

Residential Ad-Hoc Committee Meeting October 19, 2020

Present:

David Smith (chairman) - Contractor
 Steve Knight - Engineer
 Robert Privott - NC HBA
 Hiram Williams - Contractor
 Leon Skinner – Building Inspector
 Jeff Griffin - Mecklenburg County Code Enforcement
 Bill Murchison - DOI
 Pak Yip - DOI
 Carl Martin - DOI

Note: Items may not appear in the order they were discussed.

1. Discussion about the clarification for the steel angle size in the BCC meeting Item C-21 regarding the 2018 NCRC Section R4603.6.

The steel angle L 4 x 3/16 x 1'-6" (102 x 5 x 467 mm) in the proposal and the table should be modified to match the steel angle size L 4 x 4 x 3/16" x 18" in the details provided.

Item C – 21 Request from Jackie Flemming and Doug Allen P.E. representing Simpson Strong-Tie to amend the 2018 Residential Building Code, Section R4603.6.1 as follows:

R4603.6.1 Tying at corners. At corners, girders shall be connected to the pile with a minimum 3/16 × 4 × 18-inch (5 × 102 × 467 mm) hot dip galvanized strap bolted with two 5/8 inch (15.9 mm) galvanized through bolts on the exterior and a minimum **L4 x 3/16 x 1'-6" (102 × 5 × 467 mm)** galvanized steel angle bolted with two 5/8 inch (15.9 mm) galvanized through bolts on the interior in accordance with Figure R4603.6(d1), or with a minimum of (2) 3/16" x 4" x 18" (5x102x467 mm) hot dip galvanized straps installed on the outside of the girders with fasteners per table R4603.6.1 and in accordance with Figure R4603.6 (d2).

Table R4603.6.1 Minimum Fastening of Corner Beams and Girder to Pilings

<u>Amount Piling is Notched</u>	<u>Associated Figure</u>	<u>Hardware</u>	<u>Fasteners</u>
> 50% ¹	R4603.6(d)	one 3/16"x4"x18"	six 5/8" bolts ²
	R4603.6 (e)	one L4x3/16x18"	eight 0.27"x4" each ³

1. Where piling is notched over 50%, use strap as required in Section 4603.6. Install the specified number of bolts or screws in each end of the strap.
 2. Bolts shall be 5/8" diameter hot dipped galvanized through bolts with nuts and washers.
 3. Screws shall be 0.270" (6.9 mm) minimum in diameter, hot dipped galvanized to a minimum of A153, Class C, and having a minimum length of 4", and also shall be long enough to penetrate at least one inch through the remaining pile and into the girder.

2. R703.8.2.1 Support by Steel Angle & R703.8.2.2 Support by roof construction proposal

A proposal was discussed about the installation of double blocking and connections shall be added to the Code section above. Review again at next ad-hoc committee meeting.

3. R403.1.6 Foundation Anchorage proposal

A proposal was discussed about deleting the location requirement (middle third of the width of the plate) for anchor bolts. Committee rejected it based on the edge distance requirement from 2015 NDS.

4. Discussion the rename of portion of the Highway 17 in New Hanover County causing the wind speed division zone in Table R301.2 (4) in question. A web interpretation will be issued to address this.

5. A proposal was discussed in separating the entire Appendix M – Wood Decks Section from NCRC. Review again at next ad-hoc committee meeting.

Committee continue review part of Chapter 3 see below:

Added text = Underlined

Deleted text = ~~Strike-through~~

R301.2.2.3 Stone and masonry veneer. Anchored stone and masonry veneer shall comply with the requirements of Sections R702.1 and R703.

R301.2.2.4 Masonry construction. Masonry construction in Seismic Design Categories D₀ and D₁ shall comply with the requirements of Section R606.12.1. Masonry construction in Seismic Design Category D₂ shall comply with the requirements of Section R606.12.4.

R301.2.2.5 Concrete construction. Buildings Townhouses with exterior above-grade concrete walls shall comply with PCA 100 or shall be designed in accordance with ACI 318.

~~**Exception:** Detached one and two family dwellings in Seismic Design Category C with exterior above-grade concrete walls are allowed to comply with the requirements of Section R608.~~

R301.2.2.6 Irregular buildings Townhouses. The seismic provisions of this code shall not be used for structures, or portions thereof, located in Seismic Design Categories C, ~~D₀, D₁ and D₂~~ and considered to be irregular in accordance with this section. A building or portion of a building shall be considered to be irregular where one or more of the conditions defined in Items 1 through 7 occur. Irregular structures, or irregular portions of structures, shall be designed in accordance with accepted engineering practice to the extent the irregular features affect the performance of the remaining structural system. Where the forces associated with the irregularity are resisted by a structural system designed in accordance with accepted engineering practice, the remainder of the building shall be permitted to be designed using the provisions of this code.

1. **Shear wall or braced wall offsets out of plane.** Conditions where exterior shear wall lines or *braced wall panels* are not in one plane vertically from the foundation to the uppermost story in which they are required.

Exception: For wood light-frame construction, floors with cantilevers or setbacks not exceeding four times the nominal depth of the wood floor joists are permitted to support *braced wall panels* that are out of plane with *braced wall panels* below provided that all of the following are satisfied:

1. Floor joists are nominal 2 inches by 10 inches (51 mm by 254 mm) or larger and spaced not more than 16 inches (406 mm) on center.
2. The ratio of the back span to the cantilever is not less than 2 to 1.
3. Floor joists at ends of *braced wall panels* are doubled.
4. For wood-frame construction, a continuous rim joist is connected to ends of cantilever joists. Where spliced, the rim joists shall be spliced using a galvanized metal tie not less than 0.058 inch (1.5 mm) (16 gage) and 1½ inches (38 mm) wide fastened with six 16d nails on each side of the splice; or a block of the same size as the rim joist and of sufficient length to fit securely between the joist space at which the splice occurs, fastened with eight 16d nails on each side of the splice.
5. Gravity loads carried at the end of cantilevered joists are limited to uniform wall and roof loads and the reactions from headers having a span of 8 feet (2438 mm) or less.

2. **Lateral support of roofs and floors.** Conditions where a section of floor or roof is not laterally supported by shear walls or *braced wall lines* on all edges.

Exception: Portions of floors that do not support shear walls, braced wall panels above, or roofs shall be permitted to extend not more than 6 feet (1829 mm) beyond a shear wall or *braced wall line*.

3. **Shear wall or braced wall offsets in plane.** Conditions where the end of a *braced wall panel* occurs over an opening in the wall below and extends more than 1 foot (305 mm) horizontally past the edge of the opening. This provision is applicable to shear walls and braced wall panels offset in plane and to braced wall panels offset out of plane in accordance with the exception to Item 1.

Exception: For wood light-frame wall construction, one end of a *braced wall panel* shall be permitted to extend more than 1 foot (305 mm) over an opening not more than 8 feet (2438 mm) in width in the wall below provided that the opening includes a header in accordance with all of the following:

1. The building width, loading condition and framing member species limitations of Table R602.7(1) shall apply.
 2. The header is composed of:
 - 2.1. Not less than one 2×12 or two 2×10 for an opening not more than 4 feet (1219 mm) wide.
 - 2.2. Not less than two 2×12 or three 2×10 for an opening not more than 6 feet (1829 mm) in width.
 - 2.3. Not less than three 2×12 or four 2×10 for an opening not more than 8 feet (2438 mm) in width.
 3. The entire length of the *braced wall panel* does not occur over an opening in the wall below.
4. **Floor and roof opening.** Conditions where an opening in a floor or roof exceeds the lesser of 12 feet (3658 mm) or 50 percent of the least floor or roof dimension.
5. **Floor level offset.** Conditions where portions of a floor level are vertically offset.

Exceptions:

1. Framing supported directly by continuous foundations at the perimeter of the building.
 2. For wood light-frame construction, floors shall be permitted to be vertically offset where the floor framing is lapped or tied together as required by Section R502.6.1.
6. **Perpendicular shear wall and wall bracing.** Conditions where shear walls and *braced wall lines* do not occur in two perpendicular directions.
7. **Wall bracing in stories containing masonry or concrete construction.** Conditions where stories above *grade plane* are partially or completely braced by wood wall framing in accordance with Section R602 or cold-formed steel wall framing in accordance with Section R603 include masonry or concrete construction. Where this irregularity applies, the entire story shall be designed in accordance with accepted engineering practice.

Exceptions: Fireplaces, chimneys and masonry veneer in accordance with this code.

R301.2.2.7 Height limitations. Wood-framed buildings shall be limited to three stories above *grade plane* or the limits given in Table R602.10.3(3). ~~Cold-formed steel framed buildings shall be limited to less than or equal to three stories above *grade plane* in accordance with AISI S230.~~ Mezzanines as defined in Section R202 that comply with Section R325 shall not be considered as stories. Structural insulated panel buildings shall be limited to two stories above *grade plane*.

R301.2.2.8 Cold-formed steel framing in Seismic Design Categories D₀, D₁ and D₂. ~~In Seismic Design Categories D₀, D₁ and D₂ in addition to the requirements of this code, cold-formed steel framing shall comply with the requirements of AISI S230.~~ Deleted.

R301.2.2.9 Masonry chimneys. ~~In Seismic Design Categories D₀, D₁ and D₂, masonry chimneys shall be reinforced and anchored to the building in accordance with Sections R1003.3 and R1003.4.~~ Deleted.

R301.2.2.10 Anchorage of water heaters. ~~In Seismic Design Categories D₀, D₁ and D₂, water heaters shall be anchored against movement and overturning in accordance with Section M1307.2.~~ Deleted.

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.~~ Deleted.

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), and substantial improvement and *repair* of substantial damage of buildings and structures in flood hazard areas, shall be designed and constructed in accordance with Section R322. Buildings and structures that are located in more than one flood hazard area shall comply with the provisions associated with the most

restrictive flood hazard area. Buildings and structures located in whole or in part in identified floodways shall be designed and constructed in accordance with ASCE 24.

R301.2.4.1 Alternative provisions. As an alternative to the requirements in Section R322, ASCE 24 is permitted subject to the limitations of this code and the limitations therein.

R301.3 Story height. The wind and seismic provisions of this code shall apply to buildings with *story heights* not exceeding the following:

1. For wood wall framing, the *story height* shall not exceed 11 feet 7 inches (3531 mm) and the laterally unsupported bearing wall stud height permitted by Table R602.3(5).
2. ~~For cold-formed steel wall framing, the *story height* shall be not more than 11 feet 7 inches (3531 mm) and the unsupported bearing wall stud height shall be not more than 10 feet (3048 mm).~~ Deleted.
3. For masonry walls, the *story height* shall be not more than 13 feet 7 inches (4140 mm) and the bearing wall clear height shall be not more than 12 feet (3658 mm).

Exception: An additional 8 feet (2438 mm) of bearing wall clear height is permitted for gable end walls.

4. For insulating concrete form walls, the maximum *story height* shall not exceed 11 feet 7 inches (3531 mm) and the maximum unsupported wall height per *story* as permitted by Section R608 tables shall not exceed 10 feet (3048 mm).
5. For structural insulated panel (SIP) walls, the *story height* shall be not more than 11 feet 7 inches (3531 mm) and the bearing wall height per *story* as permitted by Section R610 tables shall not exceed 10 feet (3048 mm).

Individual walls or wall studs shall be permitted to exceed these limits as permitted by Chapter 6 provisions, provided that *story heights* are not exceeded. An engineered design shall be provided for the wall or wall framing members where the limits of Chapter 6 are exceeded. Where the *story height* limits of this section are exceeded, the design of the building, or the noncompliant portions thereof, to resist wind and seismic loads shall be in accordance with the *International Building Code*.

R301.4 Dead load. The actual weights of materials and construction shall be used for determining dead load with consideration for the dead load of fixed service *equipment*.

R301.5 Live load. The minimum uniformly distributed live load shall be as provided in Table R301.5.

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

USE	LIVE LOAD
Uninhabitable attics without storage ^b	10
Uninhabitable attics with limited storage ^{b, g}	20
Habitable attics and attics served with fixed stairs	30
Balconies (exterior) and decks ^c	40
Fire escapes	40
Guards and handrails ^d	200 ^h
Guard in-fill components ^f	50 ^h
Passenger vehicle garages ^a	50 ^a
Rooms other than sleeping rooms	40
Sleeping rooms	30
Stairs	40 ^c

For SI: 1 pound per square foot = 0.0479 kPa, 1 square inch = 645 mm²,
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. Uninhabitable attics without storage are those where the clear height between joists and rafters is not more than 42 inches, or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses. 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 R507.1 Appendix M 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.

(continued)

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

- g. Uninhabitable attics with limited storage are those where the clear height between joists and rafters is 42 inches or greater, or where there are two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses.
 - The live load need only be applied to those portions of the joists or truss bottom chords where all of the following conditions are met:
 1. The attic area is accessed from an opening not less than 20 inches in width by 30 inches in length that is located where the clear height in the attic is not less than 30 inches.
 2. The slopes of the joists or truss bottom chords are not greater than 2 inches vertical to 12 units horizontal.
 3. Required insulation depth is less than the joist or truss bottom chord member depth.
 The remaining portions of the joists or truss bottom chords shall be designed for a uniformly distributed concurrent live load of not less than 10 pounds per square foot.
- h. 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.

R301.6 Roof load. The roof shall be designed for the live load indicated in Table R301.6 or the snow load indicated in Table R301.2(1), whichever is greater.

TABLE R301.6
MINIMUM ROOF LIVE LOADS IN POUNDS-FORCE
PER SQUARE FOOT OF HORIZONTAL PROJECTION

ROOF SLOPE	TRIBUTARY LOADED AREA IN SQUARE FEET FOR ANY STRUCTURAL MEMBER		
	0 to 200	201 to 600	Over 600
Flat or rise less than 4 inches per foot (1:3)	20	16	12
Rise 4 inches per foot (1:3) to less than 12 inches per foot (1:1)	16	14	12
Rise 12 inches per foot (1:1) and greater	12	12	12

For SI: 1 square foot = 0.0929 m², 1 pound per square foot = 0.0479 kPa,
 1 inch per foot = 83.3 mm/m.

R301.7 Deflection. The allowable deflection of any structural member under the live load listed in Sections R301.5 and R301.6 or wind loads determined by Section R301.2.1 shall not exceed the values in Table R301.7.

TABLE R301.7
ALLOWABLE DEFLECTION OF STRUCTURAL MEMBERS^{b, c}

STRUCTURAL MEMBER	ALLOWABLE DEFLECTION
Rafters having slopes greater than 3:12 with finished ceiling not attached to rafters	L/180
Interior walls and partitions	H/180
Floors	L/360
Ceilings with brittle finishes (including plaster and stucco)	L/360

Ceilings with flexible finishes (including gypsum board)	$L/240$
All other structural members	$L/240$
Exterior walls—wind loads ^a with plaster or stucco finish	$H/360$
Exterior walls—wind loads ^a with other brittle finishes	$H/240$
Exterior walls—wind loads ^a with flexible finishes	$H/120^d$
Lintels supporting masonry veneer walls ^e	$L/600$

Note: L = span length, H = span height.

- For the purpose of the determining deflection limits herein, the wind load shall be permitted to be taken as 0.7 times the component and cladding (ASD) loads obtained from Table R301.2(2).
- For cantilever members, L shall be taken as twice the length of the cantilever.
- For aluminum structural members or panels used in roofs or walls of sunroom additions or patio covers, not supporting edge of glass or sandwich panels, the total load deflection shall not exceed $L/60$. For continuous aluminum structural members supporting edge of glass, the total load deflection shall not exceed $L/175$ for each glass lite or $L/60$ for the entire length of the member, whichever is more stringent. For sandwich panels used in roofs or walls of sunroom additions or patio covers, the total load deflection shall not exceed $L/120$.
- Deflection for exterior walls with interior gypsum board finish shall be limited to an allowable deflection of $H/180$.
- Refer to Section R703.8.2.

f. When floor spans exceed 20 feet, joists, built-up beams and trusses shall not be spaced greater than 24 inches and deflection shall not exceed $L/480$.

R301.8 Nominal sizes. For the purposes of this code, dimensions of lumber specified shall be deemed to be nominal dimensions unless specifically designated as actual dimensions.

SECTION R302 FIRE-RESISTANT CONSTRUCTION

R302.1 Exterior walls. Construction, projections, openings and penetrations of exterior walls of dwellings and accessory buildings shall comply with Table R302.1(1); ~~or dwellings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904 shall comply with Table R302.1(2).~~

Exceptions:

- Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the fire separation distance. **Townhouse eave projections shall comply with Sections R302.2.7 and R302.2.8.**
- Walls of ~~individual~~ **detached** dwelling units and their accessory structures **and buildings** located on the same lot.
- Detached tool sheds and storage sheds, playhouses and similar structures exempted from permits are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.
- Detached garages accessory to a dwelling located within 2 feet (610 mm) of a lot line are permitted to have roof eave projections not exceeding 4 inches (102 mm).
- Foundation vents installed in compliance with this code are permitted.

R302.1.1 Soffit protection. In construction using vinyl or aluminum soffit material, the following application shall apply. Soffit assemblies located on buildings with less than a 5 feet (3048 mm) fire separation distance shall be securely attached to framing members and applied over fire-retardant-treated wood, 23/32-inch (18.3 mm) wood sheathing or 5/8-inch (15.9 mm) exterior grade or moisture resistant gypsum board. Venting requirements shall be provided in both soffit and underlayments. Vents shall be either nominal 2-inch (51 mm) continuous or equivalent intermittent and shall not exceed the minimum net free air requirements established in Section R806.2 by more than 50 percent. **Townhouse construction shall meet the additional requirements of Sections R302.2.7 and R302.2.8.**

Exceptions:

- Any portion of soffits having 5 feet (3048 mm) or more fire separation distance.

2. Roof rake lines where the soffit does not communicate to the attic are not required to be protected per this section.

3. Soffits with less than 3 feet (914 mm) fire separation distance shall meet the projection fire rating requirements of Table R302.1.

4. Soffits between buildings located on the same lot.

R302.1.2 Flame spread. Vinyl siding and vinyl soffit materials shall have a flame spread index of 25 or less as tested in accordance with ASTM E84.

**TABLE R302.1(4)
EXTERIOR WALLS**

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour—tested in accordance with ASTM E119, UL 263 or Section 703.3 of the <i>International Building Code</i> with exposure from both sides	0 < 3 feet
	Not fire-resistance rated	0 hours	≥ 5 3 feet
Projections	Not allowed	NA	< 2 feet
	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood ^{a, b}	≥ 2 feet to < 5 3 feet
	Not fire-resistance rated	0 hours	≥ 5 3 feet
Openings in walls	Not allowed	NA	< 3 feet
	25% maximum of wall area	0 hours	3 feet
	Unlimited	0 hours	5 3 feet
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet

For SI: 1 foot = 304.8 mm.

NA = Not Applicable.

a. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.

b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where gable-vent openings are not installed.

**TABLE R302.1(2)
EXTERIOR WALLS—DWELLINGS WITH FIRE SPRINKLERS**

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour—tested in accordance with ASTM E119, UL 263 or Section 703.3 of the <i>International Building Code</i> with exposure from the outside	0 < 3 feet
	Not fire-resistance rated	0 hours	≥ 3 feet ^a
Projections	Not allowed	NA	< 2 3 feet
	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood ^{b, c}	2 < 3 feet ^a
	Not fire-resistance rated	0 hours	3 feet
Openings in walls	Not allowed	NA	< 3 feet

	<u>Unlimited</u>	<u>0 hours</u>	<u>3 feet^a</u>
<u>Penetrations</u>	<u>All</u>	<u>Comply with Section R302.4</u>	<u>< 3 feet</u>
		<u>None required</u>	<u>3 feet^a</u>

For SI: 1 foot = 304.8 mm.

NA = Not Applicable

5

~~a. For residential subdivisions where all dwellings are equipped throughout with an automatic sprinkler system installed in accordance with Section P2904, the fire separation distance for exterior walls not fire-resistance-rated and for fire-resistance-rated projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line.~~

~~b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.~~

~~c. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where gable vent openings are not installed.~~

R302.2 Townhouses. Walls separating townhouse units shall be constructed in accordance with Section R302.2.1 or R302.2.2.

R302.2.1 Double walls. Each townhouse shall be separated by two 1-hour fire-resistance-rated wall assemblies tested in accordance with ASTM E119, UL 263 or Section 703.3 of the *International Building Code*.

R302.2.2 Common walls. Common walls separating *townhouses* shall be assigned a fire-resistance rating in accordance with Item 1 or 2. The common wall shared by two *townhouses* shall be constructed without plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be in accordance with Chapters 34 through 43. Penetrations of the membrane of common walls for electrical outlet boxes shall be in accordance with Section R302.4.

1. Where a fire sprinkler system in accordance with Section P2904 is provided, the common wall shall be not less than a 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119, UL 263 or Section 703.3 of the *International Building Code*.
2. Where a fire sprinkler system in accordance with Section P2904 is not provided, the common wall shall be not less than a 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119, UL 263 or Section 703.3 of the *International Building Code*.

R302.2.3 Continuity. The fire-resistance-rated wall or assembly separating *townhouses* shall be continuous from the foundation to the underside of the roof sheathing, deck or slab, or exterior wall sheathing. The fire-resistance rating shall extend the full length of the wall or assembly, including wall extensions through and separating attached enclosed *accessory structures*.

R302.2.4 Parapets for townhouses. Parapets constructed in accordance with Section R302.2.5 shall be constructed for *townhouses* as an extension of exterior walls or common walls in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.
2. Where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is not more than 30 inches (762 mm) above the lower roof, the parapet shall extend not less than 30 inches (762 mm) above the lower roof surface.

Exception: A parapet is not required in the preceding two cases where the roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the roof decking or sheathing is of noncombustible materials or fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of 5/8-inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet (1219 mm) of the common walls. Fire-retardant-treated wood shall meet the requirements of Sections R802.1.5 and R803.2.1.2.

3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is more than 30 inches (762 mm) above the lower roof. The common wall construction from the lower roof to the underside of the higher roof deck shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides.

R302.2.5 Parapet construction. Parapets shall have the same fire-resistance rating as that required for the supporting wall or walls. On any side adjacent to a roof surface, the parapet shall have noncombustible faces for the uppermost 18 inches (457 mm), to include counterflashing and coping materials. Where the roof slopes toward a parapet at slopes greater than 2 units vertical in 12 units horizontal (16.7-percent slope), the parapet shall extend to the same height as any portion of the roof within a distance of 3 feet (914 mm), and the height shall be not less than 30 inches (762 mm).

R302.2.6 Structural independence. Each individual *townhouse* shall be structurally independent.

Exceptions:

1. Foundations supporting *exterior walls* or common walls.
2. Structural roof and wall sheathing from each unit fastened to the common wall framing.
3. Nonstructural wall and roof coverings.
4. Flashing at termination of roof covering over common wall.
5. *Townhouses* separated by a common wall as provided in Section R302.2.2, Item 1 or 2.

R302.2.7 Townhouse eave protection. In *townhouse* construction (with three or more attached dwellings) projections extending into the fire separation distance shall have not less than 1-hour fire-resistive-construction on the underside. Soffit material beyond the fire separation distance shall be securely attached to framing members and shall be constructed using either noncombustible soffit material; fire-retardant-treated soffit material; vinyl soffit installed over 3/4-inch (19 mm) wood sheathing or 5/8-inch (15.9 mm) gypsum board; or aluminum soffit installed over 3/4-inch (19 mm) wood sheathing or 5/8-inch (15.9 mm) gypsum board. Venting requirements shall be provided in both soffit and underlayments. Vents shall be either nominal 2-inch (51 mm) continuous or equivalent intermittent and shall not exceed the minimum net free air requirements established in Section R806.2 by more than 50 percent. Vents in soffit are not allowed within 4 feet (1219 mm) of fire walls or property lines.

R302.2.8 Townhouse eave projections. Overhang projections not exceeding 12 inches (305 mm) shall be allowed to extend beyond the property line in townhouse buildings provided all the following conditions are met:

1. Required fire-resistant-rated wall assembly is tight to roof deck;
2. Eaves shall be protected with roof decking and fascia of noncombustible materials or approved fire retardant-treated wood; and
3. Eaves shall have not less than one layer of 5/8-inch (15.9 mm) Type X gypsum board or equivalent fire resistive construction on the underside.

R302.2.9 Sound transmission. See Appendix K.