	Conventional Bracing Shasta County Department of Resource Management Building Division	Handout
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	1855 Placer Street, Suite 102 Redding, CA 96001-1759 (530) 225-5761 * Fax (530) 245-6468	08/08
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The conventional bracing provisions in Section 2308 of the 2007 CBC are significantly different than before. Shasta County is in Seismic Design Category D which limits conventional bracing to two stories (see cripple walls below) and to structures not defined as irregular (see page 4). This handout is not intended to cover all situations.

Cripple walls and sloping lots: If your building is on a sloping lot, it is important to accurately detail the cripple wall heights on the plans. Cripple walls with a stud height greater than 14” are considered another story for bracing purposes. Example: A cripple wall with 15” studs with 2 stories of home above will require professional design. If the actual field conditions differ from your plans, you will be required update your plans and have them rechecked.

The basic guidelines:

- Show the location, type and length of each braced wall panel on the plans.
- Braced wall panels must start within 8’ of each end of a braced wall line and be spaced a maximum of 25’ on center.
- Braced wall panels are a minimum of 4’ in width for wood or 4’ (both sides) for gypsum or stucco unless an alternate panel is installed. Note: Height to width cannot exceed 2:1.
- Braced wall lines shall not be spaced more than 25’ (was 34’) on center both longitudinal and transverse directions.
- Braced wall lines shall be sheathed with one type of panel (example: all structural wood or gypsum board), and have the minimum length of sheathing as follows: You may submit the site specific Sds determination based on the FEMA 450CD.

Minimum length of Wall Bracing per each 25 feet of Braced Wall Line

Condition	Sheathing Type	For the areas of Happy Valley, French Gulch, Old Shasta, Igo, Ono, Platina, Cottonwood, Anderson and from Lakehead North on I-5. (.50 < Sds < .75)	All other areas of the County including east of Redding .75 ≤ Sds ≤ 1.00
One story	G-P	14 feet 8 inches	18 feet 8 inches
	S-W	8 feet – 0 inches	9 feet 4 inches
Story below top story	G-P	NP	NP
	S-W	13 feet – 4 inches	17 feet 4 inches
First of three	NP	NP	NP

1. NP- Not Permitted; G-P = gypsum wall board or three coat stucco; S-W= 3/8” plywood
2. The minimum length is: on one side for S-W panels; on two sides for G-P. Height-to-width ratios shall not exceed 2:1.
3. For the purposes of minimum length requirement count as 5’.
4. S-W Nailing - 6” edge 12” field; Stucco lath - 6” o.c.; Gypsum board – 7” o.c.



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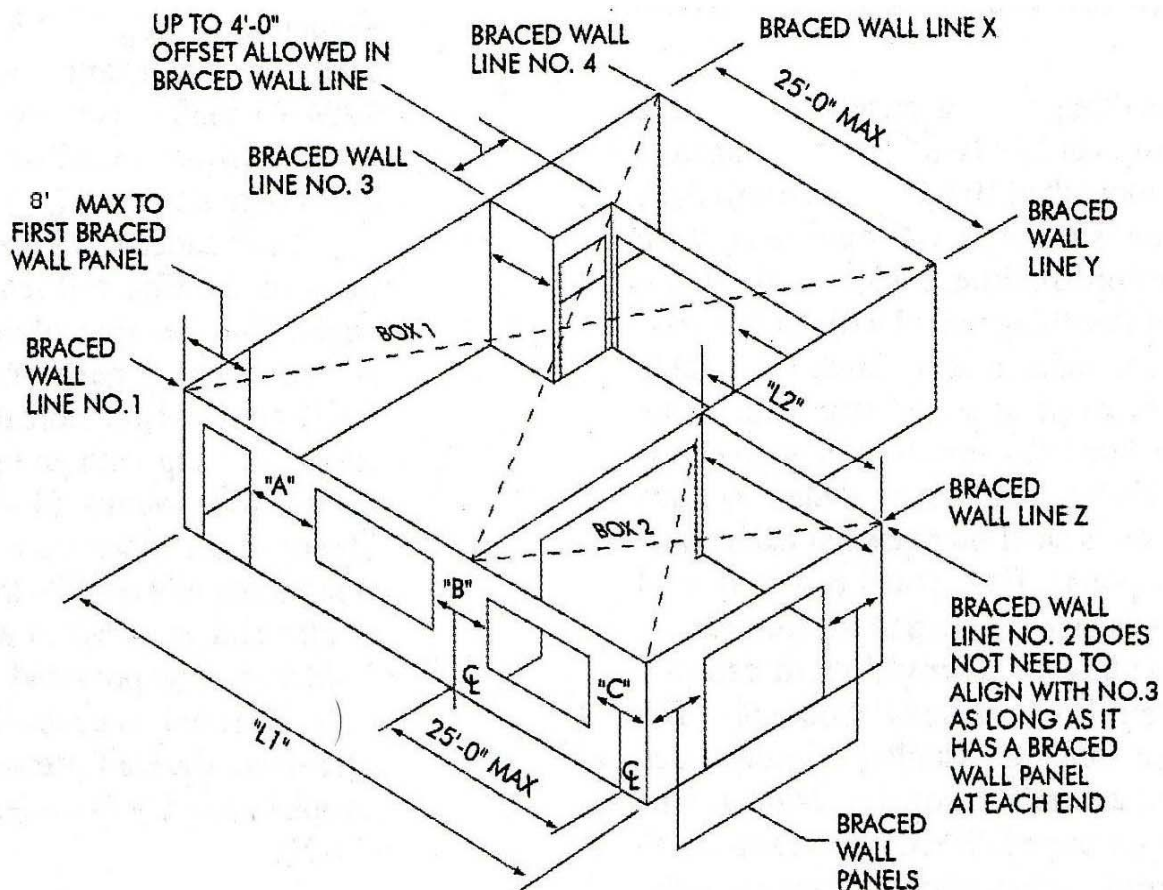
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- Braced wall panels shall be attached to joists, rafters or full depth blocking and extend to the roof framing at the exterior walls and at not more than 50-foot intervals. When trusses are used the solid blocking or other approved means may be used to transfer loads from the roof sheathing.
- Anchor Bolts are to be a minimum 1/2" in diameter 6' o.c and within 12" of the ends of plates and a minimum of 3" x 3" square washers .229" thick. They may have a slot 3/16" larger than the bolt and 1-3/4" long to assist in centering if a standard cut washer is placed between the plate washer and nut. When approved, listed alternate attachments to concrete are permitted.
- Foundations: All interior braced wall lines require continuous footings when the overall plan dimension is greater than 50 feet or the line has an alternate braced panel. Otherwise, only under the panel.

Example of wall requirements:





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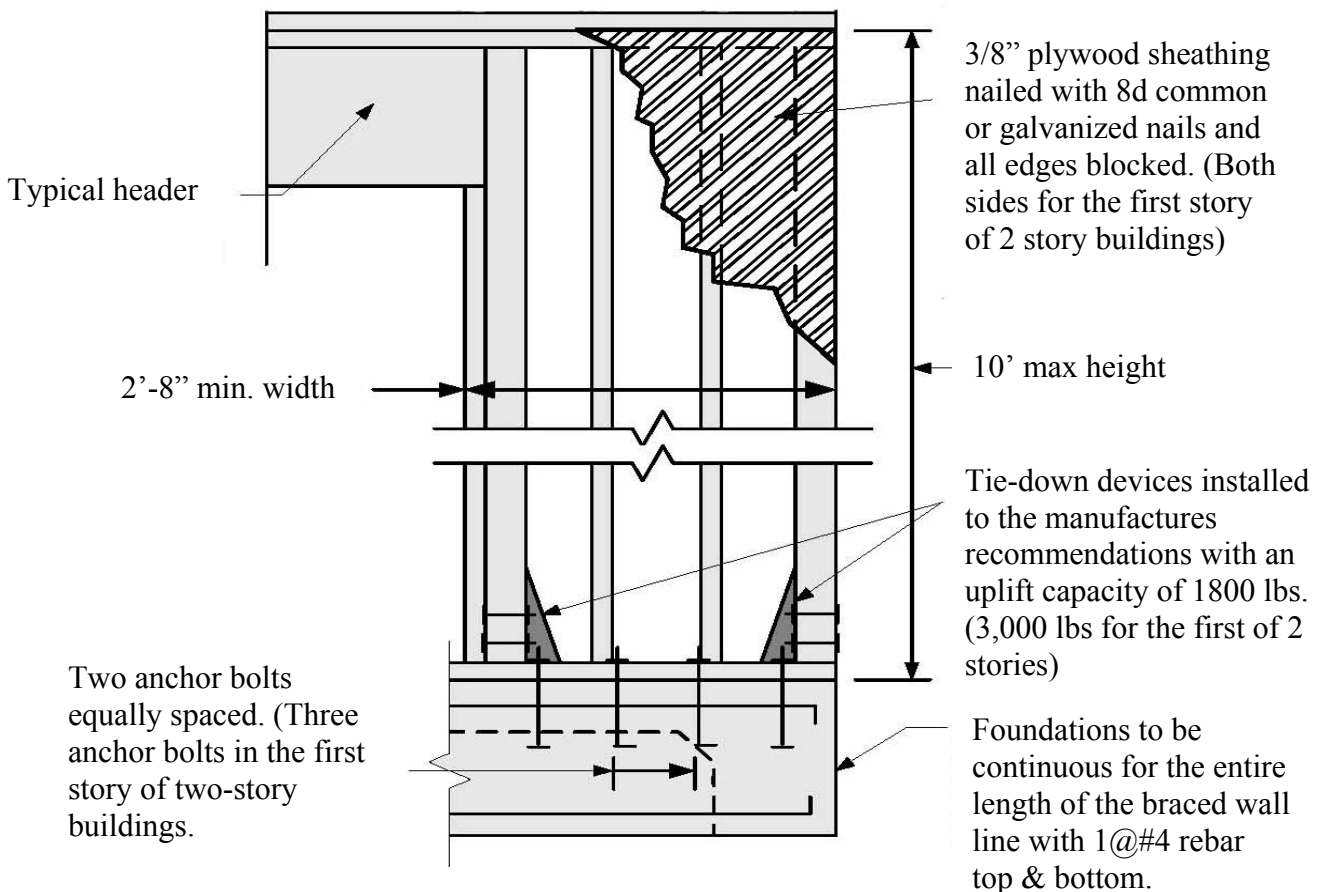
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Alternate Panels: Provide additional detailing on alternate braced walls. Specifying anchor bolts and straps/hold downs to be used. If you are using listed bracing components (example steel or wood strong walls) fully detail the installation and provide the listing showing it is acceptable for the proposed application. In addition to this panel, the new code now has a portal frame that may be used. CBC 2308.9.3.2

Prescriptive Alternate Braced Wall Panel





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Examples of irregular construction that would require professional design.

