Continuously Sheathed Wall Bracing Checklist

PDS Department Application #442

Checklist For Continuously Sheathed Bracing Method Located in **Seismic Design Category C** (SDC C).

Braced Wall Lines

- ☐ Are all braced wall lines identified on the construction documents in accordance with IRC section R602.10.1?
- ☐ Are the braced wall lines spaced properly less than or equal to 60 feet?

Helpful Code Information

Braced wall line: A straight line through the building plan that represents the location of the lateral resistance provided by the wall bracing. The length of a braced wall line shall be measured as the distance between the ends of the wall line.

Continuously sheathed braced wall line: A braced wall line with structural sheathing applied to all sheathable surfaces on one side of a braced wall including the areas above and below openings and gable end walls.

Continuous Sheathing

- ☐ Are locations and lengths of the required wall braced panels including their methods identified on the plans?
- ☐ Is each bracing panel the right minimum length based on the adjacent clear opening height in accordance with IRC Table R602.10.4.2?
- ☐ Are the required panel lengths dimensioned on the wall bracing plan?
- ☐ Have the braced wall panel lengths for wind bracing been adjusted for length in accordance with the footnotes to IRC Table 602.10.1.2(1)?
- ☐ Is a braced panel length adjustment calculation table provided on the plans showing the provided bracing length meets or exceeds the required bracing length for each wall braced line? (See the Boise City Continuous Adjustment Table example).

Helpful Code Information

Continuous sheathing braced wall panels: A full-height section of wall constructed to resist in-plane shear loads through interaction of framing members, sheathing materials, and possibly anchors. The panel's length meets the requirements of its particular bracing method and contributes toward the total amount of bracing required along its braced wall line in accordance with section R602.10.1.2. Only those full-height braced wall panels complying with the length requirements of IRC Table R602.10.4.2 shall be permitted to contribute towards the minimum required length of bracing.

Continuous Sheathing Methods include:

- **CS-WSP**: Continuous wood structural panel sheathing
- **CS-G:** Continuous wood structural panel adjacent to garage door openings
- **CS-PF:** Continuous portal frame
- **CS-SFB:** Continuous structural fiberboard sheathing

Wall Panel Locations & Corner Construction

- ☐ Are minimum 24 inch wood structural panel corner returns provided at both ends of all braced wall lines in accordance with IRC Figure R602.10.4.4(1)?
- ☐ If not, is the required hold-down device with a minimum uplift design value of 800 pounds provided per IRC Figure R602.10.4.4(3).

www.cityofboise.org/pds
City of Boise Planning & Development Services
P.O. Box 500 • 150 N. Capitol Blvd • Boise, Idaho 83701-0500
Phone: 208/384-3802 • Fax: 208/384-3867 • TTD/TTY 800/377-3529

7/2012

- ☐ Are braced wall panels located 12 feet 6 inches from each end of the braced wall line, which is a combined distance of 25 feet?
- ☐ If a hold-down device is required, is its location shown on the Foundation plan also?
- ☐ Is the required exterior corner framing attachment detail provided on the wall bracing plan per IRC Figure R602.10.4.4(1)?

Helpful Code Information

Continuously sheathed braced wall panel locations and corner construction: For all continuous sheathing methods, full-height braced wall panels in the lengths required by IRC section R602.10.4.2 shall be located at each end of a braced wall line. A minimum 24-inch wood structural panel corner return shall be provided at both ends of a braced wall line.

Continuous Portal Frames

- ☐ Has Method CS-PF (Continuous portal frame without hold-downs) been chosen for a concrete foundation, raised wood floor or 2nd floor location?
- ☐ If so, is the portal frame detail shown on the wall bracing plan per IRC Figure R602.10.4.1.1?
- ☐ Are additional Intermittent Portal Frames (PFH, PFG) provided on the plans?

Helpful Code Information

Continuous portal frames: Continuous portal frame braced wall panels shall be constructed in accordance with IRC Figure R602.10.4.1.1. There shall be a maximum of two braced wall segments per header and header length shall not exceed 22 feet.

Bracing Material Attachment

- ☐ Are bracing materials attached with the connection criteria in accordance with IRC Table R602.10.4.1 or Table R602.10.2?
- ☐ Is the connection criteria provided on the wall bracing plan?

Helpful Code Information

Bracing material attachment: Continuous sheathing wall braced wall panels shall be fastened in accordance with the connection criteria listed in Table R602.10.4.1.

Braced Wall Panel Connections

- ☐ Are connection details provided on the plans showing how the braced wall panel locations are properly attached at the top and bottom?
- ☐ Are details provided on the plans showing connections to roof framing?

Helpful Code Information

Braced wall panel connections: Braced wall panels shall be connected to floor framing or foundations as follows:

A. Where joists are perpendicular to a braced wall panel above or below, a rim joist, band joist, or blocking in accordance with IRC Figure R602.10.6(1). Fastening of top and bottom wall plates to framing, rim joist, band joist and/or blocking shall be in accordance with IRC Table R602.3(1).

B. Where joists are parallel to a braced wall panel above or below, a rim joist, end joist or other parallel framing member shall be provided directly above and below the braced wall panel in accordance with IRC Figure R602.10.6(2). Where a parallel framing member cannot be located directly above and below the panel, full-depth blocking at 16-inch spacing shall be provided between the parallel framing members to each side of the braced wall panel in accordance with IRC figure R602.10.6(2). Fastening of blocking and wall plates shall be in accordance with IRC Table R602.3(1) and IRC Figure R602.10.6(2).

C. Connections of braced wall panels to concrete or masonry shall be in accordance with IRC Section R403.1.6.

Townhouses

Townhouses located in **Seismic Design Category C** (SDC C) are required to comply with the seismic provisions/sections of the 2009 International Residential Code.

- Additional bracing information for seismic design is required to be shown on the construction documents.
- An engineered design is required for irregular townhouse buildings or portions of townhouse structures as defined by IRC Section R301.2.2.2.5 Irregular buildings.

BRACED PANEL LENGTH TABLE
BASED ON WIND SPEED (≤90 mph)

BRACED WALL LINE	BRACING METHOD TABLE R602.10.4.1	BRACED WALL LINE SPACING	REQUIRED BRACING LENGTH (FEET)	EXPOSURE FACTOR FTNT: b	ROOF TO EAVE TOTAL FTNT: c	WALL HEIGHT TOTAL FTNT: d	NUMBER BRACED LINES FTNT: e	REQUIRED BRACING LENGTH (FEET)	PROVIDED BRACING LENGTH
①	CS-WSP	40 FT	6.0'	1.2	1.0	0.90	1.3	8.5'	34'-8"
②	CS-WSP	40 FT	6.0'	1.2	1.0	0.90	NA	6.5'	13'-0"
③	CS-WSP, CS-G	60 FT	7.5'	1.2	1.0	0.90	1.3	10.6'	12'-0"
Ⓐ	CS-WSP	30 FT	5.0'	1.2	1.0	0.90	1.3	7.5'	36'-0"
Ⓑ	GB	40 FT	12.5'	1.2	1.0	0.90	NA	13.5'	25'-8"
Ⓒ	CS-WSP	40 FT	6.0'	1.2	1.0	0.90	1.3	8.5'	28'-1"

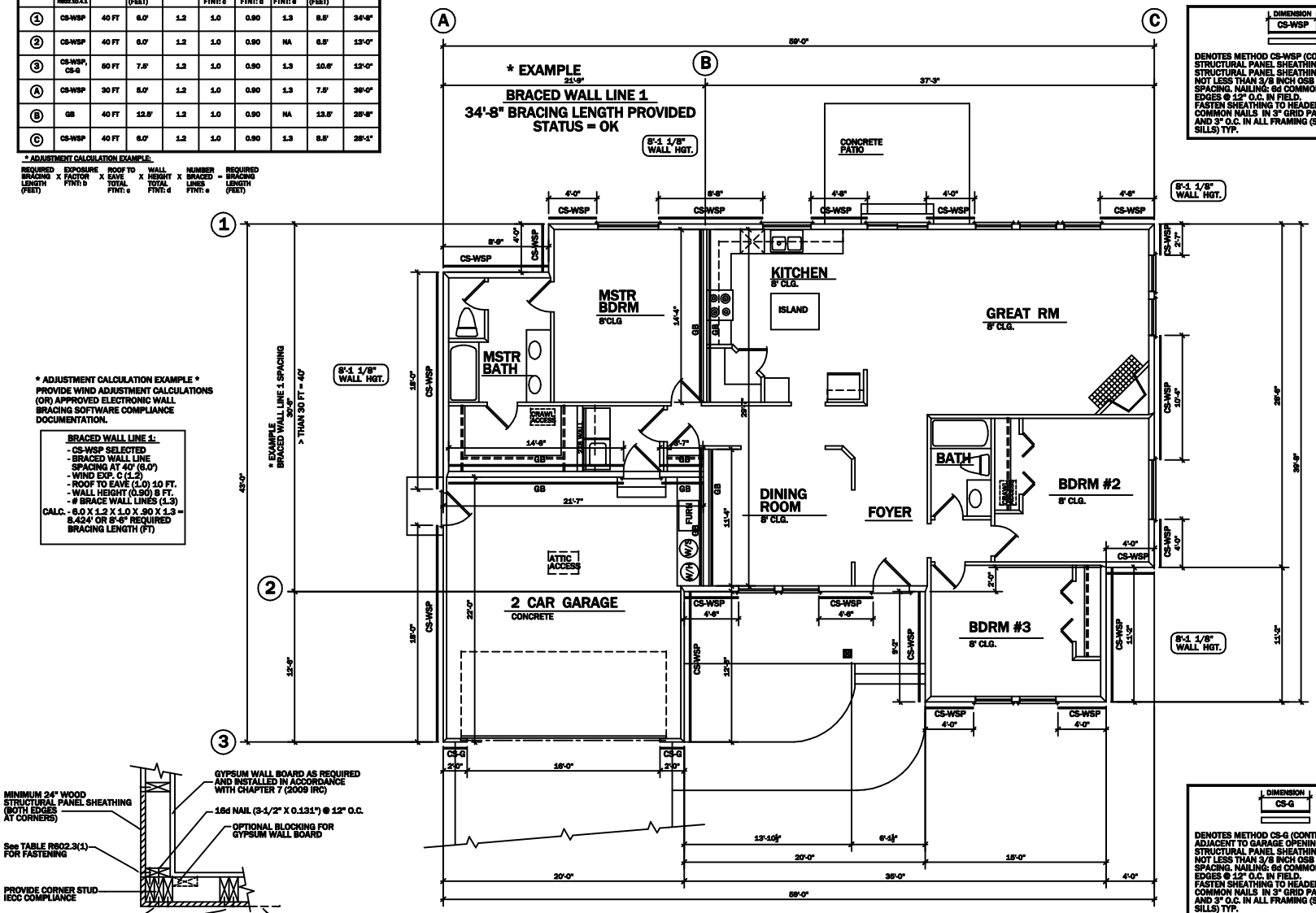
* ADJUSTMENT CALCULATION EXAMPLE:

REQUIRED BRACING LENGTH (FEET) X EXPOSURE FACTOR FTNT: b X ROOF TO EAVE TOTAL FTNT: c X WALL HEIGHT TOTAL FTNT: d X NUMBER BRACED LINES FTNT: e = REQUIRED BRACING LENGTH (FEET)

* ADJUSTMENT CALCULATION EXAMPLE *
PROVIDE WIND ADJUSTMENT CALCULATIONS (OR) APPROVED ELECTRONIC WALL BRACING SOFTWARE COMPLIANCE DOCUMENTATION.

BRACED WALL LINE 1:
- CS-WSP SELECTED
- BRACED WALL LINE SPACING AT 40' (6.0')
- WIND EXP. C (1.2)
- ROOF TO EAVE (1.0) 10 FT.
- WALL HEIGHT (0.90) 8 FT.
- # BRACE WALL LINES (1.3)

CALC. - 6.0 X 1.2 X 1.0 X .90 X 1.3 = 8.424' OR 8'-6" REQUIRED BRACING LENGTH (FT)



DIMENSION
CS-WSP

DENOTES METHOD CS-WSP (CONTINUOUS WOOD STRUCTURAL PANEL SHEATHING). 4X8 WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8 INCH OSB FOR 16-INCH STUD SPACING. NAILING: 6d COMMON @ 6" O.C. ALL EDGES @ 12" O.C. IN FIELD. FASTEN SHEATHING TO HEADER WITH 8d COMMON NAILS IN 3" GRID PATTERN AND 3" O.C. IN ALL FRAMING (STUDS AND SILLS) TYP.

DIMENSION
GB

DENOTES METHOD GB (GYPSUM BOARD PANEL). 4X8 GYPSUM BOARD PANEL WITH A THICKNESS NOT LESS THAN 1/2 INCH FOR 16-INCH STUD SPACING. NAILS AND SCREWS AT 7" SPACING AT PANEL EDGES INCLUDING TOP AND BOTTOM PLATES FOR ALL BRACED WALL PANEL LOCATIONS. FOR INTERIOR GYPSUM BOARD NAIL OR SCREW SIZE, see IRC TABLE R702.3.5.

DIMENSION
CS-G

DENOTES METHOD CS-G (CONTINUOUS SHEATHING ADJACENT TO GARAGE OPENING). 4X8 WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8 INCH OSB FOR 16-INCH STUD SPACING. NAILING: 6d COMMON @ 6" O.C. ALL EDGES @ 12" O.C. IN FIELD. FASTEN SHEATHING TO HEADER WITH 8d COMMON NAILS IN 3" GRID PATTERN AND 3" O.C. IN ALL FRAMING (STUDS AND SILLS) TYP.

OUTSIDE CORNER DETAIL

CONTINUOUS SHEATHING WALL BRACING FLOOR PLAN EXAMPLE

1/4"=1'0"

City of Boise

DRAWN BY: SRZ

Wall Bracing Floor Plan

FLOOR PLAN

PROJECT INFO: SINGLE FAMILY DWELLING
LOT, BLOCK SUBDIVISION
BOISE, IDAHO

DRAWING DATE
5-3-2011

1 OF 1

EXAMPLE
CONTINUOUS ADJUSTMENT TABLE

BRACED PANEL LENGTH TABLE
BASED ON WIND SPEED (<90 mph)

BRACED WALL LINE	BRACING METHOD TABLE R602.10.4.1	BRACED WALL LINE SPACING	REQUIRED BRACING LENGTH (FEET)	EXPOSURE FACTOR FTNT: b	ROOF TO EAVE TOTAL FTNT: c	WALL HEIGHT TOTAL FTNT: d	NUMBER BRACED LINES FTNT: e	REQUIRED BRACING LENGTH (FEET)	PROVIDED BRACING LENGTH
1	CS-WSP	40 FT	6.0'	1.2	1.0	0.90	1.3	8.5'	34'-8"
2	CS-WSP	40 FT	6.0'	1.2	1.0	0.90	NA	6.5'	13'-0"
3	CS-WSP, CS-G	50 FT	7.5'	1.2	1.0	0.90	1.3	10.6'	12'-0"
A	CS-WSP	30 FT	5.0'	1.2	1.0	0.90	1.3	7.5'	36'-0"
B	GB	40 FT	12.5'	1.2	1.0	0.90	NA	13.5'	25'-8"
C	CS-WSP	40 FT	6.0'	1.2	1.0	0.90	1.3	8.5'	28'-1"

*** ADJUSTMENT CALCULATION EXAMPLE:**

REQUIRED BRACING LENGTH (FEET) X EXPOSURE FACTOR FTNT: b X ROOF TO EAVE TOTAL FTNT: c X WALL HEIGHT TOTAL FTNT: d X NUMBER BRACED LINES FTNT: e = REQUIRED BRACING LENGTH (FEET)