

## Code Modification Attachment

A request is hereby made for an appeal, interpretation or modification related to Section(s) IRC 2006 R301.3 Story Height & R602.10 Wall Bracing of the Construction Code, which require(s) that:

### **Story Height**

*R301.3 Story height*, which requires that floor framing not exceed 16 inches in height.

### **Wall Bracing**

*R602.10 Wall bracing* subsection *R602.10.5 Continuous wood structural panel sheathing*, which requires that sheathing be provided in accordance with Method 3 on all sheathable areas of all exterior walls, and interior braced wall lines, where required.

State the precise relief, remedy, or result requested:

### **Story Height**

Remedy: Permit the use of 2007 IRC Supplement *R301.3 Story height* in lieu of 2006 IRC *R301.3 Story height*.

The 2006 IRC precludes the use of 20" deep floor framing that is commonly used for residential construction in the Phoenix metropolitan area. The 2007 Supplement permits the use of 20" floor framing stating:

Individual walls or wall studs shall be permitted to exceed these limits [16" deep floor framing] as permitted by Chapter 6 provisions, provided story heights are not exceeded. Floor framing height shall be permitted to exceed these limits provided the story height does not exceed 11 feet 7 inches (3531 mm).

### **Wall Bracing**

Remedy: Permit the use of 2007 IRC Supplement *R602.10.4 Continuously-sheathed braced wall line requirements* in lieu of IRC 2006 *R602.10.5 Continuous wood structural panel sheathing*.

The 2006 IRC section R602.10.5 requires the installation of sheathing on all exterior walls of a home. The 2007 Supplement permits the continuous sheathing method of bracing to be used on a wall line-by-wall line basis.

State the factual and/or legal basis for the appeal, interpretation, or modification. If a modification is requested, include the reason(s) why the proposed modification of the code meets the intent of the code.

### **Story Height & Wall Bracing**

The 2007 IRC Supplement is a recognized model building code developed through the International Code Council's code development process. Permitting the use of provisions from the 2007 IRC Supplement is justifiable because it provides the latest development towards the code's purpose as stated in *R301.3 Purpose*.

A national builder seeks to submit home plans citing prescriptive construction methods to this city for the construction of new homes. The builder desires to employ prescriptive bracing via continuous sheathing on a wall line-by-wall line basis as a means of reducing construction costs and delays.

## CHAPTER 6 WALL CONSTRUCTION

**Table R602.3(1) Change table and footnote h to read as shown: ( RB170-06/07; S72-06/07 Part II, S75-06/07 Part II)**

**TABLE R602.3(1)  
FASTENER SCHEDULE STRUCTURAL MEMBERS**

DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER <sup>b, c, e</sup>	SPACING OF FASTENERS	
		Edges (Inches)	Intermediate supports <sup>c, e</sup> (inches)
<b>Wood structural panels, subfloor, roof and wall sheathing to framing, and particleboard wall sheathing to framing</b>			
3/8" - 1/2" □	6d common (2" × 0.113" □) nail (subfloor wall) 8d common (2 1/2" × 0.131" □) nail (roof)	6	12 <sup>g</sup>
<b>Other wall sheathing<sup>h</sup></b>			
1/2" structural cellulose fiberboard sheathing	1 1/2" galvanized roofing nail, 7/16" crown or 1" crown staple 16 ga., 1 1/4" long	3	6
25/32" structural cellulose fiberboard sheathing	1 3/4" galvanized roofing nail, 7/16" crown or 1" crown staple 16 ga., 1 1/2" long	3	6
1/2" gypsum sheathing <sup>d</sup>	1 1/2" galvanized roofing nail; staple galvanized, 1 1/2" long; 1 1/4" screws, Type W or S	4	8
5/8" gypsum sheathing <sup>d</sup>	1 3/4" galvanized roofing nail; staple galvanized, 1 5/8" long; 1 5/8" screws, Type W or S	4	8

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1ksi = 6.895 MPa.

h. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C 208.

(Portions of table and footnotes not shown remain unchanged)

**Table R602.3(3) Change table to read as shown: (S72-06/07 Part II)**

**TABLE R602.3(3)  
WOOD STRUCTURAL PANEL WALL SHEATHING**

Panel Span Rating	Panel Nominal Thickness (inch)	Maximum Stud Spacing (inches)	
		Siding nailed to: <sup>a</sup>	
		Stud	Sheathing
16/0, 20/0, or wall – 16 o.c.	3/8	16	16 <sup>b</sup>
24/0, 24/16, 32/16 or wall – 24 o.c.	3/8, 7/10, 15/32, 1/2	24	24 <sup>c</sup>

For SI: 1 inch = 25.4 mm.

- a. Blocking of horizontal joints shall not be required.  
 b. Plywood sheathing 3/8-inch thick or less shall be applied with long dimension across studs.  
 c. Three-ply plywood panels shall be applied with long dimension across studs.

### **Section R602.6.1 Change to read as shown: (RB172-06/07)**

**R602.6.1 Drilling and notching of top plate.** When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than 50 percent of its width, a galvanized metal tie of not less than 0.054 inch thick (1.37 mm) (16 ga) and 1 1/2 inches (38 mm) wide shall be fastened across and to the plate at each side of the opening with not less than eight 10d (0.148 inch diameter) nails having a minimum length of 1 1/2 inches (38 mm) nails at each side or equivalent. The metal tie must extend a minimum of 6 inches past the opening. See Figure R602.6.1.

**Exception:** When the entire side of the wall with the notch or cut is covered by wood structural panel sheathing.

**Section R602.8 Change to read as shown: (RB176-06/07)**

**R602.8 Fireblocking required.** Fireblocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective fire barrier between stories, and between a top story and the roof space. Fireblocking shall be provided in wood-frame construction in the following locations.

1. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs; as follows:
  - 1.1. Vertically at the ceiling and floor levels.
  - 1.2. Horizontally at intervals not exceeding 10 feet(3048 mm).
2. At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.
3. In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with Section R311.2.2.
4. At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an approved material to resist the free passage of flame and products of combustion. The material filling this annular space shall not be required to meet the ASTM E 136 requirements.
5. For the fireblocking of chimneys and fireplaces, see Section R1003.19.
6. Fireblocking of cornices of a two-family dwelling is required at the line of dwelling unit separation.

**Sections R602.8.1 Change to read as shown: (FS146-06/07 Part II)**

**R602.8.1 Fireblocking materials.** Except as provided in Section R602.8, Item 4, fireblocking shall consist of the following materials:

1. 2-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25.4 mm) nominal lumber with broken lap joints.
3. One thickness of 23/32-inch (18.3 mm) wood structural panels with joints backed by 23/32-inch (18.3 mm) wood structural panels.
4. One thickness of 3/4-inch (19.1 mm) particleboard with joints backed by 3/4-inch (19.1 mm) particleboard.
5. 1/2-inch (12.7 mm) gypsum board.
6. 1/4-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place.

**Section R602.8.1.1 Add new section to read as shown: (FS146-06/07 Part II)**

**R602.8.1.1 Batts or blankets of mineral or glass fiber.** Batts or blankets of mineral or glass fiber or other approved nonrigid materials shall be permitted for compliance with the 10-foot (3048 mm) horizontal fireblocking in walls constructed using parallel rows of studs or staggered studs.

(Renumber subsequent sections)

**Section R602.8.1.3 Add new section to read as shown: (FS146-06/07 Part II)**

**R602.8.1.3 Loose-fill insulation material.** Loose-fill insulation material shall not be used as a fireblock unless specifically tested in the form and manner intended for use to demonstrate its ability to remain in place and to retard the spread of fire and hot gases.

(Renumber subsequent sections)

**Sections R602.10, R602.11; Change to read as shown: (RB179-06/07, RB181-06/07, RB187-06/07, RB196-06/07, RB197-06/07, RB199-06/07, RB200-06/07, RB201-06/07, RB205-06/07, RB207-06/07, RB209-06/07, RB211-06/07, RB213-06/07, RB214-06/07, RB217-06/07, RB220-06/07, RB223-06/07, RB225-06/07, RB227-06/07, RB231-06/07, RB236-06/07, S72-06/07 Part II, S90-06/07 Part II)**

**(NOTE:** The content of Sections R602.10 and R602.11 has been completely revised and reorganized. The text, tables and figures shown in this supplement replace the 2006 code text in its entirety.)

**R602.10 Wall bracing.** All exterior walls shall be braced in accordance with this section. In addition, interior braced wall lines shall be provided in accordance with Section R602.10.1. Where a building, or portion thereof, does not comply with one or more of the bracing requirements in this section, those portions shall be designed and constructed in accordance with accepted engineering practice.

**Exception:** Detached one- and two-family dwellings located in Seismic Design Category C are exempt from the seismic bracing requirements of this section. Wind speed provisions for bracing shall be applicable to detached one- and two-family dwellings.

**R602.10.1 Braced wall lines.** Braced wall lines, both interior and exterior, shall be provided with braced wall panels in the percentage and location specified in this section.

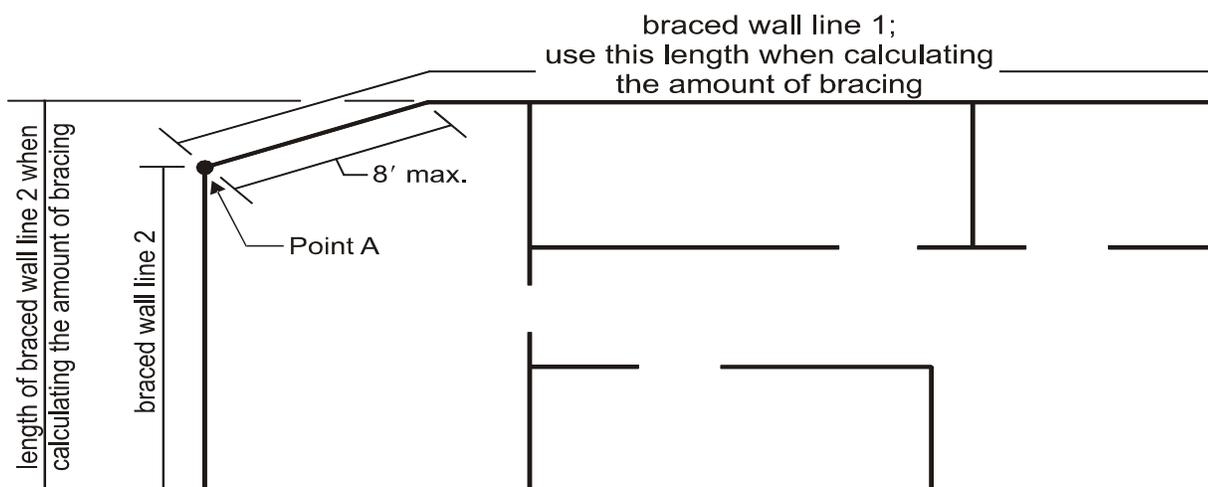
Braced wall panels shall be in accordance with one of the bracing methods specified in Section R602.10.2, the alternate braced wall method of Section R602.10.3.2, or the continuous structural panel sheathing method of Section R602.10.4. Bracing method shall be permitted to vary as follows:

1. Variation in bracing method from story to story is permitted.
2. Variation in bracing method from braced wall line to braced wall line within a story is permitted, except that continuous structural panel sheathing shall conform to the additional requirements of Section R602.10.4.
3. In Seismic Design Categories A and B, and detached dwellings in Seismic Design Category C, variation in bracing method within a braced wall line is permitted. The required sheathing percentage for the braced wall line with mixed sheathing types shall have the higher bracing percentage, in accordance with Table R602.10.1(1), of all types of bracing used. Wall lines using continuous wood structural panel sheathing shall conform to the additional requirements of Section R602.10.4.

**R602.10.1.1 Percentage of bracing.** The percentage of bracing along each braced wall line shall be in accordance with Table R602.10.1(1) and shall be the greater of that required by the Seismic Design Category or the design wind speed. Adjustments to the percent of braced wall specified in Table R602.10.1(1) shall be as specified in Table R602.10.1(2)

**Section R602.10.1.2 Add new section to read as shown: (RB187-06/07)**

**R602.10.1.2 Angled corners.** At corners, braced wall lines shall be permitted to angle out of plane up to 45 degrees with a maximum diagonal length of 8 feet (2438 mm). When determining the percentage of bracing, the length of each braced wall line shall be determined as shown in Figure R602.10.1.2. The placement of bracing for the braced wall lines shall begin at the point where the braced wall line, which contains the angled wall adjoins the adjacent braced wall line (Point A as shown in Figure R602.10.1.2). Where an angled corner is constructed at an angle equal to 45 degrees and the diagonal length is no more than 8 feet (2438 mm) in length, the angled wall may be considered as part of either of the adjoining braced wall lines, but not both. Where the diagonal length is greater than 8 feet (2438 mm), it shall be considered its own braced wall line and be braced in accordance with Section R602.10.1 and methods in Section R602.10.2.

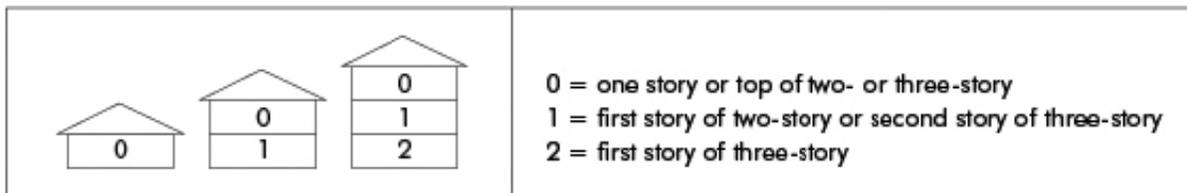


**FIGURE R602.10.1.2  
ANGLED CORNERS**

**TABLE R602.10.1(1)<sup>a,b,c</sup>  
WALL BRACING**

SEISMIC DESIGN CATEGORY (SDC) OR WIND SPEED	STORIES ABOVE BRACED WALL LINE <sup>d</sup>	METHOD OF BRACING PERMITTED	PERCENTAGE OF FULL-HEIGHT BRACING PER WALL LINE		MAXIMUM SPACING BETWEEN BRACED WALL LINES (FT)
			For Method 3 Bracing	For other methods permitted <sup>e</sup>	
SDC A and B ( $S_s$ 0.35g and $S_{ds}$ 0.33g), 100 mph	0	Methods 1-8	16%	16%	35 (See Section R602.10.1.4 for exceptions)
	1	Methods 1-8	16%	25%	
	2	Methods 2-8	25%	35%	
SDC C ( $S_s$ 0.6g and $S_{ds}$ 0.53g), < 110 mph	0	Methods 1-8	16%	25%	
	1	Methods 2-8	30%	45%	
	2	Methods 2-8	45%	60%	
SDC D <sub>0</sub> & D <sub>1</sub> ( $S_s$ 1.25g and $S_{ds}$ 0.83g), < 110 mph	0	Methods 2-8	20%	30%	25 (See Section R602.10.1.4.1 for exceptions)
	1	Methods 2-8	45%	60%	
	2	Methods 2-8	60%	85%	
SDC D <sub>2</sub> , < 110 mph	0	Methods 2-8	25%	40%	
	1	Methods 2-8	55%	75%	
	Cripple wall	Method 3	75%	Not Permitted	

- a. Wall bracing percentages are based on a soil site class "D." Interpolation of bracing percentage between the  $S_{ds}$  values associated with the Seismic Design Categories shall be permitted when a site-specific  $S_{ds}$  value is determined in accordance with Section 1613.5 of the *International Building Code*.
- b. Foundation cripple wall panels shall be braced in accordance with Section R602.10.8.
- c. Methods of bracing shall be as described in Section R602.10.2. The alternate braced wall panels described in Section R602.10.3.2 shall also be permitted
- d. Stories above braced wall line. 0 = one story or top of two or three story. 1 = first story of two story or second story of three story. 2 = first story of three story.



- e. Method 1 bracing exempt from percentage bracing requirement.

**TABLE R602.10.1(2)  
ADJUSTMENT FACTORS TO THE PERCENTAGE OF REQUIRED WALL BRACING <sup>a</sup>**

ADJUSTMENT BASED ON:		MULTIPLY PERCENTAGE OF BRACING PER WALL LINE BY:	APPLIES TO:	
Story height <sup>b</sup> (Section 301.3)	10 ft	1.0	All bracing methods - R602.10.2	
	> 10 12 ft	1.2		
Braced wall line spacing in SDC A-C <sup>b,d</sup>	≤ 35 ft	1.0		
	> 35 50 ft	1.43		
Wall dead load <sup>e</sup>	> 8 15	1.0		
	8 psf	0.85		
Roof/ceiling dead load for wall supporting <sup>b,c</sup> :	roof only or roof plus one story	15 psf		1.0
	roof only	> 15 psf 25 psf		1.1
	roof plus one story	> 15 psf 25 psf		1.2
Walls with stone or masonry veneer in SDC C-D <sub>2</sub>	See Section R703.7, Exception 1-4			
Cripple walls	See Section R 602.10.8			

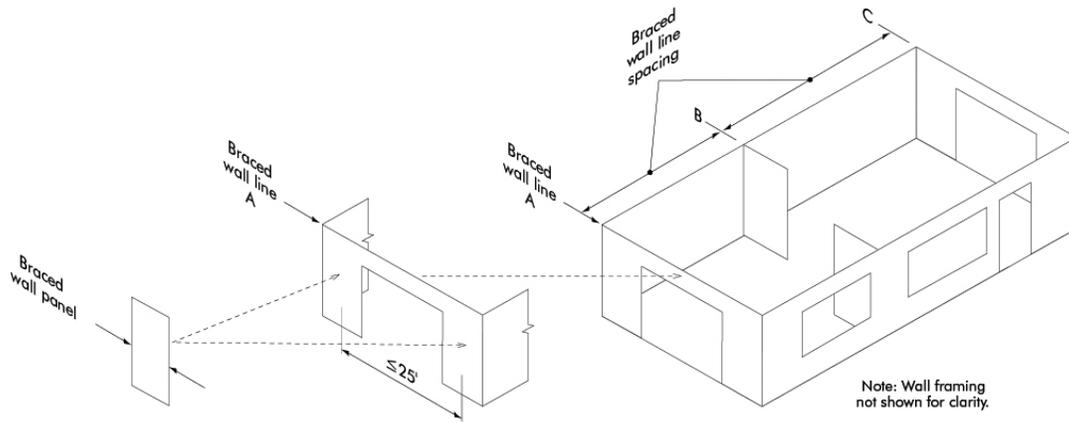
- The total percentage of bracing required for a given wall line is the product of all applicable adjustment factors.
- Linear interpolation shall be permitted.
- Bracing required for a site's wind speed shall not be adjusted for dead load.
- Braced wall line spacing in excess of 35-ft shall be in accordance with R602.10.1.4.
- The adjusted percentage of bracing shall not be less than that required for the site's wind speed.

**R602.10.1.3 Braced wall panel location.** Braced wall panels shall be located in accordance with Table R602.10.1(1) and Figure R602.10.1.3(1). Braced wall panels shall be located at least every 25 feet on center and shall begin no more than 12.5 feet (3810 mm) from each end of a braced wall line in accordance with Figure R602.10.1.3(2). Braced wall panels may be offset out-of-plane up to 4 feet (1219 mm) provided that the total out-to-out offset in any braced wall line is not more than 8 feet (2438 mm) in accordance with Figure R602.10.1.3(3).

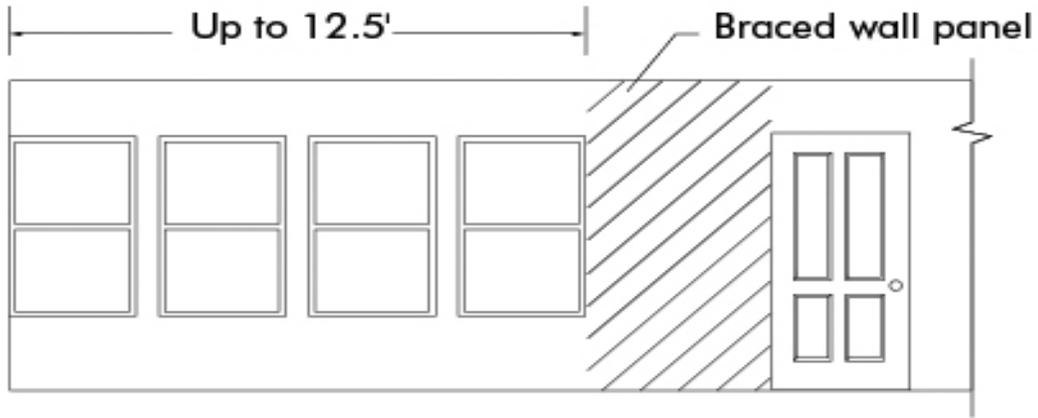
**R602.10.1.3.1 Braced wall panel location in Seismic Design Categories D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub>.** Exterior braced wall lines shall have a braced wall panel located at each end of the braced wall line.

**Exception:** For braced wall panel construction Method 3 of Section R602.10.2, the braced wall panel shall be permitted to begin no more than 8 feet (2438 mm) from each end of the braced wall line provided one of the following is satisfied in accordance with Figure R602.10.1.3.1:

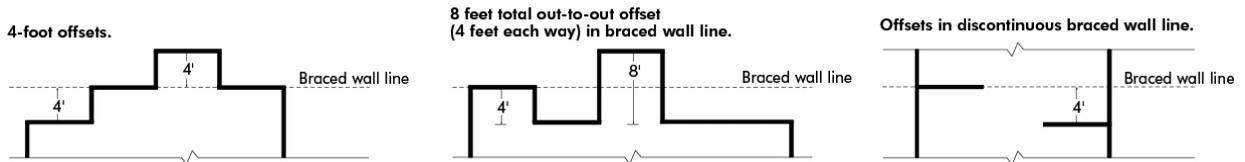
- A minimum 24-inch-wide (610 mm) panel is applied to each side of the building corner and the two 24-inch-wide (610 mm) panels at the corner shall be attached to framing in accordance with Figure R602.10.4.3(1), or
- The end of each braced wall panel closest to the corner shall have a tie-down device fastened to the stud at the edge of the braced wall panel closest to the corner and to the foundation or framing below. The tie-down device shall be capable of providing an uplift allowable design value of at least 1,800 pounds (8 kN). The tie-down device shall be installed in accordance with the manufacturer's recommendations.



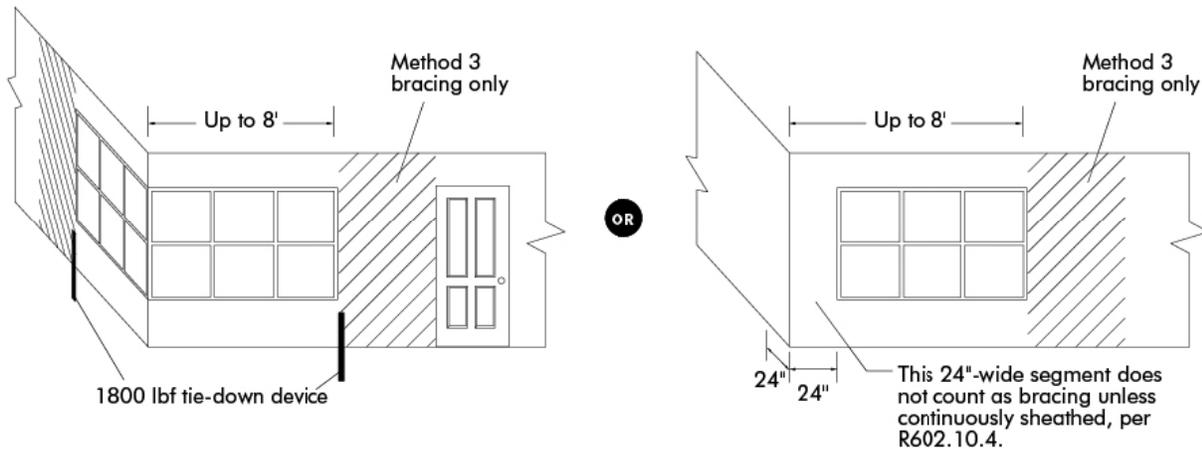
**FIGURE R602.10.1.3 (1)  
BRACED WALL PANELS AND BRACED WALL LINES**



**FIGURE R602.10.1.3(2)  
PERMITTED BRACED WALL PANEL DISTANCES FROM ENDS OF  
A BRACED WALL LINE (SDC A, B and C)**



**FIGURE R602.10.1.3(3)  
OFFSETS PERMITTED FOR BRACED WALL LINES**



**FIGURE R602.10.1.3.1  
BRACED WALL PANELS AT BRACED WALL-LINE ENDS IN SEISMIC DESIGN  
CATEGORIES D<sub>0</sub>, D<sub>1</sub> AND D<sub>2</sub>**

**R602.10.1.4 Braced wall line spacing.** Spacing of braced wall lines shall not exceed 35 feet (10 668 mm) on center in both the longitudinal and transverse direction in each story.

**Exception:** Spacing of braced wall lines not exceeding 50 feet (15 240 mm) shall be permitted where:

1. The wall bracing provided equals or exceeds the percentage of bracing required by Table R602.10.1(1) multiplied by a factor equal to the braced wall line spacing divided by 35 feet (10 668 mm), and
2. The length-to-width ratio for the floor/roof diaphragm as measured between braced wall lines does not exceed 3:1.

**R602.10.1.4.1 Braced wall line spacing for Seismic Design Categories D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub>.** Spacing between braced wall lines in each story shall not exceed 25 feet (7 620 mm) on center in both the longitudinal and transverse directions.

**Exception:** In one-and two-story buildings, spacing between two adjacent braced wall lines shall not exceed 35 feet (10 668 mm) on center in order to accommodate one single room not exceeding 900 square feet (84 m<sup>2</sup>) in each dwelling unit. Spacing between all other braced wall lines shall not exceed 25 feet (7 620 mm). A spacing of 35 feet (10 668 mm) or less shall be permitted between braced wall lines where the length of wall bracing required by Table R602.10.1(1) is multiplied by the appropriate adjustment factor from Table R602.10.1.4.1, the length-to-width ratio for the floor/roof diaphragm does not exceed 3:1, and the top plate lap splice face nailing shall be twelve 16d nails on each side of the splice.

**TABLE R602.10.1.4.1  
ADJUSTMENTS OF BRACING PERCENTAGE FOR BRACED WALL LINES GREATER THAN 25 FEET<sup>a,b</sup>**

BRACED WALL LINE SPACING (feet)	MULTIPLY BRACING PERCENTAGE IN TABLE R602.10.1(1) BY:
25	1.0
30	1.2
35	1.4

For SI: 1 foot = 304.8 mm

Notes:

- a. Linear interpolation is permissible.
- b. For an interior braced wall, the adjustment for the larger spacing between braced wall lines shall be used.

**R602.10.2 Braced wall panel construction methods.** The construction of braced wall panels shall be in accordance with one of the following methods:

1. Nominal 1-inch-by-4-inch (19.1 mm by 88.9 mm) continuous diagonal braces let in to the top and bottom plates and the intervening studs or approved metal strap devices installed in accordance with the manufacturer's specifications. The let-in bracing shall be placed at an angle not more than 60 degrees (1.06 rad) or less than 45 degrees (0.79 rad) from the horizontal.
2. Wood boards of 5/8-inch (15.9 mm) net minimum thickness applied diagonally on studs spaced a maximum of 24 inches (610 mm). Diagonal boards shall be attached to studs in accordance with Table R602.3(1).
3. Wood structural panel sheathing with a thickness not less than 3/8 inch (9.5 mm) for 16-inch (406 mm) or 24-inch (610 mm) stud spacing. Wood Structural panels shall be installed in accordance with Table R602.3(3) and Table R602.3(1).
4. One-half-inch (12.7 mm) or 25/32-inch (19.8 mm) thick structural fiberboard sheathing applied vertically or horizontally on studs spaced a maximum of 16 inches (406 mm) on center. Structural fiberboard sheathing shall be installed in accordance with Table R602.3(1).
5. Gypsum board with minimum 1/2-inch (12.7 mm) thickness placed on studs spaced a maximum of 24 inches (610 mm) on center and fastened at panel edges including top and bottom plates at 7 inches (178 mm) on center with the size nails specified in Table R602.3(1) for sheathing and Table R702.3.5 for interior gypsum board.
6. Particleboard wall sheathing panels installed in accordance with Table R602.3(4) and Table R602.3(1).
7. Portland cement plaster on studs spaced a maximum of 16 inches (406 mm) on center and installed in accordance with Section R703.6.
8. Hardboard panel siding when installed in accordance with Table R703.4.

**Exception:** Alternate braced wall panels constructed in accordance with Sections R602.10.3.2.1 or R602.10.3.2.2 shall be permitted to replace any braced wall panel in any of the above methods of braced wall panels.

**R602.10.2.1 Braced wall panel interior finish material.** Braced wall panels shall have gypsum wall board installed on the side of the wall opposite the bracing material. Gypsum wall board shall be not less than 1/2 inch (12.7 mm) in thickness and be fastened in accordance with Table R702.3.5 for interior gypsum wall board.

**Exceptions:**

1. Wall panels that are braced in accordance with Method 5.
2. Wall panels that are braced in accordance with Section R602.10.3.2 .
3. When an approved interior finish material with an in-plane shear resistance equivalent to gypsum board is installed.
4. For Methods 2, 3, 4, 6, 7, and 8, gypsum wall board is permitted to be omitted provided the percentage of bracing in Table R602.10.1(1) is multiplied by a factor of 1.5.

**R602.10.2.2 Adhesive attachment of sheathing in Seismic Design Categories C, D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub>.** Adhesive attachment of wall sheathing shall not be permitted in Seismic Design Categories C, D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub>.

**R602.10.3 Minimum length of braced panels.** For Methods 2, 3, 4, 6, 7 and 8 above, each braced wall panel shall be at least 48 inches (1219 mm) in length, covering a minimum of three stud spaces where studs are spaced 16 inches (406 mm) on center and covering a minimum of two stud spaces where studs are spaced 24 inches (610 mm) on center. For Method 5 above, each braced wall panel and shall be at least 96 inches (2438 mm) in length where applied to one face of a braced wall panel and at least 48 inches (1219 mm) where applied to both faces. For Methods 2, 3, 4, 6, 7 and 8, for purposes of computing the percentage of panel bracing required in Table R602.10.1(1), the effective length of the braced wall panel shall be equal to the actual length of the panel. When Method 5 panels are applied to only one face of a braced wall panel, bracing percentages required in Table R602.10.1(1) for Method 5 shall be doubled.

**Exceptions:**

1. Lengths of braced wall panels for continuous wood structural panel sheathing shall be in accordance with Section R602.10.4.
2. Lengths of alternate braced wall panels shall be in accordance with Section R602.10.3.2.1 or Section R602.10.3.2.2.
3. For Methods 2, 3, 4, 6, 7 and 8 in Seismic Design Categories A, B, and C: Panels between 36 inches and 48 inches in length shall be permitted to count towards the required percentage of bracing in Table R602.10.1(1), and the effective contribution shall comply with Table R602.10.3.

**TABLE R602.10.3**  
**EFFECTIVE LENGTHS FOR BRACE WALL PANELS LESS THAN 48 INCHES IN ACTUAL LENGTH**  
**(BRACE METHODS 2, 3, 4, 6, 7, AND 8<sup>a</sup>)**

Actual Length of Braced Wall Panel (inches)	Effective Length of Braced Wall Panel (inches)		
	8-foot Wall Height	9-foot Wall Height	10-foot Wall Height
48	48	48	48
42	36	36	N/A
36	27	N/A	N/A

For SI: 1 inch = 25.4mm

Interpolation shall be permitted.

**R602.10.3.1 Adjustment of length of braced panels.** When story height (H), measured in ft, exceeds 10 feet (3048 mm), in accordance with Section R301.3, the minimum length of braced wall panels specified in Section R602.10.3 shall be increased by a factor H/10. See Table R602.10.3.1. Interpolation is permitted.

**TABLE R602.10.3.1**  
**MINIMUM LENGTH REQUIREMENTS FOR BRACED WALL PANELS**

SEISMIC DESIGN CATEGORY AND WIND SPEED	BRACING METHOD	HEIGHT OF BRACED WALL PANEL				
		8 ft.	9 ft.	10 ft.	11 ft.	12 ft.
SDC A, B, C, D <sub>o</sub> , D <sub>1</sub> and D <sub>2</sub> Wind speed < 110 mph	2,3,4,6,7,8 and Method 5 when double sided	4'-0"	4'-0"	4'-0"	4'-5"	4'-10"
	Method 5, single sided	8'-0"	8'-0"	8'-0"	8'-10"	9'-8"

For SI: 1 inch = 25.4mm, 1 foot = 305 mm

**R602.10.3.2 Alternative bracing panels.** As an alternate to the bracing methods in Section R602.10.2, wall bracing panels in accordance with Sections R602.10.3.2.1 and R602.10.3.2.2 shall be permitted.

**R602.10.3.2.1 Alternate braced wall panels.** Alternate braced wall panels constructed in accordance with one of the following provisions shall be permitted to replace each 4 feet (1219 mm) of braced wall panel as required by Section R602.10.3. The maximum height and minimum length and tie-down force of each panel shall be in accordance with Table R602.10.3.2.1:

1. In one-story buildings, each panel shall be sheathed on one face with 3/8-inch-minimum-thickness (9.5 mm) wood structural panel sheathing nailed with 8d common or galvanized box nails spaced in accordance with Table R602.3(1) and blocked at all wood structural panel sheathing edges. Two anchor bolts installed in accordance with Figure R403.1(1) shall be provided in each panel. Anchor bolts shall be placed 6 to 12 inches from each end of the plate. Each panel end stud shall have a tie-down device fastened to the foundation, capable of providing an uplift capacity in accordance with Table R602.10.3.2.1. The tie-down device shall be installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation or on floor framing supported directly on a foundation, which is continuous across the entire length of the braced wall line. This foundation shall be reinforced with not less than one No. 4 bar top and bottom. When the continuous foundation is required to have a depth greater than 12 inches (305 mm), a minimum 12-inch-by-12-inch (305 mm by 305 mm) continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No.4 bar top and bottom. This reinforcement shall be lapped 15 inches (381 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.
2. In the first story of two-story buildings, each braced wall panel shall be in accordance with Item 1 above, except that the wood structural panel sheathing edge nailing spacing shall not exceed four inches on center.

**TABLE R602.10.3.2.1  
MINIMUM LENGTH REQUIREMENTS AND TIE-DOWN FORCES  
FOR ALTERNATE BRACED WALL PANELS**

SEISMIC DESIGN CATEGORY AND WIND SPEED		HEIGHT OF BRACED WALL PANEL				
		8 ft.	9 ft.	10 ft.	11 ft.	12 ft.
SDC A, B and C Wind speed < 110 mph	Minimum Sheathed Length	2'-4"	2'-8"	2'-10"	3'-2"	3'-6"
	R602.10.3.2.1, Item 1 Tie-down Force (lbs)	1800	1800	1800	2000	2200
	R602.10.3.2.1, Item 2 Tie-down Force (lbs)	3000	3000	3000	3300	3600
SDC D <sub>0</sub> , D <sub>1</sub> and D <sub>2</sub> Wind speed < 110 mph	Minimum Sheathed Length	2'-8"	2'-8"	2'-10"	NP <sup>a</sup>	NP <sup>a</sup>
	R602.10.3.2.1, Item 1 Tie-down Force (lbs)	1800	1800	1800	NP <sup>a</sup>	NP <sup>a</sup>
	R602.10.3.2.1, Item 2 Tie-down Force (lbs)	3000	3000	3000	NP <sup>a</sup>	NP <sup>a</sup>

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 pound = 4.44822 Newtons

a. NP = Not Permitted. Maximum height of 10 feet (3,048 mm).

**R602.10.3.2.2 Alternate bracing wall panel adjacent to a door or window opening.** Alternate braced wall panels constructed in accordance with one of the following provisions are also permitted to replace each 4 feet (1219 mm) of braced wall panel as required by Section R602.10.3 for use adjacent to a window or door opening with a full-length header:

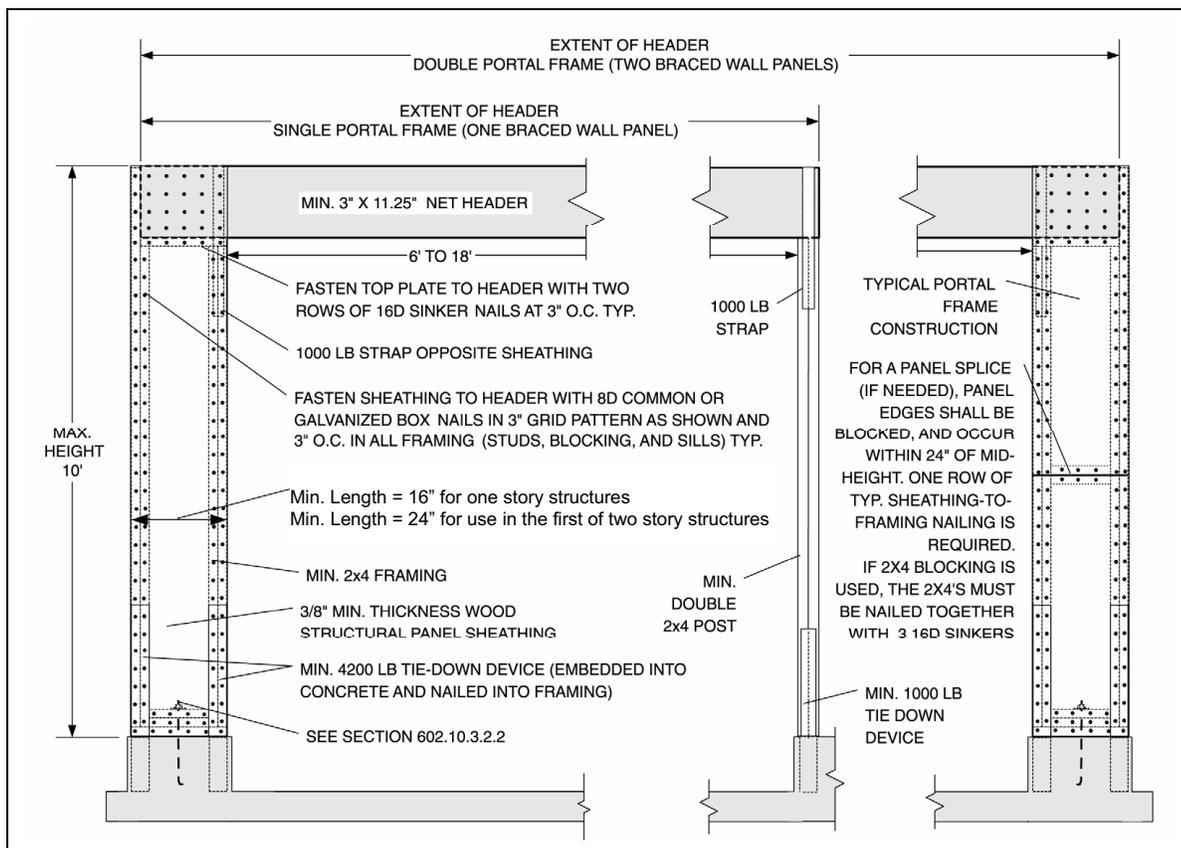
1. In one-story buildings, each panel shall have a length of not less than 16 inches (406 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be sheathed on one face with a single layer of 3/8-inch-minimum-thickness (9.5 mm) wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Figure R602.10.3.2.2. The wood structural panel sheathing shall extend up over the solid sawn or glued-laminated header and shall be nailed in accordance with Figure R602.10.3.2.2. A built-up header consisting of at least two 2 X 12s and fastened in accordance with Table R602.3(1) shall be permitted to be used. A spacer, if used, shall be placed on the side of the built-up beam opposite the wood structural panel sheathing. The header shall extend between the inside faces of the first full-length outer studs of each panel. The clear span of the header between the inner studs of each panel shall be not less than 6 feet (1829 mm) and not more than 18 feet (5486 mm) in length. A strap with an uplift capacity of not less than 1000 pounds (4448 N) shall fasten the header to the side of the inner studs opposite the sheathing. One anchor bolt not less than 5/8-inch-diameter (16 mm) and installed in accordance with Section R403.1.6 shall be provided in the center of each sill plate. The studs at each end of the panel shall have a tie-down device fastened to the foundation with an uplift capacity of not less than 4,200 pounds (18 683 N). The tie-down devices shall be an embedded-strap type, installed in accordance with the manufacturer's recommendations.

Where a panel is located on one side of the opening, the header shall extend between the inside face of the first full-length stud of the panel and the bearing studs at the other end of the opening. A strap with an uplift capacity of not less than 1,000 pounds (4448 N) shall fasten the header to the bearing studs. The bearing studs shall also have a tie-down device fastened to the foundation with an uplift capacity of not less than 1,000 pounds (4448 N).

The panels shall be supported directly on a foundation, which is continuous across the entire length of the braced wall line. The foundation shall be reinforced with not less than one No. 4 bar top and bottom.

Where the continuous foundation is required to have a depth greater than 12 inches (305 mm), a minimum 12-inch-by-12-inch (305 mm by 305 mm) continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No. 4 bar top and bottom. This reinforcement shall be lapped not less than 15 inches (381 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.

2. In the first story of two-story buildings, each wall panel shall be braced in accordance with item 1 above, except that each panel shall have a length of not less than 24 inches (610 mm).



**FIGURE R602.10.3.2.2  
ALTERNATE BRACED WALL PANEL ADJACENT TO A DOOR OR WINDOW OPENING**

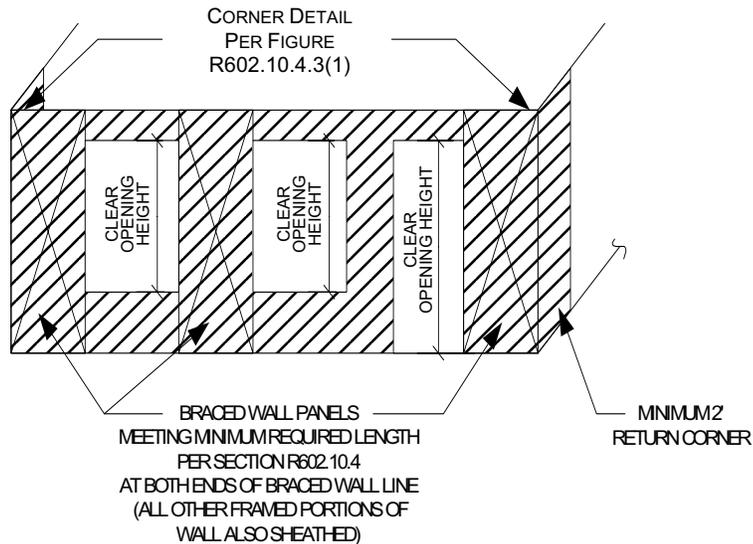
For SI: 1 inch = 25.4 mm, 1 foot = 305 mm

**R602.10.4 Continuously-sheathed braced wall line using Method 3 (wood structural panel).** Continuously sheathed braced wall lines using wood structural panels shall comply with this section. Different bracing methods shall not be permitted within a continuously sheathed braced wall line. Other bracing methods prescribed by this code shall be permitted on other braced wall lines on the same story level or on different story levels of the building.

**Exception:** All exterior braced wall lines shall be continuously sheathed where required by Section R602.10.4.7.

**R602.10.4.1 Continuously-sheathed braced wall line requirements.** Continuously-sheathed braced wall line shall be in accordance with Figure R602.10.4(1) and shall comply with all of the following requirements:

1. Structural sheathing shall be applied to all exterior sheathable surfaces of a braced wall line including areas above and below openings.
2. Only full-height braced wall panels shall be used for calculating the braced wall percentage in accordance with Table R602.10.1(1).



**FIGURE R602.10.4(1)**  
**CONTINUOUSLY-SHEATHED BRACED WALL LINE**

**R602.10.4.2 Braced wall panel length.** In a continuously-sheathed wood structural panel braced wall line, the minimum braced wall panel length shall be permitted to be in accordance with Table R602.10.4.2.

**TABLE R602.10.4.2**  
**LENGTH REQUIREMENTS FOR BRACED WALL PANELS**  
**IN A CONTINUOUSLY SHEATHED WALL <sup>a</sup>**

MINIMUM LENGTH OF BRACED WALL PANEL (inches)			MINIMUM OPENING CLEAR HEIGHT NEXT TO THE BRACED WALL PANEL (% of wall height)
8-foot wall	9-foot wall	10-foot wall	
48	54	60	100%
32	36	40	85%
24	27	30	67%

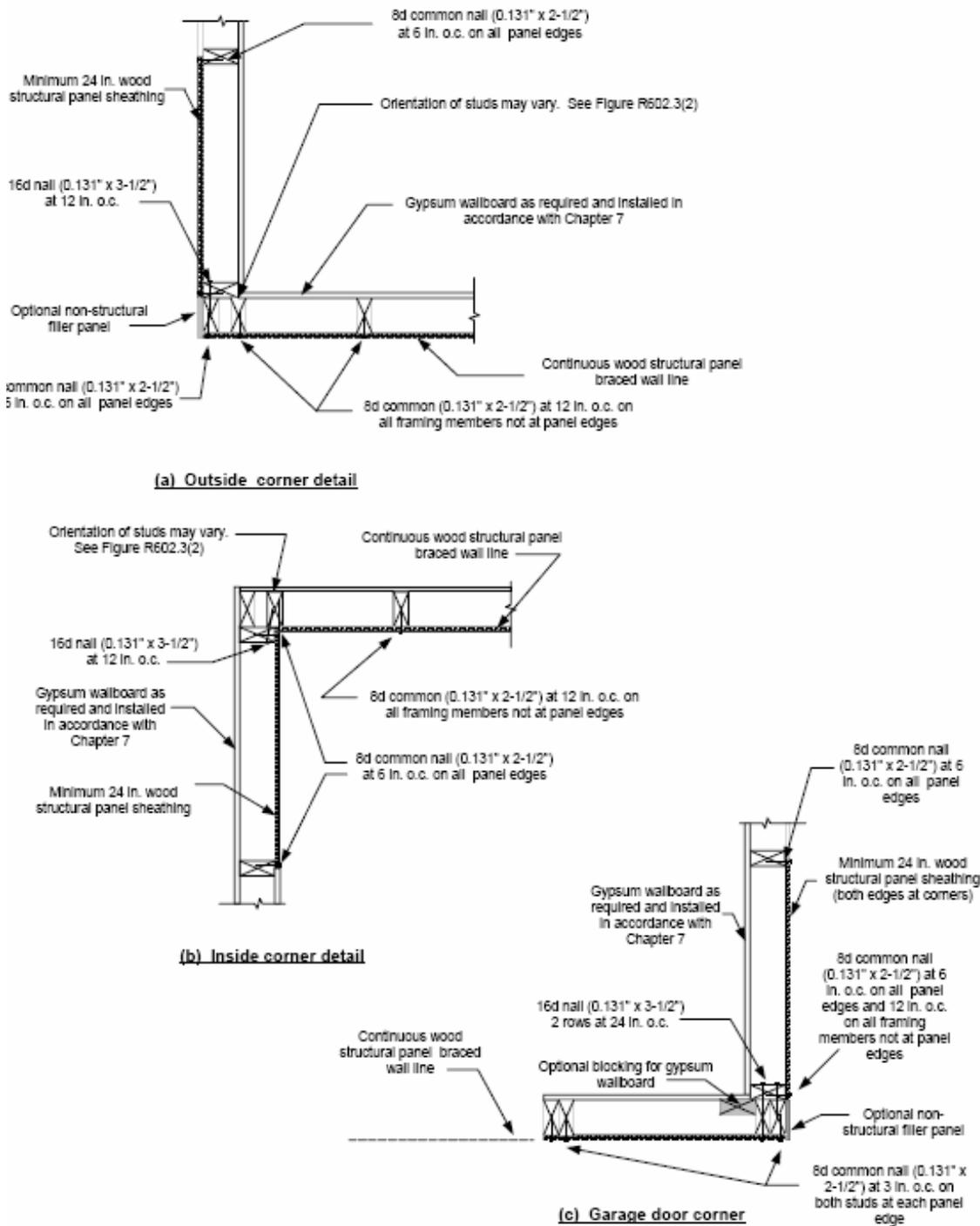
For SI: 1 inch = 25.4 mm, 1 foot = 305 mm

a. Interpolation shall be permitted.

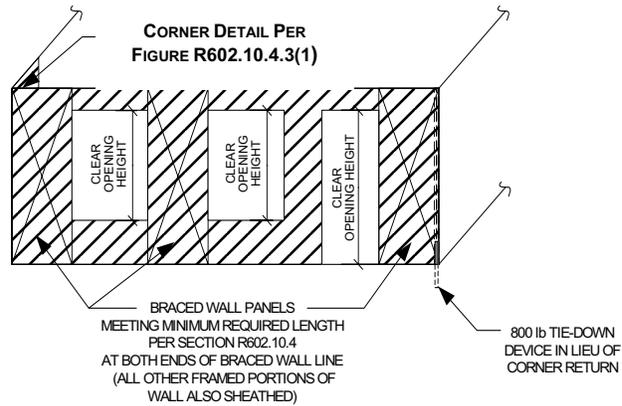
**R602.10.4.3 Braced wall panel location and corner construction.** A braced wall panel shall be located at each end of a continuously-sheathed braced wall line. A minimum 24-inch (610 mm) wood structural panel corner return shall be provided at both ends of a continuously-sheathed braced wall line in accordance with Figure R602.10.4.3(1). In lieu of the corner return, a tie-down device with a minimum uplift design value of 800 lb shall be fastened to the corner stud and to the foundation or framing below in accordance with Figure R602.10.4.3(2).

**Exception:** The first braced wall panel shall be permitted to begin 12 feet 6 inches (3810 mm) from each end of the braced wall line in Seismic Design Categories A, B, and C and 8 feet in Seismic Design Categories D<sub>0</sub>, D<sub>1</sub>, and D<sub>2</sub> provided one of the following is satisfied:

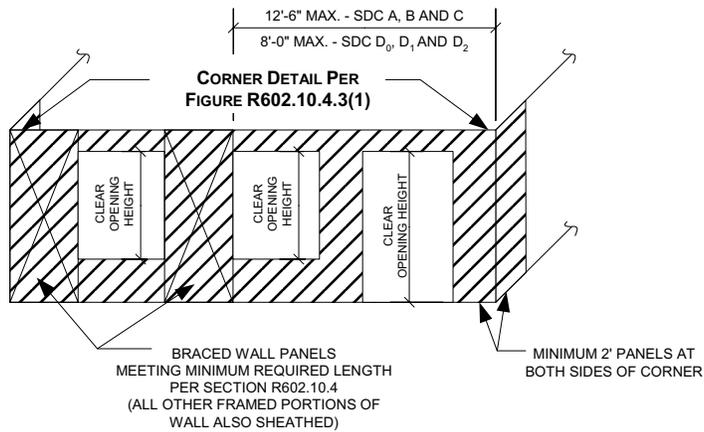
1. A minimum 2-foot-long (610 mm), full-height wood structural panel is provided at both sides of a corner constructed in accordance with Figure R602.10.4.3(1) at the braced wall line ends in accordance with Figure R602.10.4.3(3), or
2. The braced wall panel closest to the corner shall have a tie-down device with a minimum uplift design value of 800 lb (36 kg) fastened to the stud at the edge of the braced wall panel closest to the corner and to the foundation or framing below in accordance with Figure R602.10.4.3(4).



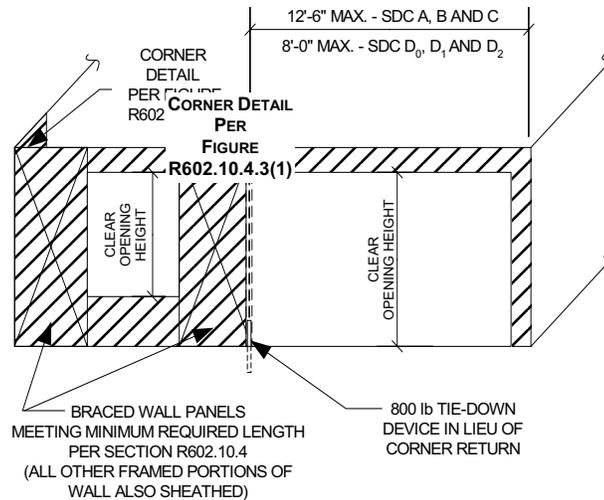
**FIGURE R602.10.4.3(1)**  
**TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS STRUCTURAL**  
**PANEL SHEATHING SHOWING REQUIRED STUD-TO-STUD NAILING**



**FIGURE R602.10.4.3(2)**  
**CONTINUOUSLY SHEATHED BRACED WALL LINE – WITHOUT CORNER RETURN**



**FIGURE R602.10.4.3(3)**  
**CONTINUOUSLY SHEATHED BRACED WALL LINE – FIRST BRACED WALL PANEL AWAY FROM END OF WALL LINE WITHOUT TIE DOWN**



**FIGURE R602.10.4.3(4)  
CONTINUOUSLY SHEATHED BRACED WALL LINE – FIRST BRACED  
WALL PANEL AWAY FROM END OF WALL LINE WITH TIE DOWN**

**R602.10.4.4 Braced wall percentage.** In addition to bracing percentage adjustments specified elsewhere in this code, the braced wall percentages for Method 3 from Table 602.10.1(1) shall be permitted to be multiplied by a factor in accordance with Table R602.10.4.4.

**TABLE R602.10.4.4  
ADJUSTMENT FACTORS TO THE PERCENTAGE OF REQUIRED BRACING PER WALL LINE –  
CONTINUOUSLY SHEATHED**

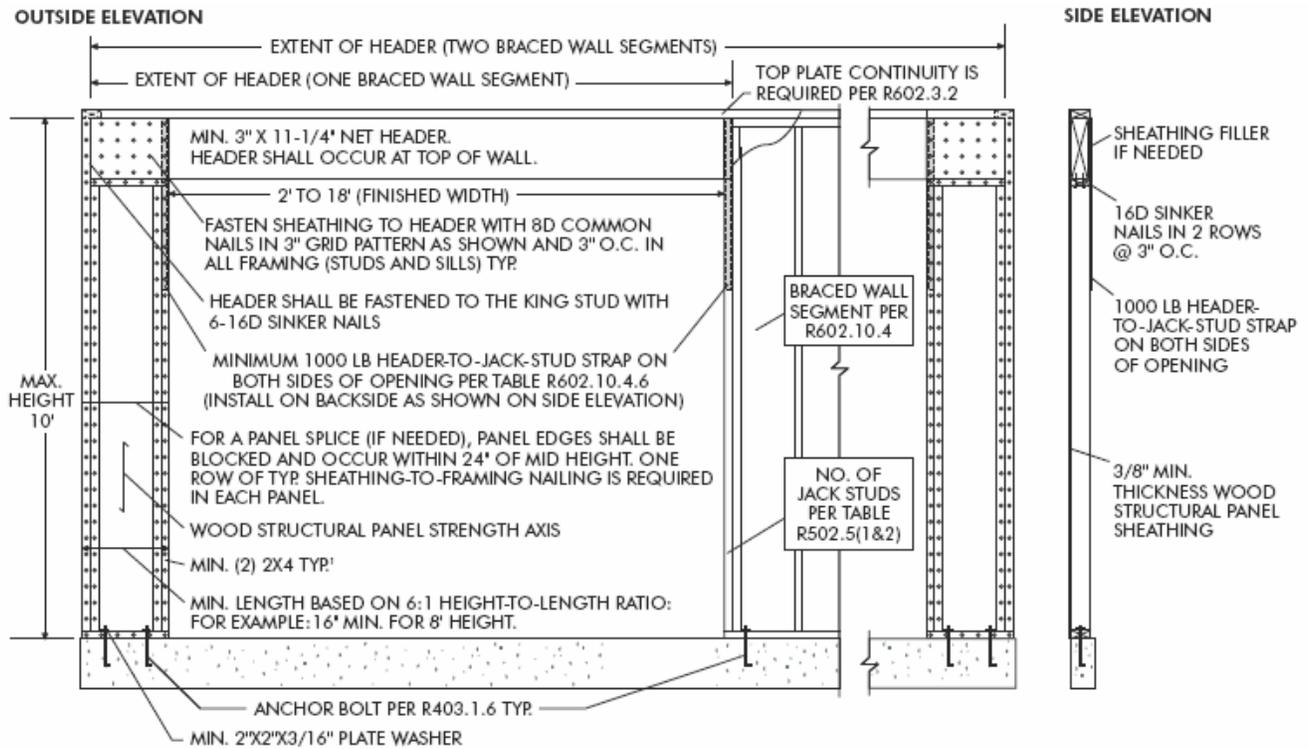
ADJUSTMENT BASED ON MAXIMUM WALL CLEAR OPENING HEIGHT:	MULTIPLY PERCENTAGE OF BRACING PER WALL LINE BY:	
Continuous wood structural panel sheathing when maximum opening height in wall line does not exceed <sup>a</sup> (Section 301.2.2.2.1)	85% of wall height	0.9
	67% of wall height	0.8

a. Percentage of bracing for continuous wood structural panel sheathing shall be based on Method 3 requirements.

**R602.10.4.5 4:1 aspect ratio segments at garage door openings used with continuous structural panel sheathing.** A 4:1 aspect ratio shall be permitted for full-height sheathed wall segments on either side of garage openings that support light frame roofs only, with roof covering dead loads of 3 psf (0.14 kN/m<sup>2</sup>) or less. For purposes of calculating the percentage of panel bracing required by Table R602.10.1(1), the length of the full height sheathing segment shall be equal to its measured length. This option is limited to one wall of the garage.

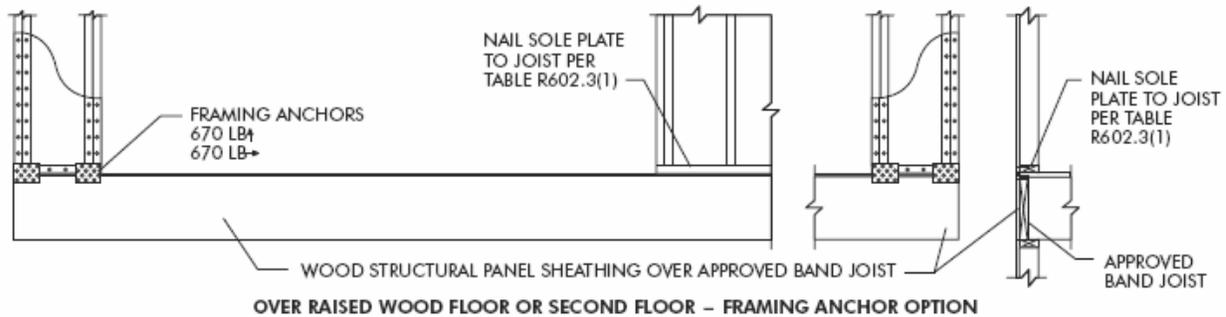
**R602.10.4.6 6:1 aspect ratio segments used with continuous structural panel sheathing.** Wall segments having a maximum 6:1 height to width ratio shall be permitted to be built in accordance with Figure R602.10.4.6. The maximum 6:1 height-to-width ratio is based on height being measured from top of header to the bottom of the wall segment bottom-plate. For purposes of calculating the percentage of panel bracing required by Table R602.10.1(1), the width of the full-height sheathing segment shall be equal to its measured width. Corners at the ends of walls using this option shall be constructed in accordance with Figure R602.10.4.3(1). The reduction factors for continuously braced walls from Section R602.10.4.4 shall be applied when calculating applicable percentages of wall bracing. The number of wall segments having a maximum 6:1 height to width ratio in a wall line shall not exceed four. In multi-story buildings, wall segments having a maximum 6:1 height to width ratio are not permitted to be directly stacked vertically. For purposes of resisting wind pressures acting perpendicular to the wall, in accordance with Section R301.2, the minimum requirements of Figure R602.10.4.6 shall be sufficient for wind speeds less than 110 mph in Exposure Category B. For Exposure Categories C and D, the header to jack stud strap requirements and the number of additional jack studs shall be in accordance with Table R602.10.4.6.

**R602.10.4.7 Continuously-sheathed braced wall lines.** Where a continuously-sheathed braced wall line is used in Seismic Design Categories D<sub>0</sub>, D<sub>1</sub>, and D<sub>2</sub> or regions where the basic wind speed exceeds 100 miles per hour, all other exterior braced wall lines in the same story shall be continuously sheathed.

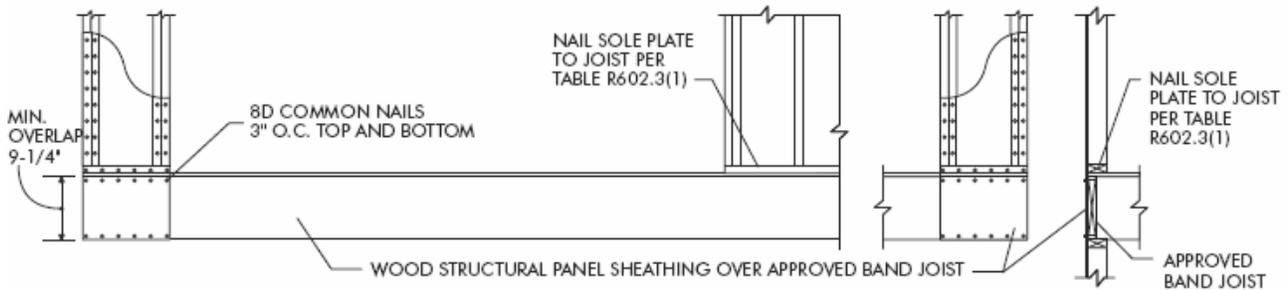


FOR WIND EXPOSURE CATEGORIES C AND D, ADDITIONAL JACK STUDS MAY BE REQUIRED PER TABLE R602.10.4.6

**OVER CONCRETE OR MASONRY BLOCK FOUNDATION**



**OVER RAISED WOOD FLOOR OR SECOND FLOOR – FRAMING ANCHOR OPTION**



**OVER RAISED WOOD FLOOR OR SECOND FLOOR – WOOD STRUCTURAL PANEL OVERLAP OPTION**

NOT TO SCALE

**FIGURE R602.10.4.6**  
**WALLS WITH 6:1 ASPECT RATIO USED WITH CONTINUOUS WOOD STRUCTURAL PANEL SHEATHING**

**TABLE R602.10.4.6  
HEADER TO JACK STUD STRAP AND THE NUMBER OF ADDITIONAL JACK STUDS  
REQUIRED FOR RESISTING WIND PRESSURES PERPENDICULAR TO 6:1 ASPECT RATIO WALLS  
LOCATED IN WIND EXPOSURE CATEGORIES C AND D**

Required	Wall Height (ft)	Wind Exposure Category C			Wind Exposure Category D		
		85 mph	90 mph	less than 110 mph	85 mph	90 mph	less than 110 mph
Strap Capacity(lb) <sup>a</sup>	10 and less	1000	1200	2275	1375	1750	3050
Number of additional 2x4 Jack Studs <sup>b</sup>	8	--	--	--	--	--	1
	9	--	--	1	--	1	2
	10	--	1	2	1	2	3

- a. If 2x6 framing is used, then the required strap capacity may be multiplied by 0.65, but in no case shall the required strap capacity be less than 1,000 lb.
- b. If 2x6 framing is used, then no additional framing shall be required.

**R602.10.5 Braced wall panel support** Braced wall panels shall be supported on floor framing or foundations as follows:

- Where joists are perpendicular to braced wall lines above or below, blocking shall be provided between the joists at braced wall panel locations to permit fastening of wall plates in accordance with Table R602.3(1).
- Where joists are parallel to braced wall lines above or below, a rim joist or other parallel framing member shall be provided at the wall to permit fastening of wall plates in accordance with Table R602.3(1)
- Braced wall panels shall be permitted to be supported on cantilevered floor joists meeting the cantilever limits of Section R502.3.3 provided joists are blocked at the nearest bearing wall location, except such blocking shall not be required in Seismic Design Categories A, B, and C for cantilevers not exceeding 24 inches (610 mm) where a full height rim joist is provided.
- Elevated post or pier foundations supporting braced wall panels shall be designed in accordance with accepted engineering practice.

**R602.10.5.1 Interior braced wall panel connections for Seismic Design Categories D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub>.** Interior braced wall lines shall be fastened to floor and roof framing in accordance with Table R602.3(1), to required foundations in accordance with Section R602.11.1, and in accordance with the following requirements:

- Floor joists parallel to the top plate shall be toe-nailed to the top plate with at least 8d nails spaced a maximum of 6 inches (150 mm) on center.
- Top plate laps shall be face-nailed with at least eight 16d nails on each side of the splice.

**R602.10.6 Interior braced wall support.** In Seismic Design Categories A through D<sub>1</sub>, interior braced wall lines shall be supported as provided in Section R502.4.

**R602.10.6.1 Interior braced wall support for Seismic Design Category D<sub>2</sub>.** In one-story buildings located in Seismic Design Category D<sub>2</sub>, interior braced wall lines shall be supported on continuous foundations at intervals not exceeding 50 feet (15 240 mm). In two story buildings located in Seismic Design Category D<sub>2</sub>, all interior braced wall panels shall be supported on continuous foundations.

**Exception:** Two-story buildings shall be permitted to have interior braced wall lines supported on continuous foundations at intervals not exceeding 50 feet (15 240 mm) provided that:

- The height of cripple walls does not exceed 4 feet (1219 mm).
- First-floor braced wall panels are supported on doubled floor joists, continuous blocking or floor beams.
- The distance between bracing lines does not exceed twice the building width measured parallel to the braced wall line.

**R602.10.7 Panel joints.** All vertical joints of panel sheathing shall occur over, and be fastened to common studs. Horizontal joints in braced wall panels shall occur over, and be fastened to common blocking of a minimum 1-1/2 inch (38 mm) thickness.

**Exceptions:**

1. Blocking at horizontal joints shall not be required in wall segments that are not counted as braced wall panels.
2. Where the bracing percentage provided is at least twice the minimum percentage required by Table R602.10.1(1) blocking at horizontal joints shall not be required in braced wall panels constructed using Methods 3, 4, 5, 6, or 8.

**R602.10.8 Cripple wall bracing.** In Seismic Design Categories other than D<sub>2</sub>, cripple walls shall be braced with a percentage and type of bracing as required for the wall above in accordance with Table R602.10.1(1) with the following modifications for cripple wall bracing:

1. The percentage of bracing as determined from Table R602.10.1(1) shall be multiplied by a factor of 1.15, and
2. The wall panel spacing shall be decreased to 18 feet (5486 mm) instead of 25 feet (7620 mm).

**R602.10.8.1 Cripple wall bracing in Seismic Design Categories D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub>.** In addition to the requirements of Section R602.10.8, where interior braced wall lines occur without a continuous foundation below, the length of parallel exterior cripple wall bracing shall be one and one-half times the length required by Table R602.10.1(1). Where cripple walls braced using Method 3 of Section R602.10.2 cannot provide this additional length, the capacity of the sheathing shall be increased by reducing the spacing of fasteners along the perimeter of each piece of sheathing to 4 inches (102 mm) on center.

In Seismic Design Category D<sub>2</sub>, cripple walls shall be braced in accordance with Table R602.10.1(1).

**R602.10.8.2 Redesignation of cripple walls.** In any Seismic Design Category, cripple walls shall be permitted to be redesignated as the first story walls for purposes of determining wall bracing requirements. If the cripple walls are redesignated, the stories above the redesignated story shall be counted as the second and third stories respectively.

**R602.11 Wall anchorage.** Braced wall line sills shall be anchored to concrete or masonry foundations in accordance with Sections R403.1.6 and R602.11.1

**602.11.1 Wall anchorage for all buildings in Seismic Design Categories D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub> and townhouses in Seismic Design Category C.** Plate washers, a minimum of 0.229 inch by 3 inches by 3 inches (5.8 mm by 76 mm) in size, shall be provided between the foundation sill plate and the nut except where approved anchor straps are used. The hole in the plate washer is permitted to be diagonally slotted with a width of up to 3/16 inch (5 mm) larger than the bolt diameter and a slot length not to exceed 1-3/4 inches (44 mm), provided a standard cut washer is placed between the plate washer and the nut.

**R602.11.2 Stepped foundations in Seismic Design Categories D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub>.** In all buildings located in Seismic Design Categories D<sub>0</sub>, D<sub>1</sub> or D<sub>2</sub>, where the height of a required braced wall line that extends from foundation to floor above varies more than 4 feet (1220 mm), the braced wall line shall be constructed in accordance with the following:

1. Where the lowest floor framing rests directly on a sill bolted to a foundation not less than 8 feet (2440 mm) in length along a line of bracing, the line shall be considered as braced. The double plate of the cripple stud wall beyond the segment of footing that extends to the lowest framed floor shall be spliced by extending the upper top plate a minimum of 4 feet (1219 mm) along the foundation. Anchor bolts shall be located a maximum of 1 foot and 3 feet (305 and 914 mm) from the step in the foundation. See Figure R602.11.3.
2. Where cripple walls occur between the top of the foundation and the lowest floor framing, the bracing requirements of Sections R602.10.8 and R602.10.8.1 shall apply.
3. Where only the bottom of the foundation is stepped and the lowest floor framing rests directly on a sill bolted to the foundations, the requirements of Sections R403.1.6 and R602.11.1 shall apply.

**Section R606.3 Change to read as shown: (RB238-06/07)**

**R606.3 Corbeled masonry.** Corbeled masonry shall be in accordance with Sections R606.3.1 through R606.3.3.

**Section R606.3.1, R606.3.2, R606.3.3 Add new sections to read as shown: (RB238-06/07)**

**R606.3.1 Units.** Solid masonry units or masonry units filled with mortar or grout shall be used for corbeling.

**R301.2.2.3.5 Cold-formed steel framing in Seismic Design Categories D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub>.** In Seismic Design Categories D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub> in addition to the requirements of this code, cold-formed steel framing shall comply with the requirements of COFS/PM.

**R301.2.2.3.6 Masonry chimneys.** Masonry chimneys shall be reinforced and anchored to the building in accordance with Sections R1003.3 and R1003.4.

**R301.2.2.3.7 Anchorage of water heaters.** Water heaters shall be anchored against movement and overturning in accordance with Section M1307.2.

**R301.2.2.4 Seismic Design Category E.** Buildings in Seismic Design Category E shall be designed in accordance with the *International Building Code*, except when the seismic design category is reclassified to a lower seismic design category in accordance with Section R301.2.2.1.

**Section R301.2.3 Change to read as shown: (RB34-06/07)**

**R301.2.3 Snow loads.** Wood framed construction, cold-formed steel framed construction and masonry and concrete construction, and structural insulated panel construction in regions with ground snow loads 70 pounds per square foot (3.35 kPa) or less, shall be in accordance with Chapters 5, 6 and 8. Buildings in regions with ground snow loads greater than 70 pounds per square foot (3.35 kPa) shall be designed in accordance with accepted engineering practice.

**Section R301.2.4 Change to read as shown: (RB48-06/07)**

**R301.2.4 Floodplain construction.** Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) as established in Table R301.2(1) shall be designed and constructed in accordance with Section R324.

**Exception:** Buildings and structures located in whole or in part in identified floodways shall be designed and constructed in accordance with *Flood Resistant Design and Construction* (ASCE 24).

**Section R301.2.4.1 Add new section to read as shown: (RB48-06/07)**

**R301.2.4.1 Alternative provisions.** As an alternative to the requirements in Section R324.3 for buildings and structures located in whole or in part in coastal high hazard areas (V Zones), ASCE 24 is permitted subject to the limitations of this code and the limitations therein.

**Section R301.3 Change to read as shown: (S100-06/07 Part II)**

**R301.3 Story height.** Buildings constructed in accordance with these provisions shall be limited to story heights of not more than the following:

1. For wood wall framing, the laterally unsupported bearing wall stud height permitted by Table R602.3(5) plus a height of floor framing not to exceed 16 inches.

**Exception:** For wood framed wall buildings with bracing in accordance with Table R602.10.1, the wall stud clear height used to determine the maximum permitted story height may be increased to 12 feet (3658 mm) without requiring an engineered design for the building wind and seismic force resisting systems provided that the length of bracing required by Table R602.10.1 is increased by multiplying by a factor of 1.20. Wall studs are still subject to the requirements of this section.

2. For steel wall framing, a stud height of 10 feet (3048 mm), plus a height of floor framing not to exceed 16 inches (406 mm).
3. For masonry walls, a maximum bearing wall clear height of 12 feet (3658 mm) plus a height of floor framing not to exceed 16 inches (406 mm).

**Exception:** An additional 8 feet (2438 mm) is permitted for gable end walls.

4. For insulating concrete form walls, the maximum bearing wall height per story as permitted by Section R611 tables plus a height of floor framing not to exceed 16 inches (406 mm).
5. For structural insulated panel walls, the maximum bearing wall height per story as permitted by Section 614 tables plus a height of floor framing not to exceed 10 feet (3048 mm).

Individual walls or walls studs shall be permitted to exceed these limits as permitted by Chapter 6 provisions, provided story heights are not exceeded. Floor framing height shall be permitted to exceed these limits provided the story height does not exceed 11 feet 7 inches (3531 mm). An engineered design shall be provided for the wall or wall framing members when they exceed the limits of Chapter 6. Where the story height limits are exceeded, an engineered design shall be provided in accordance with the *International Building Code* for the overall wind and seismic force resisting systems.

**Table R301.5 Delete the row for "Exterior balconies" and Change row "Decks" and footnotes to read as shown: (RB49-06/07 and S9-06/07 Part II)**

**TABLE R301.5**  
**MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS**  
**(in pounds per square foot)**

USE	LIVE LOAD
Balconies (exterior) and decks <sup>e</sup>	40

(Portions of table not shown remain unchanged)

For SI: 1 pound per square foot = 0.0479 kPa, 1 square inch = 645 mm<sup>2</sup>, 1 pound = 4.45 N.

- a. Elevated garage floors shall be capable of supporting a 2,000-pound load applied over a 20-square-inch area.
- b. Attics without storage are those where the maximum clear height between joist and rafter is less than 42 inches, or where there are not two or more adjacent trusses with the same web configuration capable of containing a rectangle 42 inches high by 2 feet wide, or greater, located within the plane of the truss. For attics without storage, this live load need not be assumed to act concurrently with any other live load requirements.
- c. Individual stair treads shall be designed for the uniformly distributed live load or a 300-pound concentrated load acting over an area of 4 square inches, whichever produces the greater stresses.
- d. A single concentrated load applied in any direction at any point along the top.
- e. See Section R502.2.2 for decks attached to exterior walls.
- f. Guard in-fill components (all those except the handrail), balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds on an area equal to 1 square foot. This load need not be assumed to act concurrently with any other live load requirement.
- g. For attics with limited storage and constructed with trusses, this live load need be applied only to those portions of the bottom chord where there are two or more adjacent trusses with the same web configuration capable of containing a rectangle 42 inches high or greater by 2 feet wide or greater, located within the plane of the truss. The rectangle shall fit between the top of the bottom chord and the bottom of any other truss member, provided that each of the following criteria is met:
  1. The attic area is accessible by a pull-down stairway or framed opening in accordance with Section R807.1; and
  2. The truss has a bottom chord pitch less than 2:12.
  3. Required insulation depth is less than the bottom chord member depth.

The bottom chords of trusses meeting the above criteria for limited storage shall be designed for the greater of the actual imposed dead load or 10 psf, uniformly distributed over the entire span.
- h. Attic spaces served by a fixed stair shall be designed to support the minimum live load specified for sleeping rooms.
- i. Glazing used in handrail assemblies and guards shall be designed with a safety factor of 4. The safety factor shall be applied to each of the concentrated loads applied to the top of the rail, and to the load on the in-fill components. These loads shall be determined independent of one another, and loads are assumed not to occur with any other live load.