Minutes of the North Carolina Building Code Council
June 11, 2013
Raleigh, NC

All members of the North Carolina Building Code Council were present for the Council Meeting with the exception of Kim Reitterer.

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, September 10, 2013**. 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 March 11, 2013 NC Building Code Council Meeting.

A motion to accept the March 11th meeting minutes with a correction to Item D-4, was made by David Smith, seconded by Lon McSwain and approved.

Item A – 3 Notice of available Swimming Pool and Spa Code.

Barry Gupton reported that ICC has adopted a new 2012 Code for Swimming Pools and Spas. The 2012 I-Codes still contain the barrier and entrapment language with a reference to the new 2012 International Swimming Pool and Spa Code. The 2015 I-Codes may only contain the requirements by reference.

Item A – 4 Town of Mooresville Fire Code Ordinance. (Tabled from March meeting)

Motion – Alan Perdue/Second – Lon McSwain/Approved. The request was approved unanimously.

Item A – 5 City of Newton Fire Code Ordinance. (Tabled from March meeting)

Motion – Alan Perdue/Second – Lon McSwain/Approved. The request was approved unanimously.

Item A – 6 Town of Morrisville Fire Code Ordinance.

Motion to table – Alan Perdue/Second – Lon McSwain/Approved. Proposed ordinance was tabled until the September meeting to allow time for review.

Item A – 7 Rules Review Commission Meeting Report

Barry Gupton reported that the March D-Items have been approved by the RRC with a 9/1/2013 effective date. Immediate effective dates, such as this, do not allow adequate time for posting and notification to code officials, contractors, and designers.

Item A – 8 Public Comments

There were no comments from the public.

Part B – New Petitions 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 September 2013 meeting.

Item B – 1 Request by Bastian Lohmann, representing Wedi Corporation, to amend the 2012 NC Plumbing Code, Section 417.1. The proposed amendment is as follows:

417.1 Approval. Prefabricated showers and shower compartments shall conform to ~~ANSI Z124.2~~ ANSI Z124.1.2, ASME A112.19.9M or CSA B45.5. Shower valves for individual showers shall conform to the requirements of Section 424.3.

Motion – Al Bass/Second/Approved – The request was granted unanimously and sent to the Plumbing Committee for review.

STAFF NOTE: The change also needs to be coordinated in Table 417.4. Also check that the new Standard will not conflict with NC Amendments in Section 417.

Item B – 2 Request by Ron Jackson, representing Quality Built Homes, Inc., to amend the 2012 NC Residential Code, Section R612.2 through R612.4.2. The proposed amendment is as follows:

Delete R612.2 through R612.4.2

~~**R612.2 Window sills.** In *dwelling* units, where the opening of an operable window is located more than 72 inches (1829 mm) above the finished *grade* or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches (610 mm) above the finished floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4 inch (102 mm) diameter sphere where such openings are located within 24 inches (610 mm) of the finished floor.~~

~~**Exceptions:**~~

~~1. Windows whose openings will not allow a 4 inch diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position.~~

~~2. Openings that are provided with window fall prevention devices that comply with Section R612.3.~~

~~3. Openings that are provided with fall prevention devices that comply with ASTM F 2090.~~

~~4 Windows that are provided with opening limiting devices that comply with Section R612.4.~~

~~**R612.3 Window fall prevention devices.** Window fall prevention devices and window guards, where provided, shall comply with the requirements of ASTM F 2090.~~

~~**R612.4 Window opening limiting devices.** When required elsewhere in this code, window opening limiting devices shall comply with the provisions of this section.~~

~~**R612.4.1 General requirements.** Window opening limiting devices shall be self-acting and shall be positioned to prohibit the free passage of a 4-in. (102 mm) diameter rigid~~

~~sphere through the window opening when the window opening limiting device is installed in accordance with the manufacturer's instructions.~~

~~**R612.4.2 Operation for emergency escape.** Window opening limiting devices shall be designed with release mechanisms to allow for emergency escape through the window opening without the need for keys, tools or special knowledge. Window opening limiting devices shall comply with all of the following:~~

~~1. Release of the window opening limiting device shall require no more than 15 pounds (66 N) of force.~~

~~2. The window opening limiting device release mechanism shall operate properly in all types of weather.~~

~~3. Window opening limiting devices shall have their release mechanisms clearly identified for proper use in an emergency.~~

~~4. The window opening limiting device shall not reduce the minimum net clear opening area of the window unit below what is required by Section R310.1.1 of the code.~~

Motion – David Smith/Second – Lon McSwain/Denied – The request was denied unanimously, and was sent to the Residential Committee for review.

Item B – 3 Request by Gene Washington, representing Vertical Elevator Inspection, to amend the 2012 NC Residential Code, Section R321. The proposed amendment is as follows:

R321.1 Elevators. Where provided elevators shall comply with ASME A17.1.

R321.2 Platform lifts. Where provided, platform lifts shall comply with ASME A18.1.

R321.3 Accessibility. Deleted.

R321.4 Certification. ~~The installer~~ A QEI certified elevator inspector shall certify that the following conditions have been met.

1. The elevator or platform lift has been installed in accordance with the manufacturer's installation instructions.

2. The elevator meets the requirements of ASME A17.1, Part 5, Section 5.3 and other applicable parts.

3. The elevator or platform lift meets the requirements of the *North Carolina Electrical Code*. Before a Certificate of Occupancy is issued, the permit holder shall provide the code enforcement official a letter of certification from the installer, evidencing compliance with above conditions. Any maintenance requirements required by the manufacturer shall be stated and affixed to the component. When an elevator or platform lift or its components has been serviced, the service provider shall certify to the owner that the elevator continues to meet the above conditions.

Motion – Al Bass/Second – John Hitch/Denied – The request was denied unanimously.

Item B – 4 Request by Timothy Laughlin, PE, representing NC Petroleum & Convenience Marketers, to amend the 2012 NC Fire Prevention Code, Section 105.7.7. The proposed amendment is as follows:

105.7.7 Flammable and combustible liquids. A construction permit is required:

1. To install, repair or modify a pipeline for the transportation of flammable or *combustible liquids*.

2. To install, construct or alter tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and *combustible liquids* are produced, processed, transported, stored, dispensed or used. Maintenance performed in accordance with this code is not considered an installation, construction or alteration and does not require a permit.

3. To install, alter, remove, abandon or otherwise dispose of a flammable or *combustible liquid* tank.

Motion – Alan Perdue/Second – David Smith/Approved – The request was granted unanimously.

Item B – 5 Request by J. Richard Alsop, AIA, to amend the 2012 NC Fuel Gas Code, Section 621. The proposed amendment is as follows:

~~SECTION 621 (IFGC)~~
~~UNVENTED ROOM HEATERS~~

~~**621.1 General.** Unvented room heaters shall be tested in accordance with ANSI Z21.11.2 and shall be installed in accordance with the conditions of the listing and the manufacturer's installation instructions. Unvented room heaters utilizing fuels other than fuel gas shall be regulated by the *International Mechanical Code.*~~

~~**621.2 Prohibited use.** One or more unvented room heaters shall not be used as the sole source of comfort heating in a *dwelling unit.*~~

~~**621.3 Input rating.** Unvented room heaters shall not have an input rating in excess of 40,000 Btu/h (11.7 kW).~~

~~**621.4 Prohibited locations.** Unvented room heaters shall not be installed within occupancies in Groups A, E and I. The location of unvented room heaters shall also comply with Section 303.3.~~

~~**621.5 Room or space volume.** The aggregate input rating of all unvented appliances installed in a room or space shall not exceed 20 Btu/h per cubic foot (207 W/m^3) of volume of such room or space. Where the room or space in which the appliances are installed is directly connected to another room or space by a doorway, archway or other opening of comparable size that cannot be closed, the volume of such adjacent room or space shall be permitted to be included in the calculations.~~

~~**621.6 Oxygen-depletion safety system.** Unvented room heaters shall be equipped with an oxygen-depletion-sensitive safety shutoff system. The system shall shut off the gas supply to the main and pilot burners when the oxygen in the surrounding atmosphere is depleted to the percent concentration specified by the manufacturer, but not lower than 18 percent. The system shall not incorporate field adjustment means capable of changing the set point at which the system acts to shut off the gas supply to the room heater.~~

~~**621.7 Unvented log heaters.** An unvented log heater shall not be installed in a factory built *fireplace* unless the *fireplace* system has been specifically tested, *listed* and *labeled* for such use in accordance with UL127.~~

~~**621.7.1 Ventless firebox enclosures.** Ventless firebox enclosures used with unvented log heaters shall be *listed* as complying with ANSI Z21.91.~~

Motion – Ralph Euchner/Second – Al Bass/Denied – The request was denied unanimously.

Item B – 6 Request by Leon Skinner, Chair of the NC Existing Building Code Ad-Hoc Committee, to adopt the 2015 NC Existing Building Code and to eliminate the 1995 NC Existing Building Code and Rehabilitation Code.

Motion – Al Bass/Second – Steve Knight/Approved – The request was granted unanimously.

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 June 11, 2013 and the Final Adoption meeting may take place on or after September 10, 2013. The written public comment period expires on July 15, 2013.

Item C – 1 Request by Bobby W. Patterson, representing Architectural Design Associates, PLLC, to amend the 2012 NC Building Code, Sections 3404 and 3408. The proposed amendment is as follows:

SECTION 3404
ALTERATIONS

3404.4.2 Seismic upgrades. Seismic upgrades shall not be required in alterations to an existing building (Building A) where all of the following conditions exist:

1. The alterations in Building A are being undertaken to allow an existing Building B to be vacated for seismic upgrades.
2. The Construction Classification (Table 601) of the two buildings are the same or higher for Building A.
3. Building A will be temporarily used to facilitate the seismic upgrades to Building B, and occupied as such for a period of no more than 5 years after issuance of a Certificate of Occupancy for Building A.
4. Building A is located in a Seismic Design Category (SDC) area A or B as defined by FEMA.

SECTION 3408
CHANGE OF OCCUPANCY

3408.4
(EXCEPTIONS)

3. Seismic upgrades shall not be required in a change of use to an existing building (Building A) where all of the following conditions exist:
    - A. The alterations in Building A are being undertaken to allow an existing Building B to be vacated for seismic upgrades.
    - B. The Construction Classification (Table 601) of the two buildings are the same or higher for Building A.
    - C. Building A will be temporarily used to facilitate the seismic upgrades to Building B, and occupied as such for a period of

no more than 5 years after issuance of a Certificate of Occupancy for Building A.

D. Building A is located in a Seismic Design Category (SDC) area A or B as defined by FEMA.

Bobby Patterson, with Architectural Design Associates, PLLC, recommends the Council adopt this code change.

Brandon Zuidema, Garner Chief of Police, recommends the Council adopt this code change.

Bucky Frye, with Winston Salem/Forsyth County, recommends the Council adopt this code change for police stations only.

Item C – 2 Request by Patrick Holzer, representing Certified Foam, to amend the 2012 NC Fire Code, Section 404.3.3. The proposed amendment will add allowances and requirements for lockdown devices for classroom doors.

403.3.3 Lockdown plans. Where facilities develop a lockdown plan, the lockdown plan shall be in accordance with Section 404.3.3.1 through 404.3.3.3.

404.3.3.1 Lockdown plan contents. Lockdown plans shall be *approved* by the *fire code official* and shall include the following:

1. Initiation. The plan shall include instructions for reporting an emergency that requires a lockdown.

2. Accountability. The plan shall include accountability procedures for staff to report the presence or absence of occupants.

3. Recall. The plan shall include a prearranged signal for returning to normal activity.

4. Secured areas. The plan shall include an identified means of establishing each secured area, including the use of an emergency lockdown safety mechanism as described in Section 1008.1.11.

~~4.~~ 5. Communication and coordination. The plan shall include an *approved* means of two-way communication between a central location and each secured area.

404.3.3.2 Training frequency. The training frequency shall be included in the lockdown plan. The lockdown drills shall not substitute for any of the fire and evacuation drills required in Section 405.2.

404.3.3.3 Lockdown notification. The method of notifying building occupants of a lockdown shall be included in the plan. The method of notification shall be separate and distinct from the fire alarm signal.

There were no comments on this item.

Item C – 3 Request by Patrick Holzer, representing Certified Foam, to amend the 2012 NC Fire Code, Section 1008. The proposed amendment is as follows:

1008.1.11 Emergency lockdown safety mechanisms. *Approved* emergency lockdown safety mechanisms shall be permitted in schools for the purposes of establishing a

secured area in accordance with lockdown plans in Section 404.3.3 and Items 1-7 below:

1. The emergency lockdown safety mechanism shall be readily distinguishable as engaged or disengaged.
2. Clearly identifiable operating procedures shall be posted on or within close proximity of the installed mechanism.
3. The emergency lockdown safety mechanism shall be readily engaged from the egress side without the use of a key or special knowledge or effort.
4. The emergency lockdown safety mechanism shall have a built-in mechanical feature to prevent unintended engagement.
5. The emergency lockdown safety mechanism shall be readily disengaged from the ingress side with proper tools and instruction.
6. The mechanism shall be installed 6 inches (152 mm) minimum and 48 inches (1219 mm) maximum above the finished floor. However, the maximum installed height shall be limited such that the emergency lockdown safety mechanism is as least 30 inches (762 mm) from any glass openings within the door.
7. A building occupant shall not be required to pass through more than one door equipped with an emergency lockdown safety mechanism before entering an exit.

[Note: This item was identified as having an effect on local funds. A fiscal note is required.]

Barry Gupton, NCDOI Staff, made fiscal note comments.

Wayne Hamilton, representing the NC Fire Service Code Revision Committee, does not recommend that the Council adopt this code change.

Item C – 4 Request by Joseph Vetter, representing 4-J Design, Inc., to amend the 2012 NC Plumbing Code, Section 504.6, #2. The proposed amendment is as follows:

504.6 Requirements for discharge piping.

2. Discharge through an air gap or air gap fitting located in the same room as the water heater, either on the floor, into an indirect waste receptor or outdoors.

Joseph Vetter, with 4-J Design, Inc., recommends the Council adopt this code change.

Item C – 5 Request by Wayne Hamilton, representing the NC Fire Service Code Revision Committee, to amend the 2012 NC Fire Code, Section 909.20.6. The proposed amendment is as follows:

Add New Section:

909.20.6 Manual smoke removal. Where manually operated panels or windows are required by section 403.4.6 of the Building Code, they shall be maintained in an operable condition and identified in an *approved* manner.

Wayne Hamilton, with the NC Fire Service Code Revision Committee, recommends the Council adopt this code change.

Item C – 6 Request by Wayne Hamilton, representing the NC Fire Service Code Revision Committee, to amend the 2012 NC Fire Code, Section 316.5.3. The proposed amendment is as follows:

Add new section to:

316.5 Structures and outdoor storage underneath high-voltage transmission lines.

316.5.3 Parking. Transient parking of passenger vehicles is allowed as follows:

1. The utility provider grants permission to park within their easement or right of way.
2. Each vehicle shall be 10,000lb GVW or less.
3. The lowest conductor of the transmission line shall be 25ft. above parking lot surface.
4. The transmission line voltage shall be 230kv or less.
5. Transient parking is a time period of no more than twelve consecutive hours.

Wayne Hamilton, with the NC Fire Service Code Revision Committee, recommends the Council adopt this code change.

Item C – 7 Request by Wayne Hamilton, representing the NC Fire Service Code Revision Committee, to amend the 2012 NC Fire Code, Section 903.2.8. The proposed amendment is as follows:

Revise section by adding exceptions:

[F] 903.2.8 Group R. An automatic sprinkler system shall be installed in accordance with Section 903.3 throughout all buildings with a Group R fire area.

Exceptions:

1. An *automatic sprinkler system* is not required in new adult and child care facilities located in existing Group R-3 and R-4 occupancies.
2. An *automatic sprinkler system* is not required in ~~Group R-1~~ *temporary overflow shelters*.
3. Group R2 buildings for housing farm workers and/or their families on a farm may install a 13D multipurpose sprinkler system, when all of the following conditions are met:
    1. The Group R building cannot exceed a single story,
    2. 2500 square feet in area, and
    3. Two remote means of egress are provided.
4. Group R-2 *fire areas* in fire stations may install a 13D sprinkler system in accordance with 903.3.5.1 when separated from other occupancies by a *fire wall.*
    1. The Group R building cannot exceed a single story,
    2. 2500 square feet in area, and
    3. Two remote means of egress are provided.
5. An *automatic sprinkler system* is not required in camping units located within a campground when one story, less than 400 square feet, and without a kitchen.

Wayne Hamilton, with the NC Fire Service Code Revision Committee, recommends the Council adopt this code change.

Item C – 8 Request by Duke Geraghty, representing Starco Realty and Construction, to amend the 2012 NC Residential Code, Section R301.2.1.2. The proposed amendment is as follows:

R301.2.1.2 Protection of openings. Windows in buildings located in windborne debris regions shall have glazed openings protected from windborne debris. Glazed opening protection for windborne debris shall meet the requirements of the Large Missile Test of ASTM E 1996 and ASTM E 1886 referenced therein. Garage door glazed opening protection for windborne debris shall meet the requirements of an *approved* impact resisting standard or ANSI/DASMA 115.

Exception: Wood structural panels with a minimum thickness of 7/16 inch (11 mm) and a maximum span of 8 feet (2438 mm) shall be permitted for opening protection in one- and two-story buildings. Panels shall be precut so that they can be attached to the framing surrounding the opening containing the product with the glazed opening. Panels shall be predrilled as required for the anchorage method, so that they can ~~and shall~~ be secured with the attachment hardware provided. Attachments shall be designed to resist the component and cladding loads determined in accordance with either Table R301.2(2) or ASCE 7, with the permanent corrosion resistant attachment hardware provided. ~~and anchors permanently installed on the building~~. Attachment in accordance with Table R301.2.1.2 is permitted for buildings with a mean roof height of 33 feet (10 058 mm) or less where wind speeds do not exceed 130 miles per hour (58 m/s).

TABLE R301.2.1.2
WINDBORNE DEBRIS PROTECTION FASTENING SCHEDULE
FOR WOOD STRUCTURAL PANELS[a,b,c,d]

FASTENER TYPE	FASTENER SPACING (inches)[a,b]		
	Panel span ≤ 4 feet	4 feet < panel span ≤ 6 feet	6 feet < panel span ≤ 8 feet
No. 8 wood screw ~~based anchor with 2 inch embedment length~~	16	10	8
No. 10 wood screw ~~based anchor with 2 inch embedment length~~	16	12	9
¼-inch lag screw ~~based anchor with 2 inch embedment length~~	16	16	16

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 4.448 N, 1 mile per hour = 0.447 m/s.

a. This table is based on 130mph wind speeds and a 33-foot mean roof height.

b. Fasteners shall be installed at opposing ends of the wood structural panel. Fasteners shall be located a minimum of 1 inch from the edge of the panel.

c. ~~Anchors~~ Fasteners shall penetrate through the exterior wall covering with an embedment length of 2 inches minimum into the building frame. Fasteners shall be located a minimum of 2½ inches from the edge of concrete block or concrete.

d. Where panels are attached to masonry or masonry/stucco, they shall be attached using vibration-resistant anchors having a minimum ultimate withdrawal capacity of 1500 pounds.

Duke Geraghty, with Starco Realty and Construction, recommends the Council adopt this code change.

Item C – 9 Request by R. Christopher Mathis, representing Mathis Consulting Company, to amend the 2012 NC Energy Conservation Code, Table 502.1.2 & Tables 502.1.2(1). The proposed amendment is as follows:

Modify Table 502.1.2 as follows:

TABLE 502.1.2
BUILDING ENVELOPE REQUIREMENTS OPAQUE ELEMENT, MAXIMUM U-FACTORS

CLIMATE ZONE	3		4		5	
	ALL OTHER	GROUP R	ALL OTHER	GROUP R	ALL OTHER	GROUP R
Roofs						
Metal buildings	U-0.041	U-0.041	U-0.037	U-0.037	U-0.037	U-0.037
Walls, Above Grade						
Metal building	~~U-0.072~~ U-0.094	~~U-0.050~~ U-0.072	U-0.060	U-0.050	U-0.050	U-0.050

Modify Table 502.2(1) as follows:

TABLE 502.2(1)
BUILDING ENVELOPE REQUIREMENTS – OPAQUE ASSEMBLIES

CLIMATE ZONE	3		4		5	
	ALL OTHER	GROUP R	ALL OTHER	GROUP R	ALL OTHER	GROUP R
Roofs						
Metal buildings ~~(with R-5 thermal blocks)~~[a, b]	R-10 + R-19 FC	R-10 + R-19 FC	R-19 + R-11 Ls Or R-25 + R-8 Ls	R-19 + R-11 Ls Or R-25 + R-8 Ls	R-19 + R-11 Ls Or R-25 + R-8 Ls	R-19 + R-11 Ls Or R-25 + R-8 Ls
Walls, Above Grade						
Metal building[b]	~~R-0 + R-13 ci~~ R-0 + R-9.8 ci	~~R-0 + R-19 ci~~ R-0 + R-13 ci	R-0 + R-15.8 ci	R-0 + R-19 ci	R-0 + R-19 ci	R-0 + R-19 ci

LS = Liner System – Liner systems shall have a minimum R-3.5 thermal spacer block between the purlins and the metal roof panels as required, unless compliance is shown by the overall assembly U-factor
FC = Filled Cavity – Filled Cavity assemblies shall have a minimum R-5 thermal spacer block between the purlins and the metal roof panels as required, unless compliance is shown by the overall assembly U-factor

Billy Hinton, NCDOI Staff, made the Council aware of modifications that needed to be made in the tables.

Tom Corwin with United Structures, Ned Lavengood, Wilmington, NC Contractor, John Auton with Imperial Design Builders, and Kyle Smigel with Therm-All Insulation spoke about metal building industry hardships complying with current code requirements.

Item C-10 Request by Lon McSwain, representing the NC BCC Building Standing Committee, to amend the 2012 NC Building Code, Section 101.2. The proposed amendment is as follows:

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

1. Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories above grade plane in height with a separate means of egress and their accessory structures shall comply with the *International Residential Code*.
2. Farm Buildings as described by G.S. 143-138(b4) that are not used for sleeping purposes and located outside the buildings rules jurisdiction of any municipality.

   ~~**Exception:** All buildings used for sleeping purposes shall confirm to the provisions of the technical codes.~~
3. Greenhouses as described by G.S. 143-138(b4) for farm building use located outside or inside the building rules jurisdiction of a municipality or a county.
4. Farm buildings for equine activities as described by G.S. 143-138(b4) and located outside the building rules jurisdiction of a municipality.

~~3.~~5. The design, construction, location, installation or operation of equipment for storing, handling and transporting liquefied petroleum gases for fuel purposes up to the outlet of the first stage pressure regulator, and anhydrous ammonia or other liquid fertilizers.

~~4.~~6. The design, construction, location, installation or operation of equipment or facilities of a public utility, as defined in G.S. 62-3, or an electric or telephone membership corporation, including without limitation poles, towers and other structures supporting electric or communication lines from the distribution network up to the meter location.

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

~~5.~~7. The Storage and Handling of Hazardous Chemicals Right to Know Act, Article 18 of Chapter 95 of the North Carolina General Statutes.

Lon McSwain, representing the NC BCC Building Standing Committee, recommends the Council adopt this code change.

Item C-11 Request by Lon McSwain, representing the NC BCC Building Standing Committee, to amend the 2012 NC Building & Fire Codes, Section 1018.6. The proposed amendment is as follows:

1018.6 Corridor continuity. Fire-resistant-rated corridors shall be continuous from the point of entry to an exit, and shall not be interrupted by intervening rooms.

Exceptions:

1. Foyers, lobbies or reception rooms constructed as corridors shall not be constructed as intervening rooms.
2. A toilet room as defined by the NC Plumbing Code that meets all of the following requirements may be included as part of the rated corridor enclosure:
   - 2.1. The toilet room shall be separated from the remainder of the building by fire-resistant-rated construction meeting the same requirements as the corridor construction;
   - 2.2. No other rooms open off of the toilet room;

2.3. No gas or electric appliances other than electric hand dryers are located in the toilet room; and
2.4. The toilet room is not used for any other purpose.

Lon McSwain, representing the NC BCC Building Standing Committee, recommends the Council adopt this code change.

Item C-12 Request by Chris Noles, representing NCDOI on behalf of the NC BCC, to amend the 2012 NC Building Code, Appendix *NEW*, Sections 101.1, 102, & 103. The proposed amendment is as follows:

The purpose of this section is to address structures such as camping cabins or primitive structures that are used on a temporary basis.

101.1 Scope. The purpose of this section is to address buildings that are subject to limited portions of the building code.

102 Terms.

102.1 Primitive structure – Buildings not used as a primary residence intended for the primary purpose of rustic living. These structures are not equipped with water or electricity and are used on a temporary basis.

102.2 Roof-only structures – Buildings without walls such as pavilions or gazebos that do not exceed 750 square feet.

103 Design

103.1 Applicability. Primitive and roof-only structures shall only be applicable to code sections identified in the following;

103.1.1 Structural stability. The structures shall be evaluated to meet the interior and exterior loading requirements contained in Chapter 16 of the Building Code.

103.1.2 Clearance to Combustibles. Ignition sources such as fireplaces or stoves shall be separated from combustibles in accordance with Chapter 7 of the Building Code.
103.1.3 Fires. Recreational fires shall be separated from the buildings in accordance with the Fire Code.

103.1.4 Egress. A clear means of egress shall be maintained from each sleeping room.

103.2 Issues not addressed. Life safety issues not covered by this section shall be mitigated by code official.

Chris Noles, representing NCDOI on behalf of the NC Building Code Council, recommends the Council adopt this code change.

Wayne Hamilton, representing the NC Fire Service Code Revision Committee, does not recommend that the Council adopt this code change.

Item C-13 Request by Barry Gupton, representing NCDOI, to amend the 2012 NC Plumbing Code, Section 403.6.3. The proposed amendment is as follows:

403.6.3 Picnic shelters. Where picnic shelters that are less than 750-square feet (70-square meters) in aggregate area are installed in a community recreation area, and parking is not either provided or required, public toilet facilities are not required. The travel distance to the dwellings served shall be limited to 1640-feet (500-meters).

Barry Gupton, representing NCDOI, recommends the Council adopt this code change and recommended an amendment to eliminate the travel distance limit. The last sentence would read "The travel distance to the dwellings served shall not be limited".

Rick Frady, with Catawba County, recommended elimination of the travel distance limit.

Item C–14 Request by David Smith, NC BCC, to amend the 2012 NC Residential Code, Sections R322.2.1 and R322.3.2. The proposed amendment is as follows:

2012 NC Residential Code – Proposed Revisions to R322 Regarding Flood Elevation Design Requirements

R322.2.1 Elevation requirements.

1. Buildings and structures shall have the lowest floors elevated to or above the base flood elevation ~~plus one foot (305 mm),~~ or the design flood elevation, whichever is higher.
2. In areas of shallow flooding (AO Zones), buildings and structures shall have the lowest floor (including basement) elevated at least as high above the highest adjacent grade as the depth number specified in feet (mm) on the FIRM ~~plus one foot (305 mm),~~ or at least 3 feet (915 mm) if a depth number is not specified.
3. Basement floors that are below grade on all sides shall be elevated to or above the base flood elevation ~~plus one foot (305 mm),~~ or the design flood elevation, whichever is higher.

   Exception: Enclosed areas below the design flood elevation, including basements whose floors are not below grade on all sides, shall meet the requirements of Section R322.2.2.

R322.3.2 Elevation requirements.

1. All buildings and structures erected within coastal high hazard areas shall be elevated so that the lowest portion of all structural members supporting the lowest floor, with the exception of mat or raft foundations, piling, pile caps, columns, grade beams and bracing, is:
   1.1. Located at or above the design flood elevation, if the lowest horizontal structural member is oriented parallel to the direction of wave approach, where parallel shall mean less than or equal to 20 degrees (0.35 rad) from the direction of approach, or
   1.2. Located at the base flood elevation ~~plus 1 foot (305 mm),~~ or the design flood elevation, whichever is higher, if the lowest horizontal structural member is oriented perpendicular to the direction of wave approach, where perpendicular shall mean greater than 20 degrees (0.35 rad) from the direction of approach.
2. Basement floors that are below grade on all sides are prohibited.
3. The use of fill for structural support is prohibited
4. Minor grading, and the placement of minor quantities of fill, shall be permitted for landscaping and for drainage purposes under and around buildings and for support of parking slabs, pool decks, patios and walkways.

Exception: Walls and partitions enclosing areas below the design flood elevation shall meet the requirements of Sections R322.3.4 and R322.3.5.

David Smith, NC BCC, testified that the FEMA rating will be negatively affected if this amendment is adopted.

Duke Geraghty, representing Starco Realty and Construction, spoke about insurance costs and effects on HVAC replacements.

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 March 11, 2013. The Final Adoption meeting took place on June 11, 2013. 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 Tom Brown, with the NC Building Inspectors Association, to amend the 2012 NC Residential Code, Sections R101.2, R101.2.1, R101.2.2, and R202. The proposed amendment is as follows:

R101.2 Scope. The provisions of the North Carolina Residential Code for One- and Two-family Dwellings shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses multiple single family dwellings (townhouses) not more than three stories above grade plane in height with a separate means of egress and their accessory buildings and structures.

Exception: Live/work units complying with the requirements of Section 419 of the North Carolina Building Code shall be permitted to be built as one- and two-family dwellings or townhouses. Fire suppression required by Section 419.5 of the North Carolina Building Code when constructed under the North Carolina Residential Code for One- and Two-family Dwellings shall conform to Section 903.3.1.3 of the International Building Code.

R101.2.1 Accessory buildings. Accessory buildings with any dimension (plan area and mean roof height) greater than 12 feet (3658mm) must meet the provisions of this code. Accessory buildings may be constructed without a masonry or concrete foundation, except in coastal high hazard areas, provided all of the following conditions are met:

1. The accessory building shall not exceed 400 sq. ft. (37m2) or one story in height; and

2. The building is supported on a wood foundation of a minimum 2x6 or 3x4 mud sill of approved wood in accordance with Section ~~323~~ R317; and

3. The building is anchored to resist overturning and sliding by installing a minimum of one ground anchor at each corner of the building. The total resisting force of the anchors shall be equal to 20 psf (958 Pa) times the plan area of the building.

Exception: Tree houses supported solely by a tree are exempt from the requirements of this code.

R101.2.2 Accessory structures. Accessory structures are not required to meet the provisions of this code except decks, gazebos and shelters, carports, ~~and~~ retaining walls as required by Section R404.4, ~~are not required to meet the provisions of this code. For swimming pools and spas, see Appendix G.~~ and pools or spas per Appendix G.

Exception: Portable lightweight aluminum or canvas type carports not exceeding 400 sq. ft. or 12' mean roof height are exempt from the provisions of this code.

In Section R202 Definitions delete and replace definition of Accessory Building and Accessory Structure:

ACCESSORY BUILDINGS. ~~In one- and two-family dwellings not more than three stories high with separate means of egress, a building, the use of which is incidental to that of the main building and which is detached and located on the same lot.~~

A building where its use is incidental to that of the main one- and two-family dwelling and is detached and located on the same lot with its own means of egress. An accessory building is a building that is roofed over and more than 50% of its exterior walls are enclosed. Examples of accessory buildings are garages, storage buildings, workshops, boat houses, etc.

ACCESSORY STRUCTURE. ~~Accessory structure is any structure not roofed over and enclosed that is not considered an accessory building located on one- and two-family dwelling sites which is incidental to that of the main building. Examples of accessory structures are, but not limited to; fencing, decks, gazebos, arbors, retaining walls, barbecue pits, detached chimneys, tree houses, playground equipment, yard art, etc. Accessory structures except decks, gazebos, and retaining walls as required by Section R404.4, are not required to meet the provisions of this code.~~

An accessory structure is any structure that does not meet the definition of an accessory building (roofed over and more than 50% of its exterior walls enclosed) which is detached and incidental to that of the main one- and two-family dwelling. Examples of accessory structures are fences, decks, gazebos and shelters, arbors, pergolas, retaining walls, barbecue pits, detached chimneys, playground equipment, yard art, carports, etc.

Motion to Deny – David Smith/Second – Lon McSwain/Motion was denied unanimously.

Item D – 2 Request by Jeff Griffin, from Mecklenburg County, to amend the 2012 NC Residential Code, Chapters 3 and 7. The proposed amendment is as follows:

Revise Section R302.1 item #1 to read:

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the fire separation distance. Townhouse eave projections shall comply with R302.2.5 and R302.2.6.

Revise Section R302.2.6 Townhouse eave projections item #3 to read:

3. Eaves shall have not less than 1 ~~hour~~ layer of 5/8" type X gypsum or equivalent fire-resistive construction on the underside.

(Delete Section R703.11.3 Soffit) and replace with new Section R302.1.1 Soffit protection:

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

Exception:

1. Soffits, any portion of, having 10' or more fire separation distance.
2. Roof rake lines where soffit doesn't communicate to attic are not required to be protected per this section.
3. Soffits less than 5' from property line shall meet the projection fire rating requirements of Table R302.1.

(Delete section R703.11.4 Flame spread) and substitute with new Section R302.1.2 Flame spread:

R302.1.2 Flame spread. Vinyl siding and vinyl soffit materials shall have a Flame Spread Index of 25 or less as tested in accordance with ASTM E-84.

Motion to delay item until the September 2013 Council meeting – Lon McSwain/Second – David Smith/Granted.

Item D – 3 Request by Debra Foglesong, with 1st Choice Cabinetry, to amend the 2012 NC Residential Code, Part VII North Carolina State Building Code: Plumbing Code – Abridged for Residential Code, Section 405.3.1. The proposed amendment is as follows:

405.3.1 Water closets, urinals, lavatories and bidets. A water closet, urinal, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction, or closer than 30 inches (762 mm) center-to-center between adjacent fixtures. There shall be at least a 21-inch (533 mm) clearance in front of the water closet, urinal, lavatory or bidet to any wall, fixture or door. Water closet compartments shall not be less than 30 inches (762 mm) wide and 60 inches (152 mm) deep.

~~**Exception:** For one and two family dwellings and townhouses, see the *North Carolina Residential Code.*~~

Motion – Al Bass/Second – Ralph Euchner/Adopted unanimously with modifications.

Item D – 4 Request by Wayne Hamilton, representing the NC Fire Service Code Revision Committee, to amend the 2012 NC Fire Code, Section 503.2.1 and Chapter 47. The proposed amendment is as follows:

Add exception to 503.2.1:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, except for approved security

gates in accordance with Section 503.6 and an unobstructed vertical clearance of 13 feet 6 inches (4115 mm).

Exception: Fire apparatus access roads constructed and/or maintained in accordance with NC DOT Minimum Construction Standards for Subdivision Roads, when approved by the fire code official.

Add reference to Chapter 47:

NC DOT North Carolina Department of Transportation

Std 1/2010 Subdivision Roads Minimum Construction Standards 503.2.1

Motion – Alan Perdue/Second – Cindy Browning/Adopted unanimously.

Item D – 5 Request by David Smith, NC BCC, to amend the 2012 NC Mechanical Code, Table 604.4. The proposed amendment is as follows:

TABLE 603.4
DUCT CONSTRUCTION MINIMUM SHEET METAL THICKNESS FOR SINGLE DWELLING UNITS

DUCT SIZE	GALVANIZED		Appropriate Aluminum B & S Gauge ~~ALUMINUM MINIMUM THICKNESS (in.)~~
	Minimum thickness (in.)	Equivalent galvanized gage no.	
Round ducts and Enclosed rectangular ducts			
14 inches or less	0.013 ~~0.0157~~	30 ~~28~~	26 ~~0.0175~~
Over 14" ~~16 and 18 inches~~	0.016 ~~0.0187~~	28 ~~26~~	24 ~~0.018~~
~~20 inches and over~~	~~0.0236~~	~~24~~	~~0.023~~
Exposed rectangular ducts			
14 inches or less	0.016 ~~0.0157~~	28	24 ~~0.0175~~
Over 14 inches[a]	0.019 ~~0.0187~~	26	22 ~~0.018~~

For SI: 1 inch = 25.4 mm~~, 1 inch water gage = 249 Pa.~~

a. ~~For duct gages and reinforcement requirements at static pressure of ½ inch, 1 inch and 2 inch w.g., SMACNA *HVAC Duct Construction Standards*, Tables 2-1, 2-2, and 2-3, shall apply.~~

Motion – Ralph Euchner/Second – David Smith/Adopted unanimously.

Item D – 6 Request by Richard D. Sykes, with Ram Jack Foundation Repair, to amend the 2012 NC Residential Code.

Add definition for Helical Pile in Chapter 2 DEFINITIONS and add new Section **R404.6 Helical Piles** to the 2012 NC Residential Code.

1. Chapter 2 DEFINITIONS

ADD NEW DEFINITION:

Helical Pile. Manufactured steel deep foundation element consisting of a central shaft and one or more helical bearing plates. A helical pile is installed by rotating it into the ground. Each helical bearing plate is formed into a screw thread with a uniform defined pitch.

2. Chapter 4 SOILS AND FOUNDATIONS:

ADD NEW SECTION:

R404.6 HELICAL PILES

R404.6.1 General. Helical piles shall be analyzed, designed, detailed and installed in accordance with Sections R404.6.1 through R404.6.8

R404.6.2 Geotechnical investigation. Helical piles shall be designed and installed on the basis of a geotenical investigation as set forth in Section R401.4.1

Exception: For the residential repair of porches, stoops and slab on grade, helical test probes may be used to substitute test borings provided the following:

1. The manufacturer shall have an ICC-ES Evaluation Service Report (ESR) issued in accordance with ICC-ES AC358 that includes a correlation between final installation torque and ultimate capacity as stated in ICC-ES AC358 section 3.13.2, and
2. The shaft diameter, number of helices and diameter of helices shall be the same as the production helical piles.

404.6.3 Analysis; The analysis of helical piles for design shall be in accordance with Sections R404.6..3.1 through R404.6.3.3

R404.6.3.1 Lateral support. Any soil other than fluid soil shall be deemed to afford sufficient lateral support to prevent buckling of deep foundation elements in accordance with accepted engineering practice and the applicable provisions of this code. Where helical piles stand unbraced in air, water or fluid soils, it shall be permitted to consider them laterally supported at a point 5 feet (1524mm) into stiff soil or 10 feet (3048mm) into soft soil unless otherwise *approved* by the *building official* on the basis of geotechnical investigation by a *registered design professional*.

R404.6.3.2 Stability. Helical piles shall be braced to provide lateral stability in all directions. Three or more elements connected to a rigid cap shall be considered braced, provided that the elements are located in radial directions from the centroid of the group not less than 60 degrees (1 rad) apart. A two-element group in a rigid cap shall be considered to be braced along the axis connecting the two elements. Methods used to brace helical piles shall be subject to the approval of the building official. Helical piles supporting walls shall be placed alternately in lines spaced at least 1 foot (305 mm) apart located symmetrically under the center of gravity of the wall load carried, unless effective measures are taken to provide for eccentricity and lateral forces, or the foundation elements are adequately braced to provide for lateral stability.

Exceptions:

1. A single row of helical piles without lateral bracing is permitted for one- and two-family dwellings and lightweight construction not exceeding two stories above grade plane or 35 feet (10 668 mm) in building height, provided the centers of the elements are located within the width of the supported wall.

R404.6.3.3 Group Effects. The analysis shall include group effects on lateral behavior where the center-to-center spacing of helical piles in the direction of lateral force is less than eight times the least horizontal dimension of the element. The analysis shall include group effects on axial behavior where the center-to-center spacing of the helical piles is less than three times the least horizontal dimension of an element.

R404.6.4 Design and detailing. Helical piles shall be designed and manufactured in accordance with accepted engineering practice to resist all stresses induced by installation into the ground and service loads.

R404.6.4.1 Acceptable helical pile foundation systems shall have an ICC-ES Evaluation Service Report (ESR) issued in accordance with ICC-ES AC358

R404.6.4.2 Allowable stresses. The allowable stresses for materials used in helical piles shall not exceed those specified in Table 4R404.6.4

TABLE R404.6.4.2
ALLOWABLE STRESSES FOR MATERIALS USED FOR HELICAL PILES

	MATERIAL TYPE AND CONDITION	MAXIMUM ALLOWABLE STRESS[a]
1	Structural steel in compression Helical piles	$0.6 F_y \leq 0.5 F_u$
2	Structural steel in tension Helical piles	$0.6 F_y \leq 0.5 F_u$

a. F_y is the specified minimum yield stress of structural steel; F_u is the specified minimum tensile stress of structural steel.

R404.6.5 Determination of allowable loads. The allowable axial load and lateral loads on a helical pile shall be determined by an *approved* formula, load tests or method of analysis.

R404.6.5.1 Allowable axial load. *The allowable axial design load, Pa, of helical piles shall be determined as follows:*

$P_a = 0.5 P_u$ ***(EQUATION 18-4)***

where P_u is the least value of:

1. Sum of the areas of the helical bearing plates times the ultimate bearing capacity of the soil or rock comprising the bearing stratum.
2. Ultimate capacity determined from well-documented correlations with installation torque.
3. Ultimate capacity determined from load tests.
4. Ultimate axial capacity of pile shaft.
5. Ultimate capacity of pile shaft couplings.
6. Sum of the ultimate axial capacity of helical bearing plates affixed to pile.

R404.6.5.2 Allowable lateral load. Where required by the design, the lateral load capacity of a single helical pile or a group thereof shall be determined by an approved method of analysis or by lateral load tests to at least twice the proposed design working load. The resulting allowable load shall not be more than one-half of the load that produces a gross lateral movement of 1 inch (25 mm) at the lower of the top of the foundation element and the ground surface, unless it can be shown that the predicted lateral movement shall cause neither harmful distortion of, nor instability in, the structure, nor cause any element to be loaded beyond its capacity.

R404.6.6 Dimensions of helical piles. Dimensions of the central shaft and the number, size and thickness of the helical bearing plates shall be sufficient to support the design loads.

R404.6.7 Pile Caps. Pile caps shall be of reinforced concrete, and shall include all elements to which vertical helical piles are connected, including grade beams and mats. The soil immediately below the pile cap shall not be considered as carrying any vertical

load. The tops of the vertical helical piles shall be embedded not less than 3 inches (76 mm) into pile caps and the caps shall extend at least 4 inches (102 mm) beyond the edges of the elements. The tops of the elements shall be cut or chipped back to sound material before capping.

R404.6.8 Installation. Helical piles shall be installed to the specified embedment depth and torsional resistance criteria as determined by a registered design professional. The torque applied during installation shall not exceed the maximum allowable installation torque of the helical pile.

Motion to Deny – David Smith/Second – Steve Knight/Denied. Motion was to deny and include letter response. The letter reads as follows:

Date: June 11th, 2013

To: Dan Tingen
Chairman, North Carolina Building Code Council

From: Residential Standing Committee
North Carolina Building Code Council

Ref: Item D-6 on the Agenda for the June 11th, 2013 NC Building Code Council
Proposal to add new section R404.6 Helical Piles to the 2012 NC Residential Code.

The Residential Standing Committee met on April 25th, 2013 to review this proposal. Input was provided to the committee from representatives of the industry that install and repair foundations that require helical piles and associated brackets used by the industry. Information was also provided by engineers from the NC Department of Insurance Engineering Division, and others with expertise in this area. The committee reviewed overall and specific concerns related to the use of different methods and products used by the industry when installing helical anchors in residential construction. The overall objective for the committee was to determine if additions to the NC Residential Code were needed for public safety when making these foundation installations and repairs.

The committee agreed that in North Carolina, helical piles require engineering provided by a "registered design professional". The committee determined that since the residential code is prescriptive, and that installation of helical piles and associated parts require engineering, that the committee does not support adding additional section(s) to the 2012 NC Residential Code. Information is provided for the installation of helical piles in the 2012 NC Building Code, and this code provides guidance for design professionals for the installation of helical piles in all construction.

David Smith
Chairman, Residential Standing Committee

Part E – Reports

Chairman's Report
-Chairman Dan Tingen updated the Council on a newsletter that referenced Span Charts. He let the Council know that he was concerned on the way the newsletter was presented and the Council needs to act on the update. He asked Staff to work with the Council to help clarify this item.

-Chairman Dan Tingen asked the Council if they wanted have or continue to postpone the discussion of the code cycle. The Council decided to postpone the discussion until the September 2013 Council Meeting. A motion to postpone was made by Bob Ruffner, seconded by John Hitch and was passed unanimously.

Ad Hoc Committee Reports
-Leon Skinner, Chairman of the Existing Building Code Ad-hoc Committee, presented the completed 2015 NC Existing Building Code to the Council. He acknowledged the committee for their hard work on the Code. Chairman Tingen commended Mr. Skinner and the entire committee on a job well done. A motion was made by Al Bass to accept the 2015 NC Existing Building Code, seconded by Steve Knight and was passed unanimously.

Standing Committee Reports
-Steve Knight reported that the Structural Committee met and discussed Span Tables and the need to revise Chapter 36 of the Commercial Code. The Committee also discussed Item C-1 of the June Agenda.

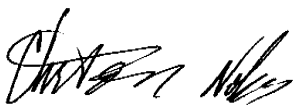
Staff Reports
-Chris Noles and Brandon Truman gave the Council a briefing on current Legislation and handed out a notebook of Bills that might concern the Council and discussed them.

-Chris Noles reported that there are still no immediate plans for the Chapanoke Office to move to another building and he will continue to reserve the McKimmon Center for the BCC meeting space.

Public Comments
There were none.

Part F – Appeals
There were none.

Sincerely,



Christian Noles, P.E.
Secretary, NC Building Code Council