Minutes of the North Carolina Building Code Council
September 10, 2019
Raleigh, NC

All members of the North Carolina Building Code Council were present for the Council meeting except Robert Morrow and Tony Sears.

The following are summary minutes. The official minutes of this meeting are recorded on CD. Anyone desiring verbatim CDs or excerpts from these CDs should contact the Engineering Division of the NC Department of Insurance for information and reproduction costs. The next scheduled NC Building Code Council meeting will be held **Tuesday, December 10, 2019.** The location will be announced 30 days before the meeting.

Part A Administrative Items

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

There were no actual or potential conflicts of interest noted.

Item A – 2 Approval of Minutes of the June 11, 2019 NC Building Code Council Meeting.

A motion to accept the June 11, 2019 meeting minutes was made by W. Hamilton. Second by F. Meads. Motion passed.

Item A – 3 Request by Gary Styers representing The Village of Clemmons, for approval of the updated Fire Protection in the Clemmons Code of Ordinances.

Motion to approve was made by W. Hamilton. Second by R. Euchner. Motion passed.

Item A – 4 Rules Review Commission Meeting Report

No report at this time.

Item A – 5 Public Comments

There were no 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 December 10th meeting.

Item B – 1 Item B – 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.

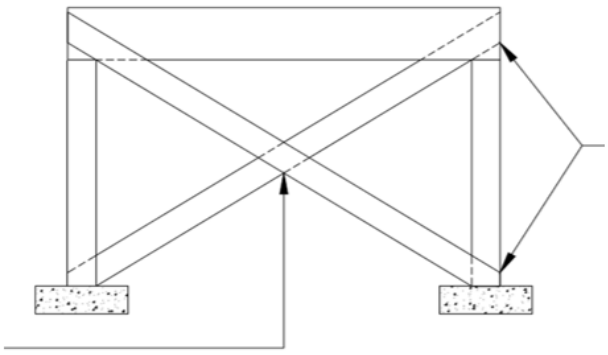


FIGURE AM109.1(4)
CROSS BRACING

Residential Super Committee: Motion to grant with grammatical corrections made by D. Smith. Second by K. Hamilton.
Motion passed.

Building Code Council: Motion to grant with grammatical corrections by G. Embler. Second by F. Meads.
Motion passed.

Item B – 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.

Commercial Super Committee: Motion to grant by D. Priest. Second by K. Rogers.
Motion passed.

Building Code Council: Motion made to grant by D. Priest. Second by K Rogers.
Motion passed.

Item B – 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

Commercial Super Committee: Motion to grant with grammatical corrections by W. Hamilton. Second by K. Rogers.
Motion passed.

Building Code Council: Motion to grant with grammatical corrections by F. Meads. Second by W. Hamilton.
Motion passed.

Item B – 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.

Commercial Super Committee: Motion to grant with grammatical corrections by W. Hamilton. Second by W. White.
Motion passed.

Building Code Council: Motion to grant with grammatical corrections by W. Hamilton. Second by D. Priest.
Motion passed.

Item B – 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.

Commercial Super Committee: Motion to grant by W. Hamilton. Second by W. White. Motion passed

Building Code Council: Motion to grant by W. Hamilton. Second by K. Rogers. Motion passed.

Item B – 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.

_____

Licensed Architect or Engineer

SEAL

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

Residential Super Committee: Motion to grant with section number change to 107.6 by K. Rogers. Second by D. Smith.
Motion passed.

Commercial Super Committee: Motion to grant with section number change to 107.6 by W. Hamilton. Second by K Rogers.
Motion passed.

Building Code Council: Motion to grant with section number change to 107.6 by W. Hamilton. Second by K. Rogers.
Motion passed.

NOTE: Items B – 7 through Item B – 11A were voted on at the same time.

Item B – 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: *Stacks* in buildings in which the top occupied floor exceeds 75 feet (23 m) in height shall not be plastic.

Commercial Super Committee: Motion to grant by D. Priest. Second by K. Rogers.
Motion passed.

Building Code Council: Motion to grant by D. Smith. Second by D. Priest.
Motion passed.

Item B – 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.~~

Commercial Super Committee: Motion to grant by D. Priest. Second by K. Hamilton. Motion passed.

Building Code Council: Motion to grant by D. Smith. Second by D. Priest. Motion passed.

Item B – 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.~~

Commercial Super Committee: Motion to grant by D. Priest. Second by K. Rogers. Motion passed.

Building Code Council: Motion to grant by D. Smith. Second by D. Priest. Motion passed.

Item B – 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).

Commercial Super Committee: Motion to grant by D. Priest. Second by K. Rogers. Motion passed.

Building Code Council: Motion to grant by D. Smith. Second by D. Priest. Motion passed.

Item B – 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.

Commercial Super Committee: Motion to grant by D. Priest. Second by K. Rogers. Motion passed.

Building Code Council: Motion to grant by D. Smith. Second by D. Priest. Motion passed.

Item B – 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.~~

Commercial Super Committee: Motion to grant by D. Priest. Second by K. Rogers. Motion passed.

Building Code Council: Motion to grant by D. Smith. Second by D. Priest. Motion passed.

Item B – 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:

Revise Table 504.4 Column Type II- B and Row S1-S from 3 to 4 stories. (3, 4). This change returns the maximum number of stories to the 2006 IBC value. This change only applies to sprinkled, S-1 noncombustible Type II-B buildings. This change has already been approved in committee for the IBC 2021 code cycle and will be voted on by the ICC Council during the annual convention in October.

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)

Commercial Super Committee: Motion to grant by D. Priest. Second by M. Ali. Motion passed.

Building Code Council: Motion to grant by D. Priest. Second by W. White. Motion passed.

Item B – 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

Residential Super Committee: Motion to grant substitute language as submitted by proponent by K. Hamilton. Second by D. Smith.
Motion passed.

Commercial Super Committee: Motion to grant substitute language as submitted by proponent by K. Rogers. Second by D. Priest.
Motion passed.

Building Code Council: Motion to grant substitute language as submitted by proponent by F. Meads. Second by D. Priest. Granted.
Motion passed.

Item B – 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.

Commercial Super Committee: Motion to grant with grammatical correction by D. Priest. Second by W. Hamilton.
Motion passed.

Building Code Council: Motion to grant with grammatical correction by W. Hamilton. Second by D. Priest.
Motion passed.

Item B – 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 guardrail, or used at the start of a flight, the handrail height at the fittings or bendings shall be permitted to exceed the maximum height.

Residential Super Committee: Motion to grant with grammatical correction by K. Hamilton. Second by S. Knight.
Motion passed.

Building Code Council: Motion to grant with grammatical correction by F. Meads. Second by G. Embler.
Motion passed.

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 was held September 10, 2019 and the Final Adoption meeting may take place on or after December 10, 2019. The written public comment period expires on October 14, 2019.

Item C – 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.

Dan Dittman spoke in favor of this.

Item C – 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.

Dan Dittman spoke in favor of this.

Item C – 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.

Dan Dittman spoke in favor of this.

Item C – 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)

Dan Dittman spoke in favor of this.

Item C – 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*.

Dan Dittman spoke in favor of this.

Item C – 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.

Kevin Schwartz spoke in favor of this item.
Michelle Manns spoke in favor of this item.
Colin Triming opposes the language of the proposed code; suggested it be re-written with better code language.

Item C – 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 C – 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 C – 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.

Robert Privott spoke in favor of this item.

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 June 11, 2019. The Final Adoption meeting took place on September 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 Carl Martin representing the North Carolina Department of Insurance to amend the 2018 NC Building Code, Sections 429.1.1 and 430.3.

429.1.1 Location.
Rooms where occupants receive care in I-4 and R-3 adult and child day care facilities shall be on the level of exit discharge.

Exception: Second story rooms used for first grade children but not younger than 2-1/2 years of age in licensed Group I-4 daycare facilities that meet all the following:
1. Fully sprinklered in compliance with 903.3.1.1,
2. Maximum of 49 children on the second story,
2. Maximum exit access travel distance is 75 feet,
3. Two remote means of egress are provided from each room containing children
4. Interior egress stairs shall be a minimum of 1-hour fire-resistant-rated and shall discharge directly to the exterior, and
5. Atriums shall not connect the first and second floor unless the atrium is 1-hour separated from the second floor.

430.3 Group E in churches, private schools and public schools.
Rooms used for first grade children and younger shall be located on the level of exit discharge. Rooms used for second grade children shall not be located more than one story above the level of exit discharge.

Exception: Second story rooms used for first grade children but not younger than 2-1/2 years of age in licensed Group E daycare facilities that meet all the following:
1. Fully sprinklered in compliance with 903.3.1.1,
2. Maximum of 49 children on the second story,
2. Maximum exit access travel distance is 75 feet,
3. Two remote means of egress are provided from each room containing children

4. Interior egress stairs shall be a minimum of 1-hour fire-resistant-rated and shall discharge directly to the exterior, and
5. Atriums shall not connect the first and second floor unless the atrium is 1-hour separated from the second floor.

Commercial Super Committee: Motion to disapprove by W. Hamilton. Second by L. Skinner.
Motion passed.

No action taken by the Council.

Item D – 2 Request by Carl Martin representing the North Carolina Department of Insurance to amend the 2018 NC Building Code, Section 714.4.2 as follows:

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.

Commercial Super Committee: Motion to approve by D. Priest. Second by L. Skinner.
Motion passed.

Building Code Council: Motion to approve by D. Priest. Second by F. Meads.
Motion passed.

Item D – 3 Request by Terry Cromer representing the North Carolina Association of Electrical Contractors to amend the 2018 Administrative Code, Section 106.3.1 as follows:

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 which must be

submitted with the building permit application, including a complete building code summary (see Appendix A of the Administrative Code and Policies). Trade permit applications for miscellaneous electrical mechanical and plumbing work to be performed for other than the construction of, alterations, repairs or additions to one- and two- family dwellings, townhouses or other building or structure shall be submitted in the exact format as, and contain only the information in Appendix A-1 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 or trade permit application 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 or trade permit application which have been approved of by the Building Code Council.

APPENDIX A – 1

This space reserve for department information

RESIDENTIAL & COMMERCIAL TRADE PERMIT
PLUMBING / MECHANICAL / ELECTRICAL / FUEL PIPING / FIRE PLACE / OTHER

Permit Holders Name: _____ Application Date: _____

Project Address: _____ Subdivision: _____

Property Owner: _____ Mobile phone #: _____

Email Address: _____

Is this property located within a flood plain? ☐ N/A ☐ No ☐ Yes *If yes, additional paperwork may be required*

Description of work: _____

_____

PLUMBING CONTRACTOR

Plumbing Contractor: _____ License #: _____
Project Supervisor: _____ Mobile #: _____
Email Address: _____

MECHNICAL CONTRACTOR

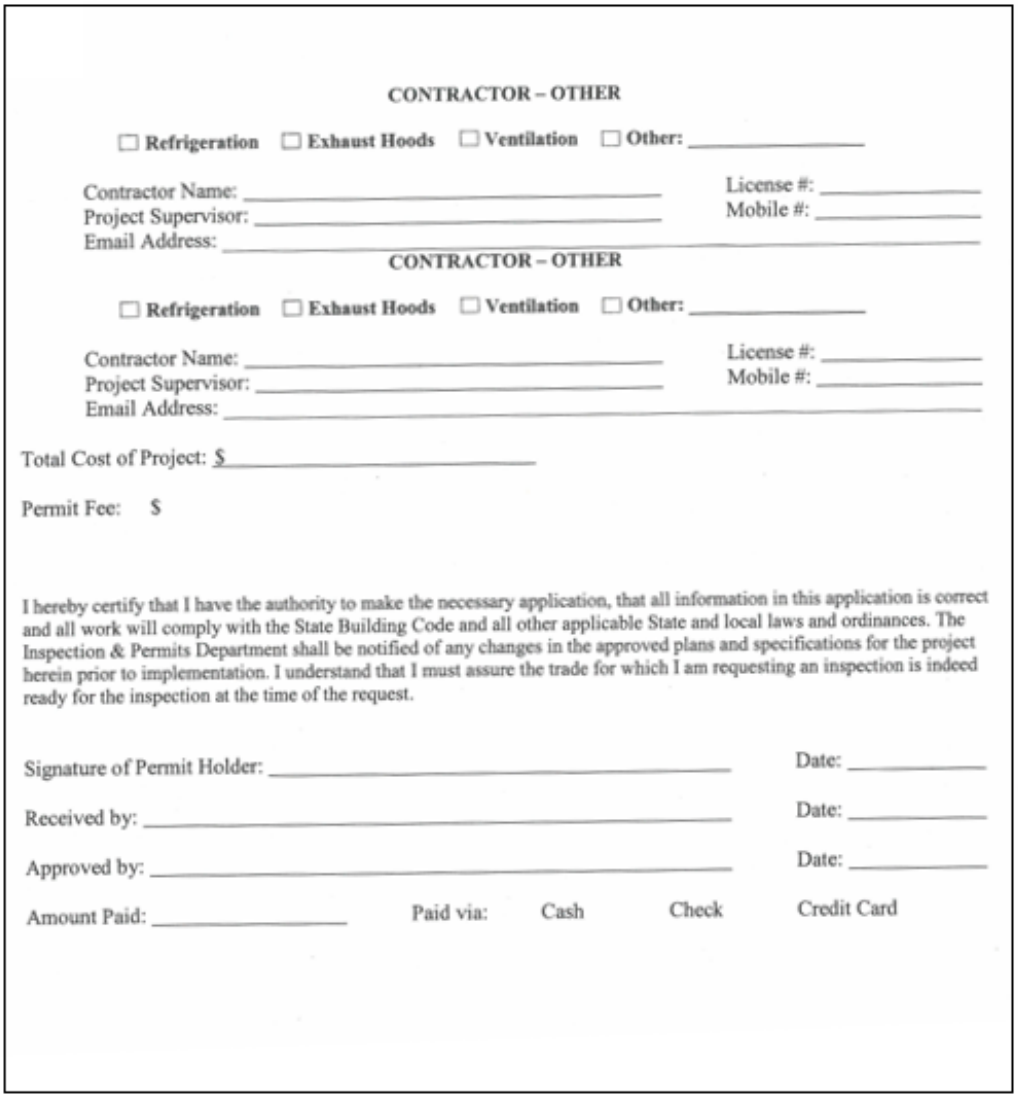
Mechanical Contractor: _____ License #: _____
Project Supervisor: _____ Mobile #: _____
Email Address: _____

ELECTRICAL CONTRACTOR

Electrical Contractor: _____ License #: _____
Project Supervisor: _____ Mobile #: _____
Email Address: _____

FUEL PIPING CONTRACTOR

Fuel Piping Contractor: _____ License #: _____
Project Supervisor: _____ Mobile #: _____
Email Address: _____
Are you installing a gas appliance(s)? ☐ Yes ☐ No *If yes, list appliance(s) below in description*
Description: _____



CONTRACTOR – OTHER

☐ Refrigeration ☐ Exhaust Hoods ☐ Ventilation ☐ Other: _____

Contractor Name: _____ License #: _____
Project Supervisor: _____ Mobile #: _____
Email Address: _____

CONTRACTOR – OTHER

☐ Refrigeration ☐ Exhaust Hoods ☐ Ventilation ☐ Other: _____

Contractor Name: _____ License #: _____
Project Supervisor: _____ Mobile #: _____
Email Address: _____

Total Cost of Project: $_____

Permit Fee: $

I hereby certify that I have the authority to make the necessary application, that all information in this application is correct and all work will comply with the State Building Code and all other applicable State and local laws and ordinances. The Inspection & Permits Department shall be notified of any changes in the approved plans and specifications for the project herein prior to implementation. I understand that I must assure the trade for which I am requesting an inspection is indeed ready for the inspection at the time of the request.

Signature of Permit Holder: _____ Date: _____

Received by: _____ Date: _____

Approved by: _____ Date: _____

Amount Paid: _____ Paid via: Cash Check Credit Card

Residential Super Committee: Motion to disapprove by L. Skinner. Second by S. Knight.
Motion passed.

Commercial Super Committee: Motion to disapprove by L. Skinner. Second by W. Hamilton.
Motion passed.

No action taken by Building Code Council.

Item D – 4 Request by Stuart Laney representing Laney Electrical Construction, Inc. to amend the 2017 Electrical Code, Section 406.4(D)(4) as follows:

~~**406.4(D)(4)** Arc Fault Circuit Interrupters.~~

~~Where a receptacle outlet is located in any areas specified in 210.12(A) or (B), a replacement receptacle at this outlet shall be one of the following:~~

~~(1) A listed outlet branch circuit type arc fault circuit interrupter receptacle~~
~~(2) A receptacle protected by a listed outlet branch circuit type arc fault circuit interrupter type receptacle~~
~~(3) A receptacle protected by a listed combination type arc fault circuit interrupter type circuit breaker~~
~~Exception No. 1: Arc fault circuit interrupter protection shall not be required where all of the following apply:~~
~~(1) The replacement complies with 406.4(D)(2)(b).~~
~~(2) It is impracticable to provide an equipment a ground conductor as provided by 250.130(C).~~
~~(3) A listed combination type arc fault circuit interrupter circuit breaker is not commercially available.~~
~~(4) GFCI/AFCI dual function receptacles are not commercially available.~~

~~Exception No. 2: Section 210.12(B), Exception shall not apply to replacement of receptacles.~~

Residential Super Committee: Motion to approve by L. Skinner. Second by D. Smith. Motion passed.

Commercial Super Committee: Motion to approve by L. Skinner. Second by D. Priest. Motion passed.

Building Code Council: Motion to approve by L. Skinner. Second by S. Knight. Motion passed.

Item D – 5 Request by Colin Triming representing the North Carolina Fire Code Revision Committee to amend the 2018 NC State Building Code, NC Fire Code 505.1.1 as follows:

505.1.1 Suite/Room identification. Where numerical addresses are posted to identify suites or rooms within buildings, the first digit of the suite or room number shall match the floor number signage.

Commercial Super Committee: Motion to approve by W. Hamilton. Second by K. Rogers.
Motion passed.

Building Code Council: Motion to approve by W. Hamilton. Second by D. Priest. Motion passed.

Item D – 6 Request by Terry Cromer representing the North Carolina Association of Electrical Contractors to amend the 2017 NC Electrical Code, Section 210.8(B) as follows:

B Other Than Dwelling Units. All single-phase receptacles rated 150 volts to ground or less, 50 amperes or less ~~and three phase receptacles rated 150 volts to ground or less, 100 amperes or less~~ installed in the following locations shall have ground-fault circuit-interrupter protection for personnel.

Residential Super Committee: Motion to approve by D. Smith. Second by L. Skinner. Motion passed.

Commercial Super Committee: Motion to approve by L. Skinner. Second by D. Priest. Motion passed.

Building Code Council: Motion to approve by L. Skinner. Second by D. Priest. Motion passed.

Item D – 7 Request by Jeff Tiller, PE representing Appalachian State University and Robert Privott representing the North Carolina Home Builders Association to amend the 2018 NC Energy Code, Section R406 Energy Rating Compliance Alternative as follows:

R406.1 Scope.

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

R406.2 Mandatory requirements.

Compliance with this section requires that the provisions identified in Sections R401 through R404 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 R406.2.1 or Table R406.2.2. ~~Table 402.1.1 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 R406.2.1
MINIMUM INSULATION AND FENESTRATION REQUIREMENTS FOR ENERGY RATING INDEX COMPLIANCE[a]

	FENESTRATION VALUES			R-VALUES FOR								
CLIMATE ZONE	FENESTRATION U-FACTOR[b,j]	SKYLIGHT[b] U-FACTOR	GLAZED FENESTRATION SHGC[b,k]	CEILING[m]	UNVENTED[p] ENCLOSED RAFTER ASSEMBLIES AIR-IMPERMEABLE	UNVENTED[p] ENCLOSED RAFTER ASSEMBLIES AIR-PERMEABLE/ IMPERMEABLE	WOOD FRAME WALL	MASS WALL[l]	FLOOR	BASEMENT[c,o] WALL	SLAB[d]	CRAWL SPACE[c] WALL
3	0.35	0.65	0.3	30	20	20+5[q]	13	5/10	19	10/13[r]	0	5/13
4	0.35	0.6	0.3	38 or 30ci[l]	20	20+15[q]	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[q]	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 R2) 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 R301.1 and Table R301.1.

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.

j. In addition to the exemption in R402.3.3, 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 R402.3.3, 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 x 6 framing cavity is deemed to comply. Fiberglass batts rated R-19 or higher compressed and installed in a 2x4 wall ~~is~~ 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.

q. The value for air-permeable insulation is shown first and that for air-impermeable insulation second. Thus, R-20 + R-5 indicates that the minimum value for air-permeable insulation is R-20, and the minimum value for air-impermeable insulation is R-5. 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.

TABLE R406.2.2
EQUIVALENT U-FACTORS FOR TABLE R406.2.1

CLIMATE ZONE	FENESTRATION[d]	SKYLIGHT	CEILING	UNVENTED[e] ENCLOSED RAFTER ASSEMBLIES AIR-IMPERMEABLE	UNVENTED[e] ENCLOSED RAFTER ASSEMBLIES AIR-PERMEABLE/ IMPERMEABLE	FRAME WALL	MASS WALL[b]	FLOOR	BASEMENT[d] WALL	CRAWL SPACE[c] WALL
3	0.35	0.65	0.0350	0.05	0.04[f]	0.082	0.141	0.047	0.059	0.136
4	0.35	0.60	0.0300	0.05	0.029[f]	0.077	0.141	0.047	0.059	0.065
5	0.35	0.60	0.0300	0.04	0.029[f]	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 R301.1 and Table R301.1.

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.

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.

f. For air-permeable/ impermeable applications, Table R406.2.1 shall be followed for minimum insulation values.

Commercial Super Committee: Motion to approve by D. Priest. Second by L. Skinner. Motion passed.

Building Code Council: Motion to approve by D. Priest. Second by F. Meads. Motion passed.

Item D – 8 Request by Jeff Tiller, PE representing Appalachian State University and Robert Privott representing the North Carolina Home Builders Association to amend the 2018 NC Residential Code, Section N1106 Energy Rating Compliance Alternative as follows:

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 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 402.2.2 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.

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 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 402.1.1 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]

	FENESTRATION VALUES			R-VALUES FOR								
CLIMATE ZONE	FENESTRATION U-FACTOR[b,j]	SKYLIGHT[b] U-FACTOR	GLAZED FENESTRATION SHGC[b,k]	CEILING[m]	UNVENTED[p] ENCLOSED RAFTER ASSEMBLIES AIR-IMPERMEABLE	UNVENTED[p] ENCLOSED RAFTER ASSEMBLIES AIR-PERMEABLE/ IMPERMEABLE	WOOD FRAME WALL	MASS WALL[i]	FLOOR	BASEMENT[c,o] WALL	SLAB[d]	CRAWL SPACE[e] WALL
3	0.35	0.65	0.3	30	20	20+5[q]	13	5/10	19	10/13[f]	0	5/13
4	0.35	0.6	0.3	38 or 30ci[l]	20	20+15[q]	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[q]	19[n], 13+5[h], or 15+3[h]	13/17	30[g]	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 Q) 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.

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 0.070 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 x 6 framing cavity is deemed to comply. Fiberglass batts rated R-19 or higher compressed and installed in a 2x4 wall ~~is~~ 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. The insulation installation shall meet the requirements of R806.5.

q. The value for air-permeable insulation is shown first and that for air-impermeable insulation second. Thus, R-20 + R-5 indicates that the minimum value for air-permeable insulation is R-20, and the minimum value for air-impermeable insulation is R-5. 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.

TABLE N1106.2.2
EQUIVALENT U-FACTORS FOR TABLE N1106.2.1[a]

CLIMATE ZONE	FENESTRATION[d]	SKYLIGHT	CEILING	UNVENTED[e] ENCLOSED RAFTER ASSEMBLIES AIR-IMPERMEABLE	UNVENTED[e] ENCLOSED RAFTER ASSEMBLIES AIR-PERMEABLE/ IMPERMEABLE	FRAME WALL	MASS WALL[b]	FLOOR	BASEMENT[d] WALL	CRAWL SPACE[c] WALL
3	0.35	0.65	0.0350	0.05	0.04[f]	0.082	0.141	0.047	0.059	0.136
4	0.35	0.60	0.0300	0.05	0.029[f]	0.077	0.141	0.047	0.059	0.065
5	0.35	0.60	0.0300	0.04	0.029[f]	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-valve requirement and maximum SHGC requirement, as applicable.

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. The insulation shall meet the requirements of R806.5.

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

Residential Super Committee: Motion to approve by D. Smith. Second by L. Skinner. Motion passed.

Building Code Council: Motion to approve by F. Meads. Second by D. Priest. Motion passed.

Item D – 9 Request by Jeff Tiller, PE representing Appalachian State University and Robert Privott representing the North Carolina Home Builders Association to amend the 2018 Residential Code, Section 2 Definitions and the 2018 Energy Code, Section 2 Definitions as follows:

AIR-IMPERMEABLE INSULATION. An insulation having an air permanence equal to or less than 0.02 L/s-m^2 at 75 Pa pressure differential tested according to ASTM E2178 or E 283.

Energy Conservation Code
Chapter 6 – Reference Standards
ASTM
E2178-13 Standard Test Method for Air Permeance of Building Materials .....Table R406.2.1, Table R406.2.2

Residential Code
Chapter 44 – Reference Standards
ASTM
E283-04 Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen .....Table N1106.2.1, Table N1106.2.2

Residential Super Committee: Motion to approve with correction of ASTM document and addition of referenced documents by D. Smith. Second by K. Hamilton. Motion passed.

Commercial Super Committee: Motion to approve with correction of ASTM document and addition of referenced documents by D. Priest. Second by W. White. Motion passed.

Building Code Council: Motion to approve with correction of ASTM document and addition of referenced documents by D. Smith. Second by S. Knight. Motion passed.

Item D – 10 Request by Keith Rogers representing the North Carolina Building Code Council Mechanical Standing Committee to amend the 2018 NC Plumbing Code, Section 305.4 as follows:

305.4 Freezing. Water pipes installed in a wall exposed to the exterior shall be located on the heated side of the wall insulation. Water~~, soil,~~ and condensate waste pipes shall not be installed outside of a building, in unconditioned attics, unconditioned utility rooms, or in any other place subjected to freezing temperatures unless adequate provision is made to protect such pipes from freezing by a minimum of R6.5 insulation determined at 75°F (24°C) in accordance with ASTM C177 or heat or both.
Exterior water supply system piping shall be installed ~~not less than 6 inches (152 mm)~~ below the frost line and not less than 12 inches (305 mm) below grade.
Note: These provisions are minimum requirements, which have been found suitable for normal weather conditions. Abnormally low temperatures for extended periods may require additional provisions to prevent freezing.

305.4.1 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.

305.4.2 Sewer depth. *Building Sewers* that connect to private sewage disposal systems shall be installed not less than 3 inches (76.2 mm) below finished grade at the point of septic tank connection. *Building sewers* shall be installed not less than 3 inches (76.2 mm) below grade.

Commercial Super Committee: Motion to approve by W. Hamilton. Second by W. White. Motion passed.

Building Code Council: Motion to approve by W. White. Second by W. Hamilton. Motion passed.

Item D – 11 Request by Ralph Euchner representing the North Carolina Building Code Council to amend the 2018 NC Plumbing Code, Section 306.2.4 Tracer Wire as follows:

306.2.4 Tracer wire. For plastic sewer *piping*, an insulated copper tracer wire or other *approved* conductor shall be installed adjacent to and over the full length of the *piping*. Access shall be provided to the tracer wire or the tracer wire shall terminate at the cleanout between the building drain and building sewer. The tracer wire size shall be not less than 14 AWG and the insulation type shall be listed for direct burial.

Commercial Super Committee: Motion to approve by W. White. Second by K. Rogers. Motion passed.

Building Code Council: Motion to approve by W. White. Second by W. Hamilton. Motion passed.

Item D – 12 Request by Jesse Wade White, Jr., PE representing the North Carolina Building Code Council Electrical Ad Hoc Committee to amend the 2017 NC Electrical Code, Section 695.3 as follows:

Amendment 695.3

Amend NEC 2017, page 575:

695.3 Power Source(s) for Electric Motor-Driven Fire Pumps.
Electric motor-driven fire pumps shall have a reliable source of power. ~~Informational Note: See Sections 9.3.2 and A.9.3.2 from NFPA 20- 2019, *Standard for the Installation of Stationary Pumps for Fire Protection*, for guidance on the determination of power source reliability.~~

Replace with:

695.3 Power Source(s) for Electric Motor-Driven Fire Pumps.
Electric motor-driven fire pumps shall have a reliable source of power.

Commercial Super Committee: Motion to approve by W. Hamilton. Second by K. Rogers.
Motion passed.

Building Code Council: Motion to approve by D. Priest. Second by W. Hamilton. Motion passed.

Item D – 13 Request by Jesse Wade White, Jr., PE representing the NC Building Code Council Electrical Ad Hoc Committee to amend the 2017 NC Electrical Code, Section 695.2 as follows:

Amendment 695.2

Amend NEC 2017, page 575:

695.2 **Definitions.**

Fault-Tolerant External Control Circuits. Those control circuits either entering or leaving the fire pump controller enclosure, which if broken, disconnected, or shorted will not prevent the controller from starting the fire

pump from all other internal or external means and may cause the controller to start the pump under these conditions.

On-Site Power Production Facility. The normal supply of electric power for the site that is expected to be constantly producing power.

On-Site Standby Generator: A facility producing electric power on site as the alternate supply of electric power. It differs from an on-site power production facility, in that it is not constantly producing power.

Replace with:

695.2 Definitions.

Fault-Tolerant External Control Circuits. Those control circuits either entering or leaving the fire pump controller enclosure, which if broken, disconnected, or shorted will not prevent the controller from starting the fire pump from all other internal or external means and may cause the controller from starting the fire pump from all other internal or external means and may cause the controller to start the pump under these conditions.

On-Site Power Production Facility. The normal supply electric power for the site that is expected to be constantly producing power.

On-Site Standby Generator. A facility producing electric power on site as the alternate supply of electric power. It differs from an on-site power production facility, in that it is not constantly producing power.

Reliable Source of Power. A source of power that possesses all of the following characteristics:

(1) The electric utility supplying the power has not conducted any intentional shut downs longer than 10 continuous hours in the year prior to the plan submittal and is verified in writing by that electric utility.

(2) The source of power is not supplied by overhead conductors within 60 feet of the building(s) equipped with fire pump(s).

(3) Only the disconnect switches and overcurrent protection devices permitted in Article 695 and NFPA 20-2013 section 9.3.2 are installed in the normal source of power to the fire pump controller.

Commercial Super Committee: Motion to approve by W. Hamilton. Second by W. White. Motion passed.

Building Code Council: Motion to approve by W. Hamilton. Second by F. Meads. Motion passed.

Item D – 14 Request by David Smith representing the North Carolina Building Code Council Residential 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 (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 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). 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 *approve*d by the *building official*.

Residential Super Committee: Motion to approved by D. Smith. Second by L. Skinner. Motion passed.

Building Code Council: Motion to approved by W. Hamilton. Second by S. Knight. Motion passed.

Item D – 15 Request by David Smith representing the North Carolina Building Code Council Residential Committee to amend the 2018 NC Residential Code, Section R403.1.6 as follows:

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).

Residential Super Committee: Motion to approve by D. Smith. Second by S. Knight. Motion passed.

Building Code Council: Motion to approve by D. Smith. Second by S. Knight. Motion passed.

Item D – 16 Request by Ralph Euchner representing the North Carolina Building Code Council to amend the 2018 NC Residential Code, Section P2604.1.4 Tracer Wire as follows:

P2604.1.4 Tracer wire. For plastic sewer *piping*, an insulated copper tracer wire or other *approved* conductor shall be installed adjacent to and over the full length of the *piping*. Access shall be provided to the tracer wire or the tracer wire shall terminate at the cleanout between the building drain and building sewer. The tracer wire shall be not less than 14 AWG and the insulation type shall be listed for direct burial.

Residential Super Committee: Motion to approve by K. Hamilton. Second by S. Knight. Motion passed.

Building Code Council: Motion to approve by D. Smith. Second by K. Rogers. Motion passed.

Item D – 17 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 Freezing. Water pipes installed in a wall exposed to the exterior shall be located on the heated side of the wall insulation. In other cases, water, ~~soil~~ and condensate waste pipes shall not be installed outside of a building, in unconditioned attics, unconditioned utility rooms or in any other place subjected to freezing temperatures unless adequate provision is made to protect such pipes from freezing by a minimum of R-6.5 insulation determined

at 75°F (24°C) in accordance with ASTM C177 or heat or both. Exterior water supply system piping shall be installed ~~not less than 6 inches (152 mm)~~ below the frost line and not less than 12 inches (305 mm) below grade.

Note: These provisions are minimum requirements, which have been found suitable for normal weather conditions. Abnormally low temperatures for extended periods may require additional provisions to prevent freezing.

P2603.5.1 Sewer depth. *Building sewers* that connect to private sewage disposal systems shall be installed not less than 3 inches (76.2 mm) below finished grade at the point of septic tank connection. *Building sewers* shall be not less than 3 inches (76.2 mm) below grade.

Residential Super Committee: Motion to approve by K. Hamilton. Second by S. Knight. Motion passed.

Building Code Council: Motion to approve by D. Smith. Second by S. Knight. Motion passed.

Item D – 18 Request by Barry Siegal representing BSC Holdings, Inc. to amend the 2018 NC Building Code, Section 903.2.8 and Table 602 and NC Fire Code, Section 903.2.8 Group R as follows:

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:

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. *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 detectors and portable fire extinguishers shall be installed as required by other sections of this 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.

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[i,j], S-2, U[h]
X < 5[b]	All	3	2	1
5 £ X < 10	IA Others	3 2	2 1	1 1
10 ≤ X < 30	IA, IB IIB, VB Others	2 1 1	1 0 1	1[c] 0 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.

Commercial Super Committee: Motion to approved by D. Priest. Second by W. Hamilton.
Motion passed.

Building Code Council: Motion to approve by D. Priest. Second by K. Rogers.
Motion passed.

Part E – Reports

- **Ad-Hoc Committee Reports**

  Steve Knight expressed the need for Structural Committee members.

- **Standing Committee Reports**

  No reports.

- **Staff Reports**

  Cliff Isaac introduced the new staff members and some changes in staff positions:

  Charlie Johnson, Chief Fire Code Consultant
  Dan Dittman, Energy Code Consultant
  Tara Barthelmess, Chief Accessibility Consultant
  Dan Austin, Existing Code Consultant

- **Chairman's Report**

  Chairman Davis discussed the possibility of moving the 2020 March and September meetings to other locations in the state.

  Chairman Davis reminded the Council members that at the end of the December 2019 meeting, new officers will need to be elected as it is the end of the term.

- **Public Comments**

  There were no public comments.

Part F – Appeals
Duke University Health Systems appeal on October 30, 2019.
Note: The appeal was withdrawn by the petitioner on September 17, 2019 after the council meeting, but before these minutes were published.

Adjourned.