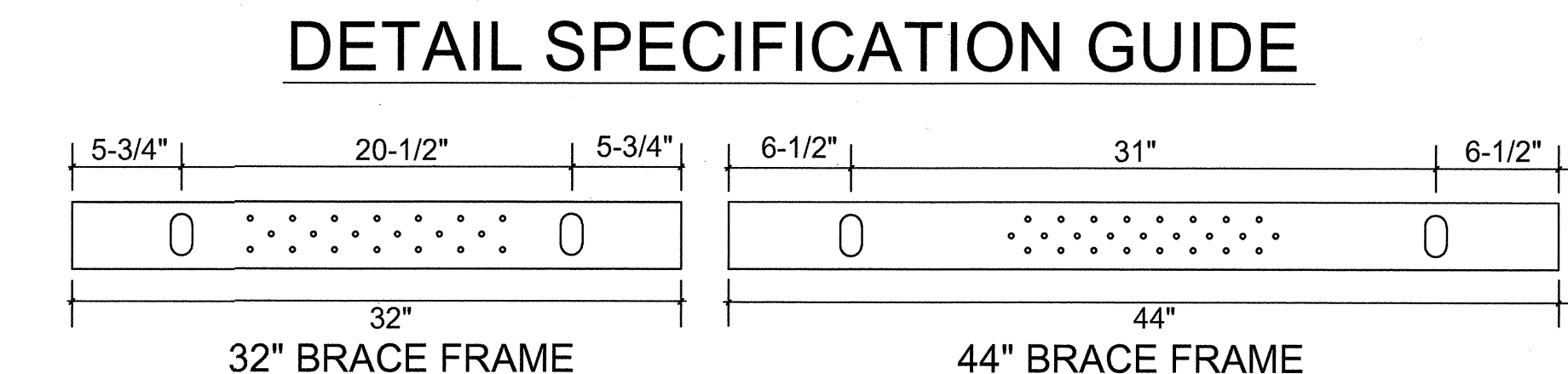
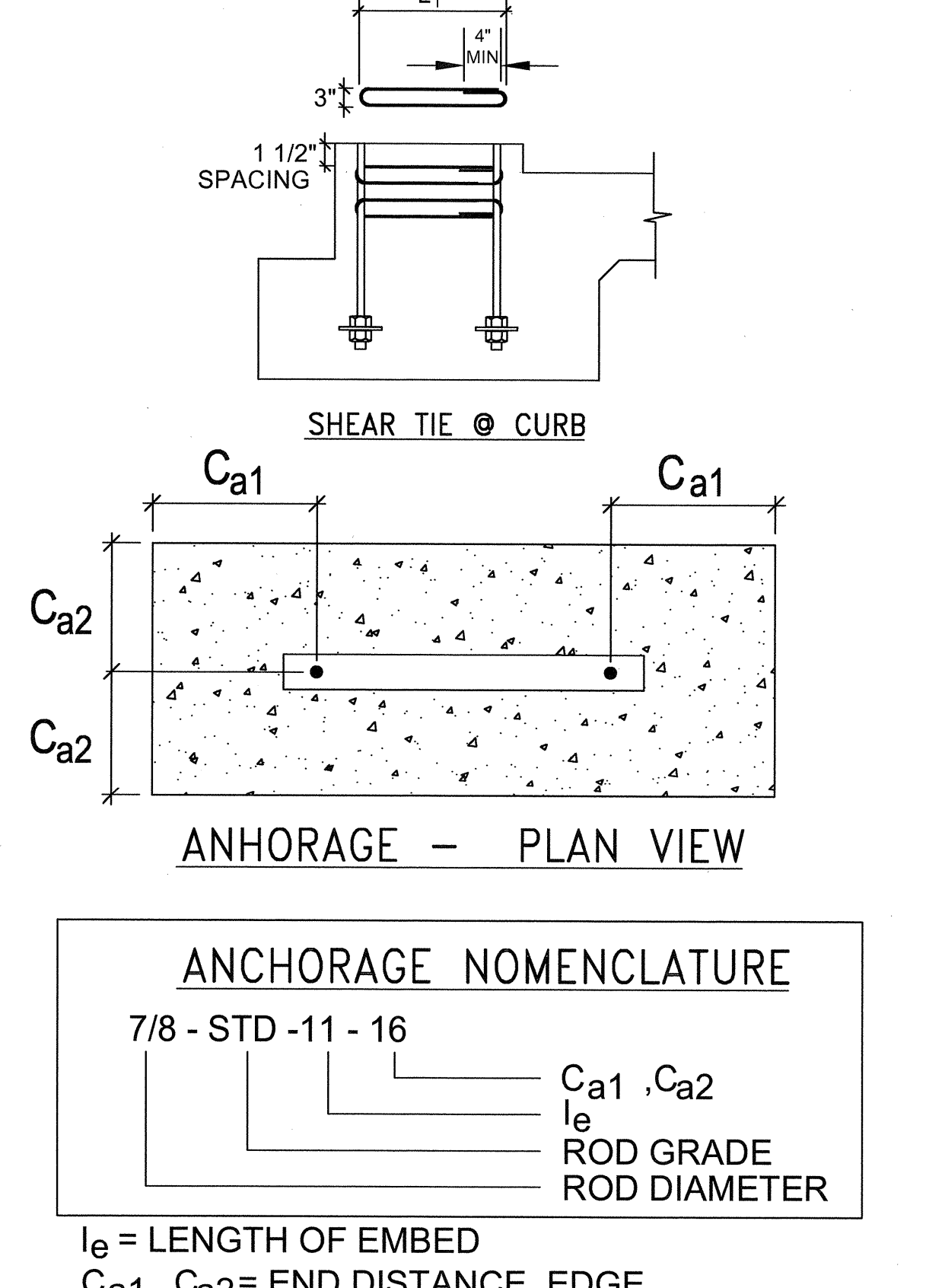
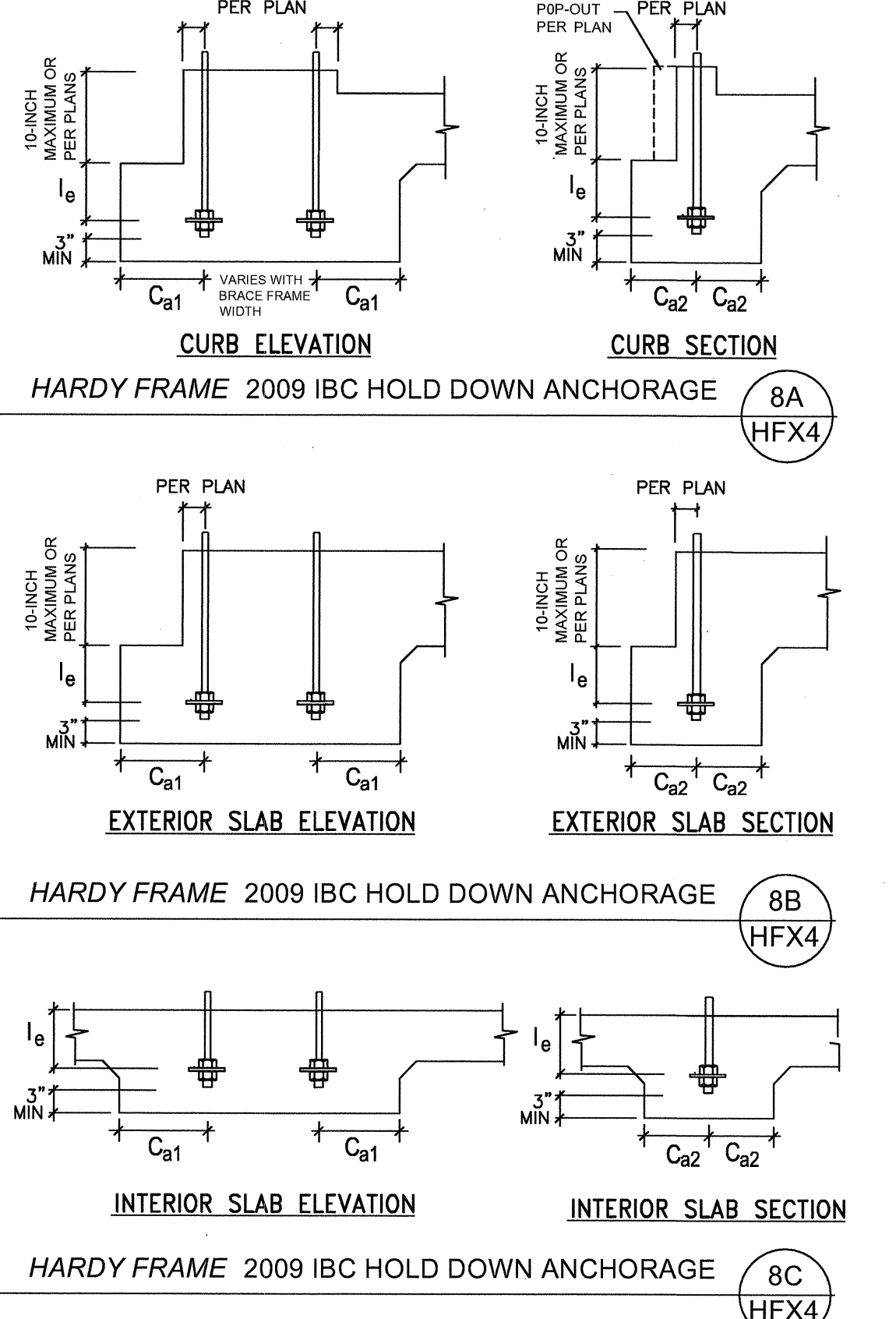
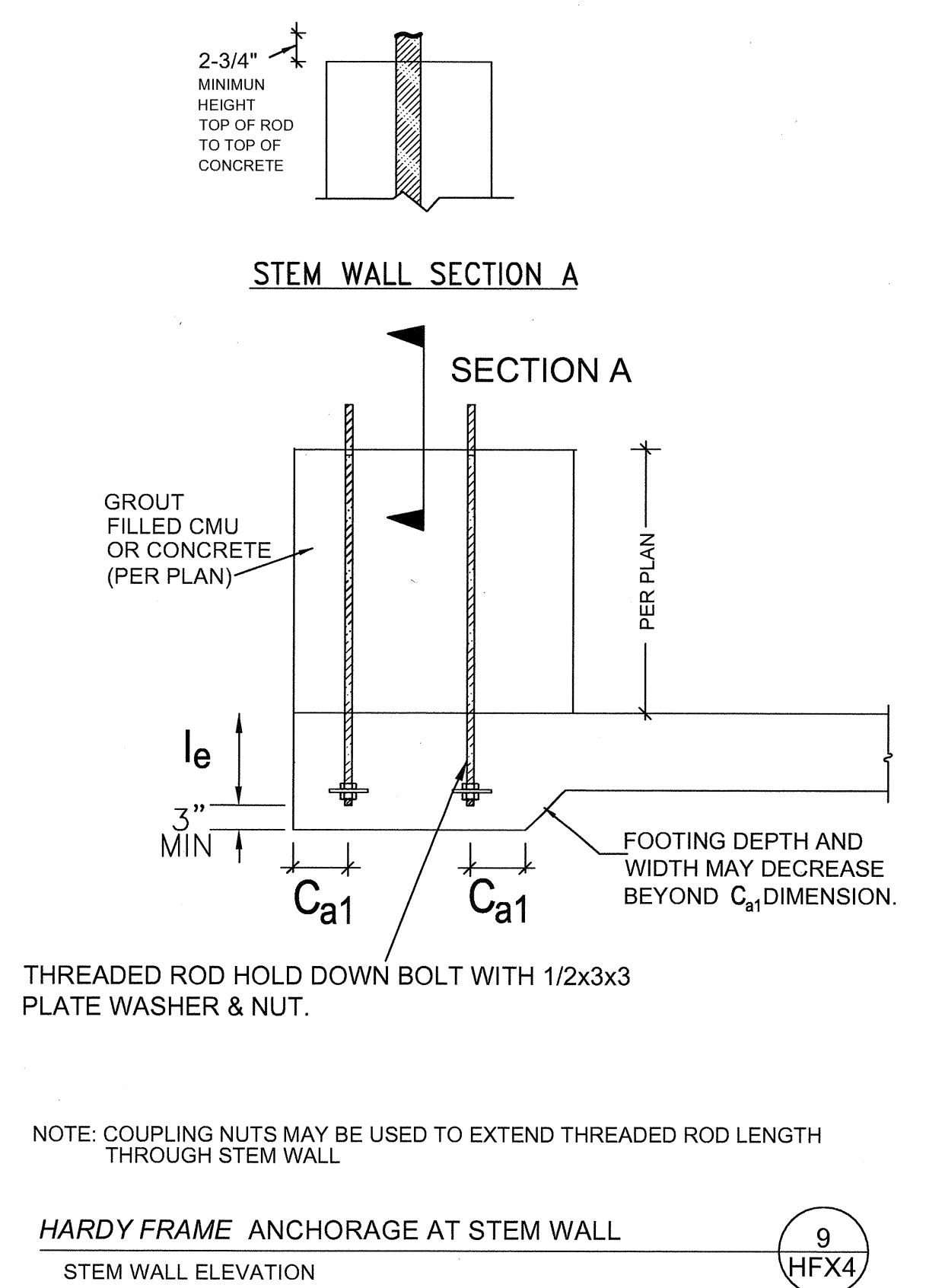
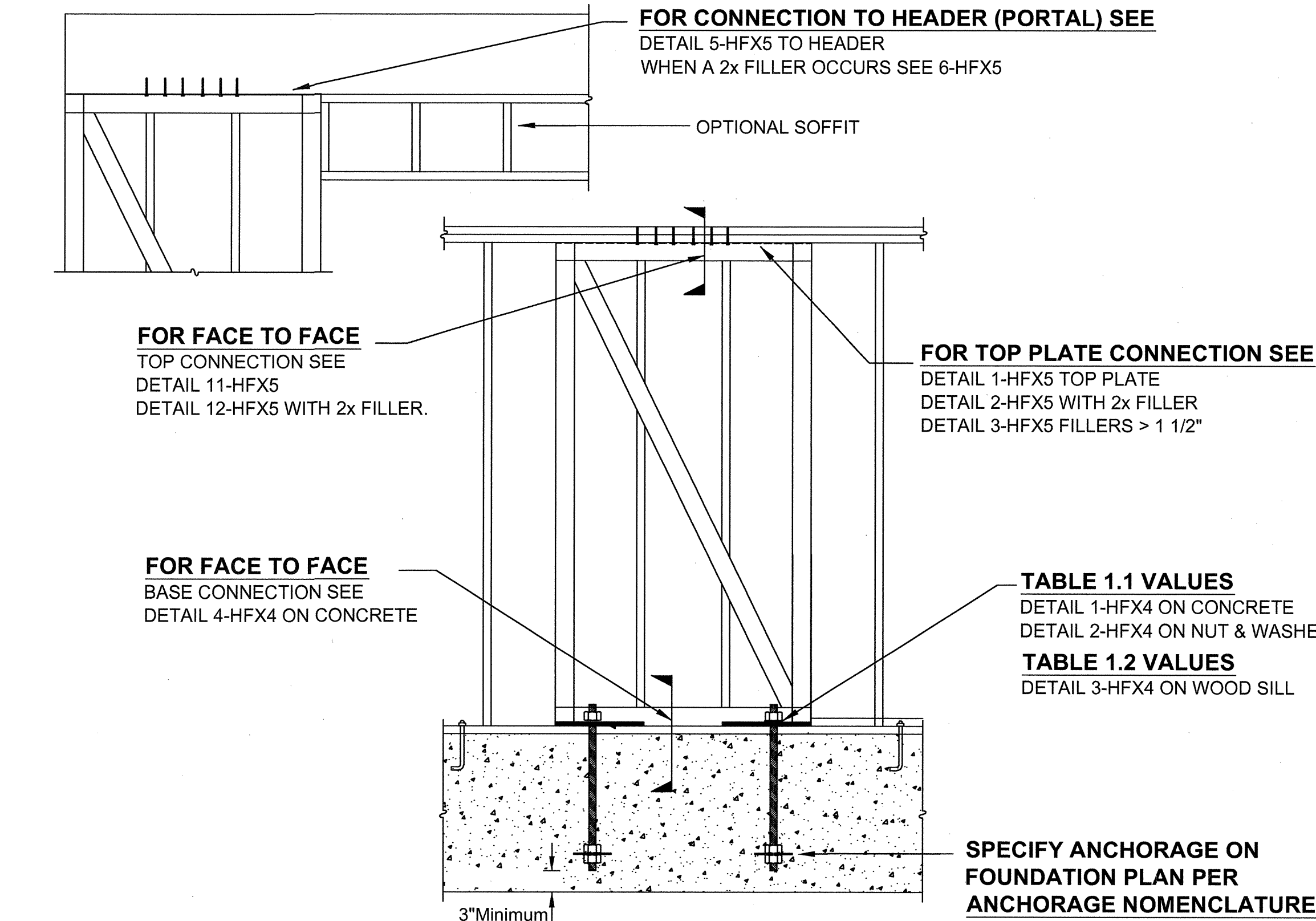
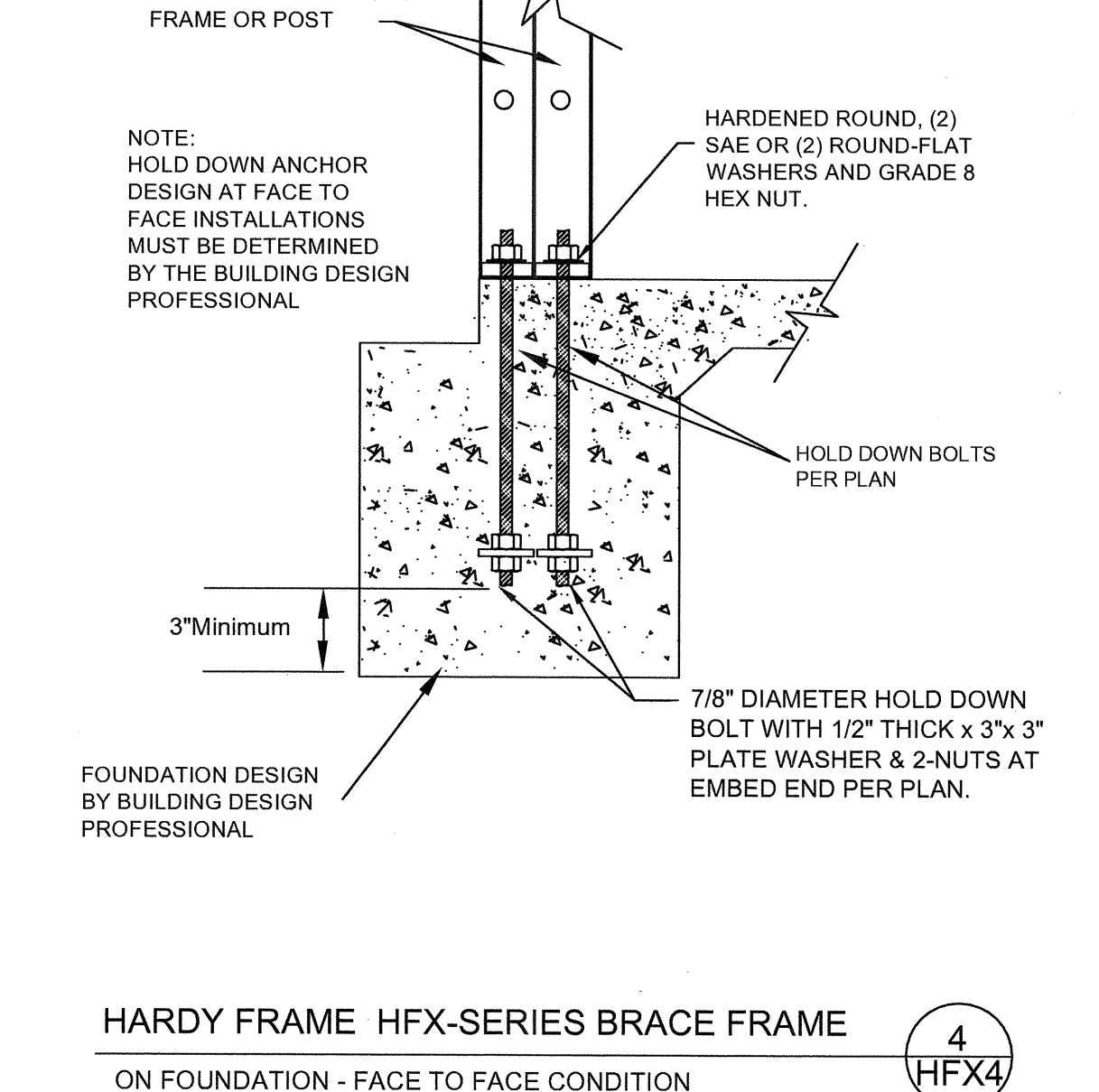
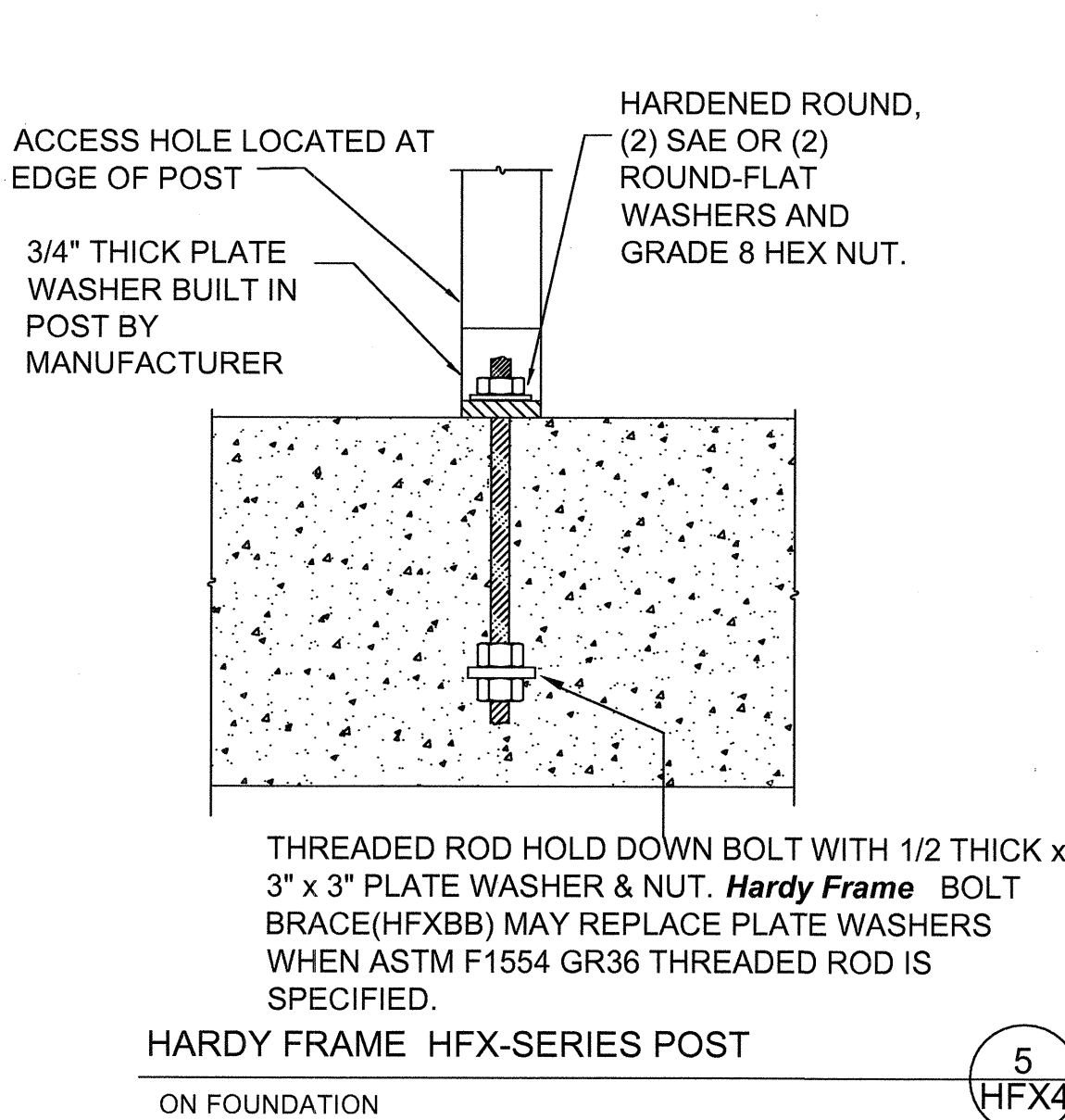
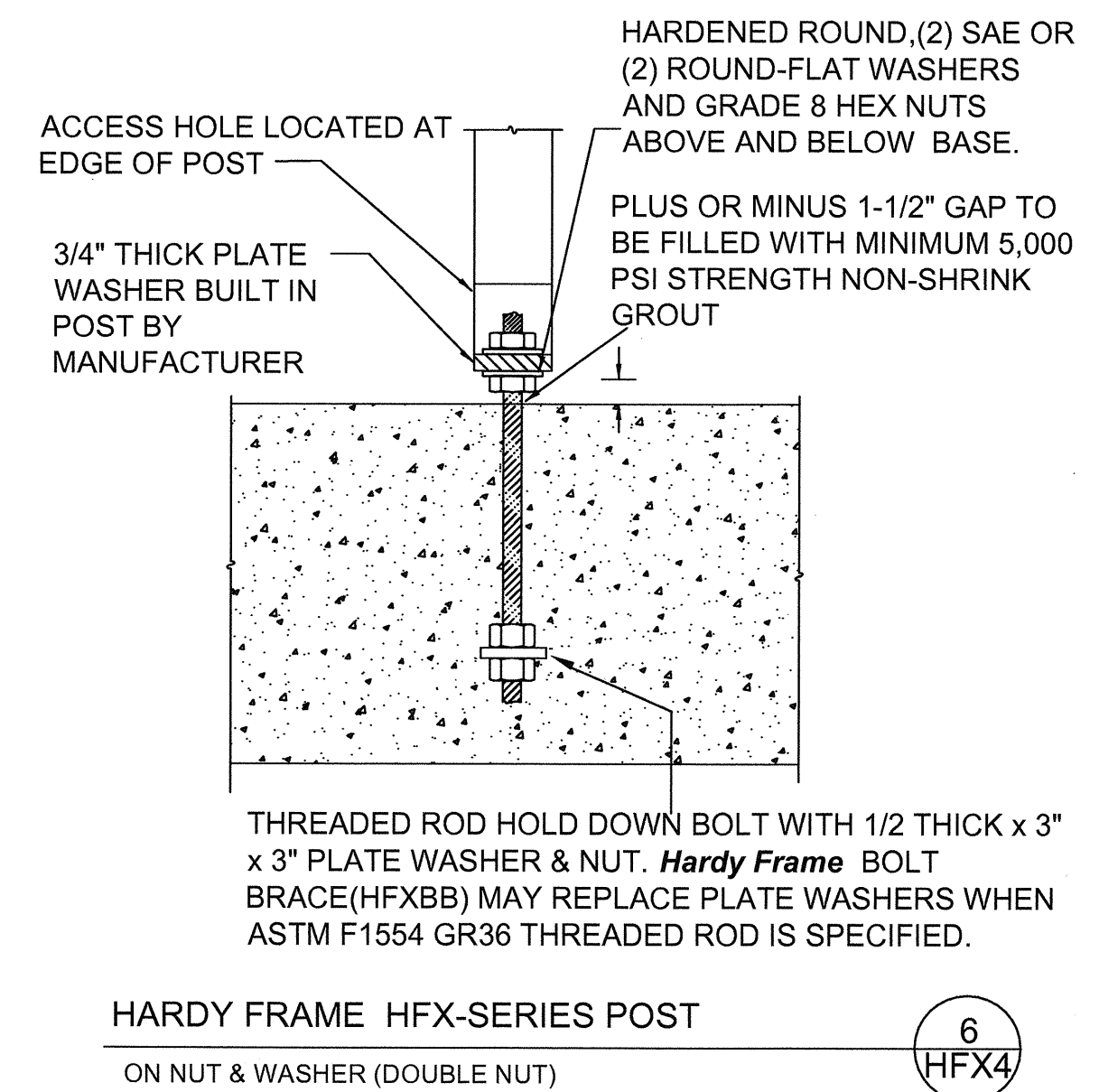


- Hardy Frame Installation**
- Step 1: Concrete Preparation**
- A) Concrete contractor shall use **Hardy Frame** HFX-Series Templates to accurately place embed bolts for spacing and alignment in the wall.
 - B) Attach the HFX-Series Template to a formboard at the location specified on plans and install bolts. Install 1/2x3x3 plate washers with nuts above and below at hold downs.
 - C) At interior footings Templates may be secured in place using stakes.
 - D) Footing design, embed depths and anchor edge/end distances are per the Building Design Professional.
 - E) Determine if the **Hardy Frame** will be installed on concrete or a mudsill. For installation directly on concrete the recommended bolt height above finished concrete is 2 3/4" and for installation on a 2x mudsill it is 4 1/4".
- Step 2: First Floor installation on concrete**
- A) Installation of a moisture barrier such as Moistop or 15# felt is recommended under the Frame.
 - B) Set the **Hardy Frame** over the embed bolts and install (1) Hardened Round, (2) Round-Flat, or (2) SAE washers and a Grade 8 hex nut.
 - C) Tighten nuts until snug tight.
 - D) After framing and plumb & line are complete, place a 2x filler above the Frame to make up the height difference created by eliminating the sill plate, and connect with 1/4" x 4 1/2" screws through the top of the Frame, through the filler and into the double top plates or header above. For fillers larger than 1 1/2" net, refer to detail 3/HFX5
- Step 2: First Floor installation on a Sill Plate**
- A) If the **Hardy Frame** is to be installed on a mudsill, plot the bottom plate and cut the length to match the width of the Frame. If located next to a door opening, allow the plate to run into the opening.
 - B) Set the **Hardy Frame** over the embed bolts and install (1) Hardened Round, (2) Round-Flat, or (2) SAE washers and a Grade 8 hex nut.
 - C) Tighten nuts until snug tight.
 - D) After framing and plumb & line are complete, install 1/4"x 3" screws through the top of the Frame into the double top plates or header above. Top plates must be continuous or have a minimum 8' lap at splices.



Product		Anchorage (See Nomenclature for Description)		Shear Tie		Length L ₁ (in)
				Quantity	HS	
Width (in)	Max. Height (ft)	STD	HS	STD	HS	
32	13	7/8 STD 11-16	7/8 HS 13-20	1	1	22 1/2
44	13				2	33

- 1) Applies to 2500 psi compressive strength concrete, both seismic and wind loading.
- 2) STD indicates rods complying with ASTM F1554 Grade 36 with a 1/2x3x3 plate washer double nutted on the embed end.
- 3) HS indicates rods complying with ASTM A 193 Grade B7 (or equal) with a 1/2x3x3 plate washer double nutted on the embed end.
- 4) Concrete edge distance must comply with ACI-318-08 D8.2..
- 5) Installation on curbs or stemwalls must be 6 inch width minimum, and require supplemental shear reinforcement per ACI-318-08, f_c=2500 psi.
- 6) Shear Ties #3 rebar, grade 60 (min).
- 7) Shear Ties are not required for installations away from Foundation Edge, for installation on wood framing or for Braced Wall Panel applications.
- 8) Foundation Design is by others
- 9) The Building Design Professional is permitted to modify these details to accommodate a specific condition.