North Carolina Building Code Council

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November 15, 2019

Robbie Davis, Chairman
5998 Dortches Boulevard
Rocky Mount, NC 27804

RE: Agenda for the December 10, 2019 NC Building Code Council Meeting

Mr. Davis:

This is officially to notify you and other interested parties of a regularly scheduled meeting of the NC Building Code Council. Persons requiring auxiliary services should notify the Council at least ten business days prior to the meeting.

1. The NC Building Code Council Meeting will begin at 9:00AM on Tuesday, December10, 2019 (Albemarle Building).
2. Standing Committees will meet in the afternoon on Monday, December 9. Schedule to be set by Chairman.
3. The Agenda is printed as follows:
   A-Items- Administrative items that require Council action but are not subject to Rule-Making.
   B-Items- New amendment petitions introduced at this meeting.
   C-Items- Amendments that have been granted by the Council and advertised in the NC Register for public hearing.
   D-Items- Adoption of amendments by the Council prior to approval by the Rules Review Commission.
   E-Items- Reports from Committees and Staff.
   F-Items- Notice of Appeal Hearings.

Part A – Administrative Items

Item A – 1 **Ethics Statement: Inquire upon conflicts of interest or appearance of conflicts that exist within the Council.**

Item A – 2 **Approval of minutes of the September 10, 2019 NC Building Code Council Meeting.**

Item A – 3 **Request by John Schultz representing the City of Mebane Fire Department, for approval of Ordinance amending Chapters 6 and 16 of the Mebane Code of Ordinances for Fire Prevention and Protection.**

Item A – 4 **Rules Review Commission Meeting Report**

Item A – 5 **Public Comments**

Part B – New Petition for Rulemaking

The following Petitions for Rulemaking have been received since the last Council meeting. The Council will vote either to deny or grant these Petitions. The Council will give no further consideration to Petitions that are denied. Petitions that are granted may proceed through the Rulemaking process. The council may send any Petition to the appropriate committee. The hearing will take place during or after the March 2020 meeting.

There will be no B items received from the floor.

Item B – 1 **Request by Tommy Rowland representing Mecklenburg County Code Enforcement to amend the 2018 NC Mechanical Code, Table 403.3.1.1 as follows:**

Private dwellings, single and multiple				
Garages, common for multiple units[b]	—	—	—	0.75
Garages, below dwelling units[J]	—	—	—	100 cfm per car
Kitchens[b]	—	—	—	25/100[f]

j. if the tenants of the dwelling have exclusive use of the garage below, no exhaust is required

Item B – 2 **Request by Reuben E. Clark representing CMI to amend the 2020 NEC, Section 680.26(B)(2)(b) as follows:**

680.26(B)(2)(b). Insert an additional paragraph to follow the five-item list and reading as follows:
"(6) This method shall only be permitted for above-ground pools."

Item B – 3 **Request by Leon Meyers representing BuildSense Inc. to amend the 2018 NC Energy Conservation Code, Sections C401.2 and R401.2 as follows:**

C401.2 Application

Commercial buildings shall comply with one of the following:

1. The requirements of ANSI/ASHRAE/IESNA 90.1.

2. The requirements of Sections C402 through C405. In addition, commercial buildings shall comply with Section C406 and tenant spaces shall comply with Section C406.1.1.

3. The requirements of Sections C402.5, C403.2, C404, C405.2, C405.3, C405.5, C405.6 and C407. The building energy cost shall be equal to or less than 85 percent of the standard reference design building.

4. ~~North Carolina specific~~ COMcheck keyed to the 2018 IECC or ASHRAE 90.1—~~2013~~ 2016 ~~COMcheck~~ shall be permitted to demonstrate compliance with this code.

R401.2 Compliance.

Projects shall comply with one of the following:

1. Sections R401 through R404.

2. Section R405 and the provisions of Sections R401 through R404 labeled "Mandatory."

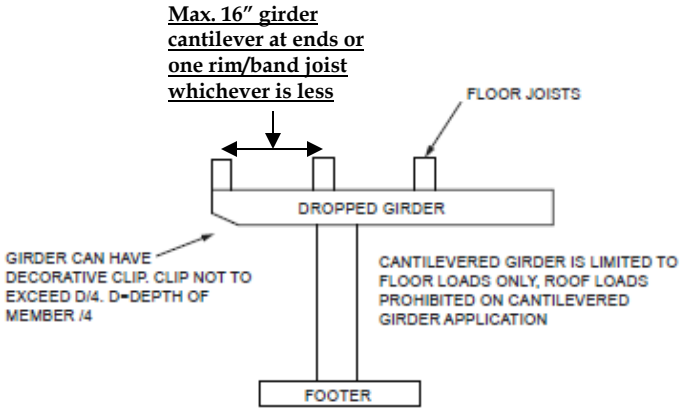
3. An energy rating index (ERI) approach in Section R406.

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.

Item B – 4 **Request by David Smith representing the Residential Ad-hoc Committee to amend the 2018 NC Residential Building Code, Section R102.5 Appendices as follows:**

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

Item B – 5 Request by David Smith, representing the Residential Ad-hoc Committee to amend the 2018 NC Residential Building Code, Appendix M as follows:



For SI: 1 inch = 25.4 mm.

FIGURE AM105.1(4)
CANTILIEVERED DROPPED GIRDER

SECTION AM105
GIRDER SUPPORT AND SPAN

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. Girder spans are per Table R602.7(1) and (2). 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. Girders may also be cantilevered off ends of support post no more than one joist spacing or 16 inches, whichever is greater per Figure AM105.1(4).

~~**AM105.2 Girder span for uncovered porches and decks.** Maximum allowable spans for wood deck girders, as shown in Figure AM105.2, shall be in accordance with Table AM105.2. Girder plies shall be fastened with two rows of 10d (3-inch × 0.128-inch) nails minimum at 16 inches (406 mm) on center along each edge. Girders shall be permitted to canti-lever at each end up to one-fourth of the actual beam span. Splices of multispan beams shall be located at interior post locations.~~

~~**AM105.3 Girder span for roofed porches and decks.** Girder spans for covered decks shall be in accordance with Tables R602.7(1) and (2).~~

SECTION A
M106
JOIST SPANS AND CANTILEVERS

AM106.1 Joist spans ~~for uncovered porches and decks~~ and cantilevers. Joists spans shall be based upon Table R502.3.1(2) with 40lbs per sq ft of live load and 10 lbs per sq ft of dead load. Floor joists for exterior

decks may be cantilevered per Table R502.3.3(1). ~~Maximum allowable spans for wood deck joists, as shown in Figure AM106.1, shall be in accordance with Table AM106.1. Deck joists shall be permitted to cantilever not greater than one-fourth of the actual, adjacent joist span.~~

~~**AM106.1.1 Lateral restraint at supports**. Joist ends and bearing locations shall be provided with lateral restraint to prevent rotation. Where lateral restraint is provided by joist hangers or blocking between joists, their depth shall equal not less than 60 percent of the joist depth. Where lat-eral restraint is provided by rim joists, they shall be secured to the end of each joist with not less than (3) 10d (3-inch × 0.128-inch) nails or (3) No. 10 × 3-inch (76 mm) long wood screws.~~

~~**AM106.2.Roofed porches and decks.** Joists spans shall be in accordance with Table R502.3.1(2) with 40-pounds per-square-foot live load and 10-pounds per-square-foot dead load. Cantilevered floor joists shall be in accordance with Table R502.3.3(1).~~

TABLE AM105.2
DECK GIRDER SPAN LENGTHS[a, b]
(feet – inches)

SPECIES[c]	SIZE[d]	DECK JOIST SPAN LESS THAN OR EQUAL TO: (feet)						
		6	8	10	12	14	16	18
Southern pine	2 – 2 × 6	6-11	5-11	5-4	4-10	4-6	4-3	4-0
	2 – 2 × 8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	2 – 2 × 10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	2 – 2 × 12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	3 – 2 × 6	8-2	7-5	6-8	6-1	5-8	5-3	5-0
	3 – 2 × 8	10-10	9-6	8-6	7-9	7-2	6-8	6-4
	3 – 2 × 10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
	3 – 2 × 12	15-3	13-3	11-10	10-9	10-0	9-4	8-10
Douglas fir-larch[e], hem-fir[e], spruce-pine-fir[e], redwood, western cedars, ponderosa pine[f], red pine[f]	3 × 6 or 2 – 2 × 6	6-5	5-3	4-2	3-10	3-6	3-1	2-9
	3 × 8 or 2 – 2 × 8	8-5	7-1	6-4	5-10	4-6	4-1	3-8
	3 × 10 or 2 – 2 × 10	8-4	7-3	6-6	5-11	5-6	5-1	4-8
	3 × 12 or 2 – 2 × 12	9-8	8-5	7-6	6-10	6-4	5-11	5-7
	4 × 6	6-5	5-6	4-11	4-6	4-2	3-11	3-8
	4 × 8	8-5	7-3	6-6	5-11	5-6	5-2	4-10
	4 × 10	9-11	8-7	7-8	7-0	6-6	6-1	5-8
	4 × 12	11-5	9-11	8-10	8-1	7-6	7-0	6-7
	3 – 2 × 6	7-4	6-8	6-0	5-6	5-1	4-9	4-6
	3 – 2 × 8	9-8	8-6	7-7	6-11	6-5	6-0	5-8
	3 – 2 × 10	12-0	10-5	9-4	8-6	7-10	7-4	6-11
	3 – 2 × 12	13-11	12-1	10-9	9-10	9-1	8-6	8-1

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

a. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever with a 220-pound point load applied at the end.

b. Girders supporting deck joists from one side only.

c. No. 2 grade, wet service factor.

d. Girder depth shall be greater than or equal to depth of joists with a flush beam condition.

e. Includes incising factor.

f. Northern species. Incising factor not included.

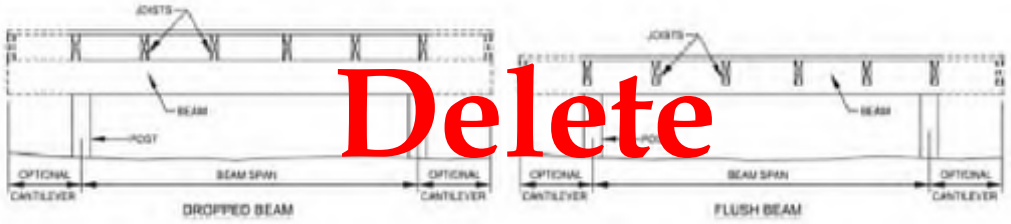


FIGURE AM105.2
TYPICAL DECK GIRDER SPANS

APPENDIX M

TABLE AM106.1
DECK JOIST SPANS FOR COMMON LUMBER SPECIES[f]
(feet – inches)

SPECIES[a]	SIZE	SPACING OF DECK JOISTS WITH NO CANTILEVER[b] (Inches)			SPACING OF DECK JOISTS WITH CANTILEVERS[c] (Inches)		
		12	16	24	12	16	24
Southern pine	2 × 6	9-11	9-0	7-7	6-8	6-8	6-8
	2 × 8	13-1	11-10	9-8	10-1	10-1	9-8
	2 × 10	16-2	14-0	11-5	14-6	14-0	11-5
	2 × 12	18-0	16-6	13-6	18-0	16-6	13-6
Douglas fir-larch[d], hem-fir[d], spruce-pine-fir[d]	2 × 6	9-6	8-8	7-2	6-3	6-3	6-3
	2 × 8	12-6	11-5	9-4	9-5	9-5	9-1
	2 × 10	15-8	13-7	11-1	13-7	13-7	11-1
	2 × 12	18-0	15-9	12-10	18-0	15-9	12-10
Redwood, western cedars, ponderosa pine[e], red pine[e]	2 × 6	8-10	8-0	7-0	5-7	5-7	5-7
	2 × 8	11-8	10-7	8-8	8-6	8-6	8-6
	2 × 10	14-11	13-0	10-7	12-3	12-3	10-7
	2 × 12	17-5	15-1	12-4	16-5	15-1	12-4

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For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

a. No. 2 grade with wet service factor.

b. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360.

c. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever with a 220-pound point load applied to end.

d. Includes incising factor.

e. Northern species with no incising factor.

f. Cantilevered spans not exceeding the nominal depth of the joist are permitted.

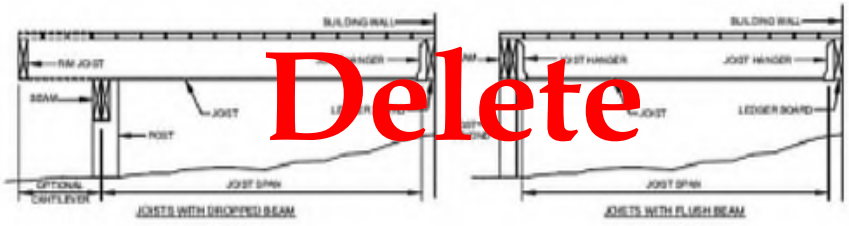

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FIGURE AM106.1
TYPICAL DECK JOIST SPANS

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[b])

SIZE	SUPPORTING ROOF						SUPPORTING FLOOR	
	GROUND SNOW LOAD (psf)							
	30		50		70			
	DEPTH OF PORCH[c] (feet)							
	8	14	8	14	8	14	8	14
2-2 × 6	7-6	5-8	6-2	4-5	5-1	4-0	6-4	4-9
2-2 × 8	10-1	7-7	8-3	6-2	7-1	5-4	8-5	6-4
2-2 × 10	12-4	9-4	10-1	7-7	8-9	6-7	10-4	7-9
2-2 × 12	14-4	10-10	11-8	8-10	10-1	7-8	11-11	9-0

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For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.
a. Spans are given in feet and inches.
b. 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.
c. Porch depth is measured horizontally from building face to centerline of the header. For depths between those shown, spans are permitted to be interpolated.

Item B – 6 **Request by David Smith, representing the Residential Ad-hoc Committee to amend the 2018 Residential Code, Table R602.10.3 as follows:**

Attachment A

TABLE R602.10.3
REQUIRED LENGTH OF BRACING ALONG EACH SIDE OF A CIRCUMSCRIBED RECTANGLE [a, b, c, d]

WIND SPEED	EAVE-TO RIDGE HEIGHT (FEET)	STORY LEVEL SUPPORTING: [e]	REQUIRED LENGTH OF BRACING ON ANY SIDE														
			Length of perpendicular side (ft)[f]														
			10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
115	10	Roof Only	2.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5
		Roof + 1 Story	3.0	4.0	5.5	6.5	8.0	9.0	10.0	11.0	12.5	13.5	14.5	16.0	17.0	18.0	19.0
		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
	15	Roof Only	2.0	2.0	3.0	3.5	4.0	4.5	5.5	6.0	6.5	7.5	8.0	8.5	9.0	9.5	10.0
		Roof + 1 Story	3.5	4.5	6.0	7.0	8.5	9.5	11.0	12.0	13.5	15.0	16.0	17.5	18.5	20.0	21.0
		Roof + 2 Stories	5.0	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
	20	Roof Only	2.0	2.5	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
		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
		Roof + 2 Stories	5.0	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
120	10	Roof Only	2.0	2.0	2.5	3.0	3.5	4.0	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
		Roof + 1 Story	3.0	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	5.0	7.0	9.5	11.5	13.0	15.0	17.0	19.0	21.0	23.0	25.0	27.0	29.0	31.0	32.5
	15	Roof Only	2.0	2.5	3.0	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	6.5	8.0	9.0	10.5	12.0	13.5	14.5	16.0	17.5	19.0	20.0	21.5	23.0
		Roof + 2 Stories	5.5	7.5	9.5	12.0	14.0	16.0	18.0	20.0	22.5	24.5	26.5	28.5	30.5	32.5	34.5
	20	Roof Only	2.0	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	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
		Roof + 2 Stories	5.5	8.0	10.5	12.5	14.5	17.0	19.0	21.5	23.5	25.5	28.0	30.0	32.0	34.5	36.5
130	10	Roof Only	2.0	2.5	3.0	3.5	4.5	5.0	5.5	6.5	7.0	7.5	8.0	9.0	9.5	10.0	11.0
		Roof + 1 Story	4.0	5.5	7.0	8.5	10.0	11.5	13.0	14.5	16.0	17.5	19.5	20.0	21.5	23.0	24.5
		Roof + 2 Stories	6.0	8.5	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
	15	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	4.0	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
		Roof + 2 Stories	6.5	9.0	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
	20	Roof Only	2.5	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	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	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	43.5

WIND SPEED	EAVE-TO RIDGE HEIGHT (FEET)	STORY LEVEL SUPPORTING: [e]	REQUIRED LENGTH OF BRACING ON ANY SIDE							
			Length of perpendicular side (ft)[f]							
			10	20	30	40	50	60	70	80
115	10	Roof Only	2.0	3.5	5.0	6.0	7.5	9.0	10.5	12.0
		Roof + 1 Story	3.5	6.5	9.0	12.0	14.5	17.0	19.8	22.6
		Roof + 2 Stories	5.0	9.5	13.5	17.5	21.5	25.0	29.2	33.4
	15	Roof Only	2.6	4.6	6.5	7.8	9.8	11.7	13.7	15.7
		Roof + 1 Story	4.0	7.5	10.4	13.8	16.7	19.6	22.9	26.2
		Roof + 2 Stories	5.5	10.5	14.9	19.3	23.7	27.5	32.1	36.7
	20	Roof Only	2.9	5.2	7.3	8.8	11.1	13.2	15.4	17.6
		Roof + 1 Story	4.5	8.5	11.8	15.6	18.9	22.1	25.8	29.5
		Roof + 2 Stories	6.2	11.9	16.8	21.8	27.3	31.1	36.3	41.5
120	10	Roof Only	2.5	4.0	6.0	7.5	9.5	11.0	12.8	14.6
		Roof + 1 Story	4.5	8.0	11.0	14.5	18.0	21.0	24.5	28.0
		Roof + 2 Stories	6.0	11.5	16.5	21.5	26.5	31.0	36.2	41.4
	15	Roof Only	3.4	5.2	7.8	9.8	12.4	14.3	16.7	19.1
		Roof + 1 Story	5.2	9.2	12.7	16.7	20.7	24.2	28.2	32.2
		Roof + 2 Stories	6.6	12.7	18.2	23.7	29.2	34.1	39.8	45.5
	20	Roof Only	3.8	5.9	8.8	11.1	14.0	16.2	18.9	21.6
		Roof + 1 Story	5.9	10.4	14.4	18.9	23.4	27.3	31.8	36.3
		Roof + 2 Stories	7.5	14.4	20.6	26.8	33.0	38.5	44.9	51.3
130	10	Roof Only	3.0	4.8	7.3	9.1	11.5	13.3	15.5	17.7
		Roof + 1 Story	5.5	10.0	13.3	17.5	21.8	25.4	29.6	33.8
		Roof + 2 Stories	7.5	13.0	20.0	26.0	32.1	37.5	43.8	50.1
	15	Roof Only	4.2	6.3	9.5	11.9	15.0	17.3	20.2	23.1
		Roof + 1 Story	6.3	11.2	15.4	20.2	25.0	29.3	34.2	39.1
		Roof + 2 Stories	8.0	15.4	22.0	28.7	35.3	41.3	48.2	55.1
	20	Roof Only	4.6	7.2	10.6	13.4	16.9	19.6	22.9	26.2
		Roof + 1 Story	7.2	12.6	17.4	22.9	28.3	33.0	38.5	44.0
		Roof + 2 Stories	9.1	17.4	24.9	32.4	39.9	46.6	54.4	62.2

For SI: 1 ft = 304.8 mm

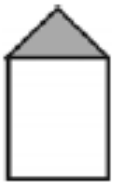
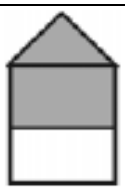
Roof Only *Roof + 1 Story* *Roof + 2 Stories*

a. Interpolation shall be permitted.
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 ft (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 mm) and 1.10 for 12 feet (3658 mm).
d. Where minimum 1/2" 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 and the openings in the roof do not exceed 48 inches in height.
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.

Item B – 7 Request by David Smith representing the Residential Ad-hoc Committee to amend the 2018 Residential Code, Tables R602.3(5) & R602.7.5 as follows:

Attachment A:

TABLE R602.3(5)
SIZE, HEIGHT AND SPACING OF WOOD STUDS[a,d]

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 × 3[b]	–	–	–	–	–	10	16
2 × 4	10	24[c]	16[c]	~~e~~ d	24	14	24
3 × 4	10	24	24	16	24	14	24
2 × 5	10	24	24	–	24	16	24
2 × 6	10	24	24	16	24	20	24

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

a. 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.

b. Shall not be used in exterior walls.

c. A habitable attic assembly supported by 2 × 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 × 6 or the studs shall be designed in accordance with accepted engineering practice.

~~d. 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).

Attachment A (continued):

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

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

Item B – 8 **Request by David Smith representing the Residential Ad-hoc Committee to amend the 2018 NC Residential Code, Section R302.1.1 Soffit Protection as follows:**

~~**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 10 feet (3048 mm) fire separation distance shall be securely attached to framing members and applied over fire-retardant-treated wood, 23/32-inch (18.3 mm) wood sheathing or 5/8-inch (15.9 mm) exterior grade or moisture resistant gypsum board. Venting requirements shall be provided in both soffit and underlayments. Vents shall be either nominal 2-inch (51 mm) continuous or equivalent intermittent and shall not exceed the minimum net free air requirements established in Section R806.2 by more than 50 percent. *Townhouse* construction shall meet the additional requirements of Sections R302.2.5 and R302.2.6.~~

~~**Exceptions:**~~

~~1. Any portion of soffits having 10 feet (3048 mm) or more *fire separation distance*.~~

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

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

~~4. Soffits between buildings located on the same lot.~~

Item B – 9 **Request by David Smith representing the Residential Ad-hoc Committee to amend the 2018 NC Residential Code, Section R311.2 Egress door as follows:**

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.

Item B – 10 **Request by David Smith representing the Residential Ad-hoc Committee to amend the 2018 NC Residential Code, Section R311.7.5.3 Nosings & Section R312 Guards and Window Fall Protection as follows:**

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.~~

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.

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.

Item B – 11 Request by David Smith representing the Residential Ad-hoc Committee to amend the 2018 NC Residential Code, Section R703.8.2.1 Support by steel angle as follows:

R703.8.2.1 Support by steel angle. A minimum 6-inch by 4-inch by 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 (51mm 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 a minimum of ~~not less than~~ two 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 1/16 inch (1.6 mm).~~ at every double stud or shall be a minimum of two 7/16-inch diameter (11.1 mm) by 4 inches (102 mm) lag screws into solid double blocking with each pair of lag screws spaced at horizontal intervals not to exceed 16 inches (406 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 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 steel angle shall have a minimum clearance to underlying construction of 1/16 inch (2 mm). A minimum of 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 wythe 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 air space 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~~ steel angle 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 x 3 inch x 1/4 inch (76 mm x 76 mm x 6 mm) steel plate welded to the angle at 24 inches (610 mm) on center along the angle or as *approved* by the *building official*.

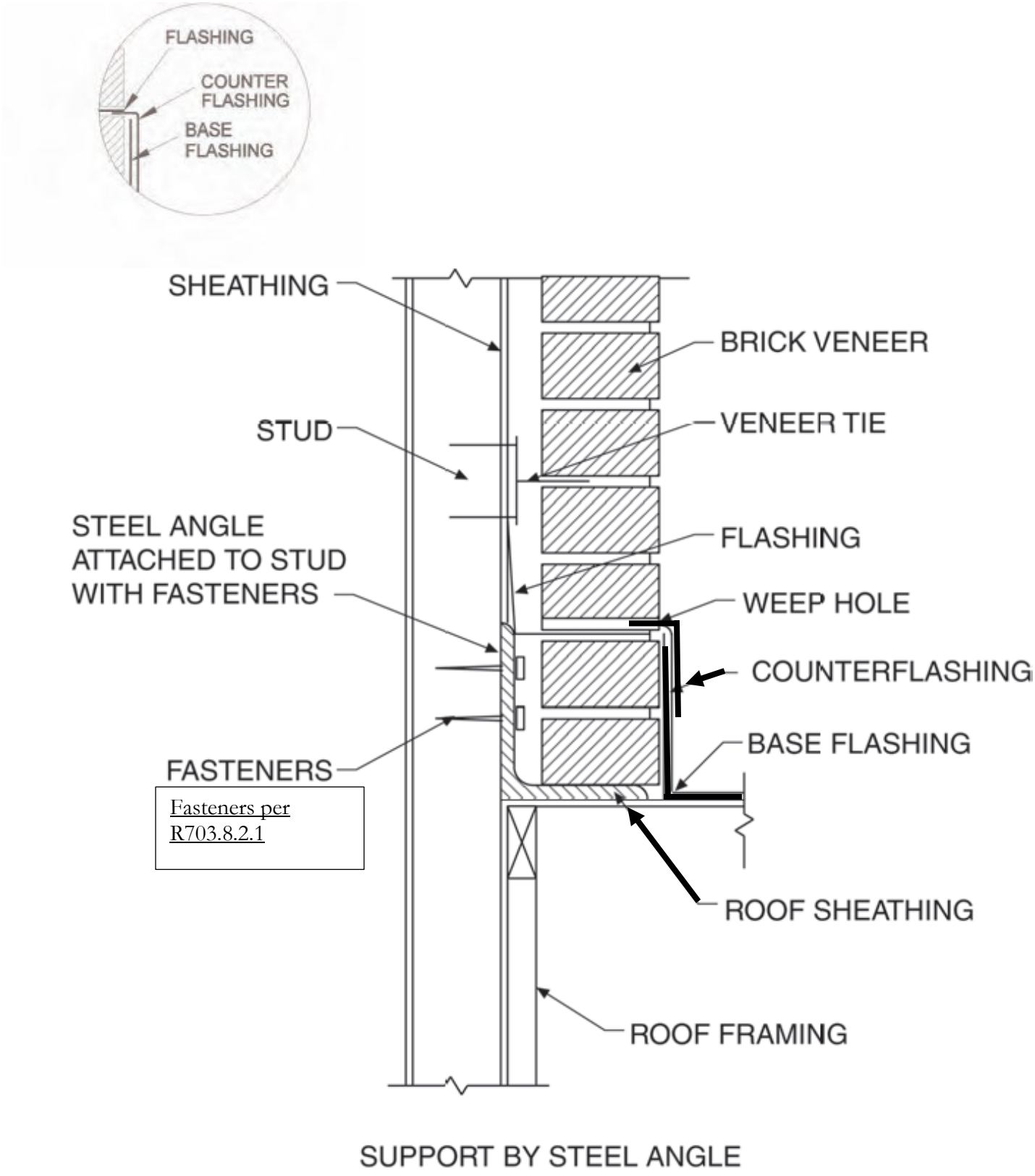
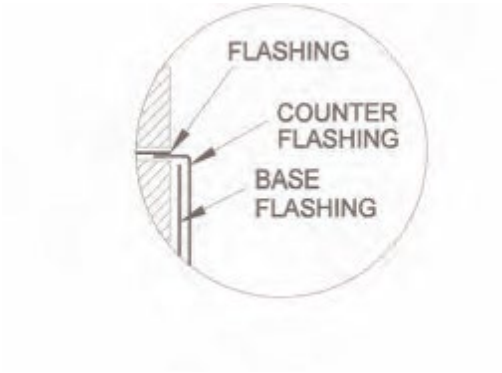


FIGURE R703.8.2.1
EXTERIOR MASONRY VENEER SUPPORT BY STEEL ANGLES



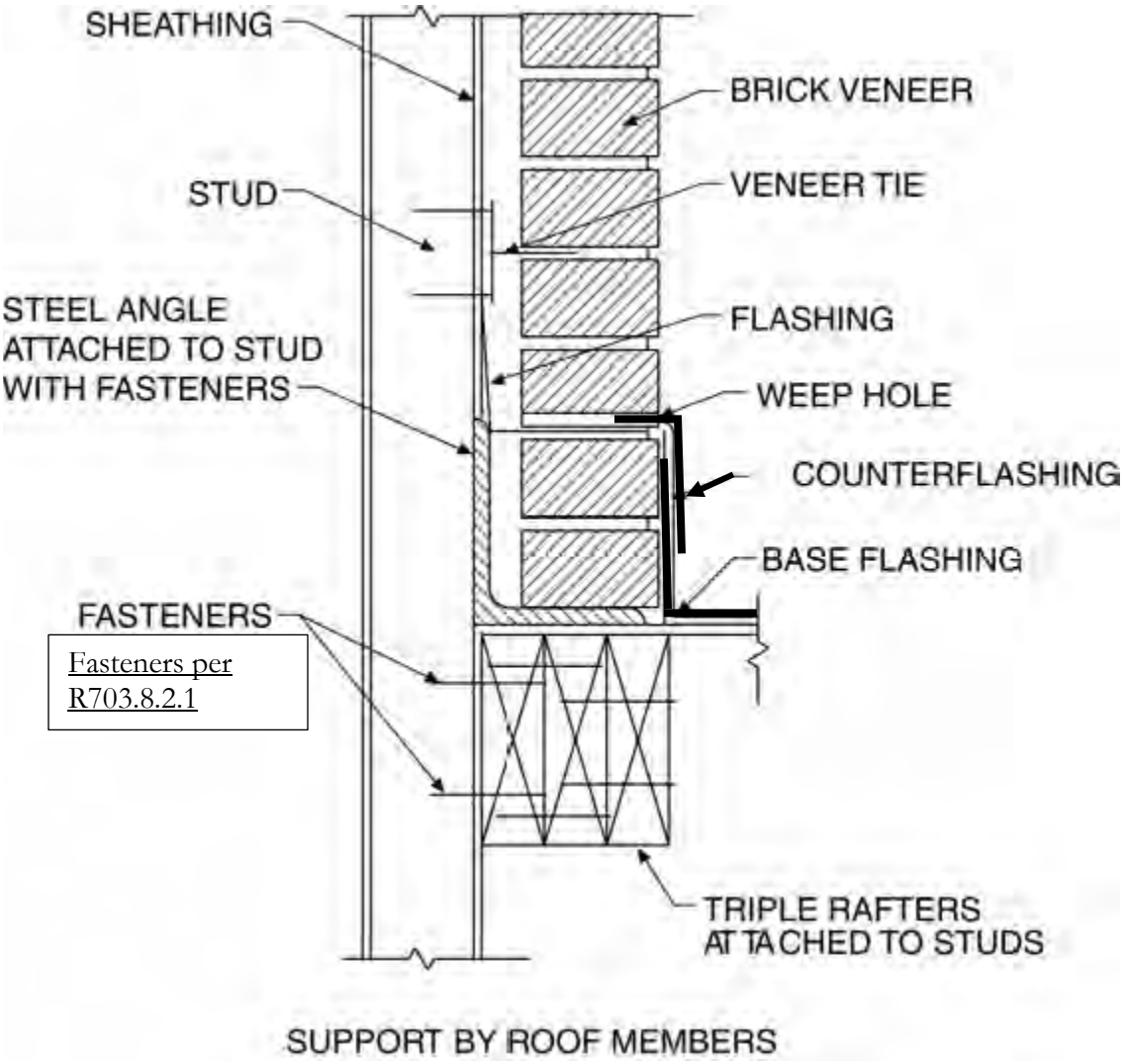


FIGURE R703.8.2.2
EXTERIOR MASONRY VENEER SUPPORT BY ROOF MEMBER

Item B – 12 Request by David Smith representing the Residential Ad-hoc Committee to amend the 2018 NC Residential Code, Section R311.7.4 Walkline and R311.7.5.2.1 Winder Treads as follows:

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.

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).

Item B – 13 Request from Keith Rogers representing the Building Code Council Plumbing Standing Committee to amend the 2018 NC Building Code, Section 2902.6 as follows:

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

Item B – 14 Request from Keith Rogers representing the Building Code Council Mechanical Standing Committee to amend the 2018 NC Building Code, Section 410.2 as follows:

410.2 Small occupancies. ~~Deleted.~~ Drinking fountains shall not be required for an occupant load of 30 or fewer.

Item B – 15 Request from Keith Rogers representing the Building Code Council Mechanical Standing Committee to amend the 2018 NC Building Code, Section 2902.2, Exception 2 as follows:

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.

Item B – 16 Request from Keith Rogers representing the Building Code Council Mechanical Standing Committee to amend the 2018 NC Plumbing Code, Section 403.2, Exception 2 as follows:

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.

Item B – 17 Request from Keith Rogers representing the Building Code Council Mechanical Standing Committee to amend the 2018 NC Building Code, Footnotes to Table 2902.1 as follows:

o. For business and mercantile occupancies with an occupant load of ~~25~~ 30 or fewer, service sinks shall not be required.

Item B – 18 Request from Keith Rogers representing the Building Code Council Mechanical Standing Committee to amend the footnotes to Table 403.1 as follows:

o. For business and mercantile occupancies with an occupant load ~~25~~ 30 or fewer, service sinks shall not be required.

Item B – 19 Request from Keith Rogers representing the Building Code Council Mechanical Standing Committee to amend the 2018 NC Building Code, Table 2902.1 as follows:

No.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (Urinals SEE SECTION 419.2 OF THE IPC)
2	Business	B	(no changes to this section)	1 per ~~25~~ 30 for the first ~~50~~ 30 and 1 per 50 for the remainder exceeding ~~50~~ 30

Item B – 20 Request from Keith Rogers representing the Building Code Council Mechanical Standing Committee to amend the 2018 NC Building Code, Table 403.1 as follows:

No.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (Urinals SEE SECTION 419.2 OF THE IPC)
2	Business	B	(no changes to this section)	1 per ~~25~~ 30 for the first ~~50~~ 30 and 1 per 50 for the remainder exceeding ~~50~~ 30

Part C – Notice of Rulemaking Proceedings and Public Hearing
The following Petitions for Rulemaking have been granted by the Council. Notice of Rulemaking proceedings has been made. The Public Hearing will be held on September 10, 2019 and the Final Adoption meeting may take place on or after December 2019. The written public comment period expires on October 14, 2019.

Item C – 1 Request by Jackie Flemming and Doug Allen representing Simpson Strong-Tie to amend the 2018 NC Residential Code, Appendix M, Section AM109.1.4 as follows:

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 galavinzed 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)

Fastener Type	Diameter (inches)	QTY	Length
Bolt	5/8[a]	1	As required
Screws	0.27[b]	2	Long enough to achieve a 1 ½" thread penetration

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.

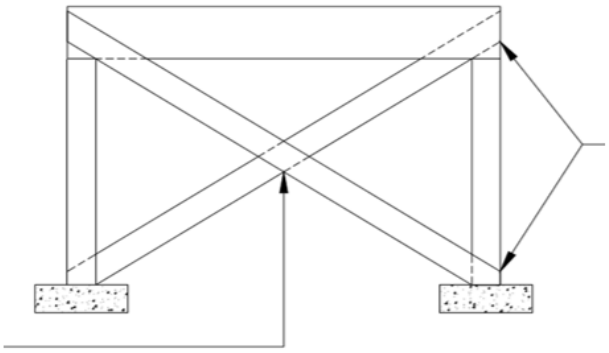


FIGURE AM109.1(4)
CROSS BRACING

Item C – 2 **Request by Charles Watts, AIA representing The Apartment Association of North Carolina to amend the 2018 NC Building Code, Section 1107.6.2.2.1 as follows:**

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*.

Item C – 3 **Request by Colin Triming representing North Carolina Fire Code Revision Committee to amend the 2018 NC Building Code and Fire Prevention Code, Section 905.3.1 as follows:**

~~**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.~~

~~**Exceptions:**~~

1. ~~Class I standpipes are allowed to 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 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.~~
3. ~~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. ~~Class I standpipes are allowed in basements equipped throughout with an automatic sprinkler system.~~
5. ~~In determining the lowest level of fire department vehicle access, it shall not be required to consider either of the following:~~
    - ~~5.1 Recessed loading docks for four vehicles or less.~~
    - ~~5.2 Conditions where topography makes access from the fire department vehicle to the building impractical or impossible~~

905.3.1 Height. Class III standpipe systems shall be installed throughout buildings where 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. 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. 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.

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.
7. In determining the lowest level of fire department vehicle access, it shall not be required to consider either of the following:
   - 7.1 Recessed loading docks for four vehicles or less.
   - 7.2 Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

Item C – 4 **Request by Tim Henshaw representing the N.C. Fire Code Revision Committee to amend the 2018 NC Fire Code, Section 1031 as follows:**

Section 1031.10 Fire Escape Stairs and Ladders

All fire escape *stairs* and ladders shall be kept clear and unobstructed at all times and shall be maintained in good working order. Rust, loose bolts, frayed cables, insufficient weights, welds or any other condition that renders the equipment unusable shall be immediately repaired or replaced. All fire escapes that need to be replaced or repaired shall comply with Section 405 of the North Carolina Existing Building Code (NCEBC).

Section 1031.10.1 Examination

Fire escape *stairways*, balconies, and *ladders* shall be examined for structural adequacy and safety in accordance with Section 1031.10 by a *registered design professional* or others acceptable to the fire code official every 5 years, or as required by the fire code official.

Section 1031.10.2 Examination Report

Records of inspections, testing and maintenance shall be maintained.

Section 1031.10.2 Examination Report

Records of inspections, testing and maintenance shall be maintained.

Item C – 5 **Request by Tim Henshaw representing the N.C. Fire Code Revision Committee to amend the 2018 Existing Building Code, Section 405 as follows:**

405.6 Marking

The ground under the fire escape stair or ladder shall be identified and marked. Approved signs, other approved notices or markings that include

the words NO PARKING – FIRE ESCAPE shall be provided to identify or prohibit the obstruction thereof.

Item C – 6 **Request by Cliff Isaac representing the N.C. Department of Insurance to amend the 2018 N.C. Administrative Code and Policies as follows:**

107.6 Inspections of component or element. Acceptance of inspection of a component or element by a NC registered architect or engineer will require completion of the "Design Professional Inspection Form" found in Appendix G.

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 subsection (b2) of NC G.S. 153A-352 and is in compliance with the approved plans & specifications for the project. This inspection is in compliance with all of the requirements of the above referenced code. Attach any additional documents if needed.

SEAL

_____

Licensed Architect or Engineer

Inspection Department disclaimer:

Upon the receipt of a signed written document as required under subsection (a) of Article 160A-413.5., 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.

4/2019

Item C – 7 **Request by Jerry Fraker and Leon Skinner representing the City of Raleigh to amend the 2018 N.C. Plumbing Code, Section 702.1 Exception as follows:**

702.1 Above-ground sanitary drainage and vent pipe. Above-ground soil, waste and vent pipe shall conform to one of the standards listed in Table 702.1. Pipe fittings shall not be solvent-cemented inside of plastic pipe.

~~**Exception:** Plastic pipe with an inside diameter of 2 inches (51 mm) and larger shall not be used for storm drainage, drain, waste and vent conductors in buildings in which the top occupied floor exceeds 75 feet (23 m) in height.~~

Exception: *Stack*s in buildings in which the top occupied floor exceeds 75 feet (23 m) in height shall not be plastic.

Item C – 8 **Request by Jerry Fraker and Leon Skinner representing the City of Raleigh to amend the 2018 N.C. Plumbing Code, Section 702.4 Fittings as follows:**

~~**Exception:** Plastic pipe fittings and plastic plumbing appurtenances with an inside diameter 2 inches (51 mm) and larger shall not be used for drain, waste and vent conductors in buildings in which the top occupied floor exceeds 75 feet (23 m) in height.~~

Item C – 9 **Request by Jerry Fraker and Leon Skinner representing the City of Raleigh to amend the 2018 N.C. Plumbing Code, Section 1102.2 as follows:**

Exception: ~~Plastic pipe with an inside diameter of 2 inches and larger shall not be used for *Stacks* in which the top occupied floor exceeds 75 feet (23 m) in height.~~

Item C – 10 **Request by Jerry Fraker and Leon Skinner representing the City of Raleigh to amend the N.C. Plumbing Code, Section 917 and 917.1 as follows:**

SECTION 917

SINGLE STACK VENT SYSTEM ~~(SOVENT)~~

917.1 ~~Design and installation shall be in accordance with the design criteria contained in the *Copper Development Association (CDA) Handbook* No. 802. Materials shall meet standards and specifications listed in Tables 702.1 and 702.4 for drain, waste and vent pipe and fittings.~~

SECTION 917
SINGLE-STACK VENT SYSTEM

917.1 Single-stack vent system permitted.

A drainage *stack* shall serve as a single-stack vent system where sized and installed in accordance with Sections 917.2 through 917.9. The drainage *stack* and *branch* piping shall be the vents for the drainage system. The drainage *stack* shall have a *stack vent.*

917.2 Stack size.

Drainage *stacks* shall be sized in accordance with Table 917.2. *Stacks* shall be uniformly sized based on the total connected *drainage fixture unit* load. The *stack vent* shall be the same size as the drainage *stack*. A 3-inch 76 mm) *stack* shall serve not more than two closets.

TABLE 917.2
SINGLE STACK SIZE

STACK SIZE (inches)	MAXIMUM CONNECTED DRAINAGE FIXTURE UNITS		
	Stacks less than 75 feet in height	Stacks 75 feet to less than 160 feet in height	Stacks 160 feet and greater in height
3	24	NP	NP
4	225	24	NP
5	480	225	24
6	1,015	480	225
8	2,320	1,015	480
10	4,500	2,320	1,015
12	8,100	4,500	2,320
15	13,600	8,100	4,500

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

917.3 Branch size.

Horizontal branches connecting to a single-*stack vent* system shall be sized in accordance with Table 710.1(2). Not more than one water closet shall discharge into a 3-inch (76 mm) *horizontal branch* at a point within a

developed length of 18 inches (457 mm) measured horizontally from the *stack*.
Where a water closet is within 18 inches (457 mm) measured horizontally from the *stack* and not more than one *fixture* with a drain size of not more than 1½ inches (38 mm) connects to a 3-inch (76 mm) *horizontal branch*, the *branch* drain connection to the *stack* shall be made with a sanitary tee.

917.4 Length of horizontal branches.

The length of *horizontal branches* shall conform to the requirements of Sections 917.4.1 through 917.4.3.

917.4.1 Water closet connection.

Water closet connections shall be not greater than 4 feet (1219 mm) in *developed length* measured horizontally from the *stack*.

Exception: Where the connection is made with a sanitary tee, the maximum *developed length* shall be 8 feet (2438 mm).

917.4.2 Fixture connections.

Fixtures other than water closets shall be located not greater than 12 feet (3657 mm) in developed length, measured horizontally from the *stack*.

917.4.3 Vertical piping in branch.

The length of vertical piping in a *fixture drain* connecting to a horizontal *branch* shall not be considered in computing the *fixture's* distance in *developed length* measured horizontally from the *stack*.

917.5 Minimum vertical piping size from fixture.

The vertical portion of piping in a *fixture drain* to a *horizontal branch* shall be 2 inches (51 mm). The minimum size of the vertical portion of piping for a water-supplied urinal or standpipe shall be 3 inches (76 mm). The maximum vertical drop shall be 4 feet (1219 mm). *Fixture drains* that are not increased in size, or have a vertical drop in excess of 4 feet (1219 mm), shall be individually vented.

917.6 Additional venting required.

Additional venting shall be provided where more than one water closet discharges to a horizontal *branch* where the distance from a fixture trap to the stack exceeds the limits in Section 917.4. Where additional venting is required, the fixture(s) shall be vented by individual vents, common vents, wet vents, circuit vents, or a combination waste and vent pipe. The dry vent extensions for the additional venting shall connect to a *branch vent*, vent *stack*, *stack vent*, air admittance valve, or shall terminate outdoors.

917.7 Stack offsets.

Where *fixture drains* are not connected below a horizontal offset in a *stack*, a horizontal offset shall not be required to be vented. Where horizontal *branches* or *fixture drains* are connected below a horizontal offset in a *stack*, the offset shall be vented in accordance with Section 907. Fixture connections shall not be made to a *stack* within 2 feet (610 mm) above or below a horizontal offset.

917.8 Prohibited lower connections.

Stacks greater than 2 *branch intervals* in height shall not receive the discharge of *horizontal branches* on the lower two floors. There shall not be connections to the *stack* between the lower two floors and a distance of not less than 10 pipe diameters downstream from the base of the single stack vented system.

917.9 Sizing building drains and sewers.

The *building drain* and *building sewer* receiving the discharge of a single *stack vent* system shall be sized in accordance with Table 710.1(1).

Item C – 11 Request by Jerry Fraker and Leon Skinner representing the City of Raleigh to amend the 2018 N.C. Plumbing Code, Section 917.1.1 as follows:

917.1.1 Engineered Single Stack Systems. Engineered single *stack* systems shall be listed in accordance to the standards of the specific material utilized in the system, designed by a *design professional* and installed in accordance with the manufacturer's installation instructions.

Item C – 11A Request by Jerry Fraker and Leon Skinner representing the City of Raleigh to amend the 2018 N.C. Plumbing Code, Section 1102.7 as follows:

~~**1102.7 Fittings.** Plastic pipe fittings and plastic plumbing appurtenances with an inside diameter of 2 inches and larger shall not be used for storm drainage conductors in buildings in which the top occupied floor exceeds 75 feet (23 m) in height.~~

~~**Exception:** Plastic pipe fittings and plastic plumbing appurtenances with inside diameter of 2 inches and larger shall not be used for storm drainage conductors in buildings in which the top occupied floor exceeds 75 feet (23 m) in height.~~

Item C – 12 Request by Cothran Harris representing the North Carolina Self Storage Association (NCSSA) to amend the 2018 N.C. Building Code, Table 504.4 as follows:

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
S-1	NS	UL	11	4	2	3	2	4	3	1
	S	UL	12	5	~~3~~ 4	4	3	5	4	2

(The remainder of the table and footnotes remain unchanged.)

Item C – 13 Request by Robert Schwachenwald representing Bizzy Bee Plumbing, Inc. to amend the 2018 N.C. Plumbing Code, Section 702 as follows:

SECTION 718

CURED IN PLACE

718.1 General. This section shall govern the replacement, rehabilitation or repair of existing *building sewer* piping by cured in place piping methods.

718.2 Scope. Cured in Place Piping (CIPP) installations shall conform to the requirements of ASTM F 1216 and be installed per the manufacturer's installation instructions.

ASTM STANDARDS

F 1216-09 Standard for Cured in Place Piping (CIPP).....718.1, 718.2

Item C – 14 Request by Colin Triming representing the N.C. Fire Code Revision Committee to amend the 2018 Fire Code, Section 321 as follows:

SECTION 321
TEMPORARY SLEEPING UNITS FOR DISASTER RELIEF WORKERS

321.1 General.
This section shall apply to temporary use of existing buildings for purposes of providing sleeping units for volunteer disaster relief workers supporting a disaster declaration issued by the Governor of North Carolina. Existing buildings shall be permitted to provide temporary sleeping facilities for disaster relief workers provided that all the provisions of this section are met and approved by the local code officials.

Facilities complying with 321 shall not require compliance with other provisions of this code or the Building Code.

Exception: Buildings containing the following occupancies or uses shall not be used for temporary sleeping units for disaster relief workers:

1. Group F
2. Group H
3. Group S-1 vehicle repair garage
4. Group S-1 bulk tire storage
5. Woodworking operations

321.2 Permit required.
An operational permit as designated in 105.6.49 shall be required.

321.3 Short Term Occupancy.
Short term occupancies meeting the requirements of this section shall be permitted in existing buildings that have a current certificate of occupancy and connected electrical service. Use of a building or portion thereof for a short-term occupancy shall not exceed two days within 30 consecutive days.

321.3.1 Fire alarm and detection systems.
Functioning smoke detection as required for the existing building or single station battery operated *smoke alarms* where no system exists shall be provided throughout the sleeping room, *exit access* corridors, and *stairs* serving the *sleeping units* per 907.2.11.

Carbon monoxide detection devices shall be provided as required by 915.1.4 when fuel fired appliances are present.

321.3.2 Ventilation and temperature control.
Heating, cooling, and ventilation must be provided by equipment installed and approved for such use. Use of portable space heaters shall be prohibited.

321.3.3 Plumbing fixtures.
Plumbing fixtures shall be provided as required for Group R-2 by the NC Plumbing Code, Section 403 for the number of disaster relief workers occupying the building. Temporary facilities are permitted as approved by the local code official.

321.3.4 Accessibility.
Sleeping units for temporary disaster relief workers complying with the NC Building Code, Chapter 11 and Section 1009 are not required provided that the building owner or supporting organization has other sleeping facilities that are accessible by the disabled within the same jurisdiction as the temporary *sleeping units.*

321.4 Long Term Occupancy.
Long term occupancies meeting the requirements of this section and 321.3 shall be permitted in existing buildings that have a current certificate of occupancy and connected electrical service. Long term occupancies are for periods exceeding short term occupancy as designated in Section 321.3 with a maximum of 180 consecutive calendar days. The local fire official may extend the initial time period up to an additional 180-day period as often as needed if the building owner or his designee provides documentation satisfactory to the local fire official that an extension of time is necessary to support local disaster relief efforts and the fire official verifies that the building remains in compliance with this section.

321.4.1 Occupant load and age.
The maximum number of disaster relief workers is 20 ambulatory individuals. The disaster relief workers must be 18 years of age or older.

Exception: Occupants may be less than 18 years of age if the sleeping unit meets all of the following conditions:
1. Is intended to serve disaster relief worker families with children and their parents or other legal guardian; and
2. Equipped with *smoke alarms* meeting applicable code provisions for such devices in all sleeping areas.

321.4.2 Staff.
The sleeping units must be staffed by a minimum of two individuals of 21 years of age or older trained in accordance with Chapter 4 of the NC Fire Code and at least one trained individual shall be awake to monitor the sleeping room and restrooms throughout the time the facility is occupied by the disaster relief workers.

321.4.3 Fire alarm and detection systems.
Functioning smoke detection as required for the existing building or *single station smoke alarms* where no system exists shall be provided throughout the sleeping room, *exit access* corridors, and *stairs* serving the *sleeping units* per 907.2.11.

Carbon monoxide detection devices shall be provided as required by 915.1.4 when fuel fired appliances are present.
Building Owner or his designee shall submit documentation illustrating that the *smoke alarm* is approved and that all emergency batteries have been tested and are operational.

321.4.4 Fire extinguishers.
There must be an adequate number of fire extinguishers to serve the *sleeping units* as determined by the local fire code official. Travel distance to an approved fire extinguisher shall not exceed 50 feet. Minimum rating of extinguishers shall be 3A-40BC.

321.4.5 Automatic sprinkler system.
No fire protection sprinkler system is required per 903.2.8, Exception #6. Any existing fire sprinkler system shall be operational.

Exception: Sprinkler system required by 321.4.7.

321.4.6 Means of egress.
There shall be a minimum of two separate code compliant *means of egress* serving the *sleeping units*. An evacuation route approved by the local fire code officials shall be posted and be in compliance with Sections 401, 403, 404, and 406 of the NC Fire Code.

321.4.6.1 Illumination.
The disaster relief workers sleeping rooms and *exit access* corridors and stairs shall have unswitched illumination and emergency powered illumination with a duration of not less than 90-minutes.

321.4.7 Location of sleeping units.
Sleeping units above or below the level of exit discharge are required to have a fire sprinkler system complying with 903.3 or an automatic smoke detection system complying with 907.2.8.2.

321.4.8 Occupant restrictions.
1. No smoking shall be permitted in the facility.
2. Candles, incense and similar open-flame-producing items shall not be allowed within the *sleeping units* or areas immediately adjacent to the *sleeping units*.
3. No temporary cooking equipment shall be permitted in the facility.

105.6.49 Temporary sleeping units for disaster relief workers (mandatory permit). An operational permit is required for operation of long-term temporary *sleeping units* for disaster relief workers.

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*.

Exceptions:
6. Temporary *sleeping units* for disaster relief workers as allowed by Section 321.4.5.

Item C – 15 Request by David Smith representing the N.C. Residential Code Ad-Hoc Committee to amend the 2018 N.C. Residential Code, Section R311.7.8.1 as follows:

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.

Part D – Final Adoption

The following Petitions for Rulemaking have been granted by the Council. Notice of Rulemaking proceedings and Public Hearing has been made. The Public Hearings were held on September 10, 2019. The Final Adoption meeting will take place on December 10, 2019. The Council will give no further consideration to Petitions that are disapproved. Petitions that are approved will proceed through the Rulemaking process.

Item D – 1 Request by Dan Dittman representing the N.C. Department of Insurance to amend the 2018 NC Mechanical Code, Section 202 General Definition as follows:

EXTRA-HEAVY-DUTY COOKING APPLIANCE. Extra-heavy-duty cooking appliances are those utilizing open flame combustion of solid fuel at any time.
~~Shall not use solid fuel to provide source of heat for cooking. Pellets and chips if used as flavoring shall not be in a state of open flame combustion at any time. Smoldering chambers shall not introduce embers into the flue at any time.~~
HEAVY-DUTY COOKING APPLIANCE. Heavy-duty cooking *appliances* include electric under-fired broilers, electric chain (conveyor) broilers, gas under-fired broilers, gas chain (conveyor) broilers, gas open-burner ranges (with or without oven), electric and gas wok ranges, smokers, smoker ovens, and electric and gas over-fired (upright) broilers and salamanders.
Such an appliance shall not use solid fuel to provide source of heat for cooking. Pellets and chips if used as flavoring shall not be in a state of open flame combustion at any time. Smoldering chambers shall not introduce embers into the flue at any time.

Item D – 2 Request by Dan Dittman representing the NC Department of Insurance to amend the 2018 NC Residential Code, Section M1411.3.2 as follows:

M1411.3.2 Drain pipe materials and sizes. Components of the condensate disposal system shall be ABS, cast iron, copper, cross-linked polyethylene, CPVC, galvanized steel, PE-RT, polyethylene, polypropylene or PVC pipe or tubing. Components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of Chapter 30. Condensate waste and drain line size shall be not less than 3/4 -inch (19 mm) nominal diameter from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with an *approved* method.

Provisions shall be made to prevent the formation of condensation on the exterior of primary condensate drain piping if condensate dripping off the pipe could cause damage to any building component.

Item D – 3 **Request by Dan Dittman representing the NC Department of Insurance to amend the 2018 NC Residential Code, Section M1502.1 as follows:**

M1502.1 General. Clothes dryers shall be exhausted in accordance with the manufacturer's instructions.

M1502.1.1 (504.6) Makeup air.
Where a *closet* is designed for the installation of a clothes dryer, an opening having an area of not less than 100 square inches (0.0645 m^2) shall be provided in the *closet* enclosure or *makeup air* shall be provided by other *approved* means.

Item D – 4 **Request by Dan Dittman representing the NC Department of Insurance to amend the 2018 NC Residential Code, Section M1502.4.2 as follows:**

M1502.4.2 Duct installation. Exhaust ducts shall be supported at intervals not to exceed ~~12~~ 4 feet (3658 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be sealed in accordance with Section M1601.4.1 and shall be mechanically fastened… (remainder of paragraph unchanged)

Item D – 5 **Request by Dan Dittman representing the N.C. Department of Insurance to amend the 2018 NC Residential Code, Section M1602.3 as follows:**

M1602.3 (603.18) Return-air intake (nonengineered systems). If only one central return-air grille is installed, it shall be of a size sufficient to return a volume of air compatible with the CFM requirements and the temperature rise limitations specified by the equipment manufacturer. The face velocity of return air grilles shall not exceed 450 feet per minute (fpm) (2.3 m/s). At least one separate return shall be installed on each level of a multi-level structure. For split-level and split-foyer structures, one return may serve more than one level if located within the split area and the total area of the levels does not exceed 1,600 square feet (148.6 m2). Return-air grilles shall not be located in bathrooms. The return air from one residential living unit shall not be mixed with the return air from other living units.

In *dwellings* with 1,600 square feet (148.6m2) or less of conditioned area, a central return is permitted. When the dwelling contains more than 1,600 square feet (148.6m2) of conditioned area, additional returns shall be provided. Each return shall serve not more than 1,600 square feet (148.6 m2) of area and shall be located in the area it serves. Return air may travel through the living space to the return-air intake if there are no restrictions, such as solid doors, to the air movement. Undercut doors are allowed. When panned joists are used for return air, the structural integrity shall be maintained. Air capacity for joists 16 inches (406 mm) on center shall be a

maximum of 375 cubic feet per minute (0.177 m3/s) for 8-inch (203 mm) joists and 525 cubic feet per minute (0.248 m3/s) for 10-inch (254 mm) joists. Wiring located in spaces used for return-air ducts shall comply with the *North Carolina Electrical Code*.

Item D – 6 Request by Kevin Schwartz representing Valet Living LLC to amend the 2018 NC Fire Code, Section 304.4 as follows:

304.4 Valet Trash Collection Services

1. Combustible trash in *means of egress*. Combustible trash or recyclable materials shall not be placed in *exits*, *exit passageways*, in enclosures for *stairways* or *ramps*, in *corridors*, in elevator lobbies or on egress balconies except as permitted by the following:
2. Combustible trash or recyclable materials in *corridors* or on egress balconies of Group R-2 occupancies that is awaiting scheduled valet trash collection in accordance with subsections below.

3. Valet Trash collection. Trash or recyclable materials awaiting valet trash collection shall only be placed in a *corridor* or on an egress balcony within 5 hours of scheduled pickup and shall not obstruct the minimum egress width required by Section 1031. Trash or recyclable materials awaiting valet trash collection shall be placed completely inside of one or more containers with a closed lid that complies with subsections below. Additional trash or recyclable material placed outside of compliant containers are prohibited in *exits*, *exit passageways*, *corridors* or egress balconies.

4. Valet trash collection containers. Containers used for valet trash collection shall not exceed a capacity of 2.0 cubic feet (15 gallons, 0.06 cubic meters) and shall be provided with tight-fitting or self-closing lids. Containers and lids shall comply with the following:

a. Containers and lids located in an area that is protected by fire sprinklers in accordance with Item 1 shall be constructed entirely of noncombustible materials or materials that meet a peak rate of heat release not exceeding 300 kW/m2 when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m2 in the horizontal orientation. Containers and lids shall be listed or bear the label of an approved agency that validates compliance with this requirement.

b. Containers and lids located in an area that is not protected by fire sprinklers in accordance with Item 1 shall be constructed entirely of noncombustible materials or materials that meet a peak rate of heat release not exceeding 150 kW/m2 when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m2 in the horizontal orientation. Containers and lids shall be listed or bear the label of an approved agency that validates compliance with this requirement.

Item D – 7 **Request by Patrick Granson representing the Mecklenburg County Code Enforcement to amend the 2018 NC Fire Code Section 3103.2 as follows:**

3103.2 Approval required. Tents and membrane structures shall not be erected, operated or maintained for any purpose without first obtaining a permit and *approval* from the fire and building code official, as specified in the permit.

Item D – 8 **Request by Keith Rogers representing the North Carolina Building Code Council Mechanical Standing Committee to amend the 2018 NC Residential Code Section P2603.5 as follows:**

P2603.5.2 Frost protection. No *traps* of soil or waste pipe shall be installed or permitted outside of a building or concealed in outside walls or in any place where they may be subjected to freezing temperatures, unless approved provisions are made to protect them from freezing.

P3201.3 (1002.7) Trap setting and protection. Trap shall be set level with respect to their water seals and shall be protected from freezing. Trap seals shall be protected from siphonage, aspiration or back pressure by an approved system of venting (see Sections P3101 and P2603.5.2).

Item D – 9 **Request by Robert Privott representing the North Carolina Home Builders Association to amend the 2018 Residential Code, Section R506.2.1 as follows:**

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.

Part E – Reports

- **Ad-Hoc Committee Reports**
- **Standing Committee Reports**
- **Staff Reports**
- **Chairman's Report**

  A. Election of Chairman and Vice Chairman for 2020-2021
  B. Approval of 2020 Meeting Schedule
  C. Update on Remote NCBCC Meeting
  D. Other items as deemed necessary by Chairman

- **Public Comments**

Part F – Appeals

Sincerely,

Cliff Isaac Secretary,
NC Building Code Council