



Codes Amendments

Approved additions to the
2018 NC State Building Codes

Content includes

2018 NC Administrative Code

2018 NC Building Code

2018 NC Residential Building Code



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NC Department of Insurance, 325 North Salisbury Street, Raleigh, NC 27603 919-647-0029 (call for availability).

The following pages represent a summary of the Building Code Council adopted amendments that have been approved by the Rules Review Commission.

These amendments revise, delete or add to the adopted NC Administrative Code.



**2018
NC Administrative Code
Amendments**

2018 NC Administrative Code

106.3.1 Information required. (171212 Item B-7)

106.3 Permit Application.

106.3.1 Information required. A permit application shall be filed with the Inspection Department on a form furnished for that purpose. The Inspection Department shall make available a list of information that must be submitted with the building permit application, including a complete building code summary (see Appendix A of the Administrative Code and Policies). The Inspection Department's building code summary shall be in the exact format as, and contain only the information in, Appendix B of the Administrative Code and Policies. The Inspection Department shall only modify its building code summary as set forth in section 103.5 Modifications, or as necessary to reflect any changes by the Office of State Fire Marshal to Appendix B that have been approved by the Building Code Council.

The delayed effective date of this Rule is January 1, 2019.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Administrative Code

**2018
Administrative
Code**

APPENDIX G DESIGN PROFESSIONAL INSPECTION FORM

RECORD OF THE INSPECTION OF A COMPONENT OR ELEMENT BY A NC LICENSED ARCHITECT OR ENGINEER

Project Information:

Residential Single-Family Project: Y N	Commercial Project: Y N
Code Enforcement Project No:	Permit No:
Project Name:	Owner:
Project Address:	Suite No:
Date Inspected:	Contractor Name:
Component Inspected:	

Responsible Licensed NC Architect or NC Engineer

Name:			
Firm Name:			
Phone Numbers:	Office:	Mobile:	
Email Address:			
Mailing Address:			

APPLICABLE CODE:

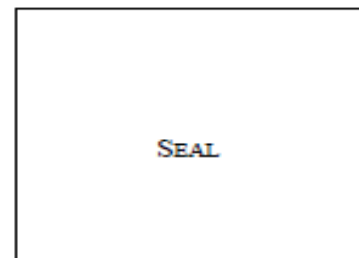
2018 NCBC = 2018 NC Building Code; 2018 NCRC = 2018 NC Residential Code

Describe Element/Component/Type of Inspection: *

*(subgrade form/letter may also be required)

Attestation/Signature:

By signing below, I certify that the component and/or element of the building as identified on this form has been inspected by me or someone under my direct supervision per G.S. 160D-11-6 and is in compliance with the Code or other proposal of the architect or engineer for the project. This inspection is in compliance with all of the requirements of the above referenced code. Attach any additional documents if needed.



Licensed Architect or Engineer

Inspection Department disclaimer:

Upon the receipt of a signed written document as required by G.S. 160D-11-6, Code Enforcement shall be discharged and released from any liabilities, duties and responsibilities imposed by this article or in common law from any claim arising out of or attributed to the component or element in the construction of the building for which the signed written document was submitted. Be aware that this inspection will be noted in all inspection records including the Certificate of Occupancy or Certificate of Compliance. This inspection does not address any local ordinances or zoning requirements.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Administrative Code 1-1-2021

2018 NC Administrative Code

106.4 Site Address Signage. (200714 Item B-1)

106.4 Site address signage. It is the responsibility of the permit applicant or designee to post the 911 site address on an active jobsite at the commencement of work regulated by the NC Building Codes. The signage shall be temporary or permanent per 106.4.1 or 106.4.3.

106.4.1 Temporary signage. Signage to identify a construction site location can be temporary. Acceptable temporary signage may include such items as a permit placard, an address written on job box, yard signage or other *approved* temporary method. Temporary street name markers shall be required if permanent street signs are not in place for new developments or subdivisions.

106.4.2 Temporary Signage Location. Address signage shall be placed such that it is legible from the street or road that fronts the property at all times during construction.

106.4.3 Permanent signage. Address signage meeting the requirements of the *International Residential Code* Section R319 for One- and Two-family Dwellings, *International Building Code* Section 501.2 or *International Fire Code* Section 505.1 for commercial buildings shall be deemed as meeting the requirements of this section.

The delayed effective date of this Rule is January 1, 2022.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

**2018
NC Building Code
Amendments & Errata**

2018 NC Building Code

ERRATA – correct as shown

510.2 Horizontal building separation allowance. A building shall be considered as separate and distinct buildings for the purpose of determining area limitation, continuity of *fire walls*, limitations of number of *stories* and the type of construction where all of the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 3 hours.
2. The building below the *horizontal assembly* is Type IA construction.
3. *Shaft, stairway, ramp* and escalator enclosures through the *horizontal assembly* shall have not less than 2-hour *fire-resistance rating* with opening protectives in accordance with Section 716.5.

Exception: Where the enclosure walls below the *horizontal assembly* have not less than a 3-hour *fire-resistance rating* with opening protectives in accordance with Section 716.5, the enclosure walls extending above the *horizontal assembly* shall be permitted to have 1-hour *fire-resistance rating*, provided:

1. The building above the *horizontal assembly* is not required to be Type I construction;
 2. The enclosure connects fewer than four *stories*; and
 3. The enclosure opening protectives above the *horizontal assembly* have a *fire-resistance rating* of not less 1 hour.
4. The building or buildings above the *horizontal assembly* shall be permitted to have multiple Group A occupancy uses, each with an *occupant load* of less than 300, or Group B, M, R or S occupancies.
 5. The building below the *horizontal assembly* shall be protected throughout by an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and shall be permitted to be any occupancy allowed by this code except Group H.
 6. The maximum *building height* in feet (mm) shall not exceed the limits set forth in Section 504.3 for the building having the smaller allowable height as measured from the *grade plane*.

2018 NC Building Code

ERRATA – correct as shown

**TABLE 1020.1
CORRIDOR FIRE-RESISTANCE RATING^k**

(The table remains unchanged; only footnote f is affected)

- f. Exit access corridors are not required to be rated on any single tenant floor or in any single tenant space, if 1-hour fire-resistance-rated floor/ceiling assemblies are provided in multistory buildings and fire partitions are provided between other tenant spaces on the same floor. The structure supporting such floor/ceiling assemblies and fire partitions is not required to be rated in Types IIB, **IIIB** and VB construction.

2018 NC Building Code
ERRATA – correct as shown

**TABLE 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)**

OCCUPANCY	A ^a	B ^e	E	F-1	F-2	H-1	H-2	H-3	H-4	H-5	L-1 ^a	L-2	L-3	L-4	M	R ^a	S-1	S-2 ^b	U	
A ^a	S	2 ^{d,f}	1	1	1	N	NP	3	2	2	2	1	2	1	1	1	1	N	N	
	NS	2 ^{d,f}	2	2	2	1	NP	4	3	3	3	2	NP	2	2	2	2	2	1	1
B ^e	S	1	2 ^d	1	2	1	NP	2	1	1	1	1	2	1	1	1	1	1	1	1
	NS	2	2 ^d	2	3	2	NP	3	2	2	2	2	NP	2	2	2	2	2	2	2
E	S	1	1	2 ^d	1	N	NP	3	2	2	2	1	2	1	1	1	1	1	N	N
	NS	2	2	2 ^d	2	1	NP	4	3	3	3	2	NP	2	2	2	2	2	1	1
F-1	S	1	2	1	3 ^d	1	NP	2	1	1	1	1	2	1	1	2	1	2	1	1
	NS	2	3	2	3 ^d	2	NP	3	2	2	2	2	NP	2	2	3	2	3	2	2
F-2	S	N	1	N	1	2 ^d	NP	3	2	2	2	1	2	1	1	1 ^c	1	1	1	1
	NS	1	2	1	2	2 ^d	NP	4	3	3	3	2	NP	2	2	2 ^c	2	2	2	2
H-1	S	NP	NP	NP	NP	NP	4 ^d	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
	NS	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
H-2	S	3	2	3	2	3	NP	4 ^d	1	1	1	3	3	3	2	3	2	3	3	3
	NS	4	3	4	3	4	NP	NP	NP	NP	NP	NP	NP	NP	3	NP	3	4	4	4
H-3	S	2	1	2	1	2	NP	1	3 ^d	1	1	2	2	2	1	2	1	2	2	2
	NS	3	2	3	2	3	NP	NP	NP	NP	NP	NP	NP	NP	2	NP	2	3	3	3
H-4	S	2	1	2	1	2	NP	1	1	2 ^d	1	2	2	2	2	1	2	1	2	2
	NS	3	2	3	2	3	NP	NP	NP	NP	NP	NP	NP	NP	2	NP	2	3	3	3
H-5	S	2	1	2	1	2	NP	1	1	1	2 ^d	2	2	2	1	2	1	2	2	2
	NS	3	2	3	2	3	NP	NP	NP	NP	NP	NP	NP	NP	2	NP	2	3	3	3
L-1 ^a	S	1	1	1	1	1	NP	3	2	2	2	2 ^d	2	1	1	1	1	1	1	1
	NS	2	2	2	2	2	NP	NP	NP	NP	NP	2 ^d	NP	2	2	2	NP	2	2	2
L-2	S	2	2	2	2	2	NP	3	2	2	2	2	2 ^d	2	2	2	2	2	2	2
	NS	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
L-3	S	1	1	1	1	1	NP	3	2	2	2	1	2	2 ^d	1	1	1	1	1	1
	NS	2	2	2	2	2	NP	NP	NP	NP	NP	2	NP	NP	2	NP	2	2	2	2
L-4	S	1	1	1	1	1	NP	3	2	2	2	1	2	1	2 ^d	1	1	1	1	1
	NS	2	2	2	2	2	NP	4	3	3	3	2	NP	2	2	2	2 ^c	2	2	2
M	S	1	1	1	2	1	NP	2	1	1	1	1	2	1	1	2 ^d	1	1	1	1
	NS	2	2	2	3	2	NP	3	2	2	2	2	NP	2	2	2 ^d	2	2	2	2
R ^a	S	1	1	1	1	1 ^c	NP	3	2	2	2	1	2	1	1	2 ^{d,g}	1	1 ^c	1 ^c	1 ^c
	NS	2	2	2	2	2 ^c	NP	NP	NP	NP	NP	NP	NP	NP	2	2 ^{d,g}	2	2 ^c	2 ^c	2 ^c
S-1	S	1	1	1	2	1	NP	2	1	1	1	1	2	1	1	1	1	3 ^d	1	1
	NS	2	2	2	3	2	NP	3	2	2	2	2	NP	2	2	2	2	3 ^d	2	2
S-2 ^b	S	N	1	N	1	1	NP	3	2	2	2	2	2	1	1	1	1 ^c	1	2 ^d	1
	NS	1	2	1	2	2	NP	4	3	3	3	3	NP	2	2	2	2 ^c	2	2 ^d	2
U	S	N	1	N	1	1	NP	3	2	2	2	1	2	1	1	1 ^c	1	1	1	1 ^d
	NS	1	2	1	2	2	NP	4	3	3	3	2	NP	2	2	2	2 ^c	2	2	1 ^c

- S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
- NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
- N = No separation requirement.
- NP = Not permitted.
- a. See Section 420.
- b. The required separation from areas used only for private or pleasure vehicles shall be reduced by 1 hour but not to less than 1 hour.
- c. See Section 408.3.4.
- d. Separation is not required between occupancies of the same classification unless fire area separation is required.
- e. See Section 422.2 for ambulatory care facilities.
- f. A-1, A-2, A-3, A-4 & A-5 must be separated by the designated fire-resistance rating unless they are to be nonseparated mixed use.
- g. R-1, R-2, R-3 & R-4 must be separated by the designated fire-resistance rating unless they are to be nonseparated mixed use.

2018 NC Building Code

101.2 Scope, 202 Definitions, Farm Building. (161213 Item B-7)

101.2 Scope. The provisions of this 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.

Exceptions: If any of the following apply the building or structure is exempt from the provisions of this code:

1. Detached one- and two-family *dwelling*s and multiple single-family *dwelling*s (*townhouses*) not more than three *stories above grade plane* in height with a separate *means of egress*, and their accessory structures not more than three *stories above grade plane* in height, shall comply with the *International Residential Code*.

~~2. Farm buildings located outside of the buildings rules jurisdiction of any municipality.~~

~~Exception: All buildings used for sleeping purposes shall conform to the provisions of the technical codes.~~

2. Farm buildings not used for:

a. Sleeping purposes; or

b. Storage of hazardous materials in excess of those listed in Tables 307.1(1) and 307.1(2) within the building rules jurisdiction of any municipality.

3. The design construction, location, installation or operation of equipment for storing, handling and transporting liquefied petroleum gases for fuel purposes up to the outlet of the first stage pressure regulator, anhydrous ammonia or other liquid fertilizer.

4. The design construction, location, installation or operation of equipment or facilities of a public utility, as defined in **N.C.G.S.** 62-3, or electric or telephone membership corporation, including without limitation poles, towers and other structures supporting electric or communication lines from the distribution network up to the meter location.

Note: All *buildings* owned and operated by a public utility or an electric or telephone membership corporation shall meet the provisions of this code.

5. The storage and handling of substances governed by the Hazardous Chemicals Right to Know Act in N.C.G.S. Chapter 95, Article 18.

SECTION 202 DEFINITIONS

FARM BUILDING. Any building not used for sleeping purposes that is not accessed by the general public and is used primarily for a farm purpose. Farm purposes includes structures or buildings for equipment, storage and processing of agricultural products or commodities such as: crops, fruits, vegetables, ornamental or flowering plants, dairy, timber, livestock, poultry and all other such forms of agricultural products by the specific farm on which the structure or building is located. Farm purposes do not include structures or buildings for uses such as education facilities, research facilities, or aircraft hangers.

The delayed effective date of this Rule is January 1, 2019.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

(Note: The remainder is part of the 2018 Code adoption package.)

2018 NC Building Code

1107.6.2.2.1 Type A units. (161213 Item B-11)

(See also 190910 Item B-2 below for further amendment to this section)

1107.6.2.2.1 Type A units.

In Group R-2 occupancies containing ~~44 or more~~ than 15 *dwelling units* or *sleeping units*, at least 5 percent but not less than one of the units shall be a *Type A unit*. ~~For a site with more than 100 units, at least 2 percent of the number of units exceeding 100 shall be Type A units.~~ All Group R-2 units on a *site* shall be considered to determine the total number of units and the required number of *Type A units*. *Type A units* shall be dispersed among the various classes of units. Bedrooms in monasteries and convents shall be counted as *sleeping units* for the purpose of determining the number of units. Where the *sleeping units* are grouped into suites, only one *sleeping unit* in each suite shall count towards the number of required *Type A unit*

Exceptions:

1. The number of *Type A units* is permitted to be reduced in accordance with Section 1107.7.
2. *Existing structures* on a *site* shall not contribute to the total number of units on a *site*.

The delayed effective date of this Rule is January 1, 2019.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

(Note: The remainder is part of the 2018 Code adoption package.)

(Note: Also “more than 15” correlation with 2018 Existing Building Code adoption package, 806.1.8.)

2018 NC Building Code

901.1 Scope. (161213 Item B-6)

901.1 Scope. ~~The provisions of this chapter shall specify where fire protection systems are required and shall apply to the design, installation, inspection, operation, testing and maintenance of all fire protection systems.~~

901.1 Scope. The provisions of the *International Building Code* shall specify where *fire protection systems* are required. The provisions of the *International Fire Code* shall determine the design, installation, inspection, operation, testing and maintenance of all *fire protection systems*.

The delayed effective date of this Rule for the 2018 NC Building Code is **January 1, 2019.**

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

(Note: Also printed in 2018 Fire Prevention Code, Section 901.1.)

2018 NC Building Code

312.1, H101.2, H109.2, Ground Signs. (180911 Item B-15)

312.1 General.

Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings

Aircraft hangars, accessory to a one- or two-family residence (see Section 412.5)

Barns

Carports

Fences and ground signs more than 6 feet (1829 mm) in height

Grain silos, accessory to a residential occupancy

Greenhouses

Livestock shelters

Photovoltaic panel system (mounted at grade)

Private garages

Retaining walls

Sheds

Stables

Tanks

Towers

The delayed effective date of this Rule is January 1, 2020.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Building Code

Table 504.4 Allowable Number of Stories Above Grade Plane. (190910 Item B-12)

TABLE 504.4^{a,b}

ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION									
	SEE FOOTNOTES	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B		A	B
A-1	NS	UL	5	3	2	3	2	3	2	1
	S	UL	6	4	3	4	3	4	3	2
A-2	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-3	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-4	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	3	2
	S	UL	12	6	4	6	4	6	4	3
E	NS	UL	5	3	2	3	2	3	1	1
	S	UL	6	4	3	4	3	4	2	2
F-1	NS	UL	11	4	2	3	2	4	2	1
	S	UL	12	5	3	4	3	5	3	2
F-2	NS	UL	11	5	3	4	3	5	3	2
	S	UL	12	6	4	5	4	6	4	3
H-1	NS ^{c,d}	1	1	1	1	1	1	1	1	NP
	S									
H-2	NS ^{c,d}	UL	3	2	1	2	1	2	1	1
	S									
H-3	NS ^{c,d}	UL	6	4	2	4	2	4	2	1
	S									
H-4	NS ^{c,d}	UL	7	5	3	5	3	5	3	2

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	S	UL	8	6	4	6	4	6	4	3				
H-5	NS ^{e, d}	4	4	3	3	3	3	3	3	2				
	S													
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	4	3	2				
	S	UL	10	5	4	5	4	5	4	3				
I-1 Condition 2	NS ^{d, e}	UL	9	4	3	4	3	4	3	2				
	S	UL	10	5										
I-2	NS ^{d, f}	UL	4	2	1	1	NP	1	1	NP				
	S	UL	5	3										
I-3	NS ^{d, e}	UL	4	2	1	2	1	2	2	1				
	S	UL	5	3	2	3	2	3	3	2				
I-4	NS ^{d, g}	UL	5	3	2	3	2	3	1	1				
	S	UL	6	4	3	4	3	4	2	2				
M	NS	UL	11	4	2	4	2	4	3	1				
	S	UL	12	5	3	5	3	5	4	2				
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	3	2			
	S13R	4	4							4	4	4	3	
	S	UL	12							5	5	5	5	5
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	3	2			
	S13R	4	4							4	4	4	4	3
	S	UL	12							5	5	5	5	5
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	3	3			
	S13R	4	4							4	4	4	4	4
	S	UL	12							5	5	5	5	5
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	3	2			
	S13R	4	4							4	4	4	4	3
	S	UL	12							5	5	5	5	5
S-1	NS	UL	11	4	2	3	2	4	3	1				
	S	UL	12	5	3	4	3	5	4	2				
S-2	NS	UL	11	5	3	4	3	4	4	2				
	S	UL	12	6	4	5	4	5	5	3				
U ⁱ	NS	UL	5	4	2	3	2	4	2	1				
	S	UL	6	5	3	4	3	5	3	2				

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Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

- a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
- b. See Section 903.2 for the minimum thresholds for protection by an *automatic sprinkler system* for specific occupancies.
- c. New Group H occupancies are required to be protected by an *automatic sprinkler system* in accordance with Section 903.2.5.
- d. The NS value is only for use in evaluation of existing *building height* in accordance with the *International Existing Building Code*.
- e. New Group I-1 and I-3 occupancies are required to be protected by an *automatic sprinkler system* in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
- f. New and existing Group I-2 occupancies are required to be protected by an *automatic sprinkler system* in accordance with Section 903.2.6 and Section 1103.5 of the *International Fire Code*.
- g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
- h. New Group R occupancies are required to be protected by an *automatic sprinkler system* in accordance with Section 903.2.8.
- i. See Table C102.1 in Appendix C for Group U agricultural buildings.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Building Code

Table 602 Fire-Resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance.
(180911 Item B-13)

**TABLE 602
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON
FIRE SEPARATION DISTANCE^{a,d,g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R ^h , S-2, U ^h
X < 5 ^b	All	3	2	1
5 ≤ X < 10	IA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB	2	1	1 ^c
	IIA, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.
- i. For Group R-3 detached one- and two-family dwellings of any construction type and not more than three stories above grade plane in height with a separate means of egress, a fire separation distance of 5 feet or less shall be 1-hour fire-resistant rated and shall be 0-hour fire-resistant rated for distances greater than 5 feet.
- j. For Group R-3 attached one- and two-family dwellings of any construction type separated with fire walls complying with Section 706, containing no other occupancy classification, and not more than three stories above grade plane in height with a separate means of egress, a fire separation distance of 5 feet or less shall be 1-hour fire-resistant rated and shall be 0-hour fire-resistant rated for distances greater than 5 feet.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

705.12 Soffit in Group R. (200310 Item B-8)

705.12 Soffit in Group R.

In Group R buildings of combustible construction, the soffit material shall be securely attached to framing members and shall be constructed using one of the following methods:

1. Non-combustible soffit material;
2. Fire retardant treated soffit material;
3. Vinyl soffit installed over 3/4-inch wood sheathing;
4. Vinyl soffit installed over 5/8-inch gypsum board;
5. Aluminum soffit installed over 3/4-inch wood sheathing; or
6. Aluminum soffit installed over 5/8-inch gypsum board.

Venting requirements shall apply to both soffit and underlayment and shall be per Section 1203.2. ~~Vent openings shall not be located within 5 feet horizontally of any unprotected wall opening located within 3 feet vertically below the soffit.~~

Exceptions:

1. Vinyl and aluminum soffit material may be installed without wood sheathing or gypsum backing board if the exterior wall finish is noncombustible for a minimum distance of 10 feet above finished grade or the building is equipped throughout with an automatic sprinkler system in accordance with 903.3.1.1.
2. ~~Location of vent openings in soffits shall not be limited in buildings equipped throughout with an automatic sprinkler system complying with Section 903.3.1.1.~~ Detached one- and two- family dwellings and townhouses.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Building Code
Chapter 2 Definitions. (200714 Item B-26)

CARBON MONOXIDE ALARM. A single- or multiple-station alarm intended to detect carbon monoxide gas and alert occupants by a distinct audible signal. It incorporates a sensor, control components and an alarm notification appliance in a single unit.

CARBON MONOXIDE DETECTOR. A device with an integral sensor to detect carbon monoxide gas and transmit an alarm signal to a connected alarm control unit.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Building Code
ERRATA – correct as shown

TEMPORARY OVERFLOW SHELTER. A shelter that provides Temporary Overflow accommodations from an approved homeless shelter in accordance with Section 427.

2018 NC Building Code
403.4.5 and 916. (201208 Item B-6)

403.4.5 Emergency Responder ~~Radio~~Communication Coverage. Emergency responder ~~radio~~communication coverage shall be provided in accordance with Section 510 of the *International Fire Code*.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Building Code 1-1-2022

2018 NC Building Code
428.2 Residential care homes (200714 Item B-28)

428.2 Residential care homes. Homes keeping no more than six adults or six unrestrained children who are able to respond and evacuate the facility without assistance, determined by the state agency having jurisdiction to be licensable, shall be classified as single-family residential (~~North Carolina Residential Code~~) and comply with the requirements of this section and the North Carolina Residential Code for detached one- and two-family dwellings and townhouses.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Building Code 1-1-2022

2018 NC Building Code

ERRATA – correct as shown

428.2.4 Heating Appliances. **Unvented** fuel-fired heaters and portable electric heaters shall be prohibited.

2018 NC Building Code

428.3 Licensed small residential care facilities (200714 Item B-29)

428.3 Licensed Small Residential Care Facilities. The following facilities when determined by the state agency having jurisdiction to be licensable, shall be classified as Single-Family Residential and comply with the requirements of this section and the *North Carolina Residential Code* for detached one- and two-family dwellings and townhouses.

1. Residential Care Facilities keeping no more than six adults or six unrestrained children with no more than three who are unable to respond and evacuate without assistance.
2. Residential Care Facilities keeping no more than five adults or five children who are unable to respond and evacuate without assistance, when certifiable for Medicaid reimbursement, and when staffed 24-hours per day with at least two staff awake at all times.
3. Residential Care Facilities keeping no more than nine adults or nine children who are able to respond and evacuate without assistance.

The delayed effective date of this Rule is January 1, 2022.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Building Code

ERRATA – correct as shown

428.3.9 Heating Appliances. **Unvented** fuel-fired heaters, floor furnaces, and portable electric heaters shall not be installed.

2018 NC Building Code

714.4.2 Membrane penetration. (190312 Item B-2)

714.4.2 Membrane penetrations.

Penetrations of membranes that are part of a *horizontal assembly* shall comply with Section 714.4.1.1 or 714.4.1.2. Where floor/ceiling assemblies are required to have a *fire-resistance rating*, recessed fixtures shall be installed such that the required *fire resistance* will not be reduced.

Exceptions:

7. The ceiling membrane of 1- and 2-hour *fire-resistance-rated horizontal assemblies* is permitted to be interrupted with the double wood top plate of a wall assembly ~~that is sheathed with Type X gypsum wallboard~~, provided that all penetrating items through the double top plate are protected in accordance with Section 714.4.1.1 or 714.4.1.2 and the ceiling membrane is tight to the top plate. For 2-hour fire-resistance-rated horizontal assemblies the wall assembly must be sheathed with Type X gypsum wallboard.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Building Code

903.2.8 Group R. (180911 Item B-13)

903.2.8 Group R. An *automatic sprinkler system* installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R *fire area*, except as provided for in Section 903.2.8.5.

Exceptions:

1. An *automatic sprinkler system* is not required in new adult and child day care facilities located in existing Group R-3 and R-4 occupancies.
2. An *automatic sprinkler system* is not required in *temporary overflow shelters*.
3. An *automatic sprinkler system* is not required in camping units located within a campground where all of the following conditions exist.
 - 3.1. The camping unit is limited to one story in height.
 - 3.2. The camping unit is less than 400 square feet (37 m²) in area.
 - 3.3. The camping unit does not have a kitchen.
4. An automatic sprinkler system is not required in an *open air camp cabin* that complies with the following:
 - 4.1. The *open air camp cabin* shall have at least two remote unimpeded exits. Lighted exit signs shall not be required.
 - 4.2. The *open air camp cabin* shall not be required to have plumbing or electrical systems, but if the cabin has these systems, then the provisions of the code otherwise applicable to those systems shall apply.
 - 4.3. Smoke **alarms** and portable fire extinguishers may be required as otherwise provided in the code.
5. An *automatic sprinkler system* is not required in the following Group R-3 buildings not more than three stories above grade plane in height with a separate means of egress:
 - 5.1. Detached one- and two-family dwellings.
 - 5.2. Attached one- and two-family dwellings separated with fire walls complying with Section 706 and containing no other occupancy classification.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Building Code

905.3.1 Height. (190910 Item B-3)

905.3.1 Height. Class III standpipe systems shall be installed throughout buildings where ~~the floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of the fire department vehicle access, or where the floor level of the lowest story is located more than 30 feet (9144 mm) below the heights level of fire department vehicle access.~~ any of the following exist:

1. Four or more stories are above or below grade plane.
2. The floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of the fire department vehicle access.
3. The floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.

Exceptions:

1. Class I standpipes are allowed in *buildings* equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Class I standpipes are allowed in Group B and E occupancies.
- ~~3.~~ 3. Class I manual standpipes are allowed in *open parking garages* where the highest floor is located not more than 150 feet (45720 mm) above the lowest level of fire department vehicle access.
- ~~4.~~ 4. Class I manual dry standpipes are allowed in *open parking garages* that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.
- ~~4-5.~~ 5. Class I standpipes are allowed in *basements* equipped throughout with an *automatic sprinkler system*.
6. Class I standpipes are allowed in buildings where occupant-use hose lines will not be utilized by trained personnel or the fire department.
- ~~5-7.~~ 7. In determining the lowest level of fire department vehicle access, it shall not be required to consider either of the following:
 - ~~7.1~~ 7.1 Recessed loading docks for four vehicles or less.
 - ~~7.2~~ 7.2 Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Building Code

915 Carbon Monoxide Alarm and Detection Systems. (180612 Item B-5)

915.1.1 Where required. Carbon monoxide detection shall be provided in Group A-2, I-1, I-2, I-4 and R occupancies and in classrooms in Group E occupancies in the locations specified in Section 915.2 where any of the conditions in Sections 915.1.2 through 915.1.6 exist.

915.1.2 Fuel-burning appliances and fuel-burning fireplaces. Carbon monoxide detection shall be provided in Group A-2 occupancies, dwelling units, sleeping units and classrooms that contain a fuel-burning appliance or a fuel-burning fireplace.

915.1.3 Forced air furnaces. Carbon monoxide detection shall be provided in Group A-2 occupancies, dwelling units, sleeping units and classrooms served by a fuel-burning, forced air furnace.

915.4.1 Power source. Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than that required for overcurrent protection.

Exceptions:

1. Where installed in buildings without commercial power, battery-powered carbon monoxide alarms shall be an acceptable alternative.
2. In A-2 occupancies the carbon monoxide detector shall be permitted to be battery-powered.

The delayed effective date of this Rule is January 1, 2020.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

[Note: This Rule will also be printed in the 2018 NC Fire Code, 915 Carbon Monoxide Alarm and Detection Systems.]

2018 NC Building Code
403.4.5 and 916. (201208 Item B-6)

916 Emergency Responder ~~Radio~~ Communication Coverage

916.1 General. Emergency responder ~~radio~~ communication coverage shall be provided in all new buildings in accordance with Section 510 of the *International Fire Code*.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Building Code 1-1-2022

2018 NC Building Code
1009.7.2 Separation. (180911 Item B-2)

1009.7.2 Separation.

(no change to subsection)

Exceptions:

1. Areas for assisted rescue that are located 10 feet (3048 mm) or more from the exterior face of a building are not required to be separated from the building by fire-resistance rated walls or protected openings.
2. The fire-resistance rating and opening protectives are not required in the exterior wall where the building is equipped throughout with an automatic sprinkler system installed in accordance with section 903.3.1.1 or 903.3.1.2.

The delayed effective date of this Rule is January 1, 2020.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Building Code 1-1-2020

2018 NC Building Code

1010.1.9.7 Delayed Egress. (200901 Item B-1)

[BE] 1010.1.9.7 Delayed egress. Delayed egress locking systems shall be permitted to be installed on doors serving the following occupancies ~~any occupancy except Group A, E and H~~ in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved* automatic smoke or heat detection system installed in accordance with Section 907. ~~The locking system shall be installed and operated in accordance with all of the following:~~

1. Group B, F, I, M, R, S and U occupancies.

2. Group E classrooms with an occupant load of less than 50.

Exception: Delayed egress locking systems shall be permitted to be installed on exit or exit access doors, other than the main exit or exit access door, serving a courtroom in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

~~1. The delay electronics of the delayed egress locking system shall deactivate upon actuation of the automatic sprinkler system or automatic fire detection system, allowing immediate, free egress.~~

~~2. The delay electronics of the delayed egress locking system shall deactivate upon loss of power controlling the lock or lock mechanism, allowing immediate free egress.~~

~~3. The delayed egress locking system shall have the capability of being deactivated at the fire command center and other approved locations. If a fire command center is not required by the *International Building Code*, the door locks shall have the capability of being unlocked by a signal from a location approved by the local fire code official.~~

~~4. An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the delay electronics have been deactivated, rearming the delay electronics shall be by manual means only.~~

~~Exception: Where approved, a delay of not more than 30 seconds is permitted on a delayed egress door.~~

~~5. The egress path from any point shall not pass through more than one delayed egress locking system.~~

~~Exception: In Group I-2 or I-3 occupancies, the egress path from any point in the building shall not pass through more than two delayed egress locking systems provided the combined delay does not exceed 30 seconds.~~

~~6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware:~~

~~6.1. For doors that swing in the direction of egress, the sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.~~

~~6.2. For doors that swing in the opposite direction of egress, the sign shall read: PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.~~

~~6.3. The sign shall comply with the visual character requirements in ICC A117.1.~~

~~Exception: Where approved, in Group I occupancies, the installation of a sign is not required where care recipients who, because of clinical needs, require restraint or containment as part of the function of the treatment area.~~

~~7. Emergency lighting shall be provided on the egress side of the door.~~

~~8. The delayed egress locking system units shall be *listed* in accordance with UL 294.~~

[BE] 1010.1.9.7.1 Delayed egress locking system. The delayed egress locking system shall be installed and operated in accordance with all of the following:

1. The delay electronics of the delayed egress locking system shall deactivate upon actuation of the automatic sprinkler system or automatic fire detection system, allowing immediate free egress.

2. The delay electronics of the delayed egress locking system shall deactivate upon loss of power controlling the lock or lock mechanism, allowing immediate free egress.

3. The delayed egress locking system shall have the capability of being deactivated at the fire command center and other *approved* locations.

4. An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the delay electronics have been deactivated, rearming the delay electronics shall be by manual means only.

Exception: Where *approved*, a delay of not more than 30 seconds is permitted on a delayed egress door.

5. The egress path from any point shall not pass through more than one delayed egress locking system.

Exceptions:

1. In Group I-2 or I-3 occupancies, the egress path from any point in the building shall not pass through not more than two delayed egress locking systems provided that the combined delay does not exceed 30 seconds.

2. In Group I-1 or I-4 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided that the combined delay does not exceed 30 seconds and the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware:

6.1 For doors that swing in the direction of egress, the sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.

6.2 For doors that swing in the opposite direction of egress, the sign shall read: PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.

6.3 The sign shall comply with the visual character requirements in ICC A117.1.

Exception: Where *approved*, in Group I occupancies, the installation of a sign is not required where care recipients who, because of clinical needs, require restraint or containment as part of the function of the treatment area.

7. Emergency lighting shall be provided on the egress side of the door.

8. The delayed egress locking system units shall be *listed* in accordance with UL294

The delayed effective date of this Rule is January 1, 2022.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Building Code

1010.1.9.11 Stairway doors. (180313 Item B-10)

[BE] 1010.1.9.11 Stairway doors.

Interior stairway means of egress doors shall be openable from both sides without the use of a key or special knowledge or effort.

Exceptions:

1. Stairway discharge doors shall be openable from the egress side and shall only be locked from the opposite side.

2. This section shall not apply to doors arranged in accordance with Section 403.5.3 of the International Building Code.

~~3. In stairways serving not more than four stories, doors are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side and capable of being unlocked simultaneously without unlatching upon a signal from the fire command center, if present, or a signal by emergency personnel from a single location inside the main entrance to the building.~~

3. Stairway exit doors are permitted to be locked from the side opposite the egress side, provided that they are openable from the egress side and capable of being unlocked simultaneously without unlatching upon a signal from the fire command center, if present, or a signal by emergency personnel from a single location inside the main entrance to the building and upon activation of the fire alarm if present.

4. Stairway exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single exit stairway where permitted in Section 1006.3.2.

5. Stairway exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group R-2 occupancies where the only interior access to the dwelling unit is from a single exit stairway where permitted in Section 1006.3.2.

~~6. In other than high rise, stairways serving floors above a 3 hour horizontal building separation, doors are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side and capable of being unlocked simultaneously without unlatching upon activation of the building fire alarm system.~~

The delayed effective date of this Rule is January 1, 2020.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

[Note: This Rule will also be printed in the 2018 NC Fire Prevention Code, 1010.1.9.11 Stairway doors.]

2018 NC Building Code

1107.6.2.2.1 Type A Units. (190910 Item B-2)

1107.6.2.2.1. Type A Units. In Group R-2 occupancies containing more than ~~15~~ 20 *dwelling units* or *sleeping units*, at least 5 percent but not less than one of the units shall be a *Type A unit*. All Group R-2 units on a *site* shall be considered to determine the total number of units and the required number of *Type A units*. *Type A units* shall be dispersed among the various classes of units. Bedrooms in monasteries and convents shall be counted as *sleeping units* for the purpose of determining the number of units. Where the *sleeping units* are grouped into suites, only one *sleeping unit* in each suite shall count towards the number of required *Type A units*.

Exceptions:

1. The number of *Type A units* is permitted to be reduced in accordance with Section 1107.7.
2. *Existing structures* on a *site* shall not contribute to the total number of units on a *site*.
3. For a *site* with more than 100 units, at least 2 percent of the number of units exceeding 100 shall be *Type A units*.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Building Code

1301.1.1 Criteria. (170613 Item B-6)

1301.1.1 Criteria. Buildings shall be designed and constructed in accordance with the *International Energy Conservation Code*.

Exception: Per G.S. 143-138 (b18), no energy conservation code provisions shall apply to any structure for which the primary occupancy classification is Group F, S, or U. This exclusion shall apply to the entire building area.

The delayed effective date of this Rule is January 1, 2019.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Building Code 1-1-2019

2018 NC Building Code

1705.4 Masonry construction. (180612 Item B-2)

1705.4 Masonry construction.

Exception: Special inspections and tests shall not be required for:

4. Non-load bearing masonry partition walls and screens as determined and designated as such by the registered design professional in or added to the construction documents.

The delayed effective date of this Rule is January 1, 2020.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Building Code 1-1-2020

2018 NC Building Code
ERRATA – correct as shown

[P] TABLE 2902.1
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS: SEE SECTION 419.2 OF THE INTERNATIONAL PLUMBING CODE)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410 OF THE INTERNATIONAL PLUMBING CODE)	OTHER
				MALE	FEMALE	MALE	FEMALE			
3	Educational	E ¹¹	K-8 9-12 Teacher/staff	1 per 25 1 per 30 1 per 30		1 per 25 1 per 25 1 per 25		1 per 60 1 per 100 1 per 100	1 per 100	—
8	Storage	S-1 S-2	Structure for the storage of goods, warehouses, storehouses and freight depots. Low and Moderate Hazard m, n	1 per 100		1 per 100		See Section 411 of the International Plumbing Code	—	—

- a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by this code.
- b. Toilet facilities for employees shall be separate from facilities for inmates, **students** or care recipients.
- c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient *sleeping units* shall be permitted, provided that each patient *sleeping unit* has direct access to the toilet room and provisions for privacy for the toilet room user are provided.
- d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.
- e. The number of fixtures provided shall be based on either the capacity of the church sanctuary or the church educational building (including fellowship halls and multiple purpose rooms), whichever is larger and within 300 feet (91.44 m).
- f. For attached one- and two-family dwellings, one automatic clothes washer connection shall be required per 20 dwelling units.
- g. A mop receptacle with a water supply, or a hose bib and floor drain, may be used in lieu of a service sink.
- h. A can wash may be used in lieu of a service sink.
- i. See Section 2902.9 for additional information on plumbing fixtures for schools.
- j. When the rearrangement of an area or space increases the occupant content, the plumbing facilities shall be increased in accordance with this code.
- k. For baseball stadiums, the number of fixtures shall be reduced by 50 percent.
- l. Service sink may be omitted when located within a single-family dwelling.
- m. Self-service mini-storage facilities without an office area are exempt.
- n. Unheated storage buildings which are used periodically are not required to have toilet rooms.
- o. For business and mercantile occupancies with an occupant load of ~~25~~ 30 or fewer, service sinks shall not be required.
- p. See section 2902.7 for adjustments in occupant count.

2018 NC Building Code
 Table 2902.1 Minimum Number of Required Plumbing Fixtures. (191210 Item B-17 and B-19)
 (Only affected portions of the table are displayed here. Other portions of the table are unchanged by this amendment.)

**[P] TABLE 2902.1
 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES**

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS: SEE SECTION 419.2 OF THE INTERNATIONAL PLUMBING CODE)		LAVATORIES		BATHTUBS/SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410 OF THE INTERNATIONAL PLUMBING CODE)	OTHER
				MALE	FEMALE	MALE	FEMALE			
2	Business (see sections 403.2, 403.3 and 403.3.3.1)	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses	1 per 25 30 for the first 50 30 and 1 per 50 for the remainder exceeding 50 30		1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80		—	1 per 100	1 service sink ^o
6	Mercantile (see sections 2902.2, 2902.3 and 2902.3.3.2)	M	Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 per 500		1 per 750		—	100 - 1,000 1 greater than 1,000 require 1 more for each additional 1,000	1 service sink ^o

- a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by this code.
- b. Toilet facilities for employees shall be separate from facilities for inmates or care recipients.
- c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient *sleeping units* shall be permitted, provided that each patient *sleeping unit* has direct access to the toilet room and provisions for privacy for the toilet room user are provided.
- d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.
- e. The number of fixtures provided shall be based on either the capacity of the church sanctuary or the church educational building (including fellowship halls and multiple purpose rooms), whichever is larger and within 300 feet (91.44 m).
- f. For attached one- and two-family dwellings, one automatic clothes washer connection shall be required per 20 dwelling units.
- g. A mop receptacle with a water supply, or a hose bib and floor drain, may be used in lieu of a service sink.
- h. A can wash may be used in lieu of a service sink.
- i. See Section 2902.9 for additional information on plumbing fixtures for schools.
- j. When the rearrangement of an area or space increases the occupant content, the plumbing facilities shall be increased in accordance with this code.
- k. For baseball stadiums, the number of fixtures shall be reduced by 50 percent.
- l. Service sink may be omitted when located within a single-family dwelling.
- m. Self-service mini-storage facilities without an office area are exempt.
- n. Unheated storage buildings which are used periodically are not required to have toilet rooms.
- o. For business and mercantile occupancies with an occupant load of ~~25~~ 30 or fewer, service sinks shall not be required.
- p. See section 2902.7 for adjustments in occupant count.

The delayed effective date of this Rule is January 1, 2021.
 The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Building Code 1-1-2021

2018 NC Building Code

Table 2902.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES. (180911 Item B-19)

(Only affected portions of the table are displayed here. Other portions of the table are unchanged by this amendment.)

Table 2902.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS: SEE SECTION 419.2 OF THE INTERNATIONAL PLUMBING CODE)	LAVATORIES	BATHTUBS/SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
2	Business (See Sections 2902.2, 2902.3, and 2902.3.2.2)	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50	1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80	—	1 per 100 ^a	1 service sink ^a

a. For business occupant loads of 25 or fewer, drinking fountains shall not be required.

The delayed effective date of this Rule is January 1, 2020.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

[Note: This Rule will also be printed in the 2018 NC Plumbing Code, Table 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES.]

2018 NC Building Code

2902.1.1 Fixture calculations. (170912 Item B-2)

2902.1.1 Fixture calculations.

To determine the occupant load of each sex, the total occupant load shall be divided in half. To determine the required number of fixtures, the fixture ratio or ratios for each fixture type shall be applied to the occupant load of each sex in accordance with Table 403.1. Fractional numbers resulting from applying the fixture ratios of Table 403.1 shall be rounded up to the next whole number. For calculations involving multiple *occupancies*, such fractional numbers for each *occupancy* shall first be summed and then rounded up to the next whole number.

Exceptions:

1. The total occupant load shall not be required to be divided in half where *approved* statistical data indicates a distribution of the sexes of other than 50 percent of each sex.
2. In buildings that contain dwellings or sleeping units that have a pool dedicated to the residents, a percentage reduction of the total required fixtures provided for a pool and pool deck without bleachers and grandstands may be taken equal to the percentage of ~~total~~ residential units whose entries fall within a 500 feet foot horizontal travel distance of the pool deck. In multi-story structures, the residential units located not more than one story above or below the pool and pool deck may be included in the percentage. Travel from the pool to the required toilet facilities shall be on an accessible route.

The delayed effective date of this Rule is January 1, 2019.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

(Note: Also printed in 2018 Plumbing Code, Section 403.1.1, Exception 2.)

2018 NC Building Code

2902.2 Separate Facilities. (191210 Item B-15)

[P] 2902.2 Separate facilities.

Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for *dwelling units* and *sleeping units*.
2. Separate facilities shall not be required in business occupancies with a total occupant load, including both employees and customers, of 30 or fewer. Separate facilities shall not be required in all other structures or tenant spaces with a total occupant load, including employees and customers, of 25 or fewer.
3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 100 or less.
4. Except as provided in Section 405.3.2 of the North Carolina Plumbing Code.
5. Where the code requires only one toilet facility for each sex, two unisex facilities may be substituted for separate sex facilities.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Building Code

2902.6 Small Occupancies. (191210 Item B-13)

[P] 2902.6 Small occupancies. Drinking fountains shall not be required for an occupant load of ~~15~~ 30 or fewer.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Building Code

312.1, H101.2, H109.2, Ground Signs. (180911 Item B-15)

SECTION H101 GENERAL

H101.2 Signs exempt from permits. The following signs are exempt from the requirements to obtain a *permit* before erection:

1. Nonilluminated wall signs.
2. Temporary signs.
3. Signs erected by transportation authorities.
4. Projecting signs not exceeding 6 square feet (0.56 m²).
5. The changing of moveable parts of an approved sign that is designed for such changes, or the repainting or repositioning of display matter shall not be deemed an alteration.
6. Ground signs less than 6 feet (1829 mm) in height above finished grade.

SECTION H109 GROUND SIGNS

H109.2 Required Clearance. The bottom coping of every ground sign shall be not less than 3 feet (914 mm) above the ground or street level, which space can be filled with platform decorative trim or light wooden construction.

Exception: Signs that have a solid base of masonry, steel or similar material, commonly known as monument signs.

The delayed effective date of this Rule is January 1, 2020.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018

NC Residential

Building Code

Amendments & Errata

2018 NC Residential Code
R101.2.2 Accessory structures. (200901 Item B-19)

R101.2.2 Accessory structures.

Only the following *accessory structures* shall meet the provisions of this code.

1. Decks, see Appendix M,
2. Gazebos,
3. Retaining walls, see Section R404.4,
4. Detached masonry chimneys located less than 10 feet (3048 mm) from other buildings or lot lines,
5. Swimming pools and spas, see Appendix V,
6. Detached carports,
Exception: Portable lightweight carports not exceeding 400 square feet (37 m²) or 12 foot (3658 mm) mean roof height.
7. *Docks, piers, bulkheads,* and waterway structures, see Section R327.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2022

2018 NC Residential Code
R102.5 Appendices. (191210 Item B-4)

R102.5 Appendices. Provisions in the appendices shall not apply unless specifically referenced in the code text ~~adopting ordinance~~.

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2021

2018 NC Residential Code
R202 Definitions. (200901 Item B-19)

ACCESSORY BUILDING. ~~In one- and two- family dwellings not more than three stories above grade plane in height with a separate means of egress, a:~~ A building that does not contain a sleeping room, the use of which is incidental accessory to that of the main building dwelling, and that is detached and located on the same lot as the dwelling. ~~An accessory building and is roofed over and with more than 50 percent of its exterior walls are enclosed. Examples of accessory buildings are garages, storage buildings, workshops, boat houses, treehouses, and similar structures.~~

ACCESSORY STRUCTURE. A structure that is accessory to the dwelling and not defined as an *accessory building*. Examples of accessory structures are fencing, decks, gazebos, arbors, retaining walls, barbecue pits, detached chimneys, playground equipment, yard art, *docks, piers*, etc.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2022

2018 NC Residential Code
R202 Definitions. (200901 Item B-7)

AIR-IMPERMEABLE INSULATION. An insulation having an air permeance equal to or less than 0.02 L/s-m² at 75 Pa pressure differential ~~as tested in accordance with~~ according to ASTM E2178 or E283 at the thickness applied.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2022

2018 NC Residential Code
R302.2 R313.1 & R202 Townhouses. (210608 Item B-7)

[RB] DWELLING. Any building that contains one or two *dwelling units (duplex) on the same parcel of land*, used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that are occupied for living purposes.

[RB] DWELLING UNIT. A single unit providing complete independent living facilities for a single family ~~one or more persons~~, including permanent provisions for living, sleeping, eating, cooking and sanitation.

The delayed effective date of this Rule is January 1, 2023.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2023

2018 NC Residential Code
R202, R305, R310, R328 Lofts. (180612 Item B-12)

EGRESS ROOF ACCESS WINDOW. A skylight or roof window designed and installed to satisfy the emergency escape and rescue opening requirements in Section R310.2.

The delayed effective date of this Rule is January 1, 2020.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2020

2018 NC Residential Code
Section 202 Definitions. (200310 Item B-7)

FAMILY. Family is an individual, two or more persons related by blood, marriage or law, or a group of not more than any ~~five~~ eight persons living together in a *dwelling unit*. Servants having common housekeeping facilities with a family consisting of an individual, or more persons related by blood, marriage or law, are a part of the family for this code.

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2021

2018 NC Residential Code
R202 DEFINITIONS. (170613 Item B-10)

FARM BUILDING. Any *building* not used for sleeping purposes that is not accessed by the general public and is used primarily for a farm purpose. Farm purposes includes structures or *buildings* for equipment, storage and processing of agricultural products or commodities such as: crops, fruits, vegetables, ornamental or flowering plants, dairy, timber, livestock, poultry and all other such forms of agricultural products by the specific farm on which the structure or *building* is located. Farm purposes do not include structures or *buildings* for uses such as education facilities, research facilities, or aircraft hangers.

The delayed effective date of this Rule is January 1, 2019.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
R101.2.2 Accessory structures. (200901 Item B-19)

ACCESSORY BUILDING. ~~In one- and two-family dwellings not more than three stories above grade plane in height with a separate means of egress, a. A building that does not contain a sleeping room, the use of which is incidental accessory to that of the main building dwelling, and that is detached and located on the same lot as the dwelling. An accessory building and is roofed over and with more than 50 percent of its exterior walls are enclosed. Examples of accessory buildings are garages, storage buildings, workshops, boat houses, treehouses, and similar structures.~~

ACCESSORY STRUCTURE. A structure that is accessory to the dwelling and not defined as an *accessory building*. Examples of accessory structures are fencing, decks, gazebos, arbors, retaining walls, barbecue pits, detached chimneys, playground equipment, yard art, *docks, piers*, etc.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
R202 Definitions. (200901 Item B-7)

AIR-IMPERMEABLE INSULATION. An insulation having an air permance equal to or less than 0.02 L/s-m² at 75 Pa pressure differential ~~as tested in accordance with~~ according to ASTM E2178 or E283 at the thickness applied.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
R101.2.2 Accessory structures. (200901 Item B-19)

PRIVATE POND. A body of water owned entirely by a single property owner and located on the same parcel of land as a detached single-family dwelling.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

[RB] TOWNHOUSE. A single-family *dwelling unit* constructed in a group of ~~two~~ three or more attached units separated by property lines in which each unit extends from foundation to roof and with a *yard* or *public way* on not less than two sides.

The delayed effective date of this Rule is January 1, 2023.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2023

2018 NC Residential Code
R302.1.1. (200310 Item B-10)

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 ~~40 5~~ feet (3048 1524 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 R302.2.5 and R302.2.6.

Exceptions:

1. Any portion of soffits having ~~40 5~~ feet (3048 1524 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.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2021

2018 NC Residential Code

R302.2 R313.1 & R202 Townhouses. (210608 Item B-7)

R302.2 Townhouses. Each *townhouse* shall be considered a separate building and shall be separated by fire-resistance rated wall assemblies meeting the requirements of Section ~~R302.1~~ for exterior walls. R302.2.1 or R302.2.2.

~~**Exception:** If an automatic residential fire sprinkler is installed, a common 1-hour fire resistance-rated wall assembly tested in accordance with ASTM E119 or UL263 is permitted for townhouses if such walls do not contain~~

~~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 wall sheathing and the underside of the roof sheathing. Electrical installations shall be installed in accordance with Section R302.4.~~

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, UL263 or Section 703.3 of the 2018 NC 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 2018 NC 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 2018 NC Building Code.

R302.2.5 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 (15.9mm) 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.

The delayed effective date of this Rule is January 1, 2023.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2023

Section R310

Emergency Escape and Rescue Openings

R310.2.6 Egress roof access window. Egress roof access windows shall be deemed to meet the requirements of Section R310 where installed such that the bottom of the opening is not more than 44 inches (1118 mm) above the floor, provided the egress roof access window complies with the minimum opening area requirements of Section R310.2.1.

The delayed effective date of this Rule is January 1, 2020.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
R311.2 Egress Door. (191210 Item B-9)

R311.2 Egress door. Not less than one exterior egress door shall be provided for each *dwelling* unit. The egress door shall be side-hinged, and shall provide a clear width of not less than 32 inches (813 mm) where measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). The clear height of the door opening shall be not less than 78 inches (1981 mm) in height measured from the top of the threshold to the bottom of the stop. Other exterior doors shall not be required to comply with these minimum dimensions. Egress doors shall be readily openable from inside the dwelling. All interior egress doors and a minimum of one exterior egress door shall be readily openable from the side from which egress is to be made without the use of a key or special knowledge or effort.

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2021

2018 NC Residential Code
R311.7.4 Walkline. (191210 Item B-12)

R311.7.4 Walkline. ~~Deleted~~ The walkline across winder treads shall be concentric to the curved direction of travel through the turn and located 12 inches (305 mm) from the side where the winders are narrower. The 12 inch (305 mm) dimension shall be measured from the widest point of the clear stair width at the walking surface of the winder. If winders are adjacent within the flight, the point of the widest clear stair width of the adjacent winders shall be used.

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2021

2018 NC Residential Code
R311.7.5.2.1 Winder Treads. (191210 Item B-12)

R311.7.5.2.1 Winder treads. Winder treads shall have a minimum tread depth of ~~not less than~~ 9 inches (229 mm) measured ~~between the vertical planes of the foremost projection of adjacent treads at the intersection with the walkline as above a point 12 inches (305 mm) from the side where the treads are narrower.~~ Winder treads shall have a minimum tread depth of ~~not less than~~ 4 inches (102 mm) at any point ~~within the clear width of the stair.~~ Within any flight of stairs, the ~~largest~~ greatest winder tread depth at the 12 inch (305 mm) walkline shall not exceed the smallest ~~winder tread~~ by more than 3/8 inch (9.5 mm).

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2021

2018 NC Residential Code
R311.7.5.3 Nosings. (191210 Item B-10)

R311.7.5.3 Nosings. The radius of curvature at the nosing shall be not greater than 9/16 inch (14 mm). A nosing projection not less than 3/4 inch (19 mm) and not more than 1 1/4 inches (32 mm) shall be provided on stairways with solid risers. The greatest nosing projection shall not exceed the smallest nosing projection by more than 3/8 inch (9.5 mm) between two stories, including the nosing at the level of floors and landings. Beveling of nosings shall not exceed 1/2 inch (12.7 mm).

Exceptions:

~~1.~~ A nosing projection is not required where the tread depth is not less than 11 inches (279 mm).

~~2.~~ ~~The opening between adjacent treads is not limited on stairs with a total rise of 30 inches (762 mm) or less.~~

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2021

2018 NC Residential Code
R311.7.8.1 Height. (190910 Item B-15)

R311.7.8.1 Height. Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm).

Exceptions:

1. The use of a volute, turnout, ~~or~~ starting easing or starting newel shall be allowed over the lowest tread.
2. When handrail fittings or bendings are used to provide continuous transition between flights, the transition from handrail to *guard*, or used at the start of a flight, the handrail height at the fittings or bendings shall be permitted to exceed the maximum height.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
R312.1.2 Height. (191210 Item B-10)

NC Residential Code 1-1-2021

R312.1.2 Height. Required *guards* at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches (914 mm) in height as measured vertically above the adjacent walking surface or the line connecting the leading edges of the treads. Open risers are permitted, provided that the opening between treads does not permit the passage of a 4-inch diameter (102 mm) sphere.

Exceptions:

1. *Guards* on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
2. Where the top of the *guard* serves as a handrail on the open sides of stairs, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) as measured vertically from a line connecting the leading edges of the treads.
3. Open risers that prevent the passage of a 4-inch (102 mm) diameter sphere.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2021

2018 NC Residential Code
R312.1.3 Opening Limitations (191210 Item B-10)

R312.1.3 Opening limitations. Required *guards* shall not have openings from the walking surface to the required *guard* height that allow passage of a sphere 4 inches (102 mm) in diameter.

Exceptions:

1. The triangular openings at the open side of stair, formed by the riser, tread and bottom rail of a *guard*, shall not allow passage of a sphere 6 inches (153 mm) in diameter.
2. *Guards* on the open side of stairs shall not have openings that allow passage of a sphere 4 3/8 inches (111 mm) in diameter.
3. The opening between adjacent treads is not limited on stairs with a total rise of 30 inches (762 mm) or less.

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2021

2018 NC Residential Code
R302.2 R313.1 & R202 Townhouses (210608 Item B-7)

R313.1 Townhouse automatic fire sprinkler systems. (Deleted)

~~An automatic residential fire sprinkler system shall be installed in townhouses.~~

Exceptions:

1. ~~Townhouses constructed with a common 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119 or UL 263, provided such walls do not contain 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 wall sheathing and the underside of the roof sheathing. Electrical installations shall be installed in accordance with the North Carolina Electrical Code. Penetrations for electrical outlet boxes shall be in accordance with Section R302.4.~~
2. ~~An automatic residential fire sprinkler system shall not be required where additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed~~

The delayed effective date of this Rule is January 1, 2023.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2023

R327.1 General.

Docks, piers, bulkheads and waterway structures shall be constructed in accordance with Chapter 36 of the North Carolina Building Code.

Exceptions: Structures complying with the following are not required to meet the provisions of this code.

1. Docks and Piers built over private ponds.
2. Fixed in place walkways, docks, and piers not covered in Exception 1 and not exceeding 144 square feet for single family dwelling.
3. Minor repairs to existing docks, piers and waterway structures.
 1. ~~Fixed piers associated with a one- or two- family dwelling meeting all of the following:~~
 - 1.1. ~~A maximum of four boat slips for a single owner of a one- or two- family dwelling or two adjacent, riparian owners.~~
 - 1.2. ~~A maximum height of 15 feet (4572 mm) measured from deck to mud line at any location along the pier.~~
 - 1.3. ~~A maximum normal pool depth of 13 feet (3962 mm) on lakes and ponds and a maximum mean low water depth of 7 feet (2134 mm) in other locations.~~
 - 1.4. ~~A maximum walkway width of 6 feet (1829 mm).~~
 - 1.5. ~~A maximum pile spacing of 8 feet (2438 mm), in both directions.~~
 - 1.6. ~~A maximum of 576 sq. ft. (53.5 m²) for non-walkways areas.~~
 - 1.7. ~~A maximum boat slip length of 40 feet (12.2 m).~~
 - 1.8. ~~A maximum roofed area of 576 sq. ft. (53.5 m²) with an additional maximum 2 foot (610 mm) overhang.~~
 - 1.9. ~~Constructed with no enclosed or multilevel structures.~~
 - 1.10. ~~Supports a boatlift with a maximum design capacity no greater than 16,000 pounds (71.2 kN).~~
 2. ~~Floating docks associated with a one- or two- family dwelling meeting all of the following:~~
 - 2.1. ~~A maximum of four boat slips for a single owner of a one- or two- family dwelling or two adjacent, riparian owners.~~
 - 2.2. ~~A maximum normal pool depth of 20 feet (6096 mm) for docks with guide piles on lakes and ponds and a maximum mean low water of 10 feet (3048 mm) for docks with guide piles in other locations.~~
 - 2.3. ~~A maximum boat slip length of 40 feet (12.2 m).~~
 - 2.4. ~~Finger piers, crosswalks or other floating surfaces having a minimum width of 3 feet (914 mm) wide to a maximum of 6 feet (1829 mm) wide, except for a single 8 foot x 16 foot (2438 mm x 4877 mm) section.~~
 - 2.5. ~~When constructed with a roof the following conditions exist:~~
 - i. ~~Ultimate design wind speed is 115 mph (51 m/s) or less;~~
 - ii. ~~Roof load is 20 psf (0.96 kPa) or less;~~
 - iii. ~~A maximum eave height of 10 feet (3048 mm);~~
 - iv. ~~A maximum roof slope of 4:12;~~
 - v. ~~A maximum roofed area of 576 sq. ft. (53.5 m²) with an additional maximum 2 foot (610 mm) overhang;~~
 - vi. ~~A minimum boat slip width of 12 feet (3658 mm);~~
 - vii. ~~A minimum floating dock width of 4 feet (1219 mm) along both sides of the boat slip;~~
 - viii. ~~A maximum dead load of 12 psf (0.57 kPa);~~
 - ix. ~~Floating structures supporting roof structures are balanced or anchored to reduce the possibility of tipping.~~
 - 2.6. ~~Constructed with no enclosed or multilevel structures.~~
 - 2.7. ~~Supports a boat lift with a maximum design capacity no greater than 16,000 pounds (71.2 kN).~~

The delayed effective date of this Rule is January 1, 2022.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
R328 Demolition. (200714 Item B-20)



ERRATA – Changed Section number from R328 to R329 because R328 was already used

SECTION R329 DEMOLITION

R328.1 Demolition. Where a building or structure regulated by this code has been demolished or removed, the lot shall not create a new hazard to the site or to adjoining properties. All utilities shall be properly terminated.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2022

2018 NC Residential Code
R403.1.6 Foundation Anchorage (190312 Item B-18)

Exceptions:

1. Walls 24 inches (610 mm) total length or shorter connecting offset braced wall panels shall be anchored to the foundation with a minimum of one anchor bolt located in the center third of the plate section and shall be attached to adjacent braced wall panels at corners as shown in Table R602.3(1) and Figure R602.10.3(5).
2. Connection of walls 12 inches (305 mm) total length or shorter connecting offset *braced wall panels* to the foundation without anchor bolts shall be permitted. The wall shall be attached to adjacent braced wall panels at corners as shown in Table R602.3(1) and Figure R602.10.3(5).

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2021

2018 NC Residential Code
R404.4 Retaining walls. (200714 Item B-18)

R404.4 Retaining walls. Retaining walls ~~that are not laterally supported at the top and that retain in excess of 48 inches (1219 mm) of unbalanced fill, shall be designed to ensure stability against overturning, sliding, excessive foundation pressure and water uplift. In addition, any retaining wall that meets~~ meet the following shall be designed by a registered design professional.

1. Any retaining wall systems on a residential site that cross over adjacent property lines regardless of vertical height, ~~and~~
2. Retaining walls that support *buildings* and their *accessory structures*;
3. Retaining walls exceeding 4 feet (1524 mm) of unbalanced backfill height, or
4. Retaining wall systems providing a cumulative vertical relief greater than 5 feet (1524 mm) in height within a horizontal distance of 50 feet (15 m) or less.

Retaining walls shall be designed for a safety factor of 1.5 against lateral sliding and overturning.

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2022

2018 NC Residential Code
R506.2.1 Fill. (190611 Item B-9)

R506.2.1 Fill. Fill material shall be free of vegetation and foreign material. The fill shall be compacted to ensure uniform support of the slab, and except where *approved*, the fill depths shall not exceed 24 inches (610 mm) for clean sand or gravel and 8 inches (203 mm) for earth.

Exception: #57 or #67 stone may be used as fill without a compaction test for a maximum depth of 4 feet.

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2021

2018 NC Residential Code

Tables R602.3(3), R602.10.1 and R602.10.3, (200310 Item B-11)

TABLE R602.3(3)
REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES^{a b c}

MINIMUM NAIL		MINIMUM WOOD STRUCTURAL PANEL SPAN RATING	MINIMUM NOMINAL PANEL THICKNESS (inches)	MAXIMUM WALL STUD SPACING (inches)	PANEL NAIL SPACING		ULTIMATE DESIGN WIND SPEED V_{ult} (mph)		
Size	Penetration (inches)				Edges (inches o.c.)	Field (inches o.c.)	Wind exposure category		
							B	C	D
6d Common (2.0" X 0.113")	1.5	24/0	3/8	16	6	12	140	115	110
8d Common (2.5" x 0.131")	1.75	24/16	7/16	16	6	12	170	140	135
				24	6	12	140	115	110

For SI: 1 inch = 25.4 mm, 1 mile per hour = 0.447 m/s.

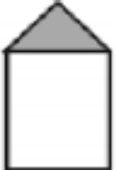



- Panel strength axis parallel or perpendicular to supports. Three-ply plywood sheathing with studs spaced more than 16 inches on center shall be applied with panel strength axis perpendicular to supports.
- Table is based on wind pressures acting toward and away from building surfaces in accordance with Section R301.2. Lateral bracing requirements shall be in accordance with Section R602.10.
- Wood structural panels with span ratings of Wall-16 or Wall-24 shall be permitted as an alternate to panels with a 24/0 span rating. Plywood siding rated 16 o.c. or 24 o.c. shall be permitted as an alternate to panels with a 24/16 span rating. Wall-16 and Plywood siding 16 o.c. shall be used with studs spaced not more than 16 inches on center.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
Table R602.3(5) Size, Height and Spacing of Wood Studs. (191210 Item B-7)

**TABLE R602.3(5)
SIZE, HEIGHT AND SPACING OF WOOD STUDS^{not}**




STUD SIZE (inches)	BEARING WALLS					NONBEARING WALLS	
	Laterally unsupported stud height ^a (feet)	Maximum spacing when supporting a roof-ceiling assembly or a habitable attic assembly, only (inches)	Maximum spacing when supporting one floor, plus a roof-ceiling assembly or a habitable attic assembly (inches)	Maximum spacing when supporting two floors, plus a roof-ceiling assembly or a habitable attic assembly (inches)	Maximum spacing when supporting one floor height ^a (inches)	Laterally unsupported stud height ^a (feet)	Maximum spacing (inches)
							
2 x 3 ^b	—	—	—	—	—	10	16
2 x 4	10	24 ^c	16 ^c	e d	24	14	24
3 x 4	10	24	24	16	24	14	24
2 x 5	10	24	24	—	24	16	24
2 x 6	10	24	24	16	24	20	24

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- Listed heights are distances between points of lateral support placed perpendicular to the plane of the wall. Bearing walls shall be sheathed on not less than one side or bridging shall be installed not greater than 4 feet apart measured vertically from either end of the stud. Increases in unsupported height are permitted where in compliance with Exception 2 of Section R602.3.1 or designed in accordance with accepted engineering practice.
- Shall not be used in exterior walls.
- A habitable attic assembly supported by 2 x 4 studs is limited to a roof span of 32 feet. Where the roof span exceeds 32 feet, the wall studs shall be increased to 2 x 6 or the studs shall be designed in accordance with accepted engineering practice.
- ~~One half of the studs interrupted by a wall opening shall be placed immediately outside the jack studs on each side of the opening as king studs to resist wind loads. King studs shall extend full height from sole plate to top plate of the wall.~~
- e d. 2 x 4 studs at 12 inches maximum spacing are permitted in accordance with Table R4505(b).

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.



**TABLE R602.7(1)
GIRDER SPANS* AND HEADER SPANS* FOR EXTERIOR BEARING WALLS**
(Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir* and required number of joist studs)

GIRDERS AND HEADERS SUPPORTING	SIZE	GROUND SNOW LOAD (psf) [†]																	
		30						50						70					
		Building width [‡] (feet)																	
		20		28		36		20		28		36		20		28		36	
Span	NJ [§]	Span	NJ [§]	Span	NJ [§]	Span	NJ [§]	Span	NJ [§]	Span	NJ [§]	Span	NJ [§]	Span	NJ [§]	Span	NJ [§]		
Roof and ceiling 	1-2 x 8	4-6	1	3-10	1	3-5	1	3-9	1	3-2	1	2-10	2	—	—	—	—	—	
	1-2 x 10	5-8	1	4-11	1	4-4	1	4-9	1	4-1	1	3-7	2	—	—	—	—	—	
	1-2 x 12	6-11	1	5-11	2	5-3	2	5-9	2	4-8	2	3-8	2	—	—	—	—	—	
	2-2 x 4	3-8	1	3-2	1	3-10	1	3-2	1	2-9	1	2-6	1	3-10	1	2-8	1	2-5	1
	2-2 x 6	5-7	1	4-8	1	4-2	1	4-8	1	4-1	1	3-8	2	4-2	1	3-8	2	3-3	2
	2-2 x 8	6-10	1	5-11	2	5-4	2	5-11	2	5-2	2	4-7	2	5-4	2	4-7	2	4-1	2
	2-2 x 10	8-2	2	7-3	2	6-6	2	7-3	2	6-3	2	5-7	2	6-8	2	5-7	2	5-0	2
	2-2 x 12	9-9	2	8-5	2	7-6	2	8-5	2	7-3	2	6-8	2	7-6	2	6-8	2	6-10	2
	3-2 x 8	8-4	1	5-9	1	6-8	1	7-3	1	6-8	2	5-9	2	6-8	1	5-9	2	5-3	2
	3-2 x 10	10-6	1	6-1	2	6-2	2	6-1	2	7-10	2	7-6	2	8-2	2	7-0	2	6-4	2
	3-2 x 12	13-2	2	10-7	2	9-3	2	10-7	2	9-2	2	8-2	2	9-3	2	8-2	2	7-4	2
	4-2 x 8	9-2	1	8-4	1	7-8	1	8-4	1	7-5	1	6-8	1	7-8	1	6-8	1	5-11	1
	4-2 x 10	11-8	1	10-6	1	9-5	2	10-6	1	9-1	2	8-2	2	9-5	2	8-2	2	7-3	2
	4-2 x 12	14-1	1	12-2	2	10-11	2	13-2	2	10-7	2	9-3	2	10-11	2	9-5	2	8-5	2
Roof, ceiling and one continuous-bearing floor 	1-2 x 8	3-11	1	3-5	1	3-0	1	3-7	1	3-0	2	2-8	2	—	—	—	—	—	
	1-2 x 10	5-0	2	4-4	2	3-10	2	4-8	2	3-11	2	3-4	2	—	—	—	—	—	
	1-2 x 12	5-10	2	4-9	2	4-2	2	5-5	2	4-2	2	3-4	2	—	—	—	—	—	
	2-2 x 4	3-1	1	2-9	1	2-5	1	3-8	1	3-8	1	3-2	1	2-7	1	2-9	1	2-0	1
	2-2 x 6	4-6	1	4-0	1	3-7	2	4-1	1	3-7	2	3-3	2	3-9	2	3-9	2	3-11	2
	2-2 x 8	5-9	2	5-0	2	4-6	2	5-2	2	4-6	2	4-1	2	4-9	2	4-2	2	3-9	2
	2-2 x 10	7-0	2	6-2	2	5-6	2	6-4	2	5-8	2	5-0	2	5-9	2	5-1	2	4-7	2
	2-2 x 12	8-3	2	7-1	2	6-8	2	7-4	2	6-8	2	5-9	2	6-8	2	5-10	2	5-3	2
	3-2 x 8	7-3	1	6-3	2	5-8	2	6-8	2	5-8	2	5-1	2	5-11	2	5-3	2	4-8	2
	3-2 x 10	8-8	2	7-8	2	6-11	2	7-11	2	6-11	2	6-8	2	7-3	2	6-4	2	5-8	2
	3-2 x 12	10-2	2	8-11	2	7-8	2	9-2	2	8-0	2	7-8	2	8-5	2	7-4	2	6-7	2
	4-2 x 8	6-1	1	5-3	1	4-7	1	5-5	1	6-6	1	5-11	2	6-10	1	6-8	2	5-3	2
	4-2 x 10	10-1	1	8-10	2	8-0	2	8-1	2	8-9	2	7-2	2	8-4	2	7-4	2	6-7	2
	4-2 x 12	13-8	2	10-3	2	9-3	2	10-7	2	9-1	2	8-4	2	9-8	2	8-8	2	7-7	2
Roof, ceiling and one clear span floor 	1-2 x 8	7-6	1	3-0	1	2-8	1	3-5	1	3-11	1	2-7	2	—	—	—	—	—	
	1-2 x 10	9-6	1	3-10	1	3-3	1	4-4	1	3-9	1	3-1	2	—	—	—	—	—	
	1-2 x 12	11-6	1	4-2	2	3-3	2	5-4	2	3-11	2	3-1	2	—	—	—	—	—	
	2-2 x 4	2-8	1	2-4	1	2-1	1	2-7	1	2-5	1	2-8	1	2-3	1	2-1	1	1-10	1
	2-2 x 6	3-11	1	3-3	2	3-0	2	3-10	2	3-4	2	3-0	2	3-8	2	3-1	2	2-9	2
	2-2 x 8	5-8	2	4-4	2	3-10	2	4-10	2	4-2	2	3-8	2	4-6	2	3-11	2	3-8	2
	2-2 x 10	6-1	2	5-2	2	4-8	2	5-11	2	5-1	2	4-7	2	5-8	2	4-8	2	4-3	2
	2-2 x 12	7-1	2	6-1	2	5-5	2	6-10	2	5-11	2	5-4	2	6-4	2	5-6	2	5-0	2
	3-2 x 8	6-2	2	5-5	2	4-10	2	6-1	2	5-2	2	4-8	2	5-7	2	4-11	2	4-3	2
	3-2 x 10	7-7	2	6-7	2	5-11	2	7-5	2	6-5	2	5-8	2	6-10	2	6-0	2	5-4	2
	3-2 x 12	8-10	2	7-8	2	6-10	2	8-7	2	7-5	2	6-8	2	7-11	2	6-11	2	6-3	2
	4-2 x 8	5-2	1	6-3	2	5-7	2	7-0	1	6-1	2	5-5	2	6-8	1	5-8	2	5-1	2
	4-2 x 10	8-9	2	7-7	2	6-10	2	8-7	2	7-5	2	6-7	2	7-11	2	6-11	2	6-2	2
	4-2 x 12	10-3	2	8-10	2	7-11	2	9-11	2	8-7	2	7-8	2	9-3	2	8-11	2	7-2	2

(continued)

WALL CONSTRUCTION

**TABLE R602.7(1)—continued
GIRDER SPANS^a AND HEADER SPANS^b FOR EXTERIOR BEARING WALLS
(Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir^c and required number of jack studs)**

GIRDERS AND HEADERS SUPPORTING	SIZE	GROUND SNOW LOAD (psf) ^d																	
		30						50						70					
		Building width ^e (feet)																	
		20		28		36		30		28		30		20		28		36	
Span	NJ ^f	Span	NJ ^f	Span	NJ ^f	Span	NJ ^f	Span	NJ ^f	Span	NJ ^f	Span	NJ ^f	Span	NJ ^f	Span	NJ ^f		
Roof, ceiling and two center-bearing floors 	3-2 x 4	3-7	1	3-3	1	3-0	1	2-6	1	2-2	1	1-11	1	1-4	1	1-0	1		
	3-2 x 6	3-9	2	3-3	2	3-11	2	3-8	2	3-3	2	2-11	2	3-5	2	3-0	2	2-8	2
	3-2 x 8	4-0	2	4-1	2	3-9	2	4-7	2	4-0	2	3-8	2	4-4	2	3-8	2	3-9	2
	3-2 x 10	3-9	2	5-1	2	4-7	2	5-8	2	4-11	2	4-5	2	5-3	2	4-7	2	4-2	2
	3-2 x 12	6-8	3	6-10	3	5-7	3	6-0	3	5-9	3	5-2	3	6-1	3	5-8	3	4-10	3
	3-2 x 8	5-11	2	5-2	2	4-8	2	5-9	2	5-1	2	4-7	2	5-5	2	4-9	2	4-1	2
	3-2 x 10	7-3	2	6-4	2	5-5	2	7-1	2	6-2	2	5-7	2	6-7	2	5-9	2	5-3	2
	3-2 x 12	8-5	3	7-4	2	6-7	2	8-2	2	7-2	2	6-5	2	7-8	2	6-9	2	6-1	2
	4-2 x 8	6-10	1	6-0	1	5-5	2	6-8	1	5-10	1	5-3	1	6-3	1	5-6	1	4-11	2
	4-2 x 10	8-4	2	7-4	2	6-7	2	8-2	2	7-2	2	6-9	2	7-7	2	6-6	1	6-0	2
4-2 x 12	9-8	3	8-8	2	7-8	2	9-5	2	8-3	2	7-8	2	8-10	2	7-9	2	7-0	2	
Roof, ceiling and two clear-span floors 	3-2 x 4	3-1	1	1-8	1	1-6	2	2-0	1	1-8	1	1-5	1	1-0	1	1-8	1	1-5	2
	3-2 x 6	3-1	2	2-8	2	2-4	2	3-0	2	2-7	2	2-3	2	2-11	2	2-1	2	2-5	2
	3-2 x 8	5-0	2	3-4	2	3-0	2	3-10	2	3-4	2	3-11	2	3-9	2	3-3	2	3-11	2
	3-2 x 10	4-9	2	4-1	2	3-8	2	4-8	2	4-0	2	3-7	2	4-7	2	4-8	2	3-6	2
	3-2 x 12	5-6	3	4-9	2	4-2	2	5-1	2	4-8	2	4-2	2	5-4	2	4-7	2	4-3	4
	3-2 x 8	4-10	2	4-2	2	3-9	2	4-9	2	4-1	2	3-8	2	4-8	2	4-1	2	3-9	2
	3-2 x 10	5-11	2	5-1	2	4-7	2	5-10	2	5-0	2	4-8	2	5-9	2	4-11	2	4-3	2
	3-2 x 12	6-10	2	5-11	2	5-4	2	6-9	2	5-10	2	5-3	2	6-6	2	5-9	2	5-2	2
	4-2 x 8	5-7	2	4-10	2	4-8	2	5-6	2	4-8	2	4-3	2	5-5	2	4-8	2	4-2	2
	4-2 x 10	6-10	2	5-11	2	5-5	2	6-9	2	5-10	2	5-2	2	6-7	2	5-9	2	5-1	2
4-2 x 12	7-11	2	6-10	2	6-2	2	7-8	2	6-9	2	6-0	2	7-6	2	6-8	2	5-11	2	

For SE: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa.

a. Spans are given in feet and inches.

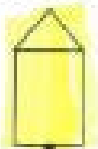
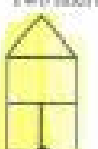
b. No. 1 or better grade lumber shall be used for southern pine. Other calculated values assume #2 grade lumber.

c. Building width is measured perpendicular to the ridge. For widths between those shown, spans are permitted to be interpolated.

d. NJ = Number of jack studs required to support each end. Where the number of required jack studs equals one, the header is permitted to be supported by an approved framing anchor attached to the full-height wall stud and to the header.

e. Use 30 psf ground snow load for cases in which ground snow load is less than 30 psf and the roof live load is equal to or less than 20 psf.

TABLE R602.7(2)
GIRDER SPANS^a AND HEADER SPANS^b FOR INTERIOR BEARING WALLS
(Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir^c and required number of jack studs)

HEADERS AND GIRDERS SUPPORTING	SIZE	BUILDING WIDTH ^d (feet)					
		20		24		30	
		Span	NJ ^e	Span	NJ ^e	Span	NJ ^e
One floor only 	2-2 x 4	3-2	1	3-8	1	3-3	1
	2-2 x 6	4-8	1	3-11	1	3-6	1
	2-2 x 8	5-9	1	3-9	2	4-1	2
	2-2 x 10	7-0	2	6-1	2	3-5	2
	2-2 x 12	8-1	2	7-0	2	6-3	2
	3-2 x 8	7-2	1	6-3	1	5-7	2
	3-2 x 10	8-9	1	7-7	2	6-9	2
	3-2 x 12	10-2	2	8-10	2	7-10	2
	4-2 x 8	9-0	1	7-8	1	6-8	1
	4-2 x 10	10-2	1	8-9	1	5-10	2
Two floors 	2-2 x 4	2-2	1	1-10	1	1-7	1
	2-2 x 6	3-2	2	2-9	2	2-5	2
	2-2 x 8	4-1	2	3-6	2	3-2	2
	2-2 x 10	4-11	2	4-3	1	3-10	1
	2-2 x 12	5-9	2	5-9	2	4-5	2
	3-2 x 8	5-1	2	4-3	2	3-11	2
	3-2 x 10	6-2	2	5-4	2	4-10	2
	3-2 x 12	7-2	2	6-3	2	5-7	2
	4-2 x 8	6-1	1	5-3	2	4-8	2
	4-2 x 10	7-2	2	6-3	2	5-6	2
4-2 x 12	8-4	2	7-3	2	6-5	2	

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- Spans are given in feet and inches.
- No. 1 or better grade lumber shall be used for southern pine. Other tabulated values assume #2 grade lumber.
- Building width is measured perpendicular to the ridge. For widths between those shown, spans are permitted to be interpolated.
- NJ = Number of jack studs required to support each end. Where the number of required jack studs equals one, the header is permitted to be supported by an approved framing anchor attached to the full-height wall stud and to the header.

TABLE R602.7(3)
GIRDER AND HEADER SPANS^a FOR OPEN PORCHES
(Maximum span for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir^c)

SIZE	SUPPORTING ROOF						SUPPORTING FLOOR ^d	
	GROUND SNOW LOAD (psf)							
	30		60		70			
	DEPTH OF PORCH ^e (feet)							
	8	14	8	14	8	14	8	14
2-2 x 6	7-6	3-8	6-2	4-8	5-4	4-0	6-4	4-9
2-2 x 8	10-1	7-7	8-3	6-2	7-1	5-4	8-3	6-4
2-2 x 10	12-4	9-4	10-1	7-7	8-9	6-7	10-4	7-9
2-2 x 12	14-4	10-10	11-8	8-10	10-1	7-8	11-11	9-0

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 psf = 0.0479 kPa.

- Spans are given in feet and inches.
- Tabulated values assume #2 grade lumber, wet service and incising, for refractory species. Use 30 psf ground snow load for cases in which ground snow load is less than 30 psf and the roof live load is equal to or less than 20 psf.
- Porch depth is measured horizontally from building face to centerline of the header. For depths between those shown, spans are permitted to be interpolated.

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Table R602.7.5 Minimum Number of Full Height King Studs at Each End of Exterior Walls. (191210 Item B-7)

**TABLE R602.7.5
MINIMUM NUMBER OF FULL HEIGHT KING STUDS
AT EACH END OF HEADERS IN EXTERIOR WALLS**

HEADER SPAN (feet)	MAXIMUM STUD SPACING (inches) [per Table R602.3(5)]	
	16	24
≤3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4

<u>HEADER SPAN (feet)</u>	<u>MINIMUM NUMBER OF FULL HEIGHT STUDS (King)</u>
<u>Up to 3'</u>	<u>1</u>
<u>>3' to 6'</u>	<u>2</u>
<u>>6' to 9'</u>	<u>3</u>
<u>>9' to 12'</u>	<u>4</u>
<u>>12' to 15'</u>	<u>5</u>

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
Tables R602.3(3), R602.10.1 and R602.10.3, (200310 Item B-11)

**TABLE R602.10.1
BRACING METHODS^{a,b}**

METHOD	MINIMUM BRACE MATERIAL THICKNESS	MINIMUM BRACE PANEL LENGTH OR BRACE ANGLE	CONNECTION CRITERIA		FIGURE OF BRACING METHOD, NOT NECESSARILY LOCATION
			Fasteners	Spacing	
LIB Let-in-bracing	1 x 4 wood brace (or approved metal brace installed per manufacturer instructions)	45° angle for maximum 16" o.c. stud spacing	2-8d common nails or 3-8d (2½" long x 0.113" dia.) nails	Per stud and top and bottom plates	
DWB Diagonal wood boards	¾" (1" nominal)	48"	2-8d (2½" long x 0.113" diameter) or 2 - 1¾"-long-staples	Per stud and top and bottom plates	
WSP Wood Structural panel	<u>3/8"</u>	<u>48"ᵈ</u>	<u>6d common nail or 8d (2½" long x 0.113" diameter) nail</u> [See Table R602.3(3)]	<u>6" edges 12" field</u>	
SFB Structural fiberboard sheathing	1/2"	48"ᵈ	1½" long x 0.120" diameter galvanized roofing nails	3" edges 6" field	
GB Gypsum board installed on both sides of wall	1/2"	96" for use with R602.10.2 48" for use with R602.10.3	Minimum 5d cooler nails or #6 screws	7" edges 7" field	
PCP Portland cement plaster	3/4" (maximum 16" o.c. stud spacing)	48"	1½" long, 11 gage, 7/16" diameter head nails or 7/8" long 6 gage staples	6" o.c. on all framing members	
CS-WSP^{a,j} Continuously Sheathed SFB	3/8"	24" adjacent to window not more than 67% of wall height:	Same as WSP	Same as WSP	
CS-SFB^{a,j} Continuously sheathed SFB	1/2"	30" adjacent to door or window greater than 67% and less than 85% of wall height. 48" for taller openings.	Same as SFB	Same as SFB	
PF Portal Frame ^{e,k,h}	7/16"	See Figure R602.10.1	See Figure R602.10.1	See Figure R602.10.1	

Notes:

- Alternative bracing materials and methods shall comply with Section 105 of the *North Carolina Administrative Code and Policies*, and shall be permitted to be used as a substitute for any of the bracing materials listed in Table R602.10.1 provided at least equivalent performance is demonstrated. Where the tested bracing strength or stiffness differs from tabulated materials, the bracing amount required for the alternative material shall be permitted to be factored to achieve equivalence.

- b. All edges of panel-type wall bracing required from Tables Section R602.10.2 and or Section R602.10.3 shall be attached to framing or blocking, except GB bracing horizontal joints shall not be required to be blocked when joints are finished.
- c. Two LIB braces installed at a 60° angle shall be permitted to be substituted for each 45° angle LIB brace.
- d. For 8-foot (2483 mm) or 9-foot (2743 mm) wall height, brace panel minimum length shall be permitted to be reduced to 36-inch (914 mm) or 42-inch length (1067 mm), respectively, where not located adjacent to a door opening. A braced wall panel shall be permitted to be reduced to a 32-inch (813 mm.) length when studs at each end of the braced wall panel are anchored to foundation or framing below using hold-down device with minimum 2,800 pounds design tension capacity, For detached single story garages and attached garages supporting roof only, a minimum 24-inch (610 mm) brace panel length shall be permitted on one wall containing one or more garage door openings.
- e. Bracing methods designated CS-WSP and CS-SFB shall have sheathing installed on all sheathable surfaces above, below, and between wall openings.
- f. For purposes of bracing in accordance with Section R602.10.2, two portal frame brace panels with wood structural panel sheathing applied to the exterior face of each brace panel as shown in Figure R602.10.1 shall be considered equivalent to one braced wall panel:
- g. Structural fiberboard (SFB) shall not be used in portal frame construction.
- h. No more than three portal frames shall be used in a single building elevation.
- i. CS-WSP and CS-SFB cannot be mixed on the same story. Gable ends shall match the panel type of the wall below.

**Table R602.10.3
REQUIRED LENGTH OF BRACING ALONG EACH SIDE OF A CIRCUMSCRIBED
RECTANGLE^{a,b,c,d,e,f,g,h}**

7/16-inch Wood Structural Panel Sheathing with ½-inch gypsum on inside wall
Panels are blocked
Nails to be 8d common or galvanized box (2-1/2 inches long X 0.113-inch diameter)
6-inch nail spacing on edges and 6-inch nail spacing in field
Each story is 10 feet maximum
Maximum stud spacing of 24 inches
Maximum roof slope 12:12
Building length to width ratio is 2

WIND SPEED	EAVE TO RIDGE HEIGHT (feet)	STORIES SUPPORTED	WALL PERPENDICULAR TO WIND (Wall Wind Load)														
			Building Width in Feet														
			10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
115	10	Roof Only	3.0	3.0	3.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5
			1.6		3.2		4.8		6.4		8.0		9.6		11.2		12.8
		Roof+1 story	3.0	4.0	3.5	4.5	8.0	9.0	10.0	11.0	12.5	13.5	14.5	16.0	17.0	18.0	19.0
			2.9		5.9		8.8		11.8		14.7		17.7		20.6		23.6
		Roof+2 stories	4.5	6.5	8.5	10.5	12.0	14.0	16.0	17.5	19.5	21.0	23.0	24.5	26.5	28.5	30.0
			4.4		8.8		13.2		17.7		22.1		26.5		30.9		35.3
	15	Roof Only	2.0	2.0	3.0	3.5	4.0	4.5	5.5	6.0	6.5	7.0	8.0	8.5	9.0	9.5	10.0
					4.0		6.1		8.1		10.1		12.1		14.2		16.2
		Roof+1 story	3.5	4.5	6.0	7.0	8.5	9.5	11.0	13.0	13.5	15.0	16.0	17.5	18.5	20.0	21.0
			3.3		6.6		10.0		13.3		16.6		19.9		23.3		26.6
		Roof+2 stories	3.0	7.0	9.0	11.0	13.0	15.0	16.5	18.5	20.5	22.5	24.5	26.0	28.0	30.0	32.0
			4.8		9.6		14.5		19.3		24.1		28.9		33.8		38.6
20	Roof Only	3.0	3.5	3.5	4.0	4.5	5.5	6.0	7.0	7.5	8.5	9.0	10.0	10.5	11.5	12.0	
		2.4		4.7		7.1		9.4		11.8		14.2		16.5		18.9	
	Roof+1 story	3.5	5.0	6.5	8.0	9.0	10.5	12.0	13.5	14.5	16.0	17.5	18.5	20.0	21.5	23.0	
		3.7		7.4		11.1		14.8		18.5		22.2		25.9		29.6	
	Roof+2 stories	3.0	7.5	9.5	11.5	13.5	15.5	17.5	19.5	21.5	23.5	25.5	27.5	29.5	31.5	33.5	
		3.2		10.5		15.7		20.8		26.2		31.4		36.6		41.8	
120	10	Roof Only	3.0	2.0	3.5	3.0	3.5	4.0	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
		1.8		3.7		5.5		7.4		9.2		11.0		12.9		14.7	

15	Roof+1 story	3.5	4.5	6.0	7.0	8.5	9.5	11.0	12.0	13.5	14.5	16.0	17.0	18.5	19.5	21.0	
	Roof+2 stories	3.2		6.4		9.7		12.9		16.1		19.3		22.6		25.8	
	Roof Only	3.0	3.5	4.4	3.5	4.5	5.0	6.0	6.5	7.0	8.0	8.5	9.0	10.0	10.5	11.0	
	Roof+1 story	3.5	5.0	6.3	8.0	9.0	10.5	13.0	13.5	14.5	16.0	17.5	19.0	20.0	21.5	23.0	
	Roof+2 stories	3.6	7.5	7.3	10.0	10.9	14.5	14.5	18.2		21.8		25.4		29.1		
	Roof Only	3.3		10.5		15.8		21.0		26.3		31.6		36.8		42.1	
20	Roof Only	3.0	3.0	3.5	4.5	5.0	6.0	6.5	7.5	8.5	9.0	10.0	10.5	11.5	12.5	13.0	
	Roof+1 story	2.6		5.1		7.7		10.3		12.8		15.4		18.0		20.5	
	Roof+2 stories	4.0	5.5	7.0	8.5	10.0	11.5	13.0	14.5	16.0	17.5	19.0	20.5	22.0	23.5	25.0	
130	10	Roof Only	3.0	3.5	4.3	3.5	4.5	5.0	5.5	6.5	7.0	8.0	9.0	9.5	10.0	11.0	
		Roof+1 story	2.2		4.3		6.5		8.6		10.8		12.9		15.1		17.3
		Roof+2 stories	4.0	5.5	7.0	8.5	10.0	11.5	13.0	14.5	16.0	17.5	19.0	20.5	22.0	23.5	25.0
	15	Roof Only	3.8		7.6		11.4		15.1		18.9		22.7		26.5		30.3
		Roof+1 story	4.0	6.5	11.0	13.0	15.5	18.0	20.0	22.5	24.5	27.0	29.5	31.5	34.0	36.0	38.5
		Roof+2 stories	5.7		11.4		17.0		22.7		28.4		34.1		39.8		45.5
20	Roof Only	2.0	3.0	3.5	4.5	5.0	6.0	7.0	7.5	8.5	9.0	10.0	10.5	11.5	12.5	13.0	
	Roof+1 story	2.6		5.0		7.7		10.3		12.9		15.4		18.0		20.7	
	Roof+2 stories	4.3	6.0	7.5	9.0	11.0	12.5	14.0	15.5	17.0	19.0	20.5	22.0	23.5	25.0	27.0	
20	Roof Only	4.0	8.0	11.5	14.0	16.5	19.0	21.5	23.5	26.0	28.5	31.0	33.5	36.0	38.0	40.5	
	Roof+1 story	6.2		12.4		18.6		24.8		31.0		37.2		43.4		49.7	
	Roof+2 stories	3.5	3.5	4.5	5.0	6.0	7.0	8.0	9.0	10.0	10.5	11.5	12.5	13.5	14.5	15.5	
Roof+1 story	3.0		6.0		9.0		12.0		15.1		18.1		21.1		24.1		
Roof+2 stories	4.5	6.5	8.0	10.0	11.5	13.5	15.0	17.0	18.5	20.5	22.0	24.0	25.5	27.5	29.0		
Roof+2 stories	4.7		9.5		14.2		19.0		23.7		28.5		33.2		38.0		
Roof+2 stories	6.5	9.5	12.0	14.5	17.5	20.0	22.5	25.0	27.5	30.0	32.5	35.5	38.0	40.5	43.0		
Roof+2 stories	6.7		13.5		20.2		26.9		33.7		40.4		47.1		53.8		

a. If the stud spacing is reduced to 16 inches, table values for 7/16-inch sheathing may be multiplied by 0.93.

b. If the stud spacing is reduced to 16 inches or the sheathing thickness is greater than 7/16-inch, the interior field nail spacing may be increased to 12 inches.

c. If the 1/2-inch gypsum is not applied to the inside of the wall, the table lengths are to be multiplied by 1.22.

d. Table values shall be multiplied by the following values for different wall heights:

8ft. walls	0.87
9ft. walls	0.92
11ft. walls	1.08
12ft. walls	1.15

e. If 3/8-inch wood structural sheathing is used instead of 7/16-inch wood structural sheathing, table lengths are to be multiplied by 1.07.

f. If 1/2-inch structural fiberboard is used instead of 7/16-inch wood structural sheathing, table lengths are to be multiplied by 1.31.

g. Interpolation is permitted, extrapolation is prohibited.

h. For Exposure Category C or D, multiply the required length of bracing by a factor of 1.5 or 1.8 respectively.



Roof Only



Roof + 1 Story



Roof + 2 Stories

a. Interpolation shall be permitted; extrapolation shall be prohibited.

b. For Exposure Category C or D, multiply the required length of bracing by a factor of 1.3 or 1.6, respectively.

c. For wall heights other than 10 feet (3048 mm), multiply the required length of bracing by the following factors: 0.90 for 8 feet (2438 mm), 0.95 for 9 feet (2743 mm), 1.05 for 11 feet (3353) and 1.10 for 12 feet (3658 mm).

d. Where minimum 1/2 inch gypsum wall board interior finish is not provided, the required bracing amount for the affected rectangle side shall be multiplied by 1.40.

e. A floor, habitable or otherwise, contained wholly within the roof rafters or roof trusses need not be considered a story for purposes of determining wall bracing provided the eave to ridge height does not exceed 20 feet (6096 mm) and the openings in the roof do not exceed 48 inches (1219 mm) in width.

f. Perpendicular sides to the front and rear sides are the left and right sides. Perpendicular sides to the left and right sides are the front and rear sides.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code

R703.8.2.1 Support by steel angle. (190312 Item B-17)

R703.8.2.1 Support by steel angle. A minimum 6-inch by 4-inch by $\frac{5}{16}$ -inch (152 mm by 102 mm by 8 mm) steel angle, with the long leg placed vertically, shall be anchored to double 2-inch by 4-inch (51 mm by 102 mm) wood studs at a maximum on-center spacing of 16 inches (406 mm) or shall be anchored to solid double 2x blocking firmly attached between single 2-inch by 4-inch (51 mm by 102 mm) wood studs at a maximum on center spacing of 16 inches (406 mm). Anchorage of the steel angle at every double stud spacing shall be not less than two $\frac{7}{16}$ -inch-diameter (11 mm) by 4-inch (102 mm) lag screws for wood construction. The steel angle shall have a minimum clearance to underlying construction of $\frac{1}{16}$ inch (1.6 mm). Not less than two-thirds the width of the masonry veneer thickness shall bear on the steel angle. Flashing and weep holes shall be located in the masonry veneer in accordance with Figure R703.8.2.1. The maximum height of masonry veneer above the steel angle support shall be 12 feet 8 inches (3861 mm). The airspace separating the masonry veneer from the wood backing shall be in accordance with Sections R703.8.4 and R703.8.4.2. The method of support for the masonry veneer on wood construction shall be constructed in accordance with Figure R703.8.2.1

The maximum slope of the roof construction without stops shall be 7:12. Roof construction with slopes greater than 7:12 but not more than 12:12 shall have stops of a minimum 3-inch by 3-inch by $\frac{1}{4}$ -inch (76 mm by 76 mm by 6.4 mm) steel plate welded to the angle at 24 inches (610 mm) on center along the angle or as approved by the building official.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

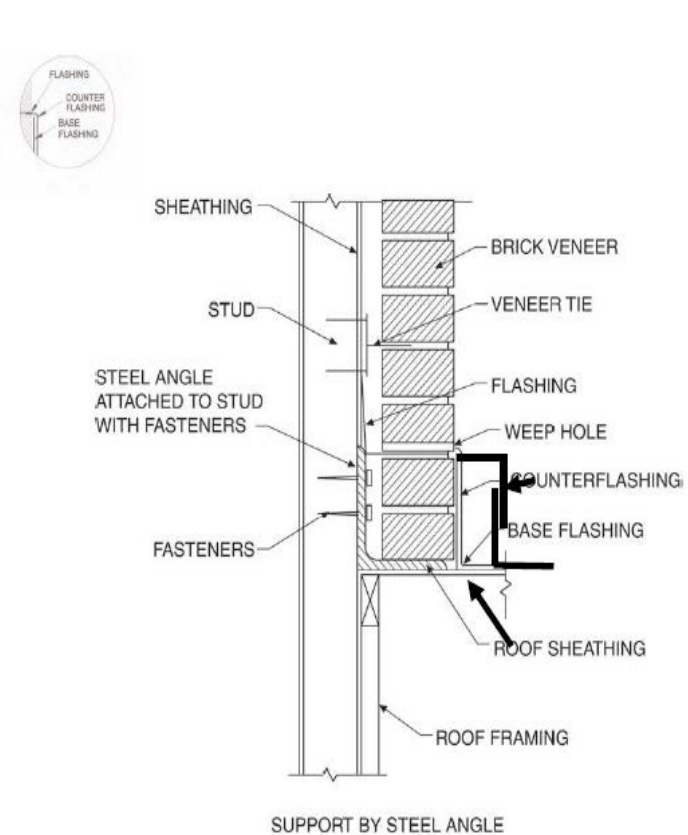


FIGURE R703.8.2.1
EXTERIOR MASONRY VENEER SUPPORT BY STEEL ANGLES

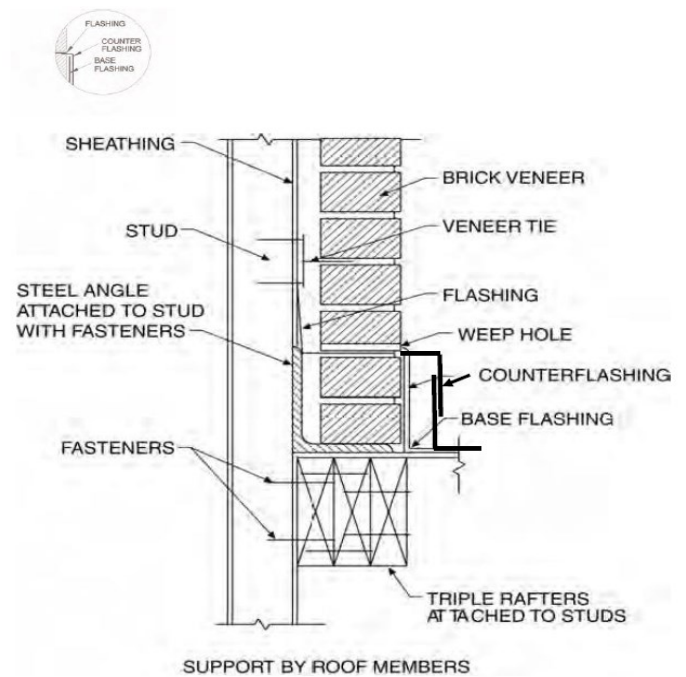


FIGURE R703.8.2.2
EXTERIOR MASONRY VENEER SUPPORT BY ROOF MEMBER

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code

R905.2.8.5 Drip edge and R908.3 Roof replacement (200714 Item B-24)

R905.2.8.5 Drip Edge. Deleted. Not required unless required by the roof covering manufacturer installation instructions. The drip edge placed around the edge of a roof prior to installing the roofing material shall be designed so that water runs off over the drip edge and falls from a slight projection at the bottom edge of the roof rather than running back under, or along the eaves. Metal, wood or exterior composite materials can be used for the drip edge.

R908.3 Roof replacement. Roof replacement shall include the removal of existing layers of roof coverings down to the roof deck and replacement of up to 15% of the total existing roof deck. Replacement of up to 15% of the total roof deck shall not be considered structural work.

The delayed effective date of this Rule is January 1, 2022.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.}

NC Residential Code 1-1-2022

2018 NC Residential Code

N1101.1 Scope. (180911 Item B-17)

N1101.1 Scope.

This chapter regulates the energy efficiency for the design and construction of buildings regulated by this code.

Exception:

1. In accordance with N.C.G.S. 143-138 (b19), no energy conservation code provisions shall apply to detached and attached garages located on the same lot as a dwelling.

The delayed effective date of this Rule is January 1, 2020.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2020

2018 NC Residential Code
N1101.13 Compliance. (200901 Item B-5)

N1101.13 (R401.2) Compliance.

Projects shall comply with one of the following:

1. Section N1101.14 through N1104.
2. Section N1105 and the provisions of Section N1101.14 labeled "Mandatory."
3. An energy rating index (ERI) approach in Section N1106.
4. ~~North Carolina specific~~ REScheck keyed to the 2018 IECC shall be permitted to demonstrate compliance with this Code. Envelope requirements may not be traded off against the use of high efficiency heating or cooling equipment. No tradeoff calculations are needed for required termite inspection and treatment gaps.

The delayed effective date of this Rule is January 1, 2022.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
N1106 Energy Rating Index. (161213 Item B-3.4)

**SECTION N1106
ENERGY RATING INDEX COMPLIANCE ALTERNATIVE**

N1106.1 Scope. This section establishes criteria for compliance using an Energy Rating Index (ERI) analysis.

N1106.2 Mandatory requirements.

Compliance with this section requires that the ~~mandatory~~ provisions identified in Sections ~~N1101.2~~ N1101 through N1104 labeled as “mandatory” and ~~Section N1103.5.3~~ be met. The building thermal envelope shall be greater than or equal to levels of efficiency and Solar Heat Gain Coefficient in Table 1102.1.1 or 1102.1.3 of the ~~2009 International Energy Conservation Code~~ 2012 NC Energy Conservation Code. Minimum standards associated with compliance shall be the ANSI RESNET ICC Standard 301-2014 “Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings using an Energy Rating Index.” A North Carolina licensed design professional or certified HERS rater is required to perform the analysis if required by North Carolina licensure laws.

~~Exception: Supply and return ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-6. Supply and return ducts in unconditioned space and outdoors shall be insulated to a minimum R-8. Supply ducts inside semi-conditioned space shall be insulated to a minimum R-4; return ducts inside conditioned and semi-conditioned space are not required to be insulated. Ducts located inside conditioned space are not required to be insulated other than as may be necessary for preventing the formation of condensation on the exterior of cooling ducts.~~

N1106.5 Verification ~~by approved agency.~~

Verification of compliance with Section N1106 shall be performed by the licensed design professional or certified HERS rater and the compliance documentation shall be provided to the code official. The code official shall inspect according to the requirements of Section N1106.6.2 ~~completed by an approved third party.~~

The delayed effective date of this Rule is January 1, 2019.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

(Note: All other strikethroughs/underlines are part of the 2018 Code adoption package.)
(Note: certified HERS rater = RESNET Certified Home Energy Rater)

2018 NC Residential Code
N1106.2 Mandatory requirements. (200901 Item B-21)

N1106.2 Mandatory requirements. Compliance with this section requires that the provisions identified in Sections N1101 through N1104 labeled as “mandatory” be met. The building thermal envelope shall be greater than or equal to levels of efficiency and Solar Heat Gain Coefficient in Table N1106.2.1 or Table N1106.2.2, Table 402.2.3 or 402.1.3 of the 2012 North Carolina Energy Conservation Code. Minimum standards associated with compliance shall be the ANSI RESNET ICC Standard 301-2014: “Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings using an

Energy Rating Index.” A North Carolina *registered design professional* or certified *HERS rater* is required to perform the analysis if required by North Carolina licensure laws.

Exception: Supply and return ducts in unconditioned space and outdoors shall be insulated to a minimum R-8. Supply ducts inside semi-conditioned space shall be insulated to a minimum R-4; return ducts inside conditioned and semi-conditioned space are not required to be insulated. Ducts located inside conditioned space are not required to be insulated other than as may be necessary for preventing the formation of condensation on the exterior of cooling ducts.

**TABLE N1106.2.1
MINIMUM INSULATION AND FENESTRATION REQUIREMENTS FOR ENERGY RATING INDEX COMPLIANCE^a**

CLIMATE ZONE	FENESTRATION VALUES			CEILING ^m	R-VALUES FOR							
	FENESTRATION U-FACTOR ^{b,c}	SKYLIGHT ⁿ U-FACTOR	GLAZED FENESTRATION SHGC ^{b,k}		UNVENTED ^p RAFTER ASSEMBLIES IN ATTICS CONTAINING DUCTWORK, AIR-IMPERMEABLE	UNVENTED ^p RAFTER ASSEMBLIES IN ATTICS CONTAINING DUCTWORK, AIR-PERMIABLE/IMPERMEABLE	WOOD FRAME WALL	MASS WALL	FLOOR	BASEMENT ^{r,o} WALL	SLAB ^d	CRAWL SPACE ^e WALL
3	0.35	0.65	0.3	30	20	15-10 ^a	13	5/10	19	10/13 ^f	0	5/13
4	0.35	0.6	0.3	38 or 30ci ^l	20	15-10 ^a	15, 13+2.5 ^h	5/10	19	10/13	10	10/13
5	0.35	0.6	NR	38 or 30ci ^l	25	15-20 ^a	19 ⁿ , 13+5 ^h , or 15+3 ^h	13/17	30 ^e	10/13	10	10/13

For SI: 1 foot = 304.8 mm.

a. R-values are minimums. U-factors and SHGC are maximums.

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

c. “10/13” means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall or crawl space wall.

d. For monolithic slabs, insulation shall be applied from the inspection gap downward to the bottom of the footing or a maximum of 18 inches below grade, whichever is less. For floating slabs, insulation shall extend to the bottom of the foundation wall or 24 inches, whichever is less. (See Appendix O) R-5 shall be added to the required slab edge R-values for heated slabs.

e.- Deleted.

f. Basement wall insulation is not required in warm-humid locations as defined by Figure N1101.7 and Table N1101.7.

g. Or insulation sufficient to fill the framing cavity. R-19 minimum.

h. The first value is cavity insulation, the second value is continuous insulation so “13+5” means R-13 cavity insulation plus R-5 continuous insulation. If structural sheathing covers 25 percent or less of the exterior, insulating sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.

i. The second R-value applies when more than half the insulation is on the interior of the mass wall.

Continued

NC Residential Code 1-1-2021

- j. In addition to the exemption in N1102.3.3, a maximum of two glazed fenestration product assemblies having a U-factor no greater than 0.55 shall be permitted to be substituted for minimum code compliant fenestration product assemblies without penalty.
- k. In addition to the exemption in N1102.3.3, a maximum of two glazed fenestration product assemblies having a SHGC no greater than 0.70 shall be permitted to be substituted for minimum code compliant fenestration product assemblies without penalty.
- l. R-30 shall be deemed to satisfy the ceiling insulation requirement wherever the full height of uncompressed R-30 insulation extends over the wall top plate at the eaves. Otherwise, R-38 insulation is required where adequate clearance exists or insulation must extend either to the insulation baffle or within 1" of the attic roof deck.
- m. Table value required except for roof edge where the space is limited by the pitch of the roof; there the insulation must fill the space up to the air baffle.
- n. R-19 fiberglass batts compressed and installed in a nominal 2 × 6 framing cavity is deemed to comply. Fiberglass batts rated R-19 or higher compressed and installed in a 2x4 wall are not deemed to comply.
- o. Basement wall meeting the minimum mass wall specific heat content requirement may use the mass wall R-value as the minimum requirement.
- p. The air-impermeable insulation shall meet the requirements of the definition in Section R202. Air-impermeable insulation shall be installed in direct contact with the underside of the structural roof sheathing. For one- and two-family dwellings and townhouses, the insulation installation shall meet the requirements of R806.5 of the North Carolina Residential Code. For Residential Buildings other than one- and two-family dwellings and townhouses, the insulation installation shall meet the installation requirements of 1203.3 of the North Carolina Building Code. Exposed rafters shall be covered with R-7 insulation.
- q. The value for air-permeable insulation is shown first and that for air-impermeable insulation second. Thus, R-15 + R-10 indicates that the minimum value for air-permeable insulation is R-15, and the minimum value for air-impermeable insulation is R-10. Air-impermeable insulation shall be installed in direct contact with the underside of the structural roof sheathing. The air-permeable insulation shall be installed directly under the air-impermeable insulation. Exposed rafters shall be covered with R-7 insulation.

**TABLE N1106.2.2
EQUIVALENT U-FACTORS FOR TABLE N1106.2.1^a**

CLIMATE ZONE	FENESTRATION ^d	SKYLIGHT U-FACTOR	CEILING	UNVENTED ^a RAFTER ASSEMBLIES IN ATTICS CONTAINING DUCTWORK, AIR-IMPERMEABLE	UNVENTED ^a RAFTER ASSEMBLIES IN ATTICS CONTAINING DUCTWORK, AIR-PERMEABLE/IMPERMEABLE	FRAME WALL	MASS WALL ^b	FLOOR	BASEMENT ^c WALL	CRAWL SPACE ^e WALL
3	0.35	0.65	0.0350	0.05	0.043'	0.082	0.141	0.047	0.059	0.136
4	0.35	0.60	0.0300	0.05	0.043'	0.077	0.141	0.047	0.059	0.065
5	0.35	0.60	0.0300	0.037	0.034'	0.061	0.082	0.033	0.059	0.065

- a. Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source.
- b. When more than half the insulation is on the interior, the mass wall U-factors shall be a maximum of 0.07 in Climate Zone 3, 0.07 in Climate Zone 4 and 0.054 in Climate Zone 5.
- c. Basement wall U-factor of 0.360 in warm-humid locations as defined by Figure N1101.7 and Table N1101.7.
- d. A maximum of two glazed fenestration product assemblies having a U-factor no greater than 0.55 and a SHGC no greater than 0.70 shall be permitted to be substituted for minimum code compliant fenestration product assemblies without penalty. When applying this note and using the RESCheck "UA Trade-off" compliance method to allow continued use of the software, the applicable fenestration products shall be modeled as meeting the U-factor of 0.35 and the SHGC of 0.30, as applicable, but the fenestration products' actual U-factor and actual SHGC shall be noted in the comments section of the software for documentation of application of this note to the applicable products. Compliance for these substitute products shall be verified compared to the allowed substituted maximum U-value requirement and maximum SHGC requirement, as applicable.

Continued

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e. The air-impermeable insulation shall meet the requirements of the definition in section R202. Air-impermeable insulation shall be installed in direct contact with the underside of the structural roof sheathing. For one- and two-family dwellings and townhouses, the insulation installation shall meet the requirements of R806.5 of the North Carolina Residential Code. Exposed rafters shall be covered with R-7 insulation.

f. For air-permeable/ impermeable applications, Table N1106.2.1 shall be followed for minimum insulation values.

The delayed effective date of this Rule is January 1, 2022.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code

R4602 Definitions & R4606 Fastener Corrosion Resistance. (210608 Item B-9)

SECTION R4602 DEFINITIONS

COASTAL HIGH HAZARD AREA. ~~An area subject to coastal flooding and high velocity waters including storm wave wash, as shown by Federal Emergency Management Agency Maps and subject to the approval of the Building Code Council.~~ An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The coastal high hazard area is identified as either V Zone or Coastal A Zone on Flood Insurance Rate Maps (FIRMs).

CORROSION RESISTANCE AREA. Areas within hurricane prone regions defined as that area east of the Intracoastal Waterway from the NC/SC state line north to Beaufort Inlet and from that point to include the barrier islands to the NC/VA state line.

OCEAN HAZARD AREA. ~~An area, as identified by the North Carolina Coastal Resources Commission, and subject to approval by the Building Code Council,~~ near the shoreline of the Atlantic Ocean that has been identified as subject to at least one of the following hazards: (A) Historical or predicted future trends of long-term erosion, (B) erosion expected to occur during a coastal storm reaching the base flood elevation, or (C) shoreline fluctuations due to tidal inlets.

The delayed effective date of this Rule is January 1, 2023.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code

R4603.6 Tying and bracing of wood piles (200714 Item B-21)

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 4 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(d), 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 (e).

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>
<u>> 50%¹</u>	<u>R4603.6(d)</u>	<u>one 3/16" x 4" x 18"</u>	<u>six 5/8" bolts²</u>
		<u>one L4 x 4 x 3/16 x 18"</u>	
	<u>R4603.6 (e)</u>	<u>two 3/16" x 4" x 18"</u>	<u>eight 0.27"x4" each strap³</u>

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 have a minimum length of 4" or shall be long enough to penetrate through the girder and a minimum of one inch into the remaining pile, whichever is greater.

R4603.6.2 Bracing of Pilings. Bracing of pile foundations is required where the clear height from ground to sill, beam or girder exceeds 10 feet (3048 mm) or the dwelling is more than one story above piles. A line of X-bracing is defined as a row of piles with X-bracing provided in at least two bays. A line of X-bracing shall be provided at all exterior pile lines. Where the perimeter lines of X-bracing exceed 40 feet (12 192 mm), an additional line of X-bracing shall be provided near the center of the building. See Figure R4603.6(e)(f). X-bracing shall be with 2 × 10s through bolted with two 3/4-inch (19.1 mm) bolts at each end. The *code official* is permitted to accept alternate bracing designs if they bear the seal of a *registered design professional*.

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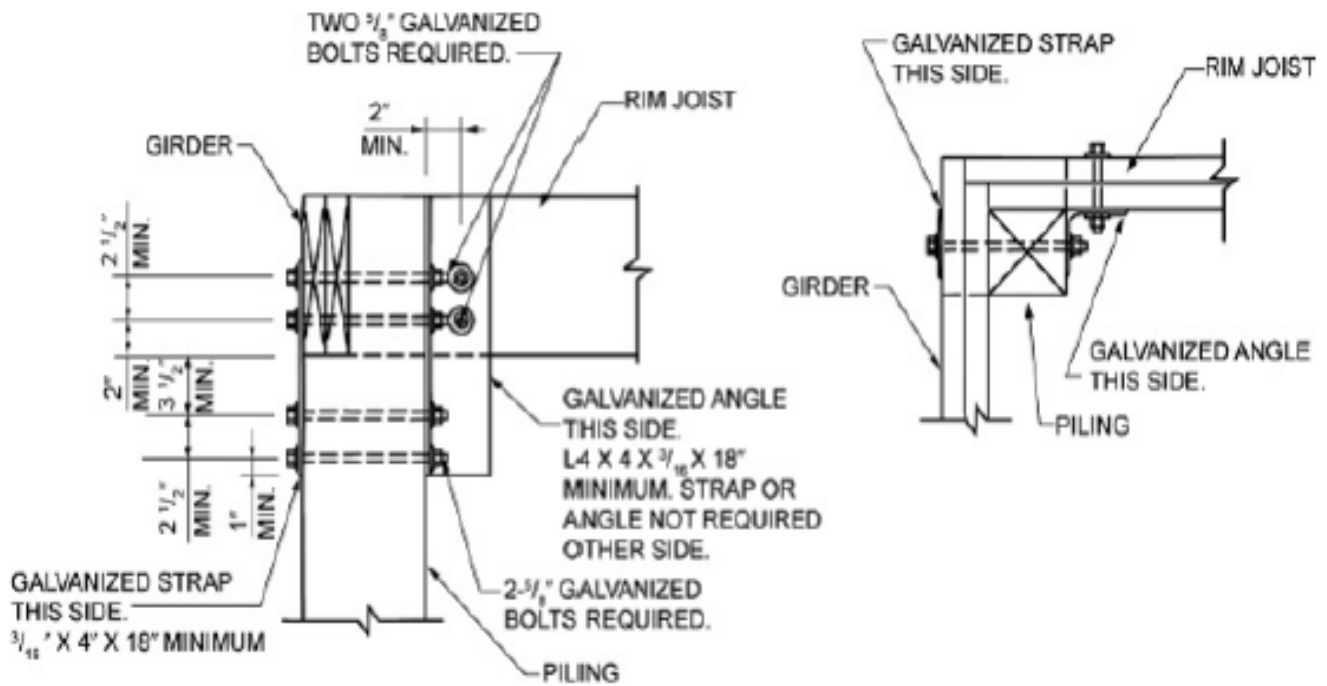


FIGURE R4603.6(d)
CORNER PILE CONNECTION

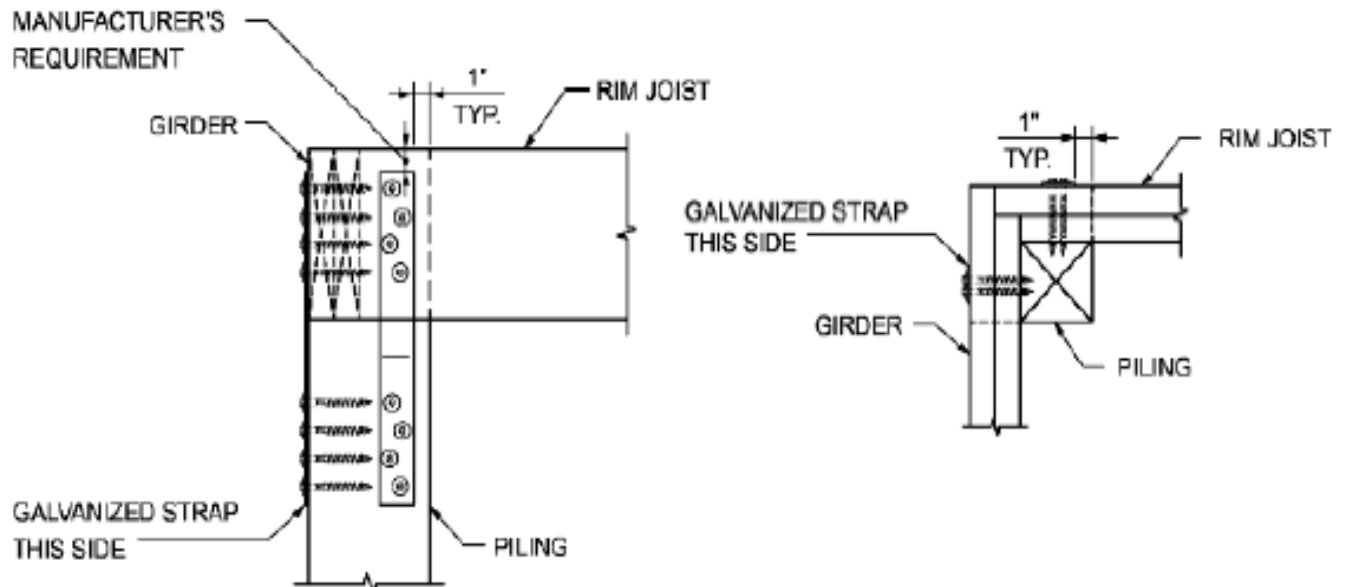


FIGURE R4603.6(e)
CORNER PILE CONNECTION

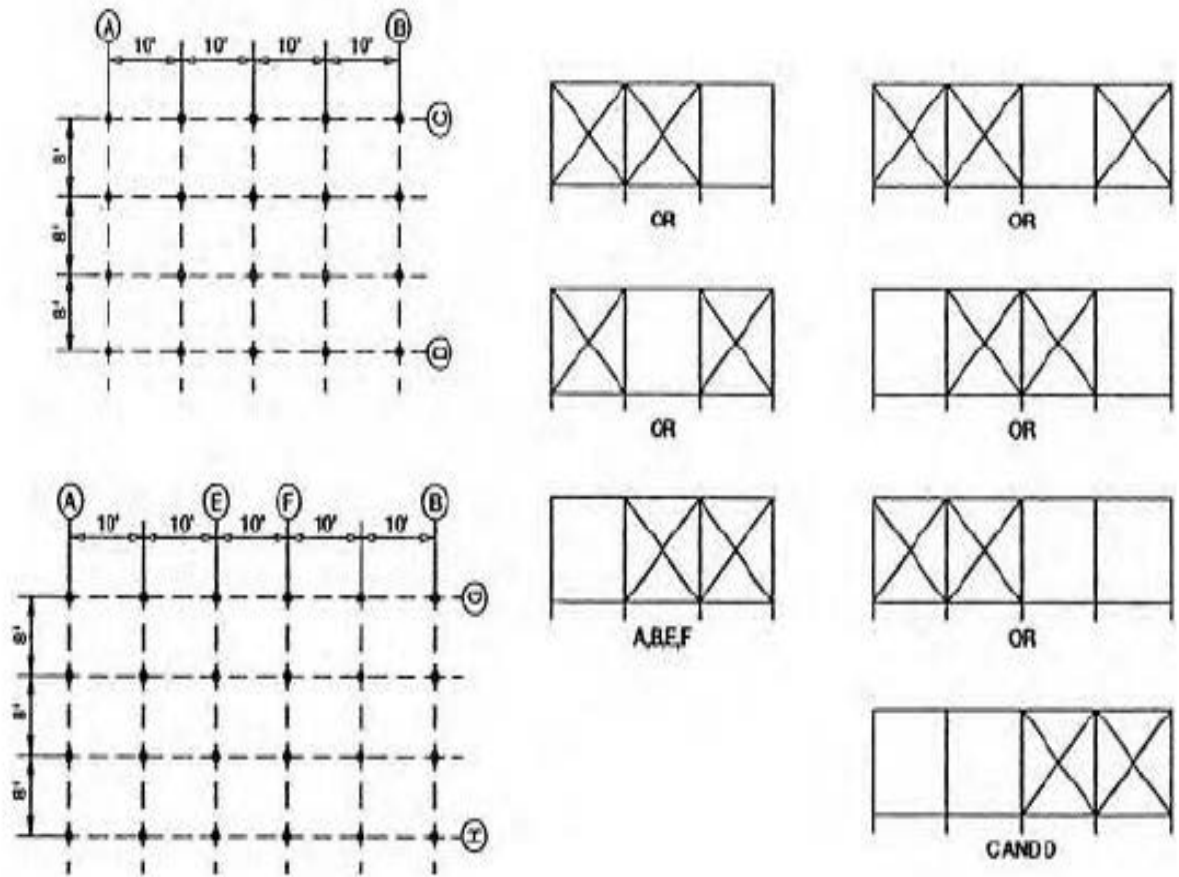


FIGURE R4603.6(e)(f)
ELEVATIONS
(SHOWING POSSIBLE ARRANGEMENT OF X-BRACING IN LINE) (G AND H SIMILAR)

The delayed effective date of this Rule is January 1, 2022.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
R4603.6 Tying and bracing of wood piles. (180313 Item B-4)

R4603.6 Tying and bracing of wood piles.

Beams and girders shall fully bear on pilings and butt joints shall occur over pilings. If sills, beams or girders are shall be attached to the piling a minimum of two 5/8 inch (16 mm) galvanized steel bolts per beam member shall be through bolted using either bolts or screws at each piling connection in accordance with Table R4603.6 and Figure R4503.6(a) R4603.6(a). When the piling is notched so that the cross-section is reduced below 50 percent or the girder is top bearing, sills, beams or girders shall be attached using 3/16 x 4 x 18-inch (5 x 102 x 467 mm) hot dip galvanized straps, one each side, bolted with two 5/8 inch (15.9 mm) galvanized through bolts fastened top and bottom with either bolts or screws in accordance with Table R4603.6 and Figure R4603.6(b) and Figure R4503.6(e) R4603.6(c). Where butt joints occur over the piling and screws are used, there shall be two straps on each side of the piling, having a minimum size of 3/16 x 2 x 18 inches (5 x 51 x 467 mm), with four self-drilling screws as described below in each end.

Table R4603.6 Minimum Fastening of Beams and Girders to Pilings

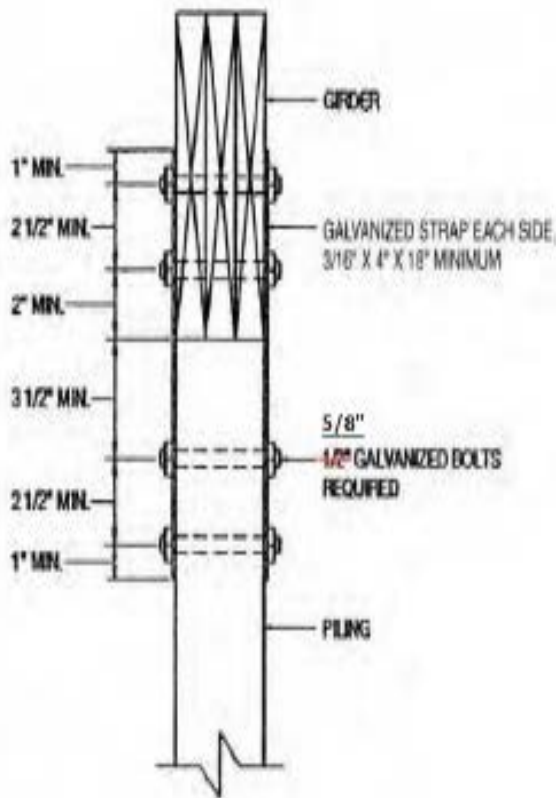
<u>Amount Piling is Notched</u>	<u>Beam/Girder Continuous</u>		<u>Beam/Girder Butt Joint</u>	
	<u>Bolts</u>	<u>Screws</u>	<u>Bolts</u>	<u>Screws</u>
<u>< 50%</u>	<u>two 5/8" bolts²</u>	<u>four screws³</u>	<u>four 5/8" bolts²</u>	<u>eight screws³</u>
<u>> 50%¹</u>	<u>two 5/8" bolts²</u>	<u>four screws³</u>	<u>four 5/8" bolts³</u>	<u>eight screws</u>

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.

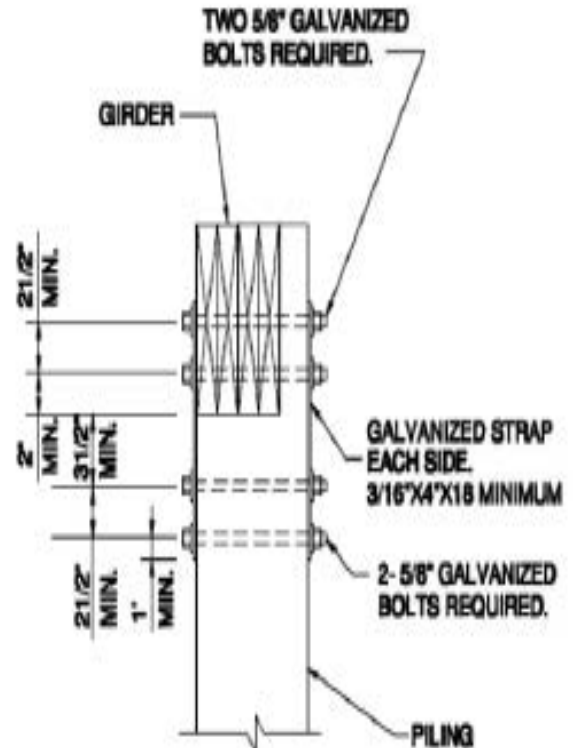
R4603.6.1 Tying at corners. At corners, girders shall be connected to the pile with a minimum 3/16 x 4 x 18-inch (5 x 102 x 467 mm) hot dip galvanized strap bolted with two 5/8 inch (15.9 mm) galvanized through bolts on the exterior and a minimum L4 x 3/16 x 1'-6" (102 x 5 x 467 mm) galvanized steel angle bolted with two 5/8 inch (15.9 mm) galvanized through bolts on the interior in accordance with Figure R4603.6(d).

R4603.6.2 Bracing of Pilings. Bracing of pile foundations is required where the clear height from ground to sill, beam or girder exceeds 10 feet (3048 mm) or the dwelling is more than one story above piles. A line of X-bracing is defined as a row of piles with X-bracing provided in at least two bays. A line of X-bracing shall be provided at all exterior pile lines. Where the perimeter lines of X-bracing exceed 40 feet (12 192 mm), an additional line of X-bracing shall be provided near the center of the building. See Figure R4603.6(e). X-bracing shall be with 2 x 10s through bolted with two 3/4-inch (19.1 mm) bolts at each end. The code official is permitted to accept alternate bracing designs if they bear the seal of a registered design professional.

Revise Figures as follows:



**FIGURE R4603.6(b)
TOP MOUNTED GIRDER**



**FIGURE R4603.6(c)
PILING NOTCHED MORE THAN 50%**

The delayed effective date of this Rule is January 1, 2020.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
R4602 Definitions & R4606 Fastener Corrosion Resistance. (210608 Item B-9)

SECTION R4606 FASTENER CORROSION RESISTANCE

R4605.5 R4606.1 Fastener corrosion resistance.

In the *Coastal High Hazard Area*, the *Corrosion Resistance Area* and the *Ocean Hazard Area*, all metal connectors and fasteners outside of *conditioned spaces* shall be hot-dip galvanized steel after fabrication and meet ASTM A 153. Exposed metal connectors, such as tie-down straps on porches, decks, and areas under the structure, shall be a minimum 3/16-inch (5 mm) thick, and shall be hot-dip galvanized after fabrication and meet ASTM A 123 or ASTM A 153. Stainless steel light-gage metal connectors shall be permitted in exposed or partially exposed locations. Metal connectors of approved equivalent corrosion-resistant material are permitted to be accepted. See Table R4605.5 R4606.1.

**TABLE R4605.5* R4606.1
CORROSION RESISTANCE**

	OPEN (exterior, porches, under house)	EXPOSURE LEVEL VENTED/ENCLOSED (attic, floor trusses, enclosed crawl spaces and stud cavity)	CONDITIONED (heated/cooled living areas)
Nails, staples, screws	Hot-dip galvanized	Hot-dip galvanized	-
Nuts, bolts, washers, tie rods	Hot-dip galvanized	Hot-dip galvanized	-
Steel connection plates & straps (3/16" minimum thickness)	Hot-dip galvanized after fabrication	Hot-dip galvanized	-
Sheet metal connectors, wind anchors, joists hangers, steel joists and beams	Stainless steel or hot-dipped galvanized after fabrication	Hot-dip galvanized after plate fabrication or triple galvanized ^b	Hot-dip galvanized or triple galvanized ^b
Truss plates	Stainless steel or hot-dipped galvanized after fabrication	Hot-dip galvanized after fabrication, stainless steel, triple galvanized ^b or in accordance with TPI-1 of the Truss Plate Institute within 6'-0" of a gable louver, ridge or soffit vent. Otherwise, standard galvanized ^b	Standard galvanized

a. Applies only to structures located in *Coastal High Hazard Area*, *Corrosion Resistance Area* and *Ocean High Hazard Area*.

b. Triple galvanizing – G185, standard galvanizing – G60, both per ASTM A 653 / A 653M.

R4605.6 R4605.5 Building anchorage.

1. For masonry buildings, the roof structure, including rafters and joists, shall be anchored to the wall in accordance with Section R606.11. All mortar used for masonry walls shall be Type M or S.

2. For masonry or wood frame buildings, all sills, beams or girders which resist uplift (including interior sills, beams, girders, and joists where the perimeter is unenclosed) shall be anchored to the footing in accordance with Section R4504. Footing dowel bars shall have an 8-inch (203 mm) hook.

3. Where wood partitions and masonry walls join, the stud abutting the masonry shall be double and bolted to the masonry with three 1/2-inch (13 mm) galvanized bolts.

4. Steel and wooden columns and posts, including porch columns, shall be anchored with metal ties and bolts to their foundations and to the members that they support.

R4605.7 R4605.6 Insulation. Insulation installed in floors in exposed areas under buildings elevated on pilings shall be held in place with plywood with exterior glue or other material approved by the *code official*.

R4605.8 R4605.7 Accessory structures. Detached accessory structures and out buildings shall be bolted to their foundation or otherwise constructed so as to prevent overturning.

The delayed effective date of this Rule is January 1, 2023.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2023

2018 NC Residential Code
AM105.1 Girder Connection to Side of Post. (180313 Item B-3)

AM105.1 General.

Girders shall bear directly on the support post with the post attached at top to prevent lateral displacement or be connected to the side of the posts ~~with two 5/8 inch (16 mm) hot dip galvanized bolts with nut and washer~~ with one of the methods shown in Table AM105.1. Girder support is permitted to be installed in accordance with Figure AM105.1(1) for top mount; Figure AM105.1(2) for side mount and Figure AM105.1(3) for split girders. See Figure AM105.1(4) for cantilevered girders.

Table AM105.1 Girder Connection to Side of Post

	<u>Maximum Girder Thickness</u>	
<u>Any</u>	<u>3" (Double 2X)</u>	<u>1-1/2" (Single 2X)</u>
<u>Two 5/8" diameter bolts¹</u>	<u>Four 6" long screws²</u>	<u>Three 4" long screws²</u>

1. Bolts shall be hot dip galvanized through bolts with nut and washer

2. Screws shall be hot dipped galvanized self-drilling screw fastener having a minimum diameter of 0.270", staggered so that the screws are not in a line, and having a minimum edge distance of 1-1/2 inches.

The delayed effective date of this Rule is January 1, 2020.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

NC Residential Code 1-1-2020

2018 NC Residential Code
AM109 Deck Bracing. (180612 Item B-4)

AM109.1 Deck bracing.

Decks shall be braced to provide lateral stability. Lateral stability shall be provided in accordance with one of the methods in Sections AM109.1.1 through AM109.1.5.

AM109.1.1. Lateral bracing not required.

When the deck floor height is less than 4 feet (1219 mm) above finished grade as shown in Figure AM109.1(1) and the deck is attached to the structure in accordance with Section AM104, lateral bracing is not required. Lateral bracing is not required for freestanding decks with a deck floor height 30 inches (762 mm) or less above finished grade.

AM109.1.2. Knee bracing.

4x4 wood knee braces are permitted to be provided on each column in both directions for freestanding decks or parallel to the structure at the exterior column line for attached decks per Figure AM109.1(2). The knee braces shall attach to each post at a point not less than 1/3 of the post length from the top of the post, and the braces shall be angled between 45 degrees (0.79 rad) and 60 degrees (1.05 rad) from the horizontal. Knee braces shall be bolted fastened to the post and the girder/double band in accordance with one 5/8 inch (16 mm) hot dip galvanized bolt with nut and washer at both ends of the brace of the methods shown in Table AM109.1, as shown in Figure AM109.1(2).

TABLE AM109.1

FASTENING OF BRACE TO POST AND GIRDER/BAND (CHOOSE ONE)

<u>Fastener</u>	<u>Installation</u>	<u>Minimum Distances</u>
<u>One 5/8" diameter hot dipped galvanized through bolt with nut and washer</u>	<u>Perpendicular to post or girder/band</u>	<u>2-3/16" end distance</u>
<u>Two hot dipped galvanized (ASTM A153, Class C, minimum) screws having minimum diameter of 0.270" and long enough to achieve 3" penetration into the post or girder/band.</u>	<u>Perpendicular to post or girder/band</u>	<u>1" edge distance, 1-1/2" horizontal spacing, minimum 3" end distance</u>

AM109.1.3. Post embedment.

For free standing decks without knee braces or diagonal bracing, lateral stability is permitted to be provided by embedding the post in accordance with Figure AM109.1(3) and Table ~~AM109.1~~ AM109.2.

TABLE ~~AM109.1~~ AM109.2

POST EMBEDMENT FOR FREE STANDING DECKS

<u>POST SIZE</u>	<u>MAXIMUM TRIBUTARY AREA</u>	<u>MAXIMUM POST HEIGHT</u>	<u>EMBEDMENT DEPTH</u>	<u>CONCRETE DIAMETER</u>
4" x 4"	48 SF	4'-0"	2'-6"	1'-0"
6" x 6"	120 SF	6'-0"	3'-6"	1'-8"

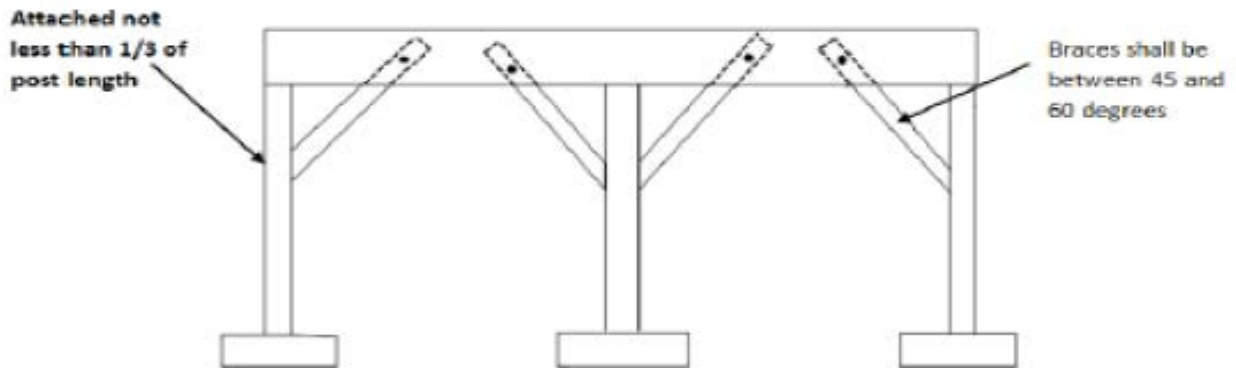
AM109.1.4. Cross bracing.

2x6 diagonal vertical cross bracing is permitted to be provided in two perpendicular directions for free standing decks or parallel to the structure at the exterior column line for attached decks. The 2x6 bracing shall be attached to the posts with one 5/8 inch (16 mm) hot dip galvanized bolt with nut and washer at each end of each bracing member per Figure AM109.1(4).

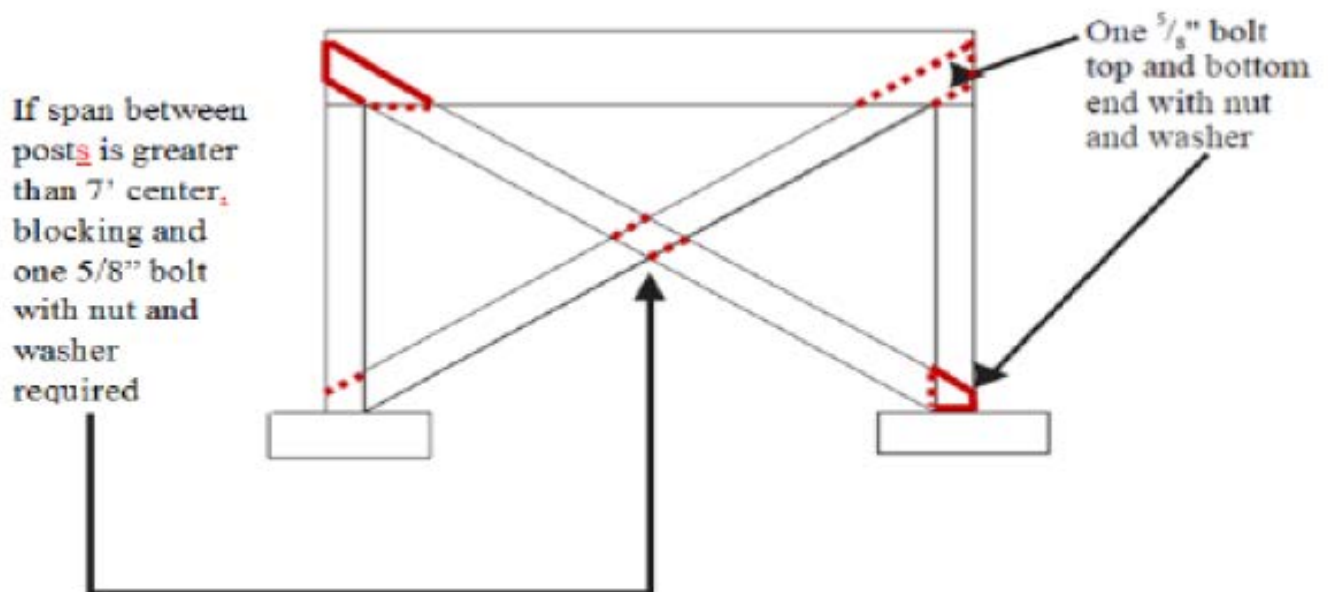
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AM109.1.5. Piles in coastal regions.
For embedment of piles in coastal regions, see Chapter 46.



**FIGURE AM109.1(2)
KNEE BRACING**



**FIGURE AM109.1(4)
CROSS BRACING**

The delayed effective date of this Rule is January 1, 2020.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
AM109.1.4 Cross Bracing. (190910 Item B-1)

AM109.1.4 Cross bracing.

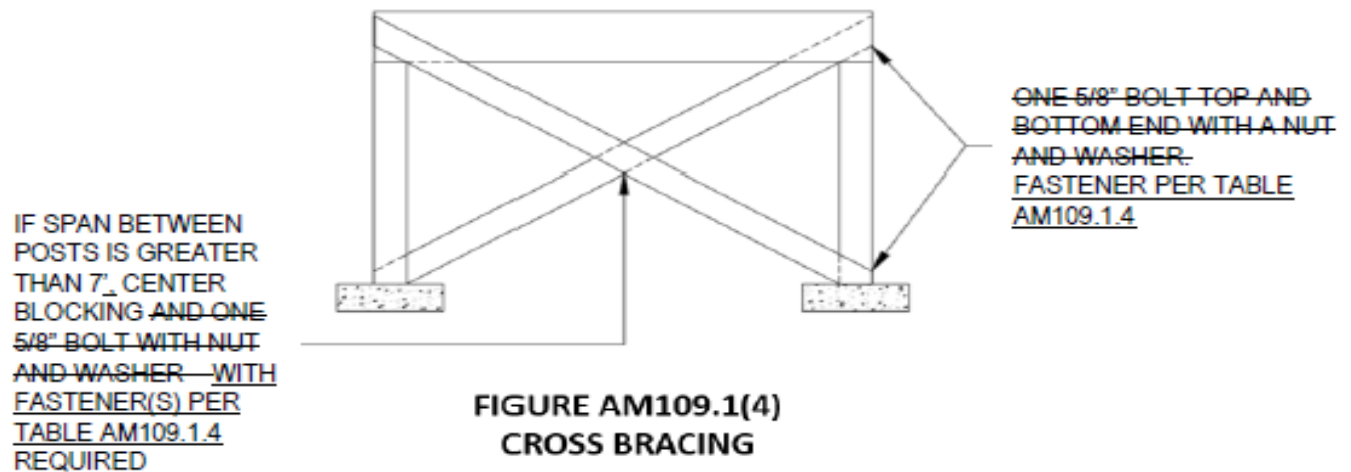
2x6 diagonal vertical cross bracing is permitted to be provided in two perpendicular directions for free standing decks or parallel to the structure at the exterior column line for attached decks. The 2x6 bracing shall be attached to the posts with one of the methods in Table AM109.1.4 5/8-inch (16-mm) hot dip galvanized bolt with nut and washer at each end of each bracing member in accordance with Figure AM109.1(4).

**Table AM109.1.4
FASTENING OF BRACE (CHOOSE ONE)**

<u>Fastener Type</u>	<u>Diameter (inches)</u>	<u>QTY</u>	<u>Length</u>
<u>Bolt</u>	<u>5/8^a</u>	<u>1</u>	<u>As required</u>
<u>Screws</u>	<u>0.27^b</u>	<u>2</u>	<u>Long enough to achieve a 1 1/2" thread penetration of structural member opposite head of screw</u>

a. Bolts shall be hot dip galvanized through bolts with nut and washer

b. Screws shall be hot dip galvanized (ASTM A153, Class C, minimum) self drilling screw fastener having a minimum diameter of 0.27", and installed in the center of the post with a minimum of 1" space between screws.



The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
Appendix Q Tiny Houses & R328 Lofts. (210608 Item B-8)

APPENDIX Q TINY HOUSES

The provisions contained in this appendix are adopted as part of this code.

SECTION AQ101 GENERAL

AQ101.1 Scope. This appendix shall be applicable to *tiny houses* used as *single dwelling unit*. *Tiny houses* shall comply with this code except as otherwise stated in this appendix.

SECTION AQ102 DEFINITIONS

AQ102.1 General. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions.

LANDING PLATFORM. A landing provided as the top step of a *stairway* accessing a *loft*.

HABITABLE LOFT. A floor level located more than 30 inches above the main floor and open to the main floor on one or more sides with a ceiling height of less than 6 feet 8 inches and used as a living or sleeping space.

TINY HOUSE. A *dwelling* that is 400 square feet or less in floor area excluding *lofts*.

SECTION AQ103 LOFTS

AQ103.1 General. *Lofts* used as a sleeping or living space shall meet the minimum area and dimension requirements of Sections AQ103.1.1 through AQ103.1.4.

AQ103.1.1 Minimum area. *Lofts* shall have a floor area of not less than 35 square feet.

AQ103.1.2 Minimum dimensions. *Lofts* shall be not less than 5 feet in any horizontal dimension.

AQ103.1.3 Minimum ceiling height. *Habitable space* and hallways in *tiny houses* shall have a ceiling height of not less than 6 feet 8 inches. *Bathrooms, toilet rooms and kitchens* shall have a ceiling height of not less than 6 feet 4 inches. Obstructions including, but not limited to, beams, girders, ducts and lighting, shall not extend below these minimum ceiling heights.

Exception: Ceiling heights in *lofts* are permitted to be less than 6 feet 8 inches.

AQ104.1.4 Height effect on loft area. Portions of a *loft* with a sloped ceiling measuring less than 3 feet from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the loft.

Exception: Under gable roofs with a minimum slope of 6 units vertical in 12 units horizontal (50-percent slope), portions of a *loft* with a sloped ceiling measuring less than 16 inches from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the loft.

SECTION AQ104 MEANS OF EGRESS

AQ104.1 Loft access. The access to and primary egress from *lofts* shall be of any type described in Sections AQ104.2.1 through AQ104.2.4.

AQ104.2.1 Stairways. *Stairways* accessing *lofts* shall comply with this code or with Sections AQ104.2.1.1 through AQ104.2.1.5.

AQ104.2.1.1 Width. *Stairways* accessing a *loft* shall not be less than 20 inches in clear width including handrail.

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AQ104.2.1.2 Headroom. The headroom in stairways accessing a loft shall be not less than 6 feet 2 inches, as measured vertically, from a sloped line connecting the tread or landing platform nosing in the middle of their width.

AQ104.2.1.3 Treads and risers. Risers for stairs accessing a loft shall be a maximum of 12 inches in height and every riser shall be uniform within a tolerance of $\frac{3}{4}$ ". Tread depth shall be a minimum 12" with all treads uniform within a tolerance $\frac{3}{4}$ ".

AQ104.2.1.4 Landing platforms. The top tread and riser of stairways accessing lofts shall be constructed as a landing platform where the loft ceiling height is less than 6 feet 2 inches where the stairway meets the loft. The landing platform shall be the width of the stairs with a minimum depth of 18" inches measured from the nosing of the landing platform to the edge of the loft, and 16 to 18 inches in height measured from the landing platform to the loft floor.

AQ104.2.1.5 Handrails. Handrails shall comply with Section R311.7.8.

AQ104.2.1.6 Stairway guards. Guards at open sides of stairways shall comply with Section R312.1.

AQ104.2.2 Ladders. Non-removable ladders accessing lofts shall comply with Sections AQ104.2.2.1.

Exception: Ladders that slide out away from the loft opening that are within reach of the loft occupant.

AQ104.2.2.1 Size and capacity. Ladders accessing lofts shall have a rung width of not less than 12 inches, and no more than 18-inches spacing between rungs. Ladders shall be capable of supporting a 200-pound load on any rung. Rung spacing shall be uniform within $\frac{3}{8}$ inch.

AQ104.2.3 Ship's ladders. Ship's ladders accessing lofts shall be installed at 70 to 80 degrees from horizontal and are permitted to be used as an element of a means of egress from lofts. Ship ladders shall comply with Sections R311.7.12.

AQ104.2.4 Loft Guards. Loft guards complying with R312.1 shall be located along the open side of lofts. Loft guards shall be not less than 36 inches in height or one-half of the clear height to the ceiling, whichever is less.

SECTION AQ105 EMERGENCY ESCAPE AND RESCUE

AS105.1 Emergency Escape and Rescue. Tiny houses and their lofts shall meet the requirements of Section R310 for emergency escape and rescue openings.

SECTION AQ106 SMOKE AND CARBON MONOXIDE DETECTORS

AQ106.1 Smoke and Carbon monoxide detectors. Smoke and carbon monoxide detectors shall be installed as required in Sections R314 and R315 and just below the highest point of any loft.

SECTION AQ107 FOUNDATION

AQ107.1 Foundation options. Tiny Houses are permitted to be constructed without a masonry or concrete foundation per Section AQ107.1.1 and AQ107.1.2, except in coastal high hazard, ocean hazard and flood hazard areas.

AQ107.1.1 Wood Foundation. The building shall be supported on a wood foundation of minimum 4-inch by 4-inch or 6-inch by 6-inch mudsill or runner of approved wood in accordance with Section R317. Structural floor systems that include joists and subfloor material shall also comply with Section R317.1, item #1.

AQ107.1.2. Anchorage. Tiny houses with wood foundations per AQ107.1.1 shall be designed and anchored to resist overturning and sliding.

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Exception: *Tiny houses* with no more than 12' vertical mean roof height shall be anchored to resist overturning and sliding by installing a minimum of one ground anchor at each corner of the building. The total resisting force of the anchors shall be equal to 20psf (958 Pa) times the plan area of the building.

The delayed effective date of this Rule is January 1, 2023.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.