

**TOWN OF COLLIERVILLE  
DEVELOPMENT DEPARTMENT**

**DIVISION OF BUILDING CODES  
AND CODES COMPLIANCE**



**Residential Seismic Requirements 3/1/2012**

All code references are based on 2012 IRC & USGS map with 10% reoccurrence in 50 years.

**Foundation**

- 1) Footing minimum 8” thick with 2 #4 rebar at 3” off bottom.
- 2) Monolithic slab to be designed by an engineer and inspected by the Building Inspector.

**Anchorage (sole plates) Exterior Walls**

- 1) ½ inch anchor bolts embedded in foundation a minimum of 7 inches. Anchor bolts are to be placed 4 feet on center maximum and within 12 inches of the end of each plate section. OR
- 2) MAS anchors embedded in the foundation and are placed 4 feet on center maximum and within 12 inches of the end of each plate section.

**Anchorage (sole plates) All Interior Walls**

- 1) ½ inch anchor bolts embedded in concrete foundation (thickened slab) placed at 4 feet on center maximum and within 12 inches of the end of each plate section. OR
- 2) All interior walls may be anchored by being Ram-set with 2 ½” nails and 1” washers, placed 2 feet on center maximum and within 12 inches of the end of each plate section and on each side of doorway.

**Exterior Walls**

- 1) All 2 x 4 exterior walls shall be a maximum of 16 inch stud spacing.
- 2) All walls with a height more than 10’ will be addressed on a case by case basis and may require engineered lumber to meet specifications. **Table R602.3(5)**

**Exterior Wall Sheathing**

- 1) Exterior wall sheathing shall be 7/16 OSB or plywood minimum. Sheathing is to be fastened every 3 inches on the edges and 6 inches at intermediate supports.
- 2) Interior sheathing (of exterior wall) to be a minimum of ½ inch gypsum fastened every 4 inches on edges and 8 inches at intermediate supports. See **Table R602.3(1)**.

**Note:** Call for inspection before tape & mud.

**Fastener Schedule for Structural Members**

Material	Fastener	Spacing of Fastners
1/2 " gypsum sheathing	11/2 galvanized roofing nail; 6d common nail; staple galvanized, 11/2 long; 11/4 screws, Type W or S	4" on Edges and 8" on Intermediate supports

## Percent of Brace Wall Panels in a Brace Wall Line

In Categories C brace wall lines are required to have brace wall panels at the following percentages per Table 602.10.1:

Condition	Type of Bracing	Amount of Bracing
One story or top of two story	Method 3,100% ½" wood structural panel	Located at each end and at least every 25 feet on center but not less than <b>16%</b> of braced wall line
First story of two story	Method 3,100% ½" wood structural panel	Located at each end and at least every 25 feet on center but not less than <b>30%</b> of braced wall line

**EXCEPTION:** Brace wall panels shall begin no more than 12 feet from each end of a braced wall line and at least 25 feet on center but not less than the percentages listed above for the brace wall lines. Brace wall panels beginning more than 12 feet from end of braced wall line or not meeting criteria in Table R602.10.1 must be engineer designed.

See the following table for lengths of required braced wall panels in a continuously sheathed wall.

**TABLE R602.10.5  
LENGTH REQUIREMENTS FOR BRACED WALL PANELS IN A CONTINUOUSLY SHEATHED WALL<sup>a,b</sup>**

MINIMUM LENGTH OF BRACED WALL PANEL (inches)			MAXIMUM OPENING 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	65%

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 pound per square foot = 0.0479 kN/m<sup>2</sup>.

a. Linear interpolation shall be permitted.

b. Full-height sheathed wall segments to either side of garage openings that support light frame roofs with roof covering dead loads of 3 psf or less shall be permitted to have a 4:1 aspect ratio.

### Blocking Between Floor Joists / Ceiling Joists

**Blocking is required to be provided between the ends of all floor joists and ceiling joists, except for the ends of joists nailed to a band joist or a vertical framing member. (R502.7)**

R502.7 **Lateral restraint at supports.** Joists shall be supported laterally at the ends by full-depth solid blocking not less than 2 inches (51 mm) nominal in thickness; or by attachment to a header, band, or band joist, or to an adjoining stud; or shall be otherwise provided with lateral support to prevent rotation.

### Garage Door Openings

- 1) Braced wall panels are required for garage openings as Table 602.10.5 requires. OR
- 2) **Footnote b.** – Full-height sheathed wall segments to either side of garage openings that support light frame roofs only, with roof covering dead loads of 3 psf or less shall be permitted to have a 4:1 aspect ratio. OR
- 3) APA Narrow Wall Bracing Method.

**Exception:** Pre-manufactured wall panels are allowed to be used at garage openings.