

ALTERNATE BRACED WALL PANELS

FIRST STORY OF A TWO-STORY BUILDING

Braced wall panels and Alternate Brace Wall Panels continue to be building code requirements that can be used in the design and construction to good advantage in homes with 'window walls.' The International Building Code [IBC] and the International Residential Code [IRC] [2006 editions] provide for the Alternate Braced Wall Panel method in IBC 2308.9.3.1 and IRC 602.10.6. The maximum height and width of each panel shall be in accordance with Table R602.10.6

The most obvious location where this condition may apply is on each side of the garage door opening. Another location where this issue may be applicable is on a wall with a fair amount of glazing where 4' wide braced panels would disrupt the desired glazing locations.

The following is the code section for alternate braced wall panels for the first story of a two-story building with illustrations and hold-down options.

IBC 2308.9.3.1 [IRC 602.10.6] Alternate bracing. Any bracing required by Section 2308.9.3 [IRC 602.10.4] is permitted to be replaced by the following:

Item 2.

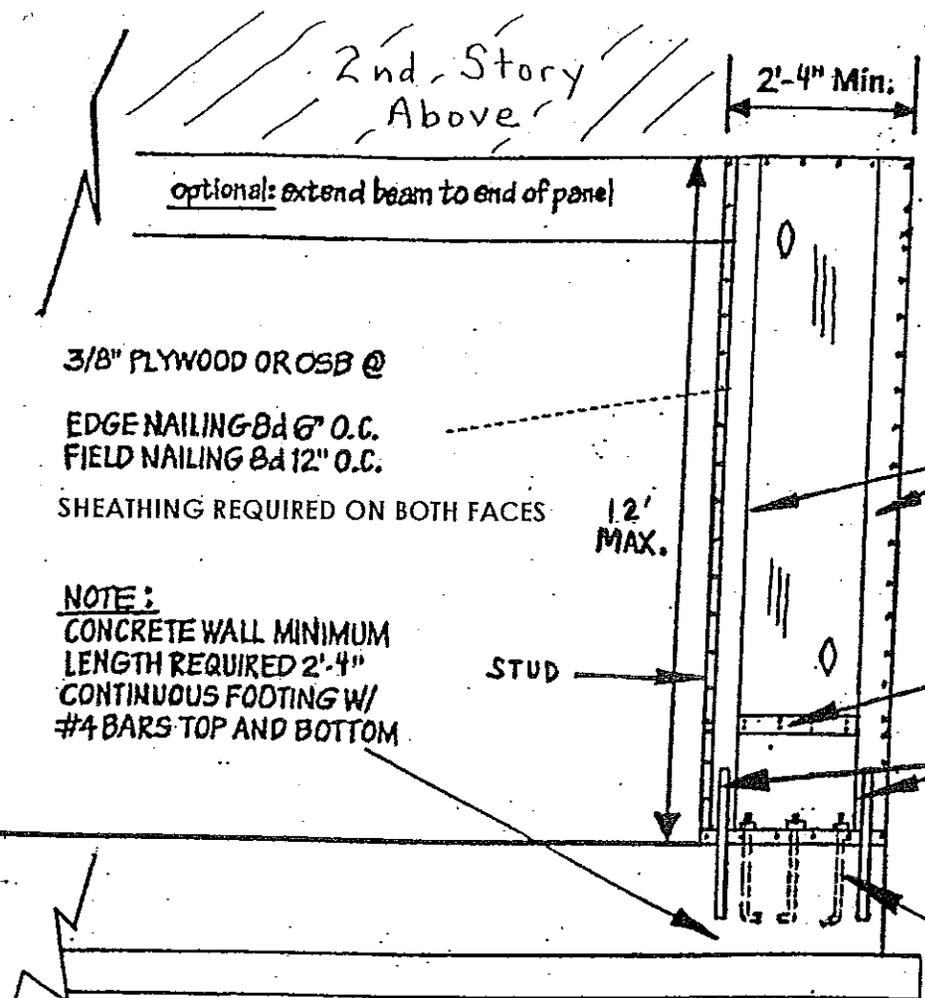
In the first story of two-story buildings, each wall panel shall be braced in accordance with Section 2308.9.3.1, Item 1, [IRC 602.10.6, Item 1] except that the wood structural panel sheathing shall be provided on both faces, sheathing edge nailing shall not exceed 4 inches on center and three anchor bolts shall be placed at one-fifth points.

**TABLE R602.10.6
MINIMUM WIDTHS AND TIE-DOWN FORCES OF ALTERNATE BRACED WALL PANELS**

SEISMIC DESIGN CATEGORY AND WINDSPEED	TIE-DOWN FORCE (lb)	HEIGHT OF BRACED WALL PANEL				
		Sheathed Width				
		8 ft. 2' - 4"	9 ft. 2' - 8"	10 ft. 2' - 8"	11 ft. 3' - 2"	12 ft. 3' - 6"
SDC A, B, and C Windspeed < 110 mph	R602.10.6.1, Item 1	1800	1800	1800	2000	2200
	R602.10.6.1, Item 2	3000	3000	3000	3300	3600

Please contact the Latah County Department of Planning and Building if you have any questions.

FIRST STORY OF A TWO-STORY BUILDING ALTERNATE BRACED WALL PANEL DESIGN



3/8" PLYWOOD OR OSB @

EDGE NAILING 8d @ 6" O.C.
FIELD NAILING 8d @ 12" O.C.

SHEATHING REQUIRED ON BOTH FACES

NOTE:
CONCRETE WALL MINIMUM
LENGTH REQUIRED 2'-4"
CONTINUOUS FOOTING W/
#4 BARS TOP AND BOTTOM

2'-4" Min.

12'
MAX.

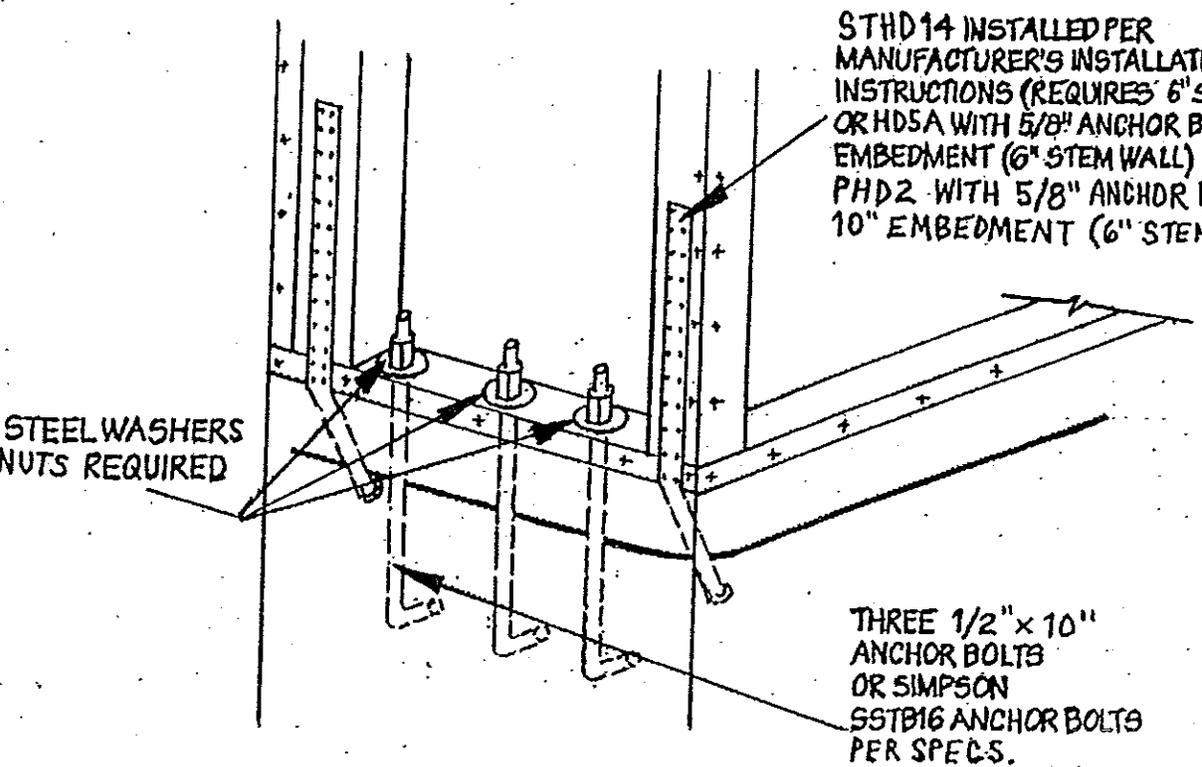
STUD

AX4 POST REQUIRED

SOLID BLOCKING
@ SHEATHING SPLICE

STHD14 INSTALLED PER
MANUFACTURER'S INSTALLATION
INSTRUCTIONS (REQUIRES 6" STEM WALL)
OR HDSA WITH 5/8" ANCHOR BOLT 10"
EMBEDMENT (6" STEM WALL) OR PHD2
WITH 5/8" ANCHOR BOLT 10" EMBEDMENT
(6" STEM WALL)

ANCHOR BOLTS (3) 1/2" x 10"
OR SIMPSON
SSTB16 ANCHOR BOLTS PER SPECS.



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MANUFACTURER'S INSTALLATION
INSTRUCTIONS (REQUIRES 6" STEM WALL)
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PHD2 WITH 5/8" ANCHOR BOLT
10" EMBEDMENT (6" STEM WALL)

STEEL WASHERS
NUTS REQUIRED

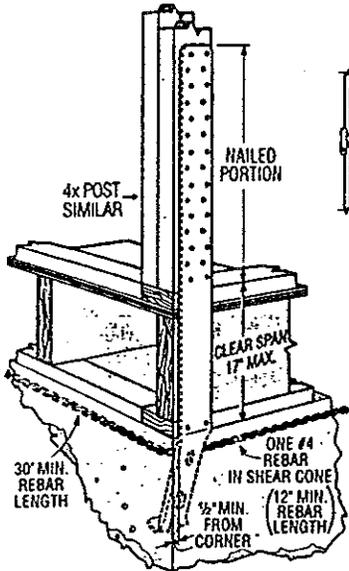
THREE 1/2" x 10"
ANCHOR BOLTS
OR SIMPSON
SSTB16 ANCHOR BOLTS
PER SPECS.

IBC 2308.9.3.1/IRC 602.10.6
ALTERNATE BRACING

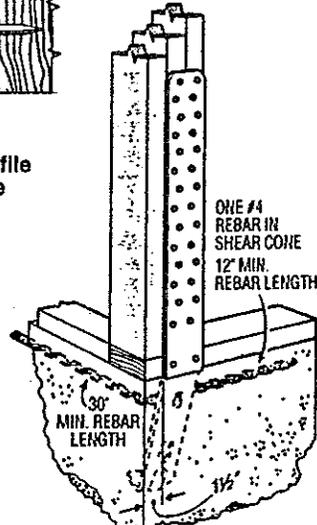
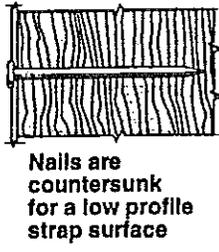
HOLD-DOWN DEVICE SHALL BE CAPABLE
OF PROVIDING AN UPLIFT CAPACITY
OF NOT LESS THAN 3000 lbs.

2'-4" FIRST STORY OF A TWO-STORY ALTERNATE BRACED WALL PANEL

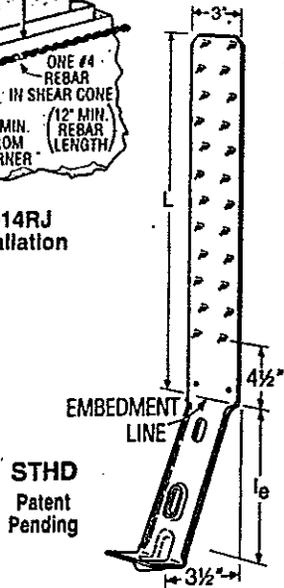
HOLD-DOWN DEVICE EXAMPLE OPTIONS
(FIRST STORY OF A TWO-STORY BUILDING ALTERNATE BRACE WALL PANELS)
CAPABLE OF PROVIDING AN UPLIFT CAPACITY OF NOT LESS THAN 3,000 lbs.



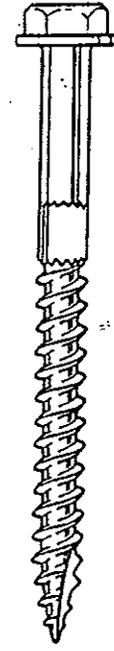
Typical STHD14RJ
Rim Joist Installation



Typical STHD
Corner Installation
with 3-2x studs



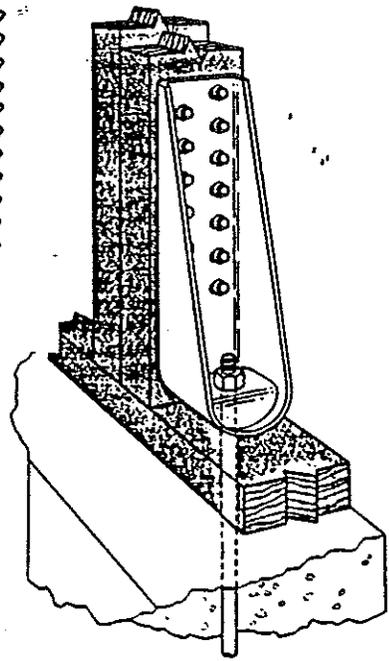
STHD
Patent Pending



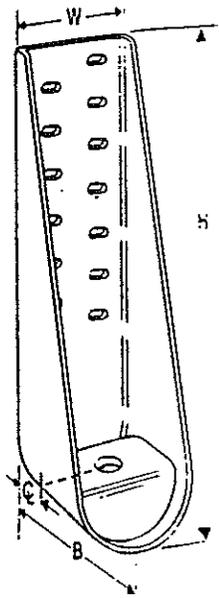
SCREWS

SDS 1/4 X 3
Patent Pending

Identification on all screw heads

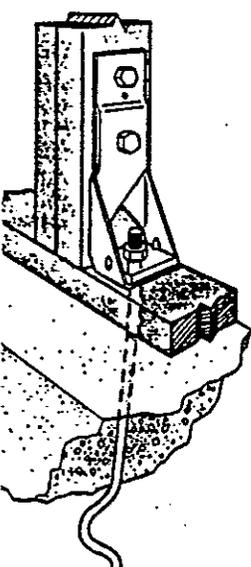


Typical PHD Installation
as a Holddown

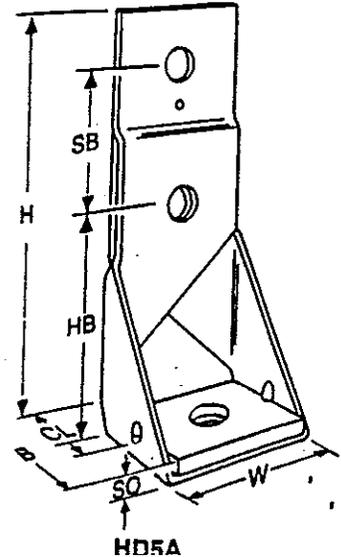


PHD5
(others similar)
Patent Pending

Patent 4,665,672
da Patent 1,253,481



Typical HD5A
Holddown
Installation with
SSTB anchor bolt.
Washers are not
required at base.



HD5A

