



PUBLIC CODE CHANGE PROPOSAL FORM FOR PUBLIC PROPOSALS IN THE INTERNATIONAL CODES

2007/2008 CODE DEVELOPMENT CYCLE

CLOSING DATE: All Proposals Must Be Received by August 20, 2007

The 2007/2008 Code Development Hearings are tentatively scheduled for
February 18 – March 2, 2008, location TBD.

- 1) **Name:** Chuck Bajnai **Date:** August 9, 2007
Jurisdiction/Company: Chesterfield County, Virginia
Submitted on Behalf of: ICC Ad Hoc Committee on Wall Bracing
Address:
City: **State:** **Zip Code:**
Phone: **Ext.** **Fax:** **E-mail address:**

- 2) **Copyright Release:** In accordance with Council Policy #28 Code Development, all Code Change Proposals, Floor Modifications and Public Comments are required to include a copyright release. A copy of the copyright release form is included at the end of this form. Please follow the directions on the form. This form as well as an alternative release form can also be downloaded from the ICC website at www.iccsafe.org. If you have previously executed the copyright release, please check the box below:

2007/2008 Cycle copyright release on file

- 3) Indicate appropriate International Code(s) associated with this Public Proposal – Please use Acronym: IRC
 If you have also submitted a separate coordination change to another I-Code, please indicate the code: _____
 (See section below for list of names and acronyms for the International Codes).

- 4) **Be sure to format your proposal and include all information as indicated on Page 2 of this form.**

- 5) Proposals should be sent to the following offices via regular mail or email. An e-mail submittal is preferred, including an electronic version, in either Wordperfect or Word. The only formatting that is needed is **BOLDING, STRIKEOUT AND UNDERLINING**. Please do not provide additional formatting such as tabs, columns, etc., as this will be done by ICC. **REMOVE TRACKING CHANGES, AUTOMATIC NUMBERING, OR ANY OTHER ADVANCED FORMATTING TOOLS THAT ARE PROVIDED BY WORD, FROM FILES CONTAINING YOUR CODE CHANGE PROPOSAL THAT YOU SEND TO ICC.**

Please use a separate form for each proposal submitted. Note: All code changes received will receive an acknowledgment.

Please check here if separate graphic file provided.

Graphic materials (Graphs, maps, drawings, charts, photographs, etc.) must be submitted as separate electronic files in .CDR,.IA,.TIF or .JPG format (300 DPI Minimum resolution; 600 DPI or more preferred) even though they may also be embedded in your Word or Wordperfect submittal.

Code

- IBC - International Building Code
- IEBC - International Existing Building Code
- IFC - International Fire Code
- IFGC - International Fuel Gas Code
- IPC - International Plumbing Code
- IPSDC - International Private Sewage Disposal Code
- IPMC - International Property Maintenance Code
- IWUIC - International Wildland-Urban Interface Code
- IZC - International Zoning Code
- ELECT - International Code Council Electrical Code– Administrative Provisions

Send to:

International Code Council
 Chicago District Office
 Attn: Diane Schoonover
 4051 West Flossmoor Road
 Country Club Hills, IL 60478-5795
 Fax: 708/799-0320
codechanges@iccsafe.org

- IECC - International Energy Conservation Code
- ICC PC - ICC Performance Code
- IMC - International Mechanical Code
- IRC - International Residential Code

International Code Council
 Birmingham District Office
 Attn: Annette Sundberg
 900 Montclair Road
 Birmingham, AL 35213-1206
 Fax: 205/592-7001
codechangesbhm@iccsafe.org

CODE CHANGE PROPOSAL

Please provide all of the following items in your code change proposal. Your proposal may be entered on the following form, or you may attach a separate file. However, please read the instructions provided for each part of the code change proposal. The sections identified in parentheses are the applicable sections from CP #28 Code Development. The full procedures can be downloaded from www.iccsafe.org.

Code Sections/Tables/Figures Proposed for Revision (3.3.2):

R602.10.1.1

Name/Company/Representing (3.3.1):

Chuck Bajnai, Representing ICC Ad Hoc Committee on Wall Bracing

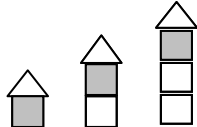


1) Proposal: Revise Section R602.10.1.1 as follows:

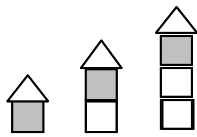
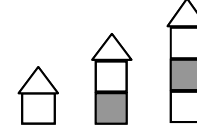
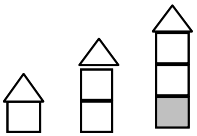
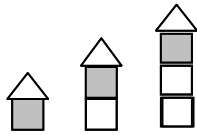
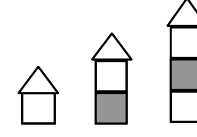
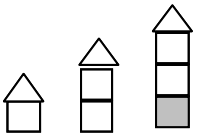
R602.10.1.1 Percentage of bracing. The percentage of bracing along each braced wall line shall be in accordance with Tables R602.10.1(1) and R602.10.1(2) and shall be the greater of that required by the design wind speed Seismic Design Category or the design wind speed Seismic Design Category. Adjustments to the percent of braced wall specified in Table R602.10.1(1) shall be as specified in Table R602.10.1(2 ~~3~~)

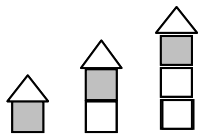
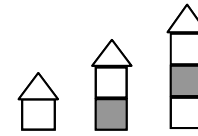
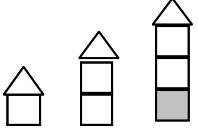
TABLE R602.10.1(1)^{a,b,c,d}

WIND WALL BRACING REQUIREMENTS

Minimum Total Length (feet) of Braced Wall Panels Required each Braced Wall Line

Exposure B mrh= 30' Eave to ridge =10 wall height = 10'		WIND					
Wind Speed	Location	BWL Spacing	Method 1 ^g	Methods ^e 2,4,6,7,8	Method 3 ^e	Cont Sheathing ^e (85% opening)	Method 5 (double sided) ^f
≤85 MPH		10	6.9	3.9	3.9	3.5	6.9
		15	9.9	5.7	5.7	5.1	9.9
		20	12.9	7.3	7.3	6.6	12.9
		25	15.7	9.0	9.0	8.1	15.7
		30	18.5	10.6	10.6	9.5	18.5
		35	21.4	12.2	12.2	11.0	21.4
		40	24.2	13.8	13.8	12.4	24.2
		45	26.9	15.4	15.4	13.9	26.9
		50	29.7	17.0	17.0	15.3	29.7
		10	9.4	5.4	5.4	5.1	9.4
		15	13.6	7.8	7.8	7.4	13.6
		20	17.6	10.0	10.0	9.5	17.6
		25	21.5	12.3	12.3	11.7	21.5
		30	25.4	14.5	14.5	13.8	25.4
		35	29.2	16.7	16.7	15.8	29.2
		40	33.0	18.9	18.9	17.9	33.0
		45	36.8	21.1	21.1	20.0	36.8
		50	40.6	23.2	23.2	22.1	40.6
		10	10.8	6.2	6.2	6.2	10.8
		15	15.6	8.9	8.9	8.9	15.6
		20	20.2	11.5	11.5	11.5	20.2
		25	24.7	14.1	14.1	14.1	24.7
		30	29.1	16.6	16.6	16.6	29.1
		35	33.5	19.1	19.1	19.1	33.5
		40	37.9	21.7	21.7	21.7	37.9
		45	42.3	24.2	24.2	24.2	42.3
		50	46.7	26.7	26.7	26.7	46.7

≤ 90 MPH		10	7.7	4.4	4.4	4.0	7.7
		15	11.1	6.4	6.4	5.7	11.1
		20	14.4	8.2	8.2	7.4	14.4
		25	17.6	10.1	10.1	9.1	17.6
		30	20.8	11.9	11.9	10.7	20.8
		35	23.9	13.7	13.7	12.3	23.9
		40	27.1	15.5	15.5	13.9	27.1
		45	30.2	17.3	17.3	15.5	30.2
		50	33.3	19.0	19.0	17.1	33.3
		10	10.5	6.0	6.0	5.7	10.5
		15	15.2	8.7	8.7	8.3	15.2
		20	19.7	11.3	11.3	10.7	19.7
		25	24.1	13.8	13.8	13.1	24.1
		30	28.4	16.2	16.2	15.4	28.4
		35	32.7	18.7	18.7	17.8	32.7
		40	37.0	21.2	21.2	20.1	37.0
		45	41.3	23.6	23.6	22.4	41.3
		50	45.6	26.0	26.0	24.7	45.6
		10	12.1	6.9	6.9	6.9	12.1
		15	17.5	10.0	10.0	10.0	17.5
		20	22.6	12.9	12.9	12.9	22.6
		25	27.6	15.8	15.8	15.8	27.6
		30	32.6	18.6	18.6	18.6	32.6
		35	37.6	21.5	21.5	21.5	37.6
		40	42.5	24.3	24.3	24.3	42.5
		45	47.4	27.1	27.1	27.1	47.4
		50	52.3	29.9	29.9	29.9	52.3
≤ 100 MPH		10	9.5	5.4	5.4	4.9	9.5
		15	13.8	7.9	7.9	7.1	13.8
		20	17.8	10.2	10.2	9.2	17.8
		25	21.8	12.4	12.4	11.2	21.8
		30	25.7	14.7	14.7	13.2	25.7
		35	29.6	16.9	16.9	15.2	29.6
		40	33.4	19.1	19.1	17.2	33.4
		45	37.3	21.3	21.3	19.2	37.3
		50	41.1	23.5	23.5	21.2	41.1
		10	13.0	7.4	7.4	7.1	13.0
		15	18.8	10.8	10.8	10.2	18.8
		20	24.3	13.9	13.9	13.2	24.3
		25	29.7	17.0	17.0	16.1	29.7
		30	35.1	20.1	20.1	19.0	35.1
		35	40.4	23.1	23.1	21.9	40.4
		40	45.7	26.1	26.1	24.8	45.7
		45	51.0	29.1	29.1	27.7	51.0
		50	56.3	32.1	32.1	30.5	56.3
		10	14.9	8.5	8.5	8.5	14.9
		15	21.6	12.3	12.3	12.3	21.6
		20	27.9	16.0	16.0	16.0	27.9
		25	34.1	19.5	19.5	19.5	34.1
		30	40.3	23.0	23.0	23.0	40.3
		35	46.4	26.5	26.5	26.5	46.4
		40	52.5	30.0	30.0	30.0	52.5
		45	58.5	33.4	33.4	33.4	58.5
		50	64.6	36.9	36.9	36.9	64.6

< 110 MPH		10	11.3	6.5	6.5	5.8	11.3
		15	16.4	9.3	9.3	8.4	16.4
		20	21.1	12.1	12.1	10.9	21.1
		25	25.8	14.8	14.8	13.3	25.8
		30	30.5	17.4	17.4	15.7	30.5
		35	35.1	20.1	20.1	18.1	35.1
		40	39.7	22.7	22.7	20.4	39.7
		45	44.3	25.3	25.3	22.8	44.3
		50	48.9	27.9	27.9	25.1	48.9
		10	15.5	8.8	8.8	8.4	15.5
		15	22.4	12.8	12.8	12.1	22.4
		20	28.9	16.5	16.5	15.7	28.9
		25	35.3	20.2	20.2	19.2	35.3
		30	41.7	23.8	23.8	22.6	41.7
		35	48.0	27.4	27.4	26.1	48.0
		40	54.3	31.0	31.0	29.5	54.3
		45	60.6	34.6	34.6	32.9	60.6
		50	66.8	38.2	38.2	36.3	66.8
		10	17.7	10.1	10.1	10.1	17.7
		15	25.7	14.7	14.7	14.7	25.7
		20	33.2	19.0	19.0	19.0	33.2
		25	40.6	23.2	23.2	23.2	40.6
		30	47.8	27.3	27.3	27.3	47.8
		35	55.1	31.5	31.5	31.5	55.1
		40	62.3	35.6	35.6	35.6	62.3
		45	69.5	39.7	39.7	39.7	69.5
		50	76.7	43.8	43.8	43.8	76.7

a. Bracing values are based upon an assumption of 10ft high walls and 10 ft eve to ridge height.

b. Wind exposure B and a 30' mean roof height. For other conditions, multiply required bracing length by one of the following factors:

	No. of Stories in Bldg	Mean Roof, ht h	Exposure/Height Factors, λ				
			Exp B	Exp C			
2	22.5	1.0	1.3				
3	30	1.0	1.4				

c. Wall height of 10 feet for all stories. For maximum 9-foot wall heights, multiply table values by 0.95. For maximum 8-foot wall heights, multiply table values by 0.9. For maximum 12-foot wall heights, multiply table values by 1.1.

d. Two braced wall lines sharing load in a given plan direction on a given story level. For a different number of braced wall lines in a given plan direction, multiply required bracing length by one of the following:

No. of BWLs	Adjustment Factor
2	1
3	1.3
4	1.45
5	1.6
10	1.8
20 or more	2

e. GWB finish (or equivalent) applied to the inside face of a brace wall panel. When GWB finish (or equivalent) is not applied to inside face of BWP, multiply table values by one of the following factors:

	Bracing Method	Multiply Required		
		Bracing Amount by:		
	Method 1	1.8		
	Method 2-8	1.4		

f. Bracing amounts for Method 5 are based on application of GWB on both faces of a BWP. When Method 5 Bracing is used on only side of the wall, the required bracing amounts shall be doubled.

g. Method 1 bracing shall have gypsum wallboard attached to at least one side according to the Section R602.10.2 Method 5 requirements.

2) Revise Table R602.10.1(1) as follows:

**TABLE R602.10.1(1)^{a,b,c}
WALL BRACING**

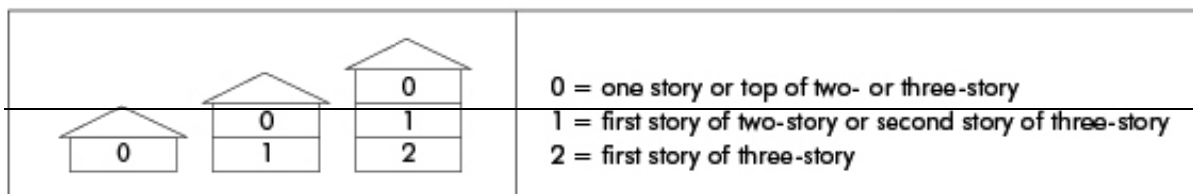
SEISMIC DESIGN CATEGORY (SDC) OR WIND SPEED	STORIES ABOVE BRACED WALL LINE ^d	METHOD OF BRACING PERMITTED	PERCENTAGE OF FULL-HEIGHT BRACING PER WALL LINE		MAXIMUM SPACING BETWEEN BRACED WALL LINES (FT)
			For Method 3 Bracing	For other methods permitted ^e	
SDC A and B (S_{ds} 0.35g and S_{ds} 0.33g), 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_{ds} 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 ₀ & D ₁ (S_{ds} 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 ₂ < 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~~

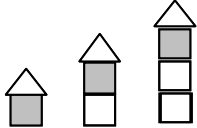


d. ~~Stories above braced wall line. 0 = one story or top of two or three story. 1 = first story of two story or second story of three story. 2 = first story of three story.~~

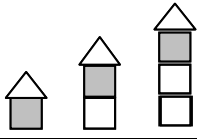
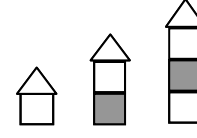
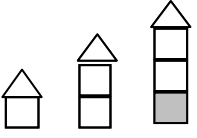
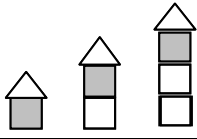
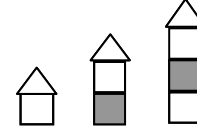
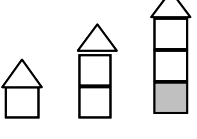


e. ~~Method 1 bracing exempt from percentage bracing requirement.~~

TABLE R602.10.1(4-2)^{a,b,c}
SEISMIC WALL BRACING REQUIREMENTS

Minimum Total Length (feet) of Braced Wall Panels Required of Braced Wall Line

Seismic Design Category	Location	BWL Length	Method 1	Methods 2,4,6,7,8	Method 3	Cont Sheathing ^d (85% Opening)	Method 5 (double sided)
SDC C		10.0	4.5	4.5	3.0	2.7	4.5
		15.0	6.8	6.8	4.5	4.1	6.8
		20.0	9.0	9.0	6.0	5.4	9.0
		25.0	11.3	11.3	7.5	6.8	11.3
		30.0	13.5	13.5	9.0	8.1	13.5
		35.0	15.8	15.8	10.5	9.5	15.8
		40.0	18.0	18.0	12.0	10.8	18.0
		45.0	20.3	20.3	13.5	12.2	20.3
		50.0	22.5	22.5	15.0	13.5	22.5
			10.0	2.5	2.5	2.5	2.3
	15.0		3.8	3.8	3.8	3.4	3.8
	20.0		5.0	5.0	5.0	4.5	5.0
	25.0		6.3	6.3	6.3	5.6	6.3
	30.0		7.5	7.5	7.5	6.8	7.5
	35.0		8.8	8.8	8.8	7.9	8.8
	40.0		10.0	10.0	10.0	9.0	10.0
	50.0		12.5	12.5	12.5	11.3	12.5
		10.0	4.5	4.5	6.0	5.4	4.5
		15.0	6.8	6.8	9.0	8.1	6.8
		20.0	9.0	9.0	12.0	10.8	9.0
		25.0	11.3	11.3	15.0	13.5	11.3
		30.0	13.5	13.5	18.0	16.2	13.5
		35.0	15.8	15.8	21.0	18.9	15.8
		40.0	18.0	18.0	24.0	21.6	18.0
		45.0	20.3	20.3	27.0	24.3	20.3
		50.0	22.5	22.5	30.0	27.0	22.5

SDC D0 or D1		10.0	3.0	3.0	2.0	1.8	0.3
		15.0	4.5	4.5	3.0	2.7	0.3
		20.0	6.0	6.0	4.0	3.6	0.3
		25.0	7.5	7.5	5.0	4.5	0.3
		30.0	9.0	9.0	6.0	5.4	0.3
		35.0	10.5	10.5	7.0	6.3	0.3
		40.0	12.0	12.0	8.0	7.2	0.3
		45.0	13.5	13.5	9.0	8.1	0.3
		50.0	15.0	15.0	10.0	9.0	0.3
		10.0	6.0	6.0	4.5	4.1	6.0
		15.0	9.0	9.0	6.8	6.1	9.0
		20.0	12.0	12.0	9.0	8.1	12.0
		25.0	15.0	15.0	11.3	10.1	15.0
		30.0	18.0	18.0	13.5	12.2	18.0
		35.0	21.0	21.0	15.8	14.2	21.0
		40.0	24.0	24.0	18.0	16.2	24.0
		45.0	27.0	27.0	20.3	18.2	27.0
		50.0	30.0	30.0	22.5	20.3	30.0
		10.0	8.5	8.5	6.0	5.4	8.5
		15.0	12.8	12.8	9.0	8.1	12.8
		20.0	17.0	17.0	12.0	10.8	17.0
		25.0	21.3	21.3	15.0	13.5	21.3
		30.0	25.5	25.5	18.0	16.2	25.5
		35.0	29.8	29.8	21.0	18.9	29.8
40.0		34.0	34.0	24.0	21.6	34.0	
45.0		38.3	38.3	27.0	24.3	38.3	
50.0		42.5	42.5	30.0	27.0	42.5	
SDC D ₂		10.0	4.0	4.0	2.5	2.3	4.0
		15.0	6.0	6.0	3.8	3.4	6.0
		20.0	8.0	8.0	5.0	4.5	8.0
		25.0	10.0	10.0	6.3	5.6	10.0
		30.0	12.0	12.0	7.5	6.8	12.0
		35.0	14.0	14.0	8.8	7.9	14.0
		40.0	16.0	16.0	10.0	9.0	16.0
		45.0	18.0	18.0	11.3	10.1	18.0
		50.0	20.0	20.0	12.5	11.3	20.0
		10.0	7.5	7.5	5.5	5.0	7.5
		15.0	11.3	11.3	8.3	7.4	11.3
		20.0	15.0	15.0	11.0	9.9	15.0
		25.0	18.8	18.8	13.8	12.4	18.8
		30.0	22.5	22.5	16.5	14.9	22.5
		35.0	26.3	26.3	19.3	17.3	26.3
		40.0	30.0	30.0	22.0	19.8	30.0
		45.0	33.8	33.8	24.8	22.3	33.8
		50.0	37.5	37.5	27.5	24.8	37.5
	10.0	NP	NP	7.5	6.8	NP	
	15.0	NP	NP	11.3	10.1	NP	
	20.0	NP	NP	15.0	13.5	NP	
	25.0	NP	NP	18.8	16.9	NP	
	30.0	NP	NP	22.5	20.3	NP	
	35.0	NP	NP	26.3	23.6	NP	
	40.0	NP	NP	30.0	27.0	NP	
	45.0	NP	NP	33.8	30.4	NP	
	50.0	NP	NP	37.5	33.8	NP	

- 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. If the continuous sheathing method is being used, and the maximum opening height is 65% of the wall height, the sheathing lengths for continuous sheathing can be multiplied by 0.9.

3) Delete Section R602.10.1.4

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 Tables R602.10.1(1), or R602.10.1(2) 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.

(Renumber Section R602.10.1.4.1 to Section R602.10.1.4.)

4) Revise Table R602.3(1) and Section R602.10.2 as follows:

**Table R602.3(1)
FASTENER SCHEDULE FOR STRUCTURAL MEMBERS**

DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENERS ^{a,b,c}	SPACING OF FASTENERS	
1" brace to each stud and plate, face nail	2-8d (2 1/2" x 0.131" 0.113") 2 3 staples, 1 3/4"	--	
1" x 6" Sheathing to each bearing, face nail	2-8d (2 1/2" x 0.131" 0.113") at each stud 3-8d (2 1/2" x 0.131") at each plate	--	
1" x 8" Sheathing to each bearing, face nail	2-8d (2 1/2" x 0.131" 0.113") at each stud 3-8d (2 1/2" x 0.131") at each plate	--	
Wood structural panels, subfloor, rood and wall sheathing to framing, and particleboard wall sheathing to framing			
Particleboard wall sheathing to framing			
<u>5/15" - 1/2"</u>	<u>6d common nail (2" x 0.113")</u>	<u>4</u>	<u>6</u>
<u>1/32" - 1"</u>	<u>8d common nail (2 1/2" x 0.131")</u>	<u>4</u>	<u>6</u>
<u>1 1/8" - 1 1/4"</u>	<u>10d common nail (3" x 0.148")</u>	<u>4</u>	<u>6</u>

Rest of table remains unchanged

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. Let-in brace shall be attached to studs in accordance with Table R602.3(1). Stud spacing shall not exceed 16: o.c.

2. Wood boards of ~~5/8 inch (15.9 mm) net of nominal 1" minimum thickness (3/4", 19 mm actual)~~ 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. Fasteners shall be between each stud and both plates.
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.

5) Revise Section R602.10.3 as follows:

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~~ length of panel bracing required in Tables R602.10.1(1) and R602.10.1(2), 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 Tables R602.10.1(1) and R602.10.1(2), and the effective contribution shall comply with Table R602.10.3.

Supporting Information:

This code change introduces new bracing requirements for wind loading and reformats the seismic bracing requirements from percentages to lengths of wall per 25 ft length of wall. The changes are outlined below according to each item of the proposal.

- 1) Introduces the new wind load bracing requirement table. This table was developed based on the

sail area of the building which is determined by the spacing between wall lines and the height of the building. The numbers in the table use an assumed 10 ft high wall for each story and a 10 ft height between the eave and the ridge of the building. The loads are based on the reference document for the code, ASCE 7-05. Built into the assumptions of the calculations is an assumed 55% partial restraint for the top story, 75% partial restraint for a bottom story of a two story or the second story of a three story, and 100% restraint for the bottom story of a three story building.

The calibration of the calculations was checked to see if the numbers were reasonably close to what has historically (i.e. 1950-1960) type construction in the central United States for 1 story buildings. The determination was reasonably close to what was typically used.

Due to the fact that continuously sheathed wall to improve the performance over an individual wall segment approach, the wall should not be fully restrained, the amount of benefit from this practice declines as the story is located lower in the building to where there is no benefit in lateral strength in the bottom story of a three story building. This is due to the assumption that the bottom story essentially responds as if it were a fully restrained wall.

The adjustments for conditions other than those assumed for the table are provided in the footnotes. These adjustments include increases if the exposure of the building is classified as Exposure C, if the wall height is different than 10ft, if there are more than 2 wall lines resisting the load, and if gypsum wallboard is not used on the inside of the wall.

2) Introduces the reformatted seismic bracing table from percentages to length of wall per 25 ft of wall line. The reformat of the seismic table is non-technical except for the addition of let-in bracing. Let-in bracing was given the same value of resistance as gypsum wall board as was done when the bracing requirements were developed for the new wind load bracing requirements. Footnote d provides for the case when the maximum opening size is 65% , to allow the credit that was in the previous edition to continue to be gained.

3) Changes to Sections R602.10.1.4 and R602.10.1.4.1 are made to add the reference to the new wind based bracing requirement table.

4) Changes to Table R602.3(1) and Section R602.10.2 are made to make the construction practice mimic the requirements of the Special Design Provisions for Wind and Seismic of the National Design Specification and experimental testing, upon which the resistances are base was completed. The fastening requirements for let-in bracing, diagonal lumber sheathing, gypsum wallboard are effected. Gypsum wallboard fastening is not changed, but additional language is added to the method description to highlight the fact that the wall sheathing needs to be attached to the top and bottom plates if the wall board is to be included as bracing. This modifies the practice of floating the corners in the gypsum to where only the ceiling gypsum can be floated. The wall gypsum needs to be attached to the top and bottom plates as well as the studs.

5) Section R602.10.3 is revised to add the reference to the new bracing requirements provided for wind loading.

Referenced Standards (3.4 & 3.6):

List any new referenced standards that are proposed to be referenced in the code and provide a minimum of two copies. For ICC rules on referenced standards, see Section 3.6 of CP #28.

Cost Impact (3.3.4.6):

The code change proposal will increase the cost of construction, but will also increase the reliability of buildings subjected to the higher wind loads.