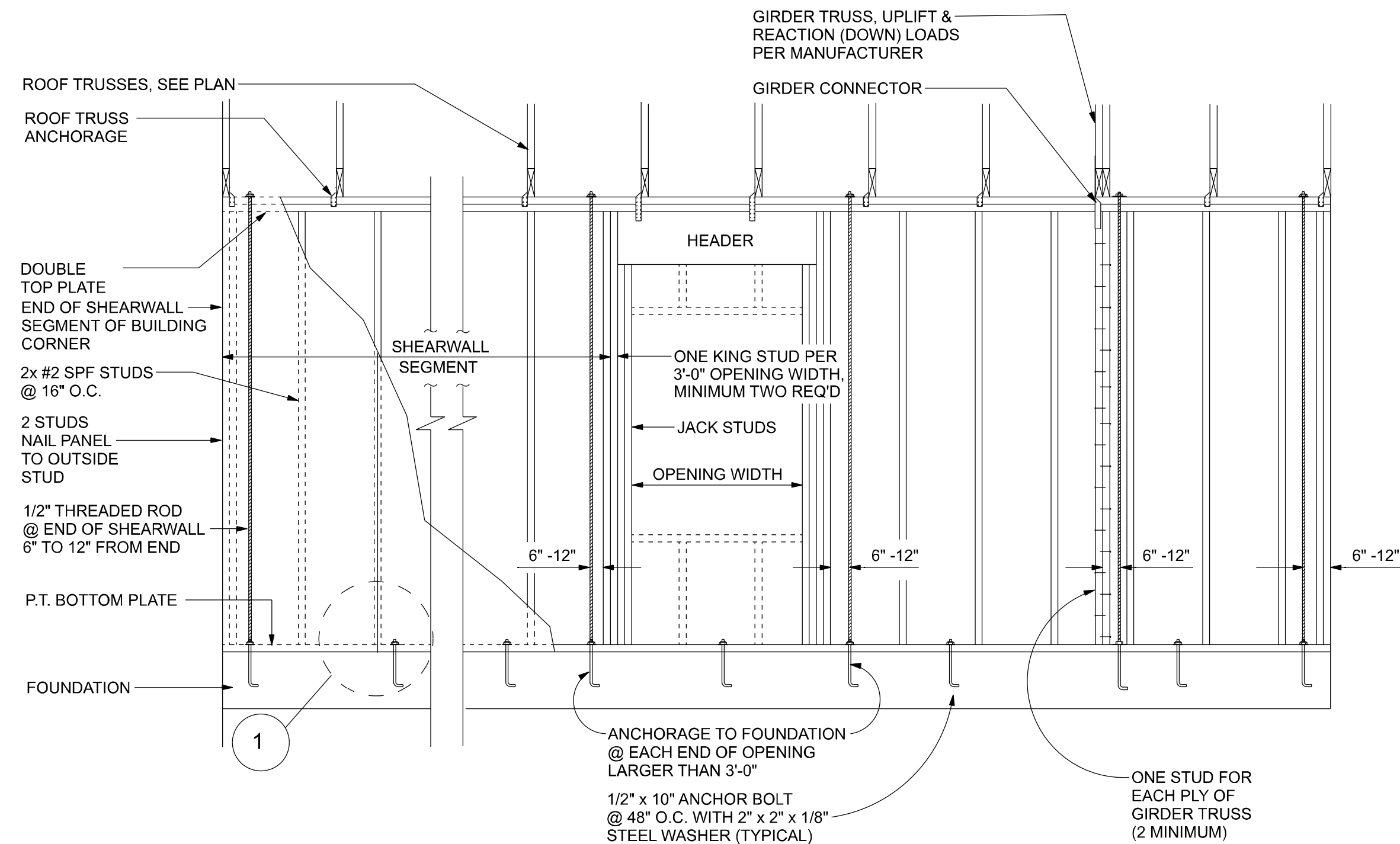
1. ALL SHEARWALLS SHALL BE TYPE 2 SHEARWALLS AS DEFINED BY STD 10-99 305.4.3.
2. THE WALL SHALL BE ENTIRELY SHEATHED WITH 7/16" O.S.B. INCLUDING AREAS ABOVE AND BELOW OPENINGS.
3. ALL SHEATHING SHALL BE ATTACHED TO FRAMING ALONG ALL FOUR EDGES WITH JOINTS FOR ADJACENT PANELS OCCURRING OVER COMMON FRAMING MEMBERS OR ALONG BLOCKING.
4. NAIL SPACING SHALL BE 6" O.C. EDGES AND 12" O.C. IN THE FIELD.
5. TYPE 2 SHEARWALLS ARE DESIGNED FOR THE OPENING IT CONTAINS. MAXIMUM HEIGHT OF OPENING SHALL BE 5/6 TIMES THE WALL HEIGHT. THE MINIMUM DISTANCE BETWEEN OPENINGS SHALL BE THE WALL HEIGHT/3.5 ie. FOR 8'-0" WALLS - (2'-3").

OPENING WIDTH	SILL PLATES	16d TOE NAILS EACH END
UP TO 6'-0"	(1) 2x4 OR (1) 2x6	1
> 6' TO 9'-0"	(3) 2x4 OR (1) 2x6	2
> 9' TO 12'-0"	(5) 2x4 OR (2) 2x6	3



**1 DOUBLE NAIL EDGE SPACING TOP AND BOTTOM PLATE**  
UPLIFT CAPACITY = 474 plf (TABLE 305S1 SSTD10-99)

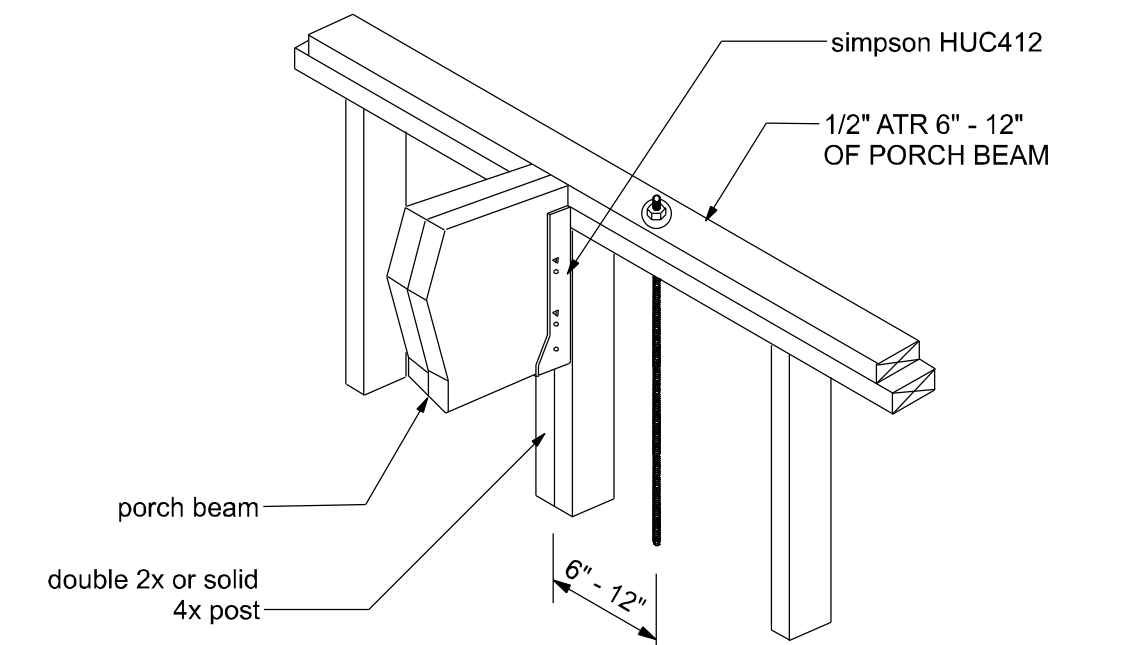
**NOTE:**  
ALL WALL SHEATHING SHALL BE WINDSTORM 1 1/8" FULL HEIGHT SHEATHING-SEE DETAIL 1 FOR NAILING



**SHEARWALL DETAILS**

SCALE: 1/2" = 1'-0"

**NOTE:**  
VERIFY GIRDER TRUSS LOCATION ON TRUSS LAYOUT FOR REQ'D ALL THREAD AT GIRDER LOCATION



**ALL THREAD @ PORCH BEAM**

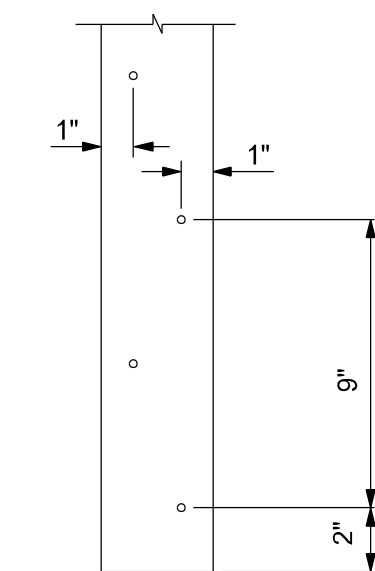
NTS

**ALLOWABLE DEFLECTION OF STRUCTURAL MEMBERS**

STRUCTURAL MEMBER	ALLOWABLE DEFLECTION
rafters having slopes greater than 2/12 with no finished ceiling attached to rafters	L/180
interior walls and partitions	H/180
floors and plastered ceilings	L/360
all other structural members	L/240
exterior walls with plaster or stucco finish	H/360
exterior walls - wind loads with brittle finishes	L/240
exterior walls - wind loads with flexible finishes	L/120

OPENING CONNECTION REQUIREMENTS				
CLEAR OPENING WIDTH	HEADER SIZE #2 GRADE OR BETTER	END BEARING	CONNECTOR AT EACH END OF OPENING	ANCHORAGE TO FOUNDATION @ EACH END OF OPENING
0' - 3'	(2) 2x8	1.5"	N/A	N/A
>3' - 6'	(2) 2x10	3"	1/2" ALL THREAD ROD	1/2" ALL THREAD ROD
>6' - 9'	(2) 2x12	3"	1/2" ALL THREAD ROD	1/2" ALL THREAD ROD
>9' - 12'	(2) 1 3/4" x 11 1/4" LVL - 2.0E	3"	1/2" ALL THREAD ROD	1/2" ALL THREAD ROD
>12' - 15'	(2) 1 3/4" x 11 1/4" LVL - 2.0E	3"	1/2" ALL THREAD ROD	1/2" ALL THREAD ROD
>15' - 18'	(2) 1 3/4" x 11 1/4" LVL - 2.0E	4.5"	1/2" ALL THREAD ROD	1/2" ALL THREAD ROD

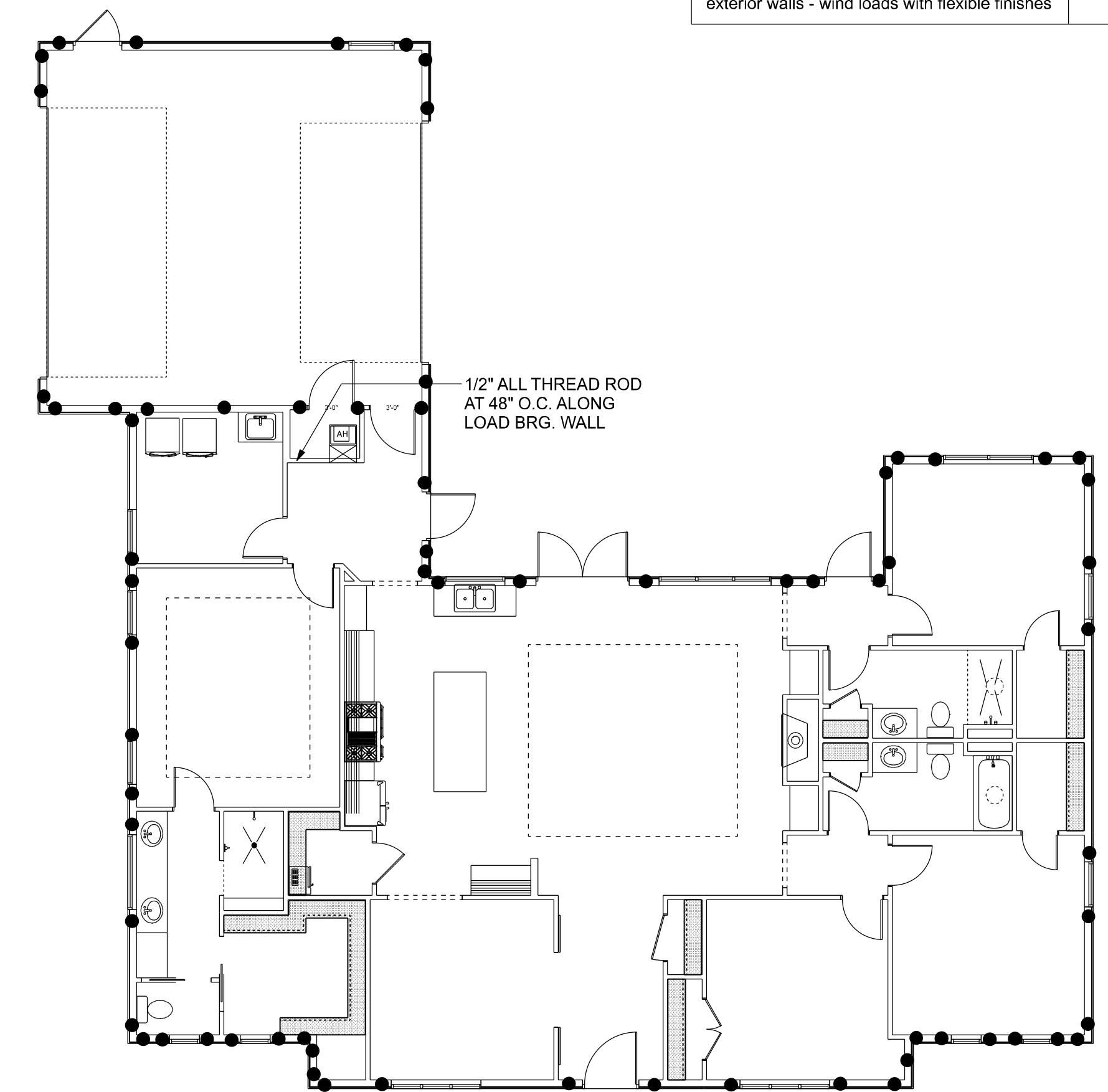
**NOTE:**  
A SOLID MEMBER OF EQUAL OR GREATER SIZE THAN MULTIPLE MEMBERS MAY BE USED. IF RATED SHEATHING IS APPLIED TO NARROW EDGES, NAILED TO EACH STUD AT 12" O.C. MAXIMUM, THE LAMINATION NAILING SHOWN HERE IS NOT REQUIRED.



END (TOP OR BOTTOM)

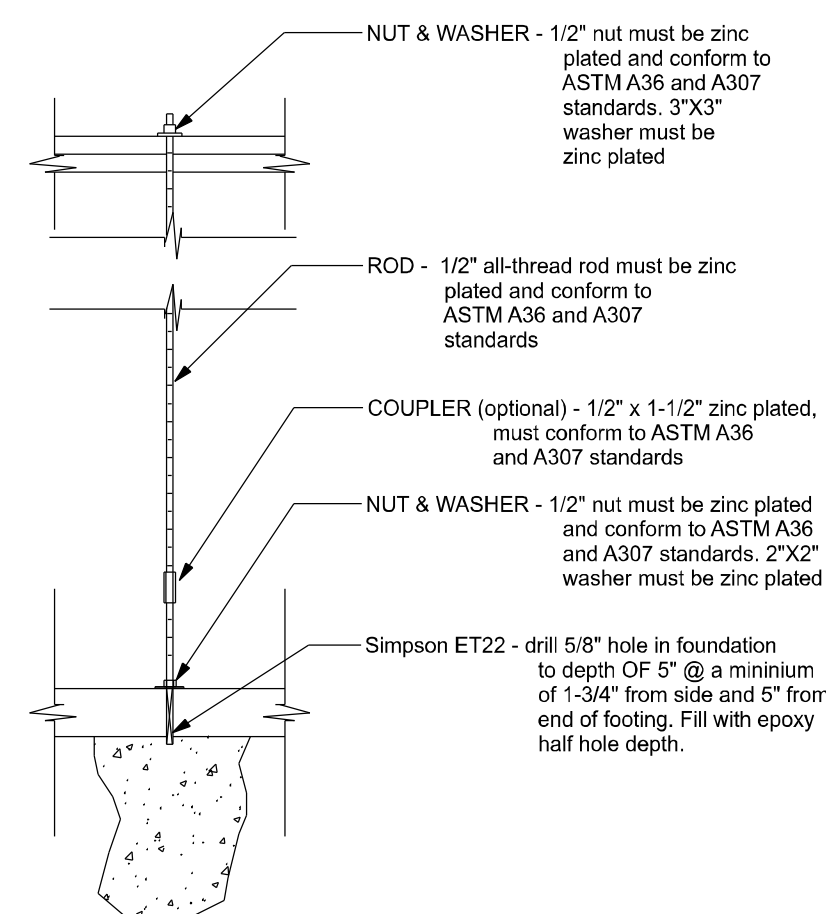
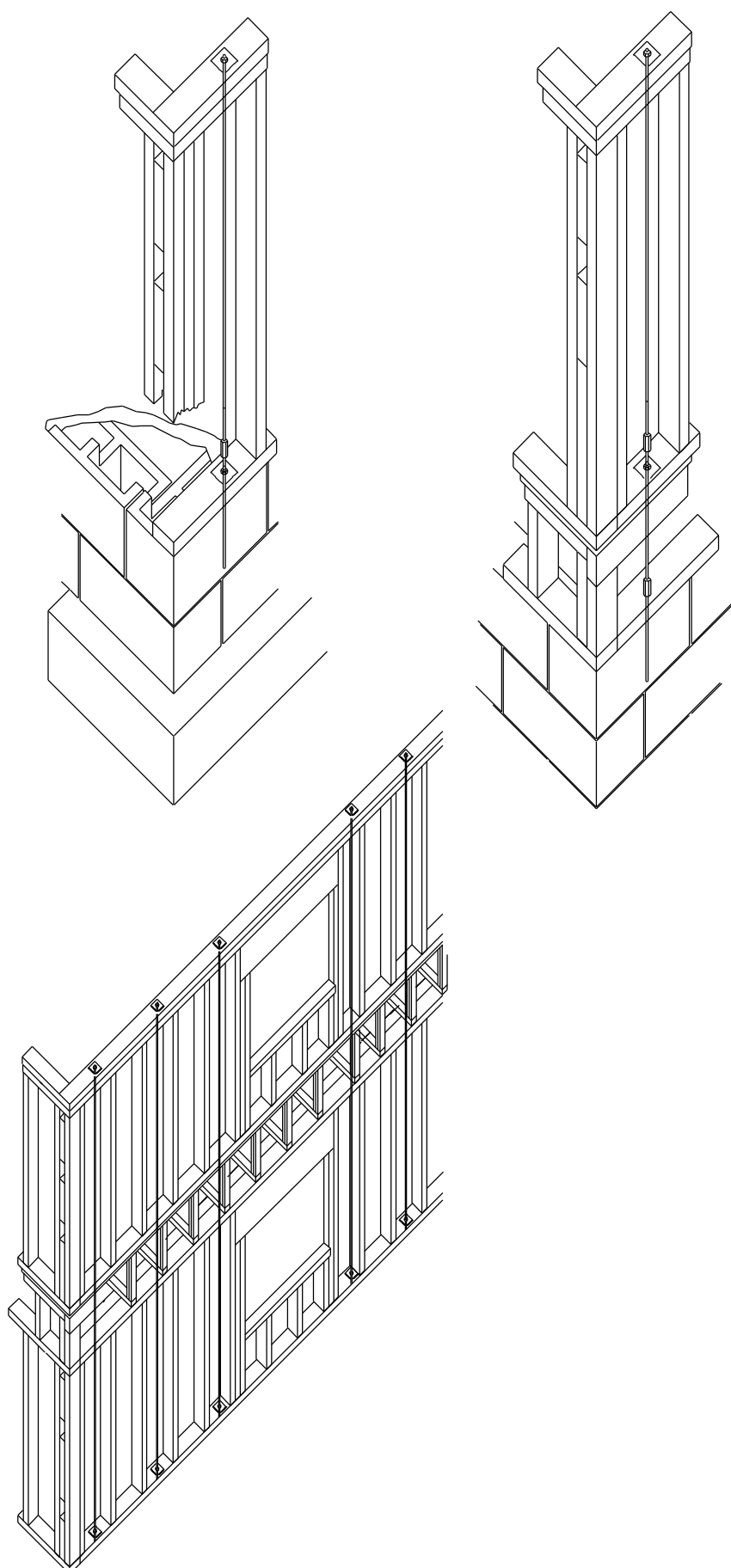
**GIRDER COLUMN DETAIL**

SCALE: 1/2" = 1'-0"



**ALL THREAD DETAIL**

● ALL THREAD LOCATION



REVISIONS		
DATE	BY	DESCRIPTION

**DESIGN BY:**  
**TRADEMARK Construction Group, Inc.**

**CERTIFIED GENERAL CONTRACTOR**  
CGC1514780

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(386)755-5254

**CES**  
Crews Engineering Services, LLC

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LAKE CITY, FL 32025  
PHONE: 386.623.4303

**BRETT A. CREWS**  
P.E. 65592

STATE OF FLORIDA  
PROFESSIONAL ENGINEER

**DRAWN BY:**  
TM

**APPROVED BY:**  
BC

**LAWRENCE RESIDENCE**

**SHEARWALL DETAILS**

**PROJECT NO.:**  
R20.009

**SHEET:**  
A-9