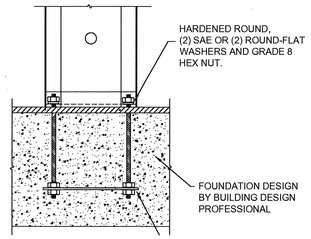
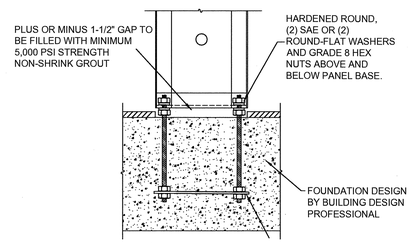


Hardy Frame BOLT BRACE (HFXBB) MAY BE INSTALLED WITHOUT 1/2"x3"x3" PLATE WASHERS WHEN ASTM F1554 GR 36 THREADED ROD IS SPECIFIED.

HARDY FRAME HFX-SERIES PANEL — 3 HFX1

ON WOOD SILL



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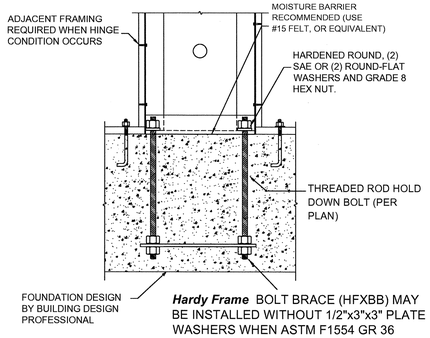
HARDY FRAME HFX-SERIES PANEL — 2 HFX1

ON NUT & WASHER (DOUBLE NUT)



Hardy Frame BOLT BRACE (HFXBB) MAY BE INSTALLED WITHOUT 1/2"x3"x3" PLATE WASHERS WHEN ASTM F1554 GR 36 THREADED ROD IS SPECIFIED.

HARDY FRAME HFX-SERIES PANEL — 1 HFX1

ON FOUNDATION

Hardy Frame Installation

Step 1: Concrete Preparation

A) Concrete contractor shall use ***Hardy Frame*** HFX-Series Templates to accurately place embed bolts and ***Hardy Frame*** Bolt Braces to prevent sway.
B) Attach the HFX-Series Template to a formboard at location specified on plans. Bolt Braces connect at the embed end of the hold down bolts.
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 Panel.
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 Panel 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 Panel, through the filler and into the double top plates or header above. For fillers larger than 1 1/2" net , refer to detail 3/HFX2.

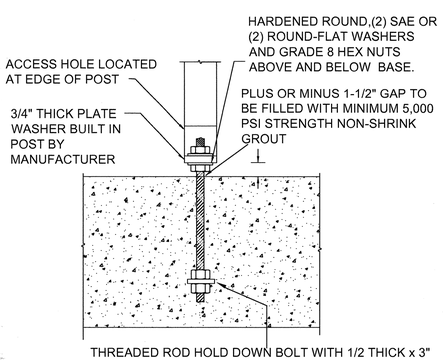
Step 2: First Floor installation on a Sill Plate

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 Panel. 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 Panel into the double top plates or header above.

REVISIONS	DATE

HFX-Series Panels-Typ Foundation Details

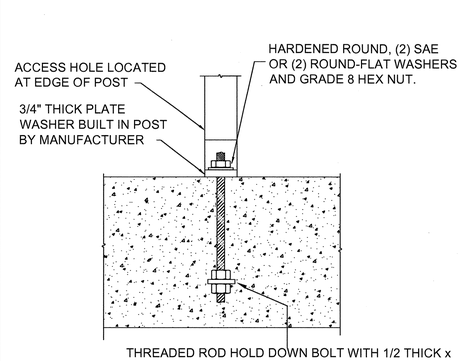
THIS DETAIL SHEET IS NOT PROPRIETARY AND IS NOT REQUIRED FOR PLAN SUBMITTAL WITH *HARDY FRAME* PRODUCTS



THREADED ROD HOLD DOWN BOLT WITH 1/2 THICK x 3" x 3" PLATE WASHER & NUT. ***Hardy Frame*** BOLT BRACE(HFXBB) MAY REPLACE PLATE WASHERS WHEN ASTM F1554 GR36 THREADED ROD IS SPECIFIED.

HARDY FRAME HFX-SERIES POST — 6 HFX1

ON NUT & WASHER (DOUBLE NUT)



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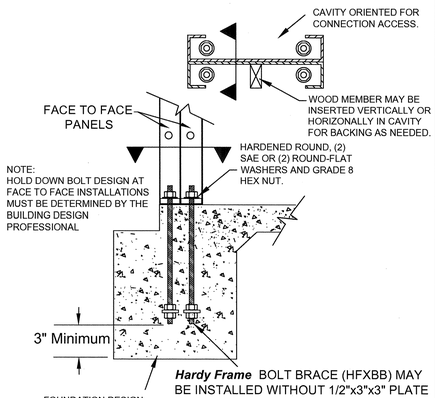
HARDY FRAME HFX-SERIES POST — 5 HFX1

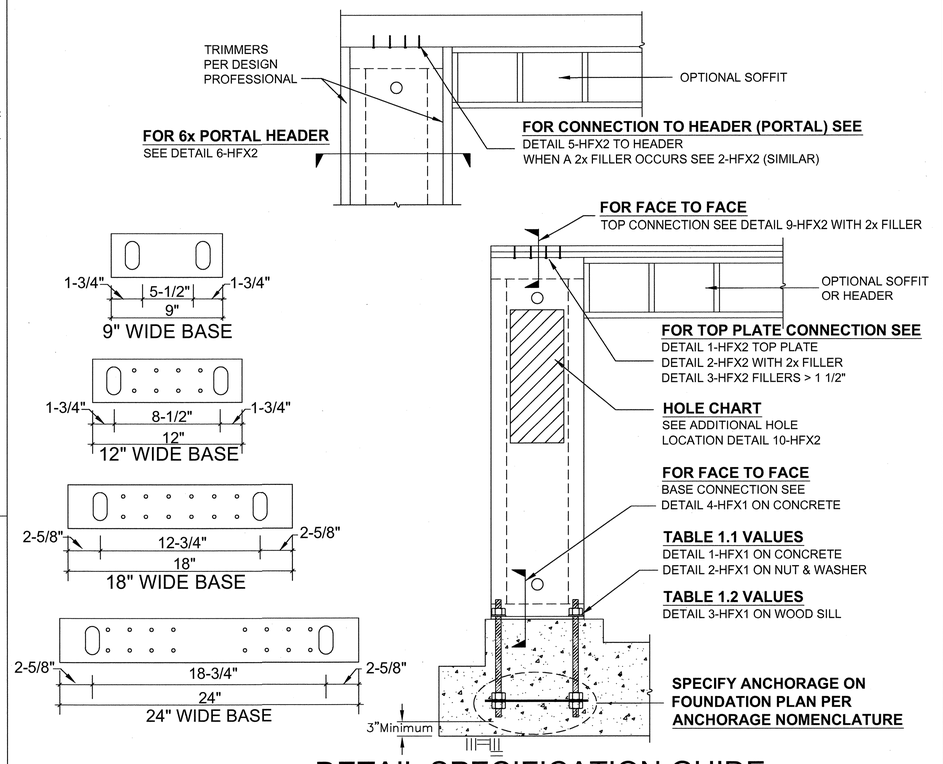
ON FOUNDATION



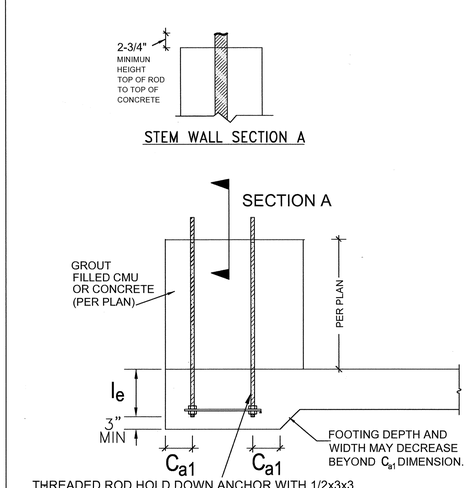
Hardy Frame BOLT BRACE (HFXBB) MAY BE INSTALLED WITHOUT 1/2"x3"x3" PLATE WASHERS WHEN ASTM F1554 GR 36 THREADED ROD IS SPECIFIED.

HARDY FRAME HFX-SERIES PANEL — 4 HFX1

ON FOUNDATION - FACE TO FACE CONDITION



DETAIL SPECIFICATION GUIDE



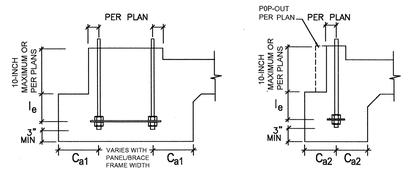
STEM WALL SECTION A

THREADED ROD HOLD DOWN ANCHOR WITH 1/2x3x3 PLATE WASHER & NUT. ***Hardy Frame*** BOLT BRACE(HFXBB) MAY REPLACE PLATE WASHERS WHEN ASTM F 1554 GRADE 36 THREADED ROD IS SPECIFIED.

NOTE: COUPLING NUTS MAY BE USED TO EXTEND THREADED ROD LENGTH THROUGH STEM WALL

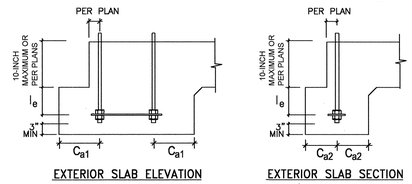
HARDY FRAME ANCHORAGE AT STEM WALL — 9 HFX1

STEM WALL ELEVATION



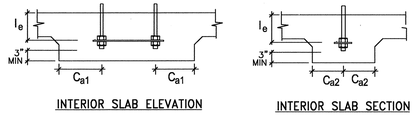
CURB ELEVATION — CURB SECTION

HARDY FRAME 2009 IBC HOLD DOWN ANCHORAGE — 8A HFX1



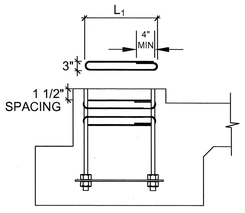
EXTERIOR SLAB ELEVATION — EXTERIOR SLAB SECTION

HARDY FRAME 2009 IBC HOLD DOWN ANCHORAGE — 8B HFX1

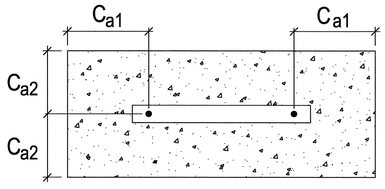


INTERIOR SLAB ELEVATION — INTERIOR SLAB SECTION

HARDY FRAME 2009 IBC HOLD DOWN ANCHORAGE — 8C HFX1



SHEAR TIE @ CURB



ANCHORAGE – PLAN VIEW

ANCHORAGE NOMENCLATURE

1-1/8 - STD -14 - 20

- Ca1 ,Ca2
- le
- ROD GRADE
- ROD DIAMETER

l_e = LENGTH OF EMBED
C_{a1} ,C_{a2} = END & EDGE DISTANCE

Product Width (in)	Max. Height (ft)	Anchorage (See Nomenclature for Description)		Shear Tie Quantity		Shear Tie Length L_1 (in)
		STD	HS	STD	HS	
9	8	1-1/8 STD 12-17	NA	1	1	7-1/2
12	10	1-1/8 STD 14-20	1-1/8 HS 14-20			10-1/2
18	13		1-1/8 HS 20-30			15
	20	NA	1-1/8 HS 13-20			
24	13	1-1/8 STD 14-20	1-1/8 HS 20-30		2	21
	20	NA	1-1/8 HS 18-27			

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 ***Hardy Frame*** Bolt Brace (HFXBB) 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. HFXBB is recommended.
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, fc=2500 psi.
6) Shear Ties are #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.

HARDY FRAME 2009 IBC HOLD DOWN ANCHORAGE TABLE — 7 HFX1

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HFX SERIES

DATE: 1-1-2011 JAN 17 2012 RTI

HFX1 FDN