

**Subject: Zero Lot Line Construction and the Florida Building Code, 5<sup>th</sup> Edition (2014)**

This technical advisory is established to clarify the applicable regulations in the Florida Building Code, 5<sup>th</sup> Edition (2014), that pertain to zero lot line residential development.

1. Pursuant to the authority contained in Chapter 553.775, Florida Statutes, and Sections 104.1 and 104.11 of the Florida Building Code, 2010 and 2014 Editions, the definition of the word lot as defined in Section R202 of the Florida Building Code, 5th Edition (2014), shall be interpreted to include a platted master-planned subdivision of land, with recorded lots designed for zero lot line homes, which include wall maintenance and roof overhang easements along with deed restrictions prohibiting construction (excluding projections and overhangs) in the ten (10) foot minimum permanently reserved open space between buildings.
2. In accordance with the previously stated interpretation of the term lot as described in Section 1 (above), the fire separation distance as defined in Section R202 FBC 5th Edition, for structures located on the same lot shall be considered to be to an imaginary line between two buildings on the lot as stated in option number 3.
3. Using the definition of fire separation distance described in Section 2 (above), placing the imaginary line midway between the two structures, Section R302.1 and Table 302.1(1) of the FBC 5th Edition allow the exterior walls on both structures adjoining the ten (10) foot permanently reserved open space to be non-fire-rated with unlimited openings, based upon a five (5) foot fire separation distance. Overhangs projecting into the five (5) foot fire separation distance are required to be fire rated for one (1) hour exposure from the underside.
4. However, pursuant to Section 104.11 of the FBC 5th Edition, as an alternate method to the allowable methodology described Section 3 (above), the developer may elect to voluntarily provide a fire rating on the exterior wall located directly on the zero lot line of one (1) hour, with no openings allowed, while also providing fire rating on the underside of the overhang above the rated wall as an "alternate method" to allow elimination of the fire rating requirement on the underside of the overhang on the non-zero wall of the adjacent structure opposite the permanent open space.

The BCAB recommends approval of this technical advisory.

For the Building Code Advisory Board,



Joseph Byrne, Chairman

# Excerpts from the Florida Building Code, 5<sup>th</sup> Edition (2014)

## PART 2—ADMINISTRATION AND ENFORCEMENT

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### SECTION 104

#### DUTIES AND POWERS OF BUILDING OFFICIAL

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**[A] 104.11 Alternative materials, design and methods of construction and equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *building official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, *fire resistance*, durability and safety.

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### SECTION R202 DEFINITIONS

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**FIRE SEPARATION DISTANCE.** The distance measured from the building face to one of the following:

1. To the closest interior *lot line*; or
2. To the centerline of a street, an alley or public way; or
3. To an imaginary line between two buildings on the *lot*.

The distance shall be measured at a right angle from the face of the wall.

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**LOT.** A portion or parcel of land considered as a unit.

**LOT LINE.** A line dividing one *lot* from another, or from a street or any public place.

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### 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:**

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the *fire separation distance*.
2. Walls of *dwellings* and *accessory structures* located on the same *lot*.
3. 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*.
4. 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).
5. Foundation vents installed in compliance with this code are permitted.
6. Screen enclosure walls of insect screening with a maximum of 25-percent solid flexible finishes.

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Revised: 4/07

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

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour—tested in accordance with ASTM E 119 or UL 263 with exposure from both sides	< 5 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Projections	Fire-resistance rated	1 hour on the underside	≥ 2 feet to < 5 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Openings in walls	Not allowed	N/A	< 3 feet
	25% maximum of wall area	0 hours	3 feet
	Unlimited	0 hours	5 feet
Penetrations	All	Comply with Section R302.4	< 5 feet
		None required	5 feet

For SI: 1 foot = 304.8 mm.  
N/A = Not Applicable.

## Excerpts from the 2012 International Residential Code Commentary

The Building Code Advisory Board of Palm Beach County was created by a Special Act of the Florida Legislature, at the request of the building code enforcement and construction industries. The purpose of the Board is to advise the Board of County Commissioners and local governments concerning the adoption of building codes and their enforcement throughout the County. The Act also granted Palm Beach County special powers concerning building codes, in the interest of the public's health, safety and general welfare.

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**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 m<sup>2</sup>; 1 pound per square foot = 0.0479 kPa, 1 inch per foot = 83.3 mm/m.

❖ See the commentary to Section R301.6.

**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.

❖ The allowable deflection of structural members from the design live load must not exceed the values in Table R301.7. These limits are expressed in terms of the span length. Brittle finishes, such as plaster ceilings and exterior stucco walls, are protected by limiting the deflection of those elements.

Commentary Figure R301.7 shows a simply supported beam with dead load deflection before the live load has been applied. It also shows the same beam after the live load has been applied. The vertical distance that the center of the beam has moved from the initial dead load deflection position is called the live load deflection. If a finish material is applied to this beam, the finish material is subject to distortion in proportion to this deflection.

**TABLE R301.7**  
**ALLOWABLE DEFLECTION OF STRUCTURAL MEMBERS<sup>a, c</sup>**

STRUCTURAL MEMBER	ALLOWABLE DEFLECTION
Rafters having slopes greater than 3:12 with no finished ceiling attached to rafters	L/180
Interior walls and partitions	H/180
Floors/ceilings with plaster or stucco finish	L/360
All other structural members	L/240
Exterior walls—wind loads <sup>b</sup> with plaster or stucco finish	H/360
Exterior walls with other brittle finishes	H/240
Exterior walls with flexible finishes	H/120 <sup>d</sup>
Lintels supporting masonry veneer walls <sup>e</sup>	L/600

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

- a. The wind load shall be permitted to be taken as 0.7 times the Component and Cladding loads for the purpose of the determining deflection limits herein.
- b. For cantilever members, L shall be taken as twice the length of the cantilever.
- c. 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.

d. Deflection for exterior walls with interior gypsum board finish shall be limited to an allowable deflection of H/180.

e. Refer to Section R703.7.2.

❖ Generally, it is not necessary to calculate the deflection indicated in Table R301.7, since the deflection limit is typically accounted for in the prescriptive design tables of the code. Since this is not the case for elements that required design in accordance with Section R301.1.2, the following example illustrates this requirement.

Example:

What is the maximum allowable deflection of a 20-foot (6096 mm) span with the following conditions?

a) Rafter with no ceiling load having a slope of 5 units vertical in 12 units horizontal (42 percent)

b) Rafters with no ceiling load having a slope of 2 units in 12 units horizontal (17 percent)

c) A floor joist supporting a finished floor Solution:

Length = Span = 20-feet (6096 mm)

a) D MAX = L/180 = 20 feet × 12 inches/180 = 1.33 inches or approx. 1<sup>1</sup>/<sub>4</sub> inches (35 mm)

b) D MAX = L/240 = 20 feet × 12 inches/240 = 1.00 inches or approx. 1 inch (25.4 mm)

c) D MAX = L/360 = 20 feet × 12 inches/360 = 0.67 inches or approx. <sup>2</sup>/<sub>3</sub> inch (15.9 mm)

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

❖ Because solid sawn lumber sizes are normally referred to using the nominal lumber dimensions, this clarification explains that any code references to lumber dimensions are to be taken as nominal dimensions unless explicitly stated otherwise.

## SECTION R302

### FIRE-RESISTANT CONSTRUCTION

❖ This section groups the fire-resistant construction requirements for between and within dwelling units. This section addresses exterior wall location; townhouse separation; two-family dwellings separation; rated penetrations; garage penetrations; garage separation; under-stair protection; flame spread and smoke development; insulation; fireblocking; draft-stopping required and insulation clearance from heat-producing devices.

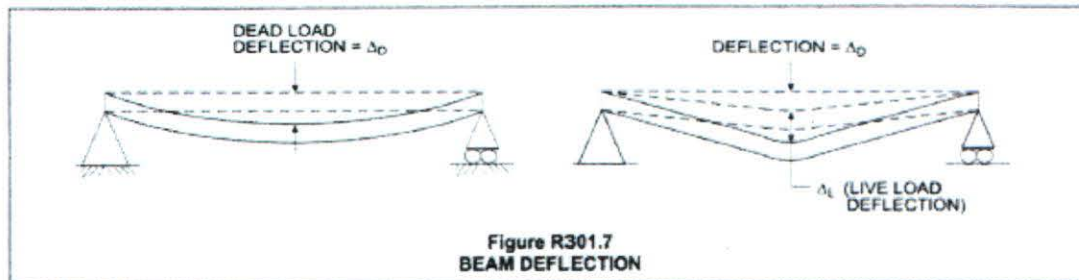


Figure R301.7  
BEAM DEFLECTION

**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:**

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the fire separation distance.
2. Walls of dwellings and accessory structures located on the same lot.
3. 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.
4. 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).
5. Foundation vents installed in compliance with this code are permitted.

◆ This section provides details for issues related to building location on the property, including the fire rating of exterior walls, permitted openings and projections. Tables R302.1(1) and R302.1(2) provide a tabular overview of the requirements of this section.

Concerning exterior wall protection, the code assumes that an owner has no control over an adjoining property. Thus, the location of buildings on the owner's property relative to the property line requires regulation. In addition, Section R302.6, which lists the separation requirements for garages and carports, specifically requires garages located less than 3 feet (914 mm) from a dwelling unit on the same lot to have not less than 1/2-inch (12.7 mm) gypsum board applied to the interior side of the walls. Opening protection for these walls is regulated by Section R302.5.

The property line concept is a convenient means of protecting one building from another as far as exposure is concerned. Exposure is the potential for heat to be transmitted from one building to another during a fire in the exposing building. Radiation is the primary means of heat transfer.

Table R302.1(1) specifies the exterior wall elements, fire separation distance and fire-resistance rating for dwellings without sprinkler systems. Walls less than 5 feet (1525 mm) from the property line must be of 1-hour fire-resistant construction. The fire-resistance rating also requires the rating exposure to be for both sides. The exterior rated walls should be tested in accordance with either ASTM E 119 or UL 263. This is not intended to limit fire-resistance-rated assemblies solely to the test criteria contained in these standards. Section R104.11 still allows the building official to approve alternative fire-resistance methodologies, such as those described in Section 703.3 of the IBC. This would still allow a builder to use acceptable engineering analysis, calculations in accordance with Section 721 of the IBC or prescriptive assemblies permitted by Section 720 of the IBC as alternatives to the standards contained within the code.

Projections must not extend more than 12 inches (305 mm) into the area where openings are prohibited. Therefore, projections cannot be closer than 2 feet (610 mm) from the lot line. Projections that are less than 5 feet (1525 mm) from the lot line are required to be protected on the underside with 1-hour fire-resistant construction [see Commentary Figure R302.1(1)].

Unlike the IBC, the code does not set a distance from the property line at which openings must be protected. Openings are not permitted in exterior walls where the exterior wall has a fire separation distance of less than 3 feet (914 mm) from the lot line. Openings in a wall located at a distance equal to or greater than 3 feet (914 mm), but less than 5 feet (1525 mm) from the lot line cannot exceed 25 percent of the maximum wall area [see Commentary Figures R302.1(2) and R302.1(3)]. The consensus as to the minimum distance necessary to provide a sufficient buffer against the spread of fire has changed somewhat over the years. For example, the 2000 and 2003 editions of the IRC required a 3-foot (914 mm) minimum fire separation distance for unrated exterior walls. In the 2006 edition, that distance was increased to 5 feet (1525 mm) to provide a higher level of safety and to correlate with the provisions for residential occupancies regulated by the IBC. The 2009 IRC introduced requirements for automatic fire sprinkler systems in all new one- and two-family dwellings and townhouses. Table R302.1(2) permits nonrated walls that have a 3-foot (914 mm)

TABLE R302.1(1)  
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	Not fire-resistance rated	0 hours	≥ 5 feet
Projections	Fire-resistance rated	1 hour on the underside	≥ 2 feet to < 5 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Openings in walls	Not allowed	N/A	< 3 feet
	25% maximum of wall area	0 hours	3 feet
	Unlimited	0 hours	5 feet
Penetrations	All	Comply with Section R302.4	< 5 feet
		None required	5 feet

For SI: 1 foot = 304.8 mm.

N/A = Not Applicable.

♦ See the commentary to Section R302.1.

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 E 119 or UL 263 with exposure from the outside	0 feet
	Not fire-resistance rated	0 hours	3 feet*
Projections	Fire-resistance rated	1 hour on the underside	2 feet*
	Not fire-resistance rated	0 hours	3 feet
Openings in walls	Not allowed	N/A	< 3 feet
	Unlimited	0 hours	3 feet*
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet*

For SI: 1 foot = 304.8 mm.

N/A = Not Applicable.

a. For residential subdivisions where all dwellings are equipped throughout with an automatic sprinkler systems installed in accordance with Section P2904, the fire separation distance for nonrated exterior walls and 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.

♦ See the commentary to Section R302.1.

minimum fire separation distance, a dimension previously prescribed in earlier editions of the code. The 3-foot (914 mm) dimension specified in Table R302.1(2) is the new threshold for exterior wall construction, projections, openings and penetrations for dwellings sprinklered in accordance with Section P2904 or NFPA 13D. For dwellings without sprinkler systems, the 5-foot (1525 mm) separation distance still applies.

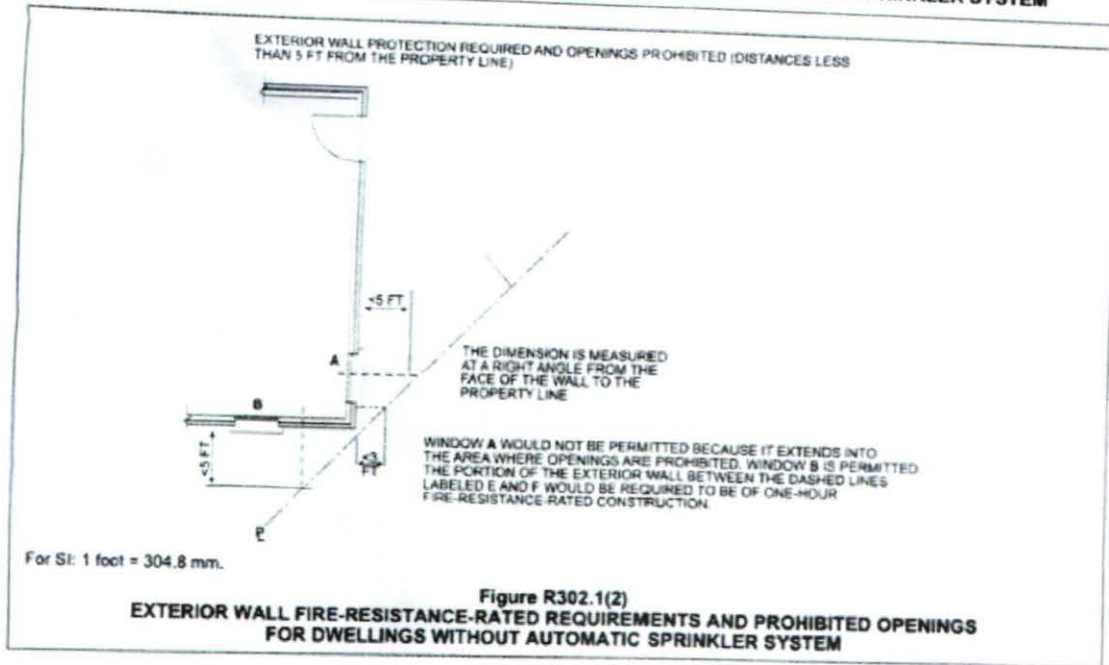
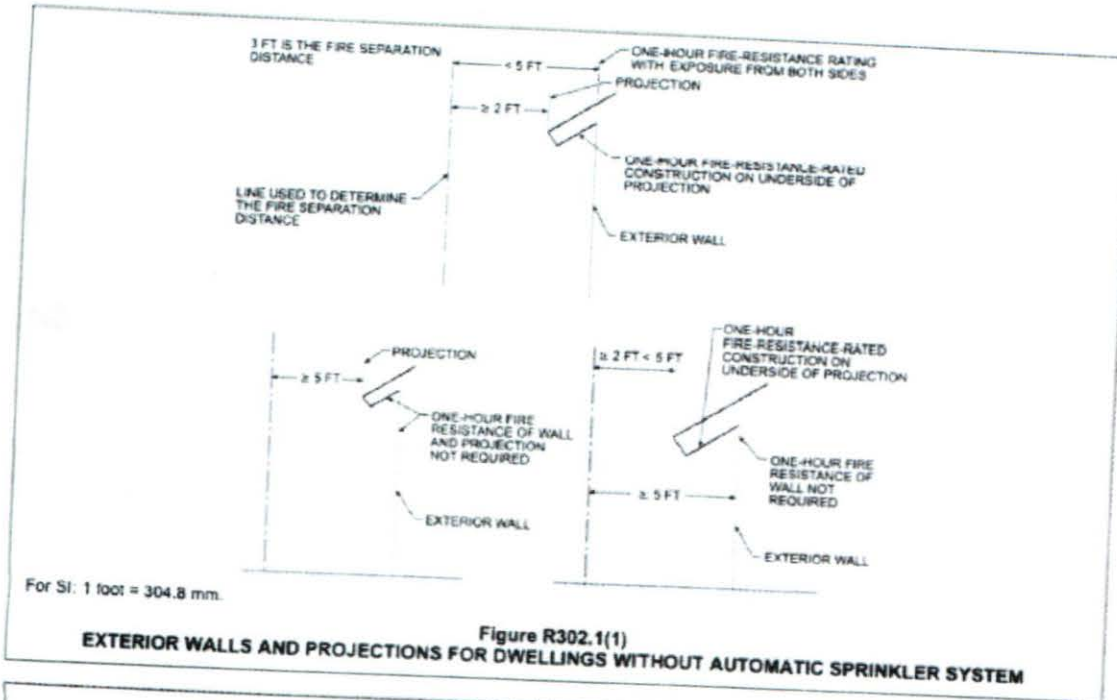
The reduced clearances intend to provide design flexibility and reduce costs associated with fire-resistant construction, while maintaining a reasonable level of safety based on past performance of dwelling fire sprinkler systems. A dwelling automatic sprinkler system installed in accordance with Section P2904 or NFPA 13D aids in the detection and control of fires in residential occupancies regulated by the IRC. The design criteria of these sprinkler systems are for life

safety to buy time for occupants to escape a fire; dwelling fire sprinklers are not designed for property protection. Sprinklers in accordance with Section P2904 or NFPA 13D are not required throughout the dwelling—they generally may be omitted in concealed spaces, closets, bathrooms, garages, and attics and crawl spaces without gas-fired appliances, for example. However, the automatic sprinkler system is expected to prevent total fire involvement (flashover) in the room of fire origin if the room is sprinklered. In addition to increasing the likelihood of occupants escaping or being evacuated, sprinklers often provide some measure of property protection as well.

Footnote a to Table R302.1(2) allows exterior walls of dwellings equipped with sprinkler systems to be placed on the lot line if the adjacent lot maintains a 6-foot (1829 mm) setback for buildings on the opposite

side of the lot line. This provision allows flexibility in placing buildings on the lot for maximum effective use of the buildable area while still maintaining a minimum 6 feet (1829 mm) of clearance between buildings.

Commentary Table R302.1(1) summarizes the new fire separation distance requirements for exterior walls that are not fire-resistance rated.



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