



**City of Atlanta
Office of Buildings**

CODE INTERPRETATIONS

INTERPRETATION #	2016-IRC-0001
EFFECTIVE DATE:	June 27, 2016
REVISION DATE:	July 07,2018
REVISION #:	001

PAGE #	1 of 10	AUTHOR:	Doug Maples, CBO, MSM Assistant Director – Permitting & Plan Review Interim Chief Building Official
---------------	---------	----------------	---

CODE INTERPRETATION: Fourth Story Increase for Dwellings

1. SCOPE / PURPOSE

- 1.1. The intent of this binding interpretation is to provide a level of consistency for the design, plan review, and permit approval of four (04) story attached single family dwellings (Townhouses), One- and Two-Family Dwellings (Duplex) within this jurisdiction.

2. ADOPTED CODE

- 2.1. **2012 International Residential Code “Effective Use of the International Residential Code”, Page vii:** *The International Residential Code (IRC) was created to serve as a complete, comprehensive code regulating the construction of One- and Two-Family Dwellings (duplexes) and buildings consisting of three or more attached Townhouse units. All buildings within the scope of the IRC are limited to three (3) stories above grade plane. For example, a four (4) story single-family house would require the scope of the International Building Code (IBC) to apply and not the International Residential Code. The benefits of devoting a separate code to residential construction includes the fact the user need not navigate through a multitude of code provisions that do not apply to residential construction.*
- 2.2. **2012 International Residential Code Scope, as amended by the State of Georgia.** *The provisions of the International Residential Code for One- and Two-Family Dwellings shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached One- and Two-Family Dwellings. This also includes Townhouses separated by a 2-hour fire-resistance-rated wall assembly, not more than three (3) stories above grade plane in height with a separate means of egress and their accessory structures.*

Exceptions:

1. *Live/work units complying with the requirements of Section 419 of the International Building Code shall be permitted to be built as One- and Two-Family Dwellings or Townhouses. Fire suppression required by Section 419.5 of the International Building Code when constructed under the International Residential Code for One- and Two-Family Dwellings shall conform to NFPA 13D.*
2. *Owner-occupied lodging houses with five (5) or fewer guestrooms shall be permitted to be constructed in accordance with the International Residential Code for One- and Two-Family Dwellings when equipped with a fire sprinkler system in accordance with NFPA 13D.*



**City of Atlanta
Office of Buildings**

CODE INTERPRETATIONS

INTERPRETATION #	2016-IRC-0001
EFFECTIVE DATE:	June 27, 2016
REVISION DATE:	July 07, 2018
REVISION #:	001

PAGE #	2 of 10	AUTHOR:	Doug Maples, CBO, MSM Assistant Director – Permitting & Plan Review Interim Chief Building Official
---------------	---------	----------------	---

- 2.3. 2012 International Residential Code Section R202 Definition of STORY.**
That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above.

This would also factor the measurement as the vertical distance from top to top of two successive tiers of beams or finished floor surfaces and, for the topmost story, from the top of the floor finish to the top of the ceiling joists or, where there is not a ceiling, to the top of the roof rafters.

- 2.4. 2012 International Residential Code Section R202 Definition of TOWNHOUSE, as amended by the State of Georgia.**

A single-family dwelling unit constructed in a group of three (3) or more attached units. Each unit extends from foundation to roof, not more than three stories in height, with a separate means of egress, and with an open space/yard or public way on at least two (2) sides. Each Townhouse shall be considered a separate building with independent exterior walls and shall be separated by a 2-hour fire-resistance-rated wall assembly. (Effective January 1, 2014)

- 2.5. 2012 International Residential Code Section R202 Definition of ROOF ASSEMBLY.**

A system designed to provide weather protection and resistance to design loads. The system consists of a roof covering and roof deck or a single component serving as both the roof covering and the roof deck. A roof assembly includes the roof deck, vapor retarder, substrate or thermal barrier, insulation, vapor retarder, and roof covering.

- 2.6. 2012 International Residential Code Section R202 Definition of ROOF Deck.**

The flat or sloped surface not including its supporting members or vertical supports.

- 2.7. State of Georgia Code Amendment 120-3-3-.01 PURPOSE**

(2) A primary purpose of these rules and regulations is to establish the state minimum fire safety standards and requirements for the prevention of loss of life and property from fire, panic from fear of fire, explosions or related hazards in all buildings, structures and facilities with the exception of one- and two-family dwellings, one- and two-family row houses (townhouses) separated by a 2-hour fire wall and two-family townhouses separated by a 2-hour fire wall. (Effective January 1, 2014)

State of Georgia Code Amendment 120-3-3-.04(3)(a)(10)

10. Add a new section 102.13 to read as follows:

102.13 Coordination of provisions. *This Code shall apply to all buildings, structures and facilities as provided in subsections 102.1 and 102.2, and shall*



**City of Atlanta
Office of Buildings**

CODE INTERPRETATIONS

INTERPRETATION #	2016-IRC-0001
EFFECTIVE DATE:	June 27, 2016
REVISION DATE:	July 07, 2018
REVISION #:	001

PAGE #	3 of 10	AUTHOR:	Doug Maples, CBO, MSM Assistant Director – Permitting & Plan Review Interim Chief Building Official
---------------	---------	----------------	---

be utilized in conjunction with codes and standards specified in **Table 102.13** entitled, "**CODES REFERENCE GUIDE**."

The amendment stated above from the GA State Fire Marshal, exempts One- and Two-Family Dwellings and Townhouses not more than three (3) stories from the NFPA 101 Life Safety Code, which includes NFPA 101 Life Safety Code Chapter 7 Means of Egress. Therefore, the 2012 International Building Code Chapter 10 Means of Egress controls four (4) story One- and Two-Family Dwellings and Townhouses requirements completely.

- 2.8. 2012 International Building Code Scope, as amended by the State of Georgia.** *The provisions of the Georgia State Minimum Standard Building Code shall apply to the construction, alteration, relocation, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.*

Exception #1: *Detached One- and Two-Family Dwellings and Townhouses separated by a 2-hour fire-resistance-rated wall assembly, not more than three (3) stories above grade plane in height with a separate means of egress and their accessory structures shall comply with the Georgia State Minimum Standard One- and Two-Family Dwelling Code (International Residential Code for One- and Two-Family Dwellings with Georgia State Amendments).*

The Section 2.7 above stipulates 120-3-3-.01 Purpose of the Georgia State Amendments establishes the guidance exempting One- and Two-Family Dwellings and Townhouses from the use of the "Code of Reference Guide" for the Means of Egress.

- 2.9. 2012 International Residential Code Section R202 Definition of OCCUPIED SPACE.** *The total area of all buildings or structures on any lot or parcel of ground projected on a horizontal plane, excluding permitted projections as allowed by this code.*
- 2.10. 2012 International Residential Code Commentary Section R202 Definition of OCCUPIED SPACE.** *The entire floor area of a building is generally the occupied space. It encompasses all floor levels, including basements. Any exterior space without exterior walls that that is covered by a roof or floor above is occupied space. Only those areas beneath projections permitted by Section R302 do not contribute to the total occupied space.*
- 2.11 2012 International Building Code Section 202 (Definitions) PENTHOUSE.**
An enclosed, unoccupied rooftop structure used for sheltering mechanical and electrical equipment, tanks, elevator and related machinery, and vertical shaft openings.



**City of Atlanta
Office of Buildings**

CODE INTERPRETATIONS

INTERPRETATION #	2016-IRC-0001
EFFECTIVE DATE:	June 27, 2016
REVISION DATE:	July 07, 2018

PAGE #	4 of 10	AUTHOR:	Doug Maples, CBO, MSM Assistant Director – Permitting & Plan Review Interim Chief Building Official
---------------	---------	----------------	---

REVISION #:	001
--------------------	-----

2.12. 2012 International Building Code Section 503.1 General. *The building height and area shall not exceed the limits specified in Table 503 based on the type of construction as determined by Section 602 and the occupancies as determined by Section 302 except as modified hereafter. Each portion of a building separated by one (1) or more fire walls complying with Section 706 shall be a separate building.*

2.13. 2012 International Building Code Table 503 for Group R-3 Occupancy.

TABLE 503—continued
ALLOWABLE BUILDING HEIGHTS AND AREAS^{a, b}

GROUP	HEIGHT (feet)	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
	UL	160	65	55	65	55	65	50	40	
		STORIES (S) AREA (A)								
R-3	S A	UL UL	11 UL	4 UL	4 UL	4 UL	4 UL	4 UL	3 UL	3 UL

A = building area per story, S = stories above grade plane, UL = Unlimited, NP = Not permitted.

a. See the following sections for general exceptions to Table 503:

1. Section 504.2, Allowable building height and story increase due to automatic sprinkler system installation.
2. Section 506.2, Allowable building area increase due to street frontage.
3. Section 506.3, Allowable building area increase due to automatic sprinkler system installation.
4. Section 507, Unlimited area buildings.

b. See Chapter 4 for specific exceptions to the allowable height and areas in Chapter 5.

2.14. 2012 International Building Code Section 504.2 Automatic sprinkler system increase. *Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum building height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one (1). These increases are permitted in addition to the building area increase in accordance with Sections 506.2 and 506.3. For Group R buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.2, the value specified in Table 503 for maximum building height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one (1) but shall not exceed 60 feet (18 288 mm) or four (4) stories, respectively.*

2.15. 2012 International Building Code Section 903.3.1.2 NFPA 13R sprinkler systems. *Automatic sprinkler systems in Group R occupancies up to and including four (4) stories in height shall be permitted to be installed throughout in accordance with NFPA 13R.*

2.16. 2012 International Building Code Section 706.2 Structural Stability. *Fire walls shall have sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall for the duration of time indicated by the required fire-resistance rating or shall be constructed as double fire walls in accordance with NFPA 221.*

2.17. 2012 International Building Code Section 706.4 Fire-resistance rating. *Fire walls shall have a fire resistance rating of not less than that required by Table 706.4.*



City of Atlanta
Office of Buildings

CODE INTERPRETATIONS

INTERPRETATION #	2016-IRC-0001
EFFECTIVE DATE:	June 27, 2016
REVISION DATE:	July 07, 2018
REVISION #:	001

PAGE #	5 of 10	AUTHOR:	Doug Maples, CBO, MSM Assistant Director – Permitting & Plan Review Interim Chief Building Official
--------	---------	---------	---

2.18. 2012 International Building Code Table 706.4 FIRE WALL FIRE-RESISTANCE RATINGS

GROUP	FIRE-RESISTANCE RATING (hours)
A, B, E, H-4, I, R-1, R-2, U	3 ^a
F-1, H-3 ^b , H-5, M, S-1	3
H-1, H-2	4 ^b
F-2, S-2, R-3, R-4	2

- a. In Type II or V construction, walls shall be permitted to have a 2-hour fire-resistance rating.
b. For Group H-1, H-2 or H-3 buildings, also see Sections 415.6 and 415.7.

- 2.21. 2012 International Building Code Section 1509.2 Penthouses.** *Penthouses in compliance with Sections 1509.2.1 through 1509.2.5 shall be considered as a portion of the story directly below the roof deck on which such penthouses are located. All other penthouses shall be considered as an additional story of the building.*
- 2.22. 2012 International Building Code Section 1509.2.3 Use limitations.** *Penthouses shall not be used for purposes other than the shelter of mechanical or electrical equipment, tanks, or vertical shaft openings in the roof assembly.*
- 2.23. 2012 International Fire Code Section 1509.2.3 Use limitations, as amended by the State of Georgia.**
(a). Modifications to Chapter 1:
3. Add an exception to section 102.1 to read as follows:
Exception: *This Code does not apply to One- and two-family dwellings or one- and two-family row houses (townhouses) separated by a 2-hour fire wall containing not more than three dwelling units per structure.*
4. Add an exception to section 102.2 to read as follows:
Exception: *This Code does not apply to One- and two-family dwellings or one- and two-family row houses (townhouses) separated by a 2-hour fire wall containing not more than three dwelling units per structure.*

3. BACKGROUND

- 3.1.** The lack of buildable land and the real estate market within this jurisdiction is driving a need for four (04) story dwellings.
- 3.2** The 2012 International Residential Code regulates dwellings three (3) stories or less. Dwellings four (4) stories must be constructed in compliance with the 2012 International Building Code only and not the NFPA 101 Life Safety Code (See Section 2.7 above).



**City of Atlanta
Office of Buildings**

CODE INTERPRETATIONS

INTERPRETATION #	2016-IRC-0001
EFFECTIVE DATE:	June 27, 2016
REVISION DATE:	July 07, 2018

PAGE #	6 of 10	AUTHOR:	Doug Maples, CBO, MSM Assistant Director – Permitting & Plan Review Interim Chief Building Official
---------------	---------	----------------	---

REVISION #:	001
--------------------	-----

- 3.3** The prescriptive based design methodology requirements in the 2012 International Building Code differ from the requirements in the 2012 International Residential Code due to the fact regulations are much different for dwellings and the purpose of the 2012 International Residential Code is limited to three (3) stories for One– and Two–Family Dwellings and Townhouses. (See Section 2.7 above).

4. INTERPRETATION / CLARIFICATION

- 4.1.** Four Story Dwellings is regulated by International Building Code.
- 4.1.1** The 2012 International Residential Code under the heading of *Effective Use of the International Residential Code* explains that “(t)he International Residential Code (IRC) was created to serve as a complete, comprehensive code regulating the construction of One– and Two-Family Dwellings and buildings consisting of three (3) or more attached Townhouse units. All buildings within the scope of the IRC are limited to three (3) stories above grade plane.” (See Section 2.1, above)
- For further clarification, this section explains that “a four (4) story One– and Two-Family Dwellings and Townhouses would fall within the scope of the International Building Code including the Chapter 10 Means of Egress. (See Section 2.7, above)
- 4.1.2** Pursuant to the International Building Code, Dwellings (Group R-3 occupancy) that are attached with a properly line passing through the shared wall or having wall constructed at the property line between dwelling, the walls shall be designed as a Party Wall per 2012 IBC Section 706 and specifically Section 706.1.1.
- 4.1.3** Attached dwellings (Group R-3 occupancy) that has a property line passing through the wall at the property line between dwellings, shall have the wall designed as a Fire Wall with a minimum fire-resistance rating of 2 hours.
- 4.1.4** The shared common wall or attached walls at the property line shall be designed to have sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall, per 2012 International Building Code Section 706.2. (See Sections 2.16, 2.17 & 2.18)
- 4.2.** The State of Georgia during the code adoption process amended the Scope of the 2012 International Residential Code to provide additional clarity on the use of the code. However, the prescriptive mandate to limit the height of the building to three (03) stories or less, leaving the basis of design was left intact. (See Section 2.4, above)
- 4.3.** The 2012 International Residential Code defines a “STORY”; however, the definition does not limit a story to conditioned versus unconditioned spaces, or to areas that have walls. The definition places a story “between the upper



**City of Atlanta
Office of Buildings**

CODE INTERPRETATIONS

INTERPRETATION #	2016-IRC-0001
EFFECTIVE DATE:	June 27, 2016
REVISION DATE:	July 07, 2018
REVISION #:	001

PAGE #	7 of 10	AUTHOR:	Doug Maples, CBO, MSM Assistant Director – Permitting & Plan Review Interim Chief Building Official
---------------	---------	----------------	---

surface of a floor and the upper surface of the floor or roof next above.” (See Section 2.3, above)

- 4.4** The 2012 International Building Code offers a definition for an unoccupied “Rooftop Structure”. These are identified and defined as “PENTHOUSES”. The 2012 IBC defines the Penthouse as an enclosed, unoccupied rooftop structures used for sheltering mechanical and electrical equipment, tanks, elevators and related machinery, and vertical shaft openings. (See Section 2.11).

If the dwelling is less than two (2) stories or less, then a structural design of the penthouse would exceed the prescriptive based design requirements of the 2012 International Residential Code. As such, the penthouse design for the dwelling must be designed and sealed by GA State Licensed Professional Engineer.

- 4.4.1** The 2012 International Building Code regulates the design of Penthouses, in the absence of clear guidance from the 2012 International Residential Code.
- 4.4.2** Penthouses shall not be used for purposes other than the shelter of mechanical or electrical equipment, tanks, or vertical shaft openings in the roof assembly pursuant to the 2012 International Building Code Section 1509.2.1.3.
- 4.4.3** Provisions such as louvers, louver blades or flashing shall be made to protect the mechanical and electrical equipment and the building interior from the elements pursuant to the 2012 International Building Code Section 1509.2.1.4.
- 4.4.4** Penthouses shall be constructed with walls, floors and roofs as required for the type of construction of the building on which such penthouses are built pursuant to the 2012 International Building Code Section 1509.2.1.4.
- 4.4.5** Penthouses are limited in scope and purpose to only shelter mechanical or electrical equipment, tanks, vertical shaft openings in the roof assembly within the confines of the area needed to provide maintenance per 2012 International Building Code Section 1509.2.3.
- 4.5** The four (4) story use of the rooftop as an occupiable space will require the occupants notification of a fire or carbon monoxide events within the lower floors of the dwelling. This alarm for the rooftop occupants is meant to initiate and commence egress from the rooftop occupied space.
- 4.5.1** The alarm must be interconnected with the smoke and carbon monoxide alarms inside the dwelling.
- 4.5.2** The alarm must function during power outages in conjunction with the smoke and carbon monoxide alarms inside the dwelling.



**City of Atlanta
Office of Buildings**

CODE INTERPRETATIONS

INTERPRETATION #	2016-IRC-0001
EFFECTIVE DATE:	June 27, 2016
REVISION DATE:	July 07, 2018

PAGE #	8 of 10	AUTHOR:	Doug Maples, CBO, MSM Assistant Director – Permitting & Plan Review Interim Chief Building Official
---------------	---------	----------------	---

REVISION #:	001
--------------------	-----

- 4.5.3** The location AND purpose of the alarms must be noted on the construction plan documents submitted for review and approval by the City of Atlanta Office of Buildings.
- 4.6** The baseline of determining when a One- and Two-Family Dwelling and Townhouses roof to be considered as a 4th story dwelling result in the addition of other elements beyond a dog house style stair case and the minimum area needed for enclosing any mechanical equipment in a penthouse.
- 4.7.** Since the 2012 International Residential Code prescriptively limits buildings to a maximum of three (03) stories. The design of a four (04) story dwelling would need to comply with the prescriptive requirements of the 2012 International Building Code for a Group R-3 occupancy.
- 4.8.** The building height, or number of stories above grade under the 2012 International Building Code for a dwelling (Group R-3 occupancy) is based on the building construction type. (2012 IBC Section 503.1 and Table 503, see Sections 2.12 and 2.13, above)
- 4.9.** If a dwelling (Group R-3 occupancy) is designed under the 2012 International Building Code using combustible construction (Type V-A or Type V-B), the number of stories would be limited to three (03) stories in height, per 2012 IBC Table 503. (See Section 2.13, above)
- 4.10.** A four (04) story dwelling (Group R-3 occupancy) designed under the 2012 International Building Code using combustible construction (Type V-B) would require a story increase from three (03) stories to four (04) stories using the allowable sprinkler increase for building height. (2012 IBC Section 504.2, see Sections 2.14 and 2.15, above)
- 4.11.** If the property owner and design professional choose not to install an automatic sprinkler system to achieve the allowable building height increase. An acceptable option would be to design the building under the 2012 International Building Code using a higher level of construction versus Type V, per 2012 IBC Table 503. These would consist of a four (04) story Group R-3 occupancy (dwelling) constructed using either Type I, Type II or Type III construction in compliance with the 2012 International Building Code. (See Section 2.13, above)
- 4.12.** In addition to the use of the 2012 International Building Code for the construction of a four (04) story dwelling (Group R-3 occupancy), the design would require compliance with the 120-3-3-.01 Purpose of the State of Georgia Code Amendment using the 2012 International Building Code for compliance with the entire design including 2012 International Building Code Chapter 10 Means of Egress for any One- and Two-Family Dwellings and Townhouse above three (3) stories. (See Sections 2.7 and 2.8, above)



**City of Atlanta
Office of Buildings**

CODE INTERPRETATIONS

INTERPRETATION #	2016-IRC-0001
EFFECTIVE DATE:	June 27, 2016
REVISION DATE:	July 07,2018
REVISION #:	001

PAGE #	9 of 10	AUTHOR:	Doug Maples, CBO, MSM Assistant Director – Permitting & Plan Review Interim Chief Building Official
---------------	---------	----------------	---

5. SUMMATION

- 5.1** The 2012 International Residential Code and 2012 International Building Code are not meant to blend or merge their prescriptive requirements governing residential building design. The sole exception is the 2012 International Residential Code allowance for the use of the 2012 International Building Code for the structural design of dwellings regulated under the 2012 International Residential Code. (2012 IRC Section R301.1.3)
- 5.2** Within the scope of the 2012 International Residential Code construction is limited to a maximum of three (03) stories, without the available prescriptive option for a story increase due to either an introduction of active or passive fire protection elements.
Examples of active fire protection may be fire alarms, automatic sprinkler systems, etc. While passive fire protection may be a modification to a non-combustible construction type or the introduction of compartmentalization through fire resistance rated construction.
- 5.3** Since the 2012 International Residential Code limits dwellings to a maximum of three (03) stories, an applicant design provides the construction a four (04) story dwelling requires the said dwelling to comply with the prescriptive requirements for a Group R-3 occupancy under the 2012 International Building Code without any portion of the design requirements to use the 2012 NFPA Life Safety Code. (See Sections 2.7 and 2.8, above)
- 5.4** A Group R-3 (dwelling constructed under the 2012 International Building Code) would be required to comply with the allowable height and area restrictions based on construction type, per 2012 IBC 503.1 and Table 503. (See Sections 2.12 and 2.13, above)
- 5.5** A dwelling constructed under the requirements of the 2012 International Building Code as a Group R-3 occupancy must also comply with the codes outlined within the State of Georgia Amendment 120-3-3-.01 Purpose. (See Sections 2.7 and 2.8, above)
- 5.6** The roof assembly is limited to weather protection and design loads as indicated in Section 2.5. Everything beyond what is mentioned in Section 4.4, such as a deck, fireplace, sink, grills, planters, hot tubs, canopies, or any other type element cause the One- and Two-Family Dwellings and Townhouse to become a four (4) story R-3 building and per Sections 2.1 through 2.22 and 4.6.
- 5.7** The uniformly distributed and concentrated live loads for a roof normally is 20 psf. However, for an occupied roof the minimum live load is 40 psf. For roof gardens the live load is 100 psf. An occupiable space and items like hot tubs on a roof, the design will require a GA State Licensed Engineer to evaluate and determine the loading. The Engineer will need to provide the calculations to support the design and live loads used.



**City of Atlanta
Office of Buildings**

CODE INTERPRETATIONS

INTERPRETATION #	2016-IRC-0001
EFFECTIVE DATE:	June 27, 2016
REVISION DATE:	July 07,2018

PAGE #	10 of 10	AUTHOR:	Doug Maples, CBO, MSM Assistant Director – Permitting & Plan Review Interim Chief Building Official
---------------	-------------	----------------	---

REVISION #:	001
--------------------	-----

- 5.7** Any four (4) story One- and Two-Family Dwellings and Townhouse will be required to provide a notification system tied to the smoke and carbon monoxide detection system. This notification will also have a flashing light system like a fire alarm. A fire alarm will meet the notification requirement but must also connect to the carbon monoxide detection. (See Sections 4.5 above)

END