

October 2011

# ENGINEERING NEWSLETTER



NC Department of Insurance

322 Chapanoke Road, Suite 200, Raleigh, NC 27603 [street address]

1202 Mail Service Center, Raleigh, NC 27699-1202 [mail address]

www.ncdoi.com (919) 661-5880

To Subscribe: [http://www.ncdoi.com/OSFM/Engineering/engineering\\_home.asp](http://www.ncdoi.com/OSFM/Engineering/engineering_home.asp)

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## 2012 NC Codes are Available

The following North Carolina 2012 Codes are available in softbound format only (Binders will not be sold during this code cycle) for purchase on line at [www.iccsafe.org/NCDOI](http://www.iccsafe.org/NCDOI) and at the OSFM Office in Raleigh. Walk-in customers should contact Judy McGhee at 919-661-5880 x 240 or by email at [judy.mcghee@ncdoi.gov](mailto:judy.mcghee@ncdoi.gov) in order to confirm the amount due and enable her to have your order ready when you arrive.

- NC 2012 Building Code
- NC 2012 Fire Prevention Code
- NC 2012 Mechanical Code
- NC 2012 Plumbing Code
- NC 2012 Fuel Gas Code

You may purchase and download the new **2012 North Carolina Codes** as an eCodes PDF download at the following link:

<http://www.iccsafe.org/Store/Pages/eCodes.aspx> (State Codes, North Carolina, 2012)

You can view the new **2012 North Carolina Codes** in an Adobe® Reader® format at the following link. The files found on this site are in a “read only” format and are not available for printing.

[http://www.ecodes.biz/ecodes\\_support/Free\\_Resources/2012NorthCarolina/12NorthCarolina\\_main.html](http://www.ecodes.biz/ecodes_support/Free_Resources/2012NorthCarolina/12NorthCarolina_main.html)

The NC 2012 Residential and Energy Codes will not be available until later in the year.

## **Web Interpretations Posted Since Last Newsletter**

The following interpretations have been posted since the last Engineering Newsletter edition. You can find interpretations on the Engineering Website located at [http://www.ncdoi.com/OSFM/Engineering/CodeServices/engineering\\_codeservices\\_interpretations\\_search3.asp](http://www.ncdoi.com/OSFM/Engineering/CodeServices/engineering_codeservices_interpretations_search3.asp)

<b>Building</b>	<b>Section 305.1</b>	<b>Church Classroom Occupancy Classification</b>
<b>Building Mechanical</b>	<b>Section 716.6.2 Section 504.2 Section 607.6.2</b>	<b>Dryer Duct Rated Assembly Membrane Penetration</b>
<b>Building</b>	<b>Section 1004.1.1</b>	<b>Reduced Occupant Loading</b>
<b>Building</b>	<b>Section 1015.2.1</b>	<b>Measuring Remote Exits From Office Suites</b>
<b>Building</b>	<b>Section 1017.1</b>	<b>Table 1017.1 Footnote F</b>
<b>Building</b>	<b>Section 1017.5</b>	<b>Corridor Continuity at Toilet Rooms</b>
<b>Building</b>	<b>Section 1704.1.2</b>	<b>Applicability of Special Inspections</b>
<b>Residential Energy</b>	<b>Section N1102 Section 402 Section 502</b>	<b>Insulation Placement Between Multi-family Dwelling Units</b>
<b>Residential</b>	<b>Section 4403.1</b>	<b>Footing Widths in 120 and 130 MPH Wind Zones</b>

## **New Evaluation Services Section White Paper Posted**

The Evaluation Services Section has completed and posted a White Paper entitled “**Classification of Materials According to Combustibility**”. This document, along with others previously posted, can be found on the OSFM website at [http://www.ncdoi.com/OSFM/Engineering/engineering\\_wpt.asp](http://www.ncdoi.com/OSFM/Engineering/engineering_wpt.asp)

There are currently more than 20 topics actively being researched and drafted by staff with about 40 others waiting to come up in the queue.

If you have any code related topics that you feel need more clarification than what is provided by the commentary or even construction issues you encounter that the code does not cover, please do not hesitate to contact us to get your topic on the list for research and document development. You can email your suggestions to [susan.gentry@gmail.gov](mailto:susan.gentry@gmail.gov).

## **New Edition of the “Access Update Newsletter” Available**

For updates on all things related to accessibility in North Carolina, the latest issue of the Access Update Newsletter is available at:

<http://www.ncdoi.com/OSFM/Engineering/CodeServices/Documents/Accessibility/2011V2-14Sept.pdf>

You can sign up to automatically receive the current edition of the Access Update Newsletters when it is released. Go to:

[www.ncdoi.com/OSFM/Engineering/CodeServices/engineering\\_codeservices\\_interpretations\\_accessibility.asp](http://www.ncdoi.com/OSFM/Engineering/CodeServices/engineering_codeservices_interpretations_accessibility.asp)

## **Owner/Contractor Affidavit Sample Form Available**

During the 2011 Session, the NC General Assembly passed SL 1011-376 (H 648). This act affects property owners who act as their own general contractor for construction projects exceeding \$30,000 in value – on land that they own and for a structure that the owner intends to occupy thereafter. In order to be exempt from the general contractor licensing requirements and comply with the new law, the owner must file an affidavit with the building inspections office prior to receiving a building permit. The inspections office is then required to forward that certificate to the NC Licensing Board for General Contractors.

Conveniently, the NC School of Government has generated a sample form that jurisdictions can use as a model for the required affidavit and has posted it on their website. Also included is a FAQ document that should answer many of the questions you may have about this new requirement. You can find both documents at the following link:

<http://www.sog.unc.edu/node/767>

## From the Q-Board Staff

### 2011 Renewals

By now, you should have received your pocket cards indicating renewals of your inspection certificates for the 2011-2012 year. If you have not, it means that either your certificate has been suspended for lack of continuing education or your renewal fees have not been paid. If you did not earn the required 6 hours of continuing education for a certificate, that certificate has now been suspended. You can verify the status of your certificates at our website:

[http://www.ncdoi.com/OSFM/Engineering/COQB/engineering\\_coqb\\_inspectors.asp](http://www.ncdoi.com/OSFM/Engineering/COQB/engineering_coqb_inspectors.asp)

If your renewal fees have not been paid, you have not been suspended yet. Second notices have been sent to each jurisdiction reminding them to submit payment. Additionally, notifications will be sent to individuals facing suspension for non-payment to give you a final opportunity to submit payment.

**PLEASE NOTE:** In accordance with Board Rule 11 NCAC 08 .0709 any certificate that is suspended for any reason for over 2 years will be revoked. Revoked certificates cannot be reactivated in the future. If you have a certificate that you are temporarily not using (i.e. not employed, reassigned, or modified job responsibilities) PLEASE notify staff so that we can inactivate the certificate rather than suspend it. Certificates that have been inactivated can be re-activated when you need it again.

If you have any questions, please refer to the Board Rules at:

<http://www.ncdoi.com/OSFM/Engineering/COQB/Documents/COQBBoardRules.pdf> or contact staff at 919-661-5880.

### Upcoming Board Meetings

The next regular Board meeting will occur at 1:00 pm on October 24<sup>th</sup> at staff offices at 322 Chapanoke Road, Raleigh. The agenda for that meeting will be posted on-line approximately 2 weeks before the meeting. The public is always welcome at Board meetings. Those wishing to speak at the meeting are requested to send an email to [Samantha.Ewens@ncdoi.gov](mailto:Samantha.Ewens@ncdoi.gov) in order to be placed on the agenda.

### Instructor Workshop

The Board's staff will conduct a standard instructor workshop on September 29, 2011 in Raleigh, NC for certification of standard code course instructors within the NC Community College network. You must submit a registration form and an application to attend this workshop. This workshop is mandatory prior to teaching any standard courses. This workshop must also be attended by those previously approved but have not taught within the past three years. Please refer to our website at

[http://www.ncdoi.com/OSFM/Engineering/COQB/engineering\\_coqb\\_instructor\\_approval.asp](http://www.ncdoi.com/OSFM/Engineering/COQB/engineering_coqb_instructor_approval.asp) for forms. Please contact Celestine Phill at [celestine.phill@ncdoi.gov](mailto:celestine.phill@ncdoi.gov) for further information.

## 2012 NC Energy Conservation Code Training for Inspectors

Free inspector training for the 2012 North Carolina Energy Conservation Code (NCECC) will begin October 18 & 19, 2011 in Raleigh, NC. These classes will continue to be offered in many locations throughout North Carolina through March, 2012. The classes are being conducted by the Building & Fire Code Academy (BFCA) and are funded by a generous grant provided via the American Recovery & Reinvestment Act. Registration for the classes is by electronic registration on the BFCA web site at the following web address:

<http://www.bfcacademy.com/catalog/index.php?cPath=145>

The North Carolina Department of Insurance recommends this class for your training. The training is offered as two days of comprehensive training, the first day addresses residential building requirements and the second day addresses commercial building requirements. The scope of the energy code includes the building, mechanical, electrical, and plumbing disciplines. If you hold a certificate in any of these disciplines, you need this training. The classes are approved for six hours of continuing education credit for inspectors for each day of class. The classes are also approved for AIA continuing education.

There are many technical differences between the 2012 NCECC compared to our previous 2009 NCECC. The classes will provide in-depth training on the new code to prepare you to enforce the new code. The effective date for the 2012 NCECC is January 1, 2012 with a mandatory date of March 1, 2012. Code books are anticipated to be available January, 2012. A draft of the 2012 NCECC can be viewed or printed from the DOI web site at the following web address:

[http://www.ncdoi.com/OSFM/Engineering/BCC/engineering\\_bcc\\_codes\\_2012\\_proposed.asp](http://www.ncdoi.com/OSFM/Engineering/BCC/engineering_bcc_codes_2012_proposed.asp)

### 2011 Dates and Cities for the Free BFCA 2012 NCECC Training

October 18-19	Raleigh
October 20-21	Durham
October 25-26	Asheville
October 27-28	Charlotte
November 7-8	Hickory
November 9-10	Winston-Salem
November 15-16	Greensboro
November 17-18	Asheboro
November 29-30	Southern Pines
December 1-2	Fayetteville
December 6-7	Rocky Mount
December 8-9	Greenville
December 13-14	Jacksonville
December 15-16	Wilmington

**To register, go to [www.bfcacademy.com](http://www.bfcacademy.com), and click on "Click here to register online for North Carolina classes".**

**For information, call (847) 884-4969**

## **2012 NC Energy Conservation Code Workshops for Design Professionals, Home Builders, and Contractors**

This fall, Appalachian State University is holding free Energy Code workshops throughout North Carolina. As you may know, the new code is a big step for our state, and DOI wants to support the change with upfront education. Below, we have listed the dates and locations for the upcoming presentations. To register or obtain updated information about exact locations in your region, visit: [www.ncenergystar.org](http://www.ncenergystar.org) . Or, if you have any questions, please contact Anna Erwin at (828) 262-8331 and/or [erwinae@email.appstate.edu](mailto:erwinae@email.appstate.edu). We look forward to seeing everyone there!

<b>DATE/TIME</b>	<b>LOCATION</b>	<b>AUDIENCE</b>
October 7, 2011; 10am - 11am	Boone – High Country HBA Headquarters	Homebuilding Professionals, Design Professionals, Engineers, Vendors/Suppliers
October 21, 2011; 10am - 11am	Hickory – Hickory/Catawba HBA	Homebuilding Professionals, Design Professionals, Engineers, Vendors/Suppliers
October 26, 2011 – TBA	TBA	AIA Members
October 27, 2011 – TBA	TBA	AIA Members
November 9, 2011; 10:30am - 1:30pm	Wilmington	Homebuilding Professionals, Design Professionals, Engineers, Vendors/Suppliers
November 10, 2011; 10:30am - 1:30pm	Smithfield	Homebuilding Professionals, Design Professionals, Engineers, Vendors/Suppliers
November 11, 2011; 10:30am - 1:30pm	Raleigh	Homebuilding Professionals, Design Professionals, Engineers, Vendors/Suppliers
November 14, 2011 – TBA	TBA	AIA Members
November 15, 2011 – TBA	TBA	AIA Members
November 18, 2011; 10:30am - 1:30pm	Asheville	Homebuilding Professionals, Design Professionals, Engineers, Vendors/Suppliers
December 2, 2011; 10:30am - 1:30pm	Statesville	Homebuilding Professionals, Design Professionals, Engineers, Vendors/Suppliers
December 9, 2011; 10:30am - 1:30pm	Greenville	Homebuilding Professionals, Design Professionals, Engineers, Vendors/Suppliers

## Lessons Learned

This series of articles is intended to offer suggestions about how to avoid complaints that have been made to the Qualifications Board Staff against NC Building Officials. Although based on actual investigations, the articles will not include names or locations.

### Take One Last Look – Crawl Space

As stated in the last two newsletters, complaints against inspectors can be filed for a variety of reasons. However, many times, complaints are filed because there are numerous small items that were missed, frustrating the homeowner. Most of the time, the complainant has already contacted the General Contractor's Licensing Board and filed a complaint against the contractor, and the inspector is simply next in line to bear the brunt of the home owner's frustration if the easy to spot issues are not correct.

Worth repeating are the list of common violations we see over and over that can be seen from the curb before even getting out of the car:

1. No site address.
2. No handrails on steps.....and if they look temporary, they probably are, so take a picture.
3. No guard on porches, decks, etc. over 30 inches... again if it looks temporary, it probably is, so take a picture.
4. Steps not uniform.
5. Grade is not sloped away from house.
6. Door opens out and there is no landing.
7. Brick veneer – no weep-holes.
8. Spaces around penetrations not sealed.
9. No caulking around windows and doors.
10. Not enough foundation vents.

All easy, non-technical stuff! So, moving on under the house we find equally easy to spot, non-technical, common sense, "should have caught that" kinds of deficiencies, including:

1. No light switch within 3' of crawl space access door.
2. Construction debris under house after the final inspection.
3. No vapor barrier.
4. Girders not fully shimmed to piers.
5. Insulation missing.
6. HVAC unit on dry-stacked CMU's.
7. HVAC duct making wild restrictive turns.
8. HVAC duct laying on the ground, not secured.
9. Electrical wiring laying on the ground, not secured.
10. Plumbing not connected.....specifically water closets.....ugly situation!

What is the owner to think when these very obvious things are missed? Most owners think this is just the tip of the iceberg, and that serious structural issues or dangerous electrical issues may have missed. At the very least, the owner's perception of the entire inspection department (not just the individual inspector) is very bad.....a waste of jurisdiction's resources.

Again, inspectors need to take one last careful look before signing off on the final inspection.

## Heads Up!

This series of articles is intended to give a “Heads Up!” or reminder to building officials of code requirements or NC laws that the Engineering Division has recently realized may be being overlooked by the local building department personnel.

### **Are Fire Retardant Treated (FRT) Wood and Aluminum Classified as Non-Combustible Materials?**

No. In order for a material to be classified as non-combustible by the minimum requirements of the code, it must pass ASTM E-136. Neither aluminum nor fire retardant treated wood pass ASTM E-136, so both of those materials are classified as combustible materials. Aluminum and FRT may not burn as witnessed in traditional combustibles; however, the materials still lose mass after exposure to high temperatures. For more information, see the article on page 3 about the new White Paper on Material Combustibility.

Aluminum is classified as a material with “limited combustibility” by NFPA similarly to fire retardant treated wood. In locations where FRT is allowed in combustible construction in NCBC Section 603.1, it would be appropriate to allow aluminum.

### **Building, Mechanical, Plumbing and Electrical Inspectors DO have Responsibilities after the CO is Issued**

Lately DOI has heard several Code Enforcement Officials say that they have no responsibility in a building once the CO is issued. They believe that from that point on, everything related to life safety in an existing building falls in the lap of the fire code official. Not true.

The NC Fire Prevention Code allows the Fire Official to totally or partially evacuate a building when they encounter what they determine to be an eminent hazard during their inspections after the CO is issued. That eminent hazard may be the result of a poorly maintained facility, a vandalized facility or even a building that was not constructed to meet code to start with. The reason the hazard exists is not important. The threat to life is what is important and must be addressed and corrected.

What if the hazard is not deemed eminent, but is still a serious life safety concern. Examples include mechanical exhaust issues, inoperable but required elevators, rated assembly penetrations not properly fire stopped, lack of smoke barriers, and on and on.

Who is responsible for getting those issues corrected?

NC General Statute (GS) 143-139(b1) states:

(b1) *Remedies.* – *In case any building or structure is maintained, erected, constructed, or reconstructed or its purpose altered, so that it becomes in violation of this Article or of the North Carolina State Building Code, either the local enforcement officer or the State Commissioner of Insurance or other State official with responsibility under this section may, in addition to other remedies, institute any appropriate action or proceeding to: (i) prevent the unlawful maintenance, erection, construction, or reconstruction or alteration of purpose, or*

overcrowding, (ii) restrain, correct, or abate the violation, or (iii) prevent the occupancy or use of the building, structure, or land until the violation is corrected.

GS 153A-352 (and similar language in 160A-412 for cities and towns) states:

*The duties and responsibilities of an inspection department and of the inspectors in it are to enforce within the county's territorial jurisdiction State and local laws and local ordinances and regulations relating to:*

- (1) *The construction of buildings;*
- (2) *The installation of such facilities as plumbing systems, electrical systems, heating systems, refrigeration systems, and air-conditioning systems;*
- (3) *The maintenance of buildings in a safe, sanitary, and healthful condition;*
- (4) *Other matters that may be specified by the board of commissioners.*

*These duties and responsibilities include receiving applications for permits and issuing or denying permits, making necessary inspections, issuing or denying certificates of compliance, issuing orders to correct violations, bringing judicial actions against actual or threatened violations, keeping adequate records, and taking any other actions that may be required to adequately enforce the laws and ordinances and regulations. The board of commissioners may enact reasonable and appropriate provisions governing the enforcement of the laws and ordinances and regulations.*

GS 153A-365 (and similar language in GS 160A-425) states:

***Defects in buildings to be corrected.***

*If a local inspector finds any defect in a building, or finds that the building has not been constructed in accordance with the applicable State and local laws and local ordinances and regulations, or finds that a building because of its condition is dangerous or contains fire-hazardous conditions, he shall notify the owner or occupant of the building of its defects, hazardous conditions, or failure to comply with law. The owner and the occupant shall each immediately remedy the defects, hazardous conditions, or violations of law in the property each owns.*

Note that these statutes apply to the requirements of all codes, not just the Fire Prevention Code, and do not limit responsibility to the fire official. It is clear that the law requires that any code official who is made aware of a building deficiency after the CO is issued is responsible for ensuring that the building is brought back to a safe condition.

Further, if an existing code deficiency is brought to the attention of a building official and no action is taken in accordance with the General Statutes above, a complaint can be made to the Q-Board against the code official, it will be investigated and appropriate action will be taken against the code official if the complaint is found to be legitimate.

The safety of the public is the Code Enforcement Officer's responsibility both before and after a building is complete. As stated in the very first item in the ICC Code of Ethics, the Code Official is to "Place the public's welfare above all other interests"

### **Townhome Sprinkler Requirements**

To respond to numerous questions about townhouse sprinklers; Section R313.1 of the 2012 Residential Code requires that townhomes be sprinklered in accordance with NFPA 13D system unless a 2 hour fire wall is constructed between each townhome unit. The transition period for the 2012 NC Residential Code begins on January 1, 2012 and ends on March 1<sup>st</sup>,

2012. After modification in the December 14, 2010 NC Building Code Council, the language is as follows:

**R313.1 Townhouse Automatic Fire Sprinkler Systems.** An automatic residential fire sprinkler system shall be installed in townhouses.

**Exceptions:**

1. Townhouses constructed with a common 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119 or UL 263 provided such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be installed in accordance with Chapters 34 through 43. Penetrations for electrical outlet boxes shall be in accordance with Section R302.4.

2. An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed.

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

**Exception:** If an automatic residential fire sprinkler is installed, a common 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119 or UL263 is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be installed in accordance with Section R302.4.

## Upcoming NC Inspector Association Meetings and Workshops

### North Carolina Fire Marshals Association

NCFMA CEU Workshops:    Nov. 3 - Conover Fire Station No. 3 (9am - 4pm)  
                                      Nov. 10 - Durham Solid Waste Auditorium (9am - 4pm)  
                                      Dec. 8 - Edgecombe Com. College, Rocky Mount (9am - 4pm)

Go to [http://ncfma.com/training\\_education1](http://ncfma.com/training_education1) for more information.

NCFMA meeting :            Nov. 9 -- Fire Station No. 9, Concord, NC @ 1:00 P.M.

Go to [http://www.ncfma.com/meetings\\_minutes](http://www.ncfma.com/meetings_minutes) for more information.

### **North Carolina Mechanical Inspectors Association**

NCMIA CEU Workshop:      October 19 - Paramount Theater, 128 E. Front St. Burlington, NC  
TOPIC: Significant Changes to the 2012 NC Mechanical Code

For registration application, contact Jean Williams at 919-661-5880 x 260 or  
email her at [jean.williams@ncdoi.gov](mailto:jean.williams@ncdoi.gov)

### **North Carolina Plumbing Inspectors Association**

NCPIA CEU Workshop:      October 20 - Paramount Theater 128 E. Front St. Burlington, NC

For registration application, contact Jean Williams at 919-661-5880 x 260 or  
email her at [jean.williams@ncdoi.gov](mailto:jean.williams@ncdoi.gov)

### **North Carolina Ellis Cannady Chapter of the International Association of Electrical Inspectors.**

IAEI Southern Section Convention:      October 9-12, 2011 Chattanooga Marriott Downtown

For More Information go to [www.southernsection.info](http://www.southernsection.info)

NC Chapter Annual Convention:      November 6-8, 2011      Childress Vineyards,  
Lexington, NC

[2011 Meeting Invitation](#)

[2011 Meeting Schedule](#)

[2011 Companion Program](#)

[2011 Registration Form](#)

[Childress Vineyards Website](#)

[Exhibitor Agreement](#)

[Map](#)