

# Construction Code Communicator



State of New Jersey  
Jon S. Corzine, Governor

Department of Community Affairs  
Charles A. Richman, Acting Commissioner

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## 2009 Building Safety Conference

*"Building a Safer Tomorrow"*

The 28<sup>th</sup> annual New Jersey Building Safety Conference was held this year from May 6 through May 8 at the Trump Taj Mahal in Atlantic City. As our theme above aptly suggests, the focus of this year's conference was on meeting the current challenges faced throughout our industry while assuring that we are ready for the many innovations and new techniques that the future will bring, making sure that our tomorrow is, indeed, safer.

The "Crackerbarrel" on the first evening had a record setting 46 tables covering varying topics of interest ranging from floodplain management to an opportunity to speak with our Director, Cynthia Wilk, about the many hot topics the Division is working on to meet the needs of our local inspectors and officials. There were 13 seminars held each training day running across the spectrum from electrical code updates to swimming pool and spa safety.

One of the major events at the Conference, as always, is the opportunity to honor those whose commitment and dedication over the past year is recognized by their associations- the Inspectors and Technical Assistant of the Year. This year was

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## CPVC Fire Sprinkler System Drop Installations

It has come to the attention of the Department that some fire sprinkler systems utilizing Chlorinated Polyvinyl Chloride (CPVC) pipe are being installed incorrectly. In one city, where 13 high rise buildings were being constructed, an observant Fire Subcode Inspector noticed the sprinkler contractor installing the sprinkler head drops incorrectly. The inspector asked that a random sample of heads be removed to check for obstructions. The problem is that the sprinkler heads are being installed in the drops before the drops are installed onto the branch lines. When the drop is installed the adhesive drips down through the drop and seals the sprinkler head cap in place causing a blockage.

The manufacturer's installation specification has requirements on how to install these drops. The requirements clearly state that the heads are not to be installed until the adhesive has had time to cure. The cure time could be as long as 48 hours or as short as 15 minutes before a test could be conducted on the pipe. The NFPA referenced standard has no installation information about these types of drops. The manufacturer's specifications strongly recommend that the contractors attend an installation class before they start installing the product and attend an update class every two years thereafter.

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particularly notable for the Division, as our own Tom Pitcherello was selected as Plumbing Inspector of the Year, and also, a member of the Building Safety Committee, Martin Vogt, was selected as the Building Inspector of the Year. Congratulations to all for your hard work and well deserved awards! Director Wilk, along with the association presidents presented the following awards:

**New Jersey Association of Technical Assistants**  
Technical Assistant of the Year  
**Catherine Booth**

**Building Officials Association of New Jersey**  
Building Inspector of the Year  
**Martin Vogt**

**New Jersey State Plumbing Inspectors Association**  
Plumbing Inspector of the Year  
**Thomas Pitcherello**

**New Jersey Fire Prevention and Protection Association**  
Fire Protection Inspector of the Year  
**Joseph Moschello**

**Municipal Electrical Inspectors Association of New Jersey**  
Electrical Inspector of the Year  
**Charles Hood**



Above, NJATA's 2009 honoree Catherine Booth is accompanied by President Rosalind Bosserdet.

Conferences of this sort provide a valuable opportunity not only for educational pursuits, but to allow for a chance to share ideas and experiences, fostering fellowship among our peers. The reception to honor the awardees gives us all a chance to offer congratulations to the award recipients and to share some great food and entertainment, as well. The Fabulous Greaseband returned again this year providing great music and fun for all, so far being a conference favorite. The inspector and technical assistant associations were of particular help this year, providing assistance in making our awards reception memorable- a special thanks to all involved!

The Building Safety Conference is nice break from the normal routine and provides the chance to enhance your educational opportunities and receive information on important and cutting edge topics. We are looking forward to seeing everyone again next year when we meet again at the Taj Mahal on April 28-30<sup>th</sup>. Hope to see you there!

Source: John Delasandro  
Licensing Unit, Bureau of Code Services



Above, BOANJ's 2009 honoree Martin Vogt accepts his award. He is accompanied by President Salvatore DeSimone and Director Wilk.

To the right and holding his award, MEIA's 2009 honoree Charles Hood is accompanied by Southern Chapter President Joseph Freeman.





Above left, NJPIA's 2009 honoree Thomas Pitcherello accompanied by NJPIA President Thomas McGonigle. And to the right, NJFP&PA's 2009 honoree Joseph Moscello accompanied by NJFP&PA President Stanley Sickels.

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## The New Jersey State Permit Surcharge (Training) Fee: Charge or No Charge?

It seems that the recent addition of N.J.A.C. 5:23-4.19(b)6, i.e., “The minimum permit surcharge fee shall be \$1.00,” has caused confusion in understanding 5:23-4.19(b)1 through 5. Therefore, to clarify:

1. **No** permit surcharge fee shall be collected for pre-engineered systems of commercial farm buildings.
2. **No** permit surcharge fee shall be collected for permits to perform asbestos abatement or lead abatement.
3. **No** permit surcharge fee shall be collected for permits for the construction or rehabilitation of residential units that are to be legally restricted to occupancy by households of low- or moderate-income.
4. **No** permit surcharge fee shall be collected for demolition of buildings or structures.
5. **No** permit surcharge fee shall be collected for work consequential to a natural disaster when the local code enforcement agency is waiving its fee.

Further, where the Uniform Construction Code **Act** itself specifies that no training fee or permit surcharge fee shall be charged, **no** permit surcharge fee shall be charged. Those instances are:

6. The issuance of a Construction Permit for the installation or alteration of solar energy heating or cooling systems.
7. The issuance of a Construction Permit for the construction, reconstruction, alteration or improvement designed and undertaken solely to promote accessibility by disabled persons.

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- 8. The issuance of a Construction Permit for the construction or alteration of any public building by county or municipal government or by a school board.

However, **in all other instances that would normally result in the calculation and collection of the permit surcharge fee**, if the calculation results in any amount that is less than one dollar, the minimum permit surcharge fee of \$1.00 shall be collected.

Source: Berit Osworth  
Division of Codes and Standards

## Which IFC do I use?

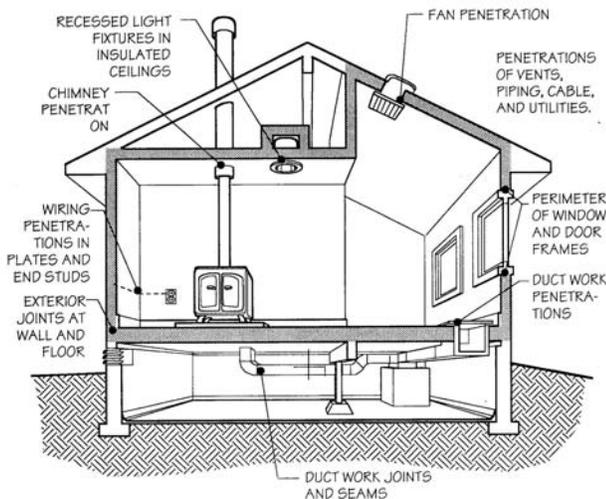
Many questions have been coming in recently about the use of the new International Fire Code (IFC)/2006 New Jersey edition. There have been no changes in the rules for projects being constructed in accordance with the New Jersey Uniform Construction Code (UCC). The IFC is not adopted as part of the UCC. Therefore, when the International Building Code (IBC) requires installation in accordance with the IFC, the un-amended edition of the IFC must be used. The IFC/2006, New Jersey edition is used only for maintenance inspections by the Fire Official or Fire Inspector.

If you have any questions, please feel free to call me at (609) 984-7609.

Source: Michael E. Whalen  
Code Assistance Unit

## Air Leakage

Since everyone tends to like pictures to explain code provisions, here are two that should make the requirements clear in relation to air leakage from Section 402.4 of the International Energy Conservation Code/2006 (IECC/2006).

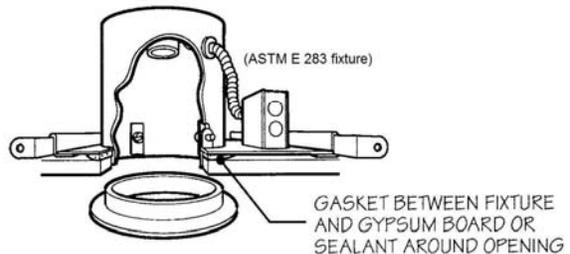


In short, the items shown above are required to be caulked, gasketed, weatherstripped or otherwise sealed with an air barrier material, suitable film or solid material to limit infiltration. The complete list of items can be found at Section 402.4.1 of the IECC/2006. Furthermore, the IECC/2006 specifically calls out recessed lighting at Section 402.4.3 to limit air leakage between conditioned and unconditioned spaces with three methods; they are as follows:

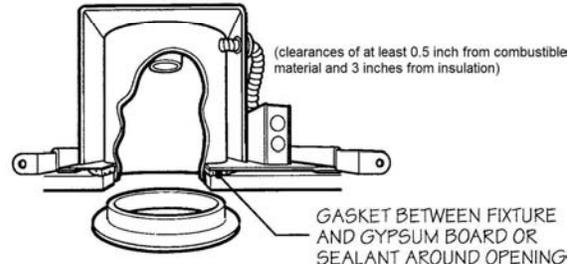
#1 TYPE IC RATED FIXTURE WITH NO HOLES



#2 TYPE IC RATED FIXTURE WITH CERTIFIED TESTED 2.0 CFM MAXIMUM AIR MOVEMENT



#3 RATED FIXTURE IN SEALED BOX



If you have any questions on this matter, please contact me at (609) 984-7609.

Source: Rob Austin  
Code Assistance Unit

## The Foundation of Good Partnerships

All partnerships that work well have one thing in common. Whether it's a two man beach volleyball team, a doubles tennis team, or a couple on *Dancing with the Stars*, partnerships are most successful when the partners coordinate what they are doing. In order for them to do this they need to either have worked together in the past or communicate well with each other. The same need to coordinate applies on many construction projects, especially modular projects where the installation instructions for the modular building are prepared by the manufacturer while the foundation is designed by someone else. If the partners are not in sync, the dancing can get pretty ugly.

There are a couple of areas in modular homes where the dancers often step on each other's toes. The first is the center support where two modules are placed on the foundation. This can be treated in one of two ways. One way is to provide continuous support under the edge of each module that runs down the center of the foundation. The other is to design the band boards (essentially rim joists) to act as a girder with intermediate supports. The first option is relatively straight forward; the second requires some coordination. For the second option to be used, the foundation designer needs to determine how the two band boards need to be fastened and where the supports need to be located. The location of the supports is dictated by a number of factors, including the band board material, the load, and the location of the band board splices (if any). That's where the coordination comes in. The foundation engineer must coordinate the submitted foundation plan with the way that the modules were constructed.

A second place where the dancing can go awry is the lateral support provided for the first floor joists that run parallel to the foundation wall. Foundation walls, for the most part, rely on the first floor joists for support of the top of the foundation wall against lateral pressure from the soil on the outside (unbalanced fill). For joists that run perpendicular to the foundation wall, the bracing is provided by the joist itself. For joists that run parallel to the foundation, the support must be provided by blocking between joists so that the force on the foundation wall is transferred to the floor assembly rather than just to the rim joist. This is discussed in Section R404, Foundations and Retaining Walls, of the

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The local officials need to keep a close watch on these installations to make sure that the contractors are following the manufacturer's specifications. If these drops are being installed incorrectly, a random sample of the heads should be pulled in each area affected to check for any blockage. If blockage is found, all the heads should be replaced.

If you have any questions, please feel free to call me at (609) 984-7609.

Source: Michael E. Whalen  
Code Assistance Unit

## ALERT! Changes are Coming to the CCC

Nearly two years ago, the *Construction Code Communicator* was moved from a printed newsletter to one that is posted on the Division's web site. In addition, it was reduced from four issues each year to three. This year, it is changing again.

The *Construction Code Communicator* will continue to be posted on the Division's web site. It will be posted three times this year in spring/summer, fall, and winter/2009 issues. Next year (2010), it will be posted twice a year, in spring/summer and fall/winter issues. It will be posted in the Department's document library, so that, when it is posted, each registered user will automatically receive an e-mail notification.

In addition to posting the *Communicator*, the Department will use its document library to post other documents that are important to code enforcement. We will also publish short alerts and updates in an "Alerts" or "Hot Topics" section of the web site.

It has become faster and more efficient to communicate through the web site and document library, so:

- If we do not have your municipal e-mail address, please contact Sue Lydon at [ORA@dca.state.nj.us](mailto:ORA@dca.state.nj.us).
- If you have not registered to use the document library, please contact the division at [codesandstandards@dca.state.nj.us](mailto:codesandstandards@dca.state.nj.us) for an authorization code.

Please let me know if you have any questions. I can be reached at (609) 984-7609.

Source: Emily W. Templeton  
Division of Codes and Standards

## Garden-Type Utility Sheds and Similar Structures – Clarification

On April 20, 2009, the Department repealed N.J.A.C. 5:23-9.9, Foundation systems for garden type utility sheds and similar structures. The provisions of this section were moved within the applicable chapters of the building and one-and two-family dwelling subcodes. Therefore, the exceptions in Section 1805.2 of the International Building Code/2006 (IBC/2006) and Section R403.1.4 of the International Residential Code/2006 (IRC/2006) have been modified to reflect old N.J.A.C. 5:23-9.9. Both the IBC/2006 and IRC/2006 allow free standing storage-type buildings to be built without a foundation to frost-depth as long as the building meets the following three conditions:

- 1) The building presents a low hazard to human life in the event of failure; these include, but are not limited to, agricultural buildings, temporary buildings, and minor storage facilities;
- 2) The building an area of 600 square feet or less for light framed construction (LFC), or 400 square feet or less for other than light-framed construction (OTLFC); and
- 3) The building has an eave height of 10 feet or less. However, unlike old N.J.A.C. 5:23-9.9, footings were required in all cases to be at least 12 inches in depth. A brief summary follows (all 10 feet or less in height):
  - 100 ft<sup>2</sup> or less – footings of 12 inches deep not required provided the structures do not contain utility connections and are of sufficient weight to remain in place or be anchored to the ground (like old N.J.A.C. 5:23-9.9(a))
  - More than 100 ft<sup>2</sup> up to 200 ft<sup>2</sup> – footings of 12 inches deep not required provided the structures are dimensionally stable without the foundation system and do not contain utility connections. A structure shall be considered dimensionally stable if it is provided with a floor system that is tied to the walls of the structure such that it reacts to loads as a unit. These structures shall be of sufficient weight to remain in place or shall be anchored to the ground (like old N.J.A.C. 5:23-9.9(b))
  - Buildings of more than 200 ft<sup>2</sup> up to 600 ft<sup>2</sup> LFC or 400 ft<sup>2</sup> OTLFC – Footings of 12 inches deep required
  - Buildings of more than 600 ft<sup>2</sup> LFC or 400 ft<sup>2</sup> OTLFC – Footings to frost required

Garden-type utility sheds require a construction permit for building work unless the structure is 100 square feet or less in area, and 10 feet or less in height,

and accessory to buildings of Group R-2, R-3, R-4, or R-5, and does not contain a water, gas, oil or sewer connection. A construction permit for electrical work shall be required, when applicable (N.J.A.C. 5:23-2.14(b)8).

For commercial farm buildings, the permit requirements are slightly different. As per N.J.A.C. 5:23-3.2(d)6, Garden-type utility sheds and similar structures are exempt from permit requirements provided the structure is 200 square feet or less in area, 10 feet or less in height, has no utility (water, gas, oil, sewer or electric) connections and the shed is dimensionally stable without the foundation system. A shed is to be considered dimensionally stable if it is provided with a floor system that is tied to the walls of the structure such that it reacts to loads as a unit. Also, as per N.J.A.C. 5:23-3.4(b)5, a three-sided turn-out shed used to shelter livestock is exempt from permit requirements provided there is no permanent foundation or floor and provided the structure is 250 square feet or less in area, and 14 feet or less in height, and has no utility (water, gas, oil, sewer or electric) connections. In both cases, the structure has to be of sufficient weight to remain in place or has to be anchored to the ground (concrete is not be required for anchoring).

Source: Rob Austin  
Code Assistance Unit

## Certification to Perform Services on Unregulated Underground Heating Oil Tank Systems

This article is to alert code officials that, on November 3, 2008, the Department of Environment Protection (DEP) adopted rules which require that a contractor who provides services on an unregulated underground heating oil tank system pass a proficiency test in each area for which certification is being sought. The certification will not be required for an aboveground heating oil tank system.

I was told from DEP that a notice regarding the effective date will be published in the *New Jersey Register* sometime in October or November as this rule takes effect.

This article is to alert code officials that when the official notice of the effective date of the adoption is published, any contractor providing services on any unregulated underground heating oil tank system and applying for a permit from the local municipality to perform this work will be required to provide proof of

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New Jersey One- and Two-Family Dwelling Subcode. The blocking method is dependant on the soils and the amount of unbalanced fill and must be included in the submittal for the permit.

The building subcode official has to play the role of judge and while he doesn't necessarily need to identify which dancer is at fault, he does need to make sure that all the dance steps are there and match. There are two places where the building subcode official can look to make sure that these items have been addressed. They are the foundation plan and the installation instructions from the modular manufacturer. The installation instructions are required to be submitted as part of the permit application according to Section 6 of Part IV of the Uniform Administrative Procedures which are referenced in the Uniform Construction Code. While the Uniform Administrative Procedures give general guidance on what should be provided in the installation instructions (Section 3 of Part IX of the Uniform Administrative Procedures), they do not cover the interplay between the foundation engineer and the manufacturer completely. They only require that there be "connection details of the industrialized/modular building and the foundation." This will not necessarily address the blocking issue or the centerline support of the modules within the foundation walls. The detail provided in the installation instructions varies from manufacturer to manufacturer, so it cannot be assumed that the details will always be found on the installation instructions. For example, one manufacturer may call out the blocking to be provided for lateral support as "done by others" while another manufacturer may not mention it at all. The building subcode official should be aware that lateral support may be needed, and if there is none provided, the official should raise the issue with the foundation designer.

The task for the building subcode official is to ensure that all of the details needed are provided and that there are not conflicts between what was submitted by the foundation engineer and the manufacturer's installation instructions. In other words, when it comes to blocking for lateral bracing and center support locations pay attention to the footwork of the dancers.

If you have questions on this issue, please contact the Code Assistance Unit at (609) 984-7609.

Source: Michael Baier  
Chief, Bureau of Code Services

certification. Again, this does not apply to aboveground heating oil tanks.

As soon as this Department receives any additional information, we will keep you up to date.

Should you have any questions, you may contact me at (609) 984-7609.

Source: Thomas C. Pitcherello  
Code Assistance Unit

## Owners doing work in their own homes

This article intends to help clear up some confusion between home improvement contractors (HIC) and homeowners preparing their own plans.

The HIC requirements, as they pertain to the Uniform Construction Code (UCC), can be found at N.J.A.C. 5:23-2.15(b)8. The exception for single-family homeowners preparing their own plans can be found at N.J.A.C. 5:23-2.15(f)1ix.

Please keep in mind that the UCC references above have distinct differences. N.J.A.C. 5:23-2.15(f)1ix. allows the construction official to waive the requirement for signed/sealed plans in the case of a single family homeowner who has **prepared** construction plans to a detached structure used or intended to be used exclusively as his or her private residence. As per N.J.A.C. 5:23-2.15(b)8ii, a HIC registration is not required for any person **performing** a home improvement upon a building or structure in Group R-2, R-3, R-4 or R-5 owned by that person, or by a member of that person's immediate family.

As you can see from the bolded/italicized words above, N.J.A.C. 5:23-2.15(f)1ix deals with the **preparation of the plans**, while N.J.A.C. 5:23-2.15(b)8ii deals with **construction work being performed**. As an example, a single family homeowner owns two homes; one is his residence, the other is a rental property. The homeowner has decided to build an attached deck at his home and also to build an attached deck at the rental property. The homeowner is allowed to draw the deck plans for the home he lives in, but may not draw the deck plans for the rental property; the plans for the rental property must be drawn by a design professional. However, the homeowner may construct the deck his home and may also construct the deck at the rental property without being registered as a HIC.

If you have any questions on this matter, you may contact me at (609) 984-7609.

Source: Rob Austin  
Code Assistance Unit

## Shared Services

As today's economy continues to shrink and municipal building departments are faced with deficits, the possibility of staff reductions, shared service agreements, privatizing one or more subcodes, and State takeover, is becoming a reality. There are a few actions as Construction Officials you can take to minimize the effect of the national recession on your office:

### 1. Review your fee schedule

Many municipalities have not updated their fee schedules in years. If your fee schedule is out-dated and inconsistent with many of the surrounding municipalities' fee schedules, it should be reviewed and updated to cover today's costs of running a building department. If you cannot obtain a copy of the current fee schedules from adjacent municipalities, the Office of Regulatory Affairs might have them. Just give us a call. Absent an adjacent municipality's fee schedule, you could consider using the State fee schedule as a guide to reasonable fees.

### 2. Review your work load

Just because your revenues are down, does not mean that you do not have a lot of existing open active permits for projects that need to be inspected. Determine what permits are open and estimate how many inspections will be needed to properly service these open permits. Also, check what projects are coming through your planning board. If there are several large projects that are almost through the planning board process, they will not only impact your staffing needs, they will also impact future revenues. Submit a report to the governing body with evidence that a reduction in staff at this time is not warranted. This is not to say that a reduction might not happen moving forward, but you could buy yourself some valuable time.

### 3. Ask for a staffing review

As most of you know, the Office of Regulatory Affairs performs staffing reviews. These reviews basically follow the procedures outlined above to determine the building department's needs. We move very quickly and, in a matter of days, we provide a reliable staffing report that you could submit to your municipality.

### 4. Know your rights

As a civil service employee working under Title 11A, or as a subcode and/or construction official in a non-civil service municipality with tenure, you may have certain employment rights.

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## We've Got the Power!

The ever-increasing need to relieve the utility power grid system from its everyday demand has resulted in the development of alternate power sources, i.e. solar photovoltaic systems and wind turbine generators to name two of the more common ones. As with other electrical installations, alternate power sources are required to comply with the subcodes of the New Jersey Uniform Construction Code (UCC).

The installation of solar photovoltaic systems is covered by the National Electrical Code (NEC)/2008, as adopted by the State; however, there are other alternate power sources for which the NEC/2008 does not have a specific article that applies to their installation. Not surprisingly, the Department is receiving questions regarding the applicability of the other articles in the NEC to these new installations.

**Listing and Labeling:** Most recently, the Department has received questions regarding the installation of wind turbine generators. Listing and labeling requirements cause the most questions. NEC/2008, Section 705.4, Equipment Approval, requires that all equipment must be approved for the intended use. Section 705.4 refers to Section 110.3, Examination, Identification, Installation, and Use of Equipment, which, in turn, states that when evaluating equipment, the installation and use must be in conformity with applicable provisions of NEC/2008. [Section 110.3(A) and 110.3(A)(1)].

Most electrical equipment is listed and labeled as required by Section 110.3(B). When the equipment is listed and labeled, approval of its installation and use is a "no brainer". However, when there is no listing or labeling, the solution is less clear. Fortunately, the UCC covers this situation.

**Alternative Materials:** At N.J.A.C. 5:23-3.7, Municipal approvals of alternative materials, equipment, or methods of construction, the UCC gives the appropriate subcode official the authority to approve equipment that does not have the standard listing and labeling. In addition, N.J.A.C. 5:23-3.7 spells out what kind of documentation is acceptable. Acceptable documentation includes: 1) An engineer's report; or 2) A field evaluation label and report or letter issued by a nationally recognized testing laboratory; or 3) Reports of engineering findings issued by a nationally recognized evaluation service program; or 4) Research reports from authoritative sources.

**Permits Required:** Utility companies are not required to obtain UCC permits for their installations.

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For example, if you are a tenured employee and the town is reducing hours, they cannot simply replace you with another licensed person. You should ask for a hearing; this is your right under the Uniform Construction Code Act.

If you are in a civil service municipality and a town is reducing your hours, check with the Civil Service Commission to see what rights you have.

A municipality's decision to outsource or privatize some or all of the subcodes usually breaks civil service or tenure status. However, you may be entitled to be placed on a reemployment list. You should check with the Civil Service Commission or get some legal assistance.

5. Shared services

There are three different scenarios with a shared service contract which are as follows:

Title 11A town becoming the host over another Title 11A town.

- The town must have an approved Employment Reconciliation Plan (ERP) that includes who, if anyone, is being transferred. The Civil Service Commission has 45 days from receipt to approve, deny, or require changes to the ERP.
- The Civil Service Commission will create an implementation plan to transfer employees with current status in current title, unless reclassified.
- Displaced permanent civil service employees may be placed on a reemployment list for Civil Service employers within that county. This list remains active without a termination date.
- Displaced personnel from the providing (non-host) local unit shall be entitled to one month's base salary for every 5 years of employment.

Title 11A town becoming the host over a non Title 11A town.

- The host town decides who will – and who will not– be retained.
- Any employee who is retained by the host town and has at least one year of service will be given permanent civil service status in a title that reflects the duties of the new position, and not necessarily those of a previously held title.

Non Title 11A town becoming the host over a Title 11A town.

- Employees who are transferred receive tenure status.
- Once transferred, the employee is subject to the terms and conditions of the existing contract.

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## Lowest floor level in flood-resistant construction

**Question:** How does R300 of the International Residential Code/2006 (IRC/2006) apply to the lowest floor level of a home to be constructed in a flood zone that has vehicle parking only on the first level, two levels of living space above and a habitable attic above that?

**Background:** Section R324.1.4 of the IRC/2006 states that the lowest floor is the floor of the lowest enclosed area, including basement, but excluding any unfinished flood-resistant enclosure that is usable solely for vehicle parking, building access, or limited storage.

**Answer:** If the 1<sup>st</sup> level is truly an unfinished flood-resistant enclosure that is usable solely for vehicle parking, building access, or limited storage, then, as per Section R324.1.4 of the IRC/2006, that level does not count as a story. Therefore, Section R300 may still be used to design this residence. Remember that when the design is VB construction without a sprinkler system, the height limitation of 35 feet of Section R300 still applies. However, if a higher height were desired, 40 feet is allowable by using VA construction (Section R300.3) or 55 feet can be obtained by using VB construction in conjunction with a sprinkler system (Section R300.1).

If you have any questions on this matter, you may contact me at (609) 984-7609.

Source: Rob Austin  
Code Assistance Unit

## New Jersey Register Adoptions

### February 2, 2009:

The following adoptions were published in *New Jersey Register* on February 2, 2009.

**N.J.A.C. 5:23-2.15 -- Mirror Images; Abandoned Plans:** N.J.A.C. 5:23-2.15(f)2i(1) allows a mirror-image plan to be covered by the initial prototype release as long as the design professional submits a signed and sealed letter stating that, aside from being reversed, the mirror-image design is identical to the original prototype. N.J.A.C. 5:23-2.15(f)4i(5) allows the Department of Community Affairs to declare plans abandoned and to purge them after 12 months.

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- Displaced Title 11A employees should check with the Civil Service Commission for further employment rights.

**6. Things to avoid when faced with possible staff reduction**

Do not reduce the quality of plan reviews and inspections.

Do not purposely slow down plan reviews and inspections. This kind of reaction harms and antagonizes the general public; in addition, it makes you look bad.

**7. What to do when faced with possible staff reduction**

Always do your job to the best of your ability with integrity and professionalism.

Should you have any questions, I can be reached at 609-984-7672.

Source: Louis Mraw  
Supervisor  
Office of Regulatory Affairs

## **Green Buildings: An Introduction**

Green Building design and construction has become a multi-billion dollar industry with a significant role in the future of architectural design and construction. As the market for green buildings grows in New Jersey, all involved in code enforcement are likely find it helpful to have an understanding of current green building systems, technologies, and materials. This article is the first of a series intended to provide a basic overview of green building principles and methodologies and to increase familiarity with terms used and perspectives held by practitioners.

Green building design is intended to be efficient; it is also intended to result in structures that are lower maintenance structures and that have the added benefit of being constructed with a minimal impact on the natural environment. It is helpful to recognize that green building design and construction is not a single generic style limited to a specific list of requirements and materials; it is a process that is organized to consider the total impact of design decisions on the consumer and the environment. The purpose of this process, called "Integrated Design," is to help to define goals and building strategies for creating healthy built environments while simultaneously protecting, restoring, and regenerating the natural environment.

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## **Update on the National Standard Plumbing Code Hearings**

The public hearing for the 2009 edition of the National Standard Plumbing Code (NSPC) was held in Atlantic City last August. It was a very successful and well-attended public hearing. I think that everyone who attended found the NSPC code process very interesting.

In the past, the code change cycle for the NSPC was on a one year (annual) basis. Starting with the 2009 NSPC, the code change cycle has been changed to an 18-month cycle.

Proposed changes to the 2009 NSPC for the next edition (NSPC/2012) are due by Thursday, October 22, 2009. For a copy of the code change form, visit [www.phccweb.org](http://www.phccweb.org) under "Contractor Resources-Code and Technical Support". The NSPC code change committee is scheduled to meet at the headquarters office of the Plumbing Heating and Cooling Contractors (PHCC) in Falls Church, VA on December 11-12, 2009. Now is the time to propose any code changes you would like to make.

The 2009 NSPC books are now available. Copies can be purchased from NJ PHCC, which can be reached at (609) 499-8070.

The next NSPC public hearing on the code changes is scheduled for Thursday, March 25, 2010. The hearing will again be held in Atlantic City.

New Jersey is proposing to adopt the NSPC/2009; we anticipate adoption early in 2010.

Should you have any questions, you may contact me at (609) 984-7609.

Source: Thomas C. Pitcherello  
Code Assistance Unit

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All other installations of wind turbines are subject to the building subcode (for structural stability) and the electrical subcode (for electrical work) and those permits are required.

If you have any questions on this matter, you may reach me at (609) 984-7609.

Source: Suzanne Borek  
Code Assistance Unit

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**N.J.A.C. 5:23-2.18, 3.5, 3.14, 3.15, 3.18, 3.21, 4.20, and 5.20 -- Inspections; Model Codes:**

**N.J.A.C. 5:23-2.18(b)** fixes an inconsistency in the application of the framing checklist by requiring low-rise residential buildings (Groups R-2, R-3, R-4, and R-5) of wood-framed construction (Type V) to comply with the framing checklist. Also, changes were made to modify the 2006 International Building Code (IBC), the 2006 International Energy Conservation Code (IECC), and the 2006 International Residential Code (IRC), New Jersey editions, and the 2006 National Standard Plumbing Code (NSPC) to fix misspellings, reference numbers, and cross-references.

At **N.J.A.C. 5:23-3.14(b)9xliii**, the original text of the IBC/2000 was inserted to allow flush-type fire department connections where there is an issue with the connection extending beyond the property line or into the public way. Section 906.5 of the IBC/2000 was inadvertently omitted from the IBC/2006 and is needed to ensure that a safe walking area is provided in front of buildings where the above conditions exist. Also, Section 912.8 was added for situations where the fire department connection projects beyond the property line or into the public way; it requires that a flush-type fire department connection be provided.

At **N.J.A.C. 5:23-3.21(c)18ix**, the vehicle impact protection section of the Fuel Gas Subcode was added to the fuel gas section of the One- and Two-Family Dwelling Subcode.

**N.J.A.C. 5:23-3.2, 3.4, and 7.15 -- Matters Covered; Responsibilities; Enforcement:** At **N.J.A.C. 5:23-3.2(d)**, which concerns commercial farm buildings, the cross-references from the previous editions of the Building Subcode (the 1996 Building Officials and Code Administrators National Building Code and the IBC/2000) were updated to the IBC/2006. At **N.J.A.C. 5:23-3.4(a)1**, which concerns the plan review and inspection responsibilities of Chapter 9 of the Building Subcode (IBC/2006) – which are assigned to the fire protection subcode official/inspector--, the electrical subcode official is added to Section 910.4.4 of Chapter 9, because this section deals with the wiring of the mechanical smoke exhaust. Lastly, cross-references are also updated at **N.J.A.C. 5:23-7.15**, concerning Barrier Free Subcode responsibilities.

**February 17, 2009:**

The following adoption was published in *New Jersey Register* on February 19, 2009.

**N.J.A.C. 5:23-7.2, 7.5, 7.6, 7.10, 7.11, and 7.12 -- Barrier Free Subcode:** The provision from the Federal Fair Housing Amendments Act that exempts balconies and patios from the requirement to be served by an accessible route was adopted as part of the Barrier Free Subcode. In addition, the provision from the Federal Fair Housing Amendments Act which requires that when, due to a steeply sloped site, a development is exempted from the accessible entrance requirement, nonetheless 20 percent of the entrances must be accessible. Finally, to eliminate a conflict within the Barrier Free Subcode, a table in ICC/ANSI A117.1-2003, which provides the number of required accessible seats in assembly buildings, was deleted; the Barrier Free Subcode table, which can be found at **N.J.A.C. 5:23-7.11(a)3**, was retained.

**March 2, 2009:**

The following adoption was published in the *New Jersey Register* on March 2, 2009.

**N.J.A.C. 5:23-4.19, 4.20, 5.21, 5.22, 8.9, 8.10, 8.11, 12.5, and 12.6 – Departmental Fees, Uniform Construction Code:** Permit fees have been increased for code enforcement, licensing, and asbestos regulation performed by the Department of Community Affairs under the State Uniform Construction Code Act; the State permit surcharge fee has also been increased and a minimum amount of one dollar is established for the permit surcharge fee.

**March 16, 2009:**

The following bulletin was published in the Uniform Construction Code on March 16, 2009.

**Bulletin No. 09-1 – Permit Requirements for LP-Gas Systems:** Bulletin No. 09-1 was issued to promote uniformity in the permit requirements applicable to propane cylinders. The included tables address what types of permits are required for what types of work.

**April 6, 2009:**

The following adoption was published in *New Jersey Register* on April 6, 2009.

**N.J.A.C. 5:23-2.18C and 3.16** – Electrical Subcode: At **N.J.A.C. 5:23-2.18C**, an outdated cross reference was corrected. At **N.J.A.C. 5:23-3.16**, the National Electrical Code (NEC)/2008 was adopted as the electrical subcode with modifications retaining various portions of the 2005 NEC's text. No modifications were made to Article 210.12 - Arc-

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Fault Circuit Interrupters, Article 708 - Critical Operations Power Systems, Articles 406.8(A) and (B) - Weather-Resistant Receptacles, Article 406.11 - Tamper-Resistant Receptacles and Article 518.4 - Wiring Methods.

#### **April 20, 2009:**

The following adoptions were published in *New Jersey Register* on April 20, 2009.

**N.J.A.C. 5:23-2.14, 2.18, 3.2, 3.14, 3.21 and 9.9 -- Garden-type utility sheds and similar structures:** N.J.A.C. 5:23-2.14 provides that garden-type utility sheds, which are otherwise exempt from building permits, would not be exempt if there are water, gas, oil or sewer connections. N.J.A.C. 5:23-2.18 deletes the cross-reference to N.J.A.C. 5:23-9.9 because the garden-type utility shed provisions have been moved to the building subcode and one- and two-family dwelling subcode. N.J.A.C. 5:23-3.2(d) adds an exemption from the building permit requirement for turn-out or livestock sheds. A similar exemption was added for garden-type utility sheds.

**N.J.A.C. 5:23-6.1, 6.4 through 6.8, 6.12 through 6.27, 6.28 through 6.29, 6.31 and 6.32 -- Rehabilitation subcode:** These amendments are the product of the Department's annual review to update the provisions of the Rehabilitation Subcode. Changes throughout include updating "smoke detector" to "smoke alarm," insulating newly constructed framing that is part of the thermal envelope, and changes correlating with recent changes made in the Uniform Fire Code (UFC), N.J.A.C. 5:70-4, regarding exhaust systems. Other changes include adding the one-and two-family dwelling subcode cross reference when only the building subcode was referenced (i.e. safety glazing), adding provisions in the new building elements section to prohibit the use of an existing exit enclosure for purposes other than a means of egress and deleting the reference in the residential materials and methods to M1301.1.1 because it cross-references R324 which has always been deleted. Further changes update the change of use section with regard to fire separation assemblies (fire barrier and horizontal assembly), revise the text to correspond with the International Building Code/2006 for separation purposes and change the reference to Table 508.3.3 to Table 706.3.9. Finally, ventilation and fire suppression system requirements for commercial cooking operations are clarified in the change of use section and changes in terminology are made in order to be consistent with the UFC, N.J.A.C. 5:70, with regard to automatic fire suppression systems.

**N.J.A.C. 5:23-9.6 -- Construction requirements for new and existing casinos:** The formal code interpretation regarding construction requirements for new and existing casinos was amended to retain Section 1017.4.1.3 of the BOCA National Building Code/1996 which allows special locking arrangements in new and existing casinos where, in the event of emergency, a person could still egress from the special locked area(s).

**N.J.A.C. 5:23-2.7, 2.17A, 6.8, 6.9, 12.1, 12.2, 12.3, 12.4, 12.8, and 12.12, Elevator Safety Subcode – Adoption of ASME Standards; Alterations to Elevators:** With the adoption of the 2006 International Building Code, the referenced elevator standards were updated. Also, the Rehabilitation Subcode (N.J.A.C. 5:23-6) and the Elevator Safety Subcode (N.J.A.C. 5:23-12) were updated.

#### **May 18, 2009**

The following adoptions were published in *New Jersey Register* on May 18, 2009.

**N.J.A.C. 5:23-2.15 -- Construction Permit Applications, Plan Review:** This amendment allows plan review to proceed, even though required State, county or local prior approvals may not have been granted, provided that the application for a permit is otherwise complete and the plan review fee has been paid. However, no permit would be allowed to be issued until all required State, county and local approvals were in place. An exception would be made for permit applicants applying for plan review of individual owner-occupied one- or two-family home addition or alteration projects, who would be required to have zoning approval in place before plan review could proceed.

**N.J.A.C. 5:23-2.23 -- Certificate Requirements, Temporary Certificate of Occupancy:** This amendment deletes the requirement that a temporary certificate of occupancy (TCO) be issued for a period of not less than 60 days. While issuance of a TCO for a period of at least 60 days generally makes good administrative sense, both in order to allow sufficient time for work not affecting health and safety to be completed and to avoid the need for excessive paperwork, there have been instances when the inflexibility that it establishes has hampered the ability of code officials to get issues resolved expeditiously.

Source: Emily W. Templeton  
Division of Codes and Standards

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The following five guiding principles offer an overview of how the design and construction of a green building is approached:

### **1. Optimize Energy Efficiency**

One of the goals of the green building movement is to optimize energy efficiency. This means that reducing the amount of energy necessary for a building to function efficiently without compromising comfort is a fundamental goal of green building design. The combination of solar orientation, tighter construction, renewable energy sources, as well as energy efficient heating and cooling equipment, appliances and lighting can lower operating costs by as much as half while also reducing the effects of power generation pollution. Energy efficiency and environmental performance are becoming vital considerations of both building design and purchasing criteria. They are evaluated using a "systems" and "return on investment" approach during the entire "use-phase", or life, of a building.

### **2. Relating the Building to the Natural Environment**

A second goal of the green building initiative is to relate the building to the natural environment. This means that the planning, designing, and constructing a building is integrated to a specific site to require the most efficient use of limited natural resources and even, where applicable, to help preserve plants, animals, endangered species, and natural habitats. Close attention to maintaining the site's integrity during and after construction, using appropriate landscaping, and envisioning buildings as an extension of the environment are key green building principals.

### **3. Natural Resource Conservation**

A third goal of green building design is the conservation of natural resources. The use of the broad spectrum of natural, recycled, reclaimed and/or engineered building materials reduces the overall quantity of non-renewable material consumption and waste ordinarily attributed to conventional construction practices. Utilizing Optimum Value Engineering (framing 24 inches on center as opposed to 16 inches), where possible, for example, reduces the amount of lumber needed to achieve the same structural integrity as conventional framing and increases energy efficiency due to the elimination of areas of thermal bridging. This technique reduces the amount of construction waste and thus eases the burden on landfills, transportation costs, and pollution. Installing water efficient appliances, fixtures, and irrigation systems saves water, thereby reducing energy consumption. Implementing a waste management plan at the onset can be an excellent tool for monitoring and managing waste and, by extension, conserving resources.

### **4. Constructing Healthy, Durable, Long-lasting Buildings**

Constructing healthy, durable, long-lasting buildings is a fourth goal of green building technology. Utilizing highly durable non-toxic materials as well as providing a healthy indoor air environment for building occupants increases the building's value while reducing future costs and deconstruction waste. Utilizing longer-lasting, high quality building materials, paying close attention to properly detailing the foundation, roof and windows for optimal water management, implementing proper ventilation techniques, and specifying products that do not off-gas harmful chemicals all contribute to achieving this goal.

### **5. Community Development**

The fifth goal when constructing a green building is community development or community impact. While an individual green building is often discussed in terms of its own merits, its most sustainable attribute is its location in relation to its community, including public transportation and local services, such as supermarkets, hospitals, recreation facilities, and employment opportunities. Green buildings reflect an awareness of the local culture and blend into the existing architecture. They rely on existing public works infrastructure, and implement strategic design features to include both private, secure areas for occupants and common space to promote the interaction between owners and the community at large.

Future articles will delve into more details on the matters summarized above; additionally, we will provide information on the multitude of available green building programs, incentives, and policies. Most importantly, we will look at the interface between green building, construction codes, and fire safety.

Questions on the green building initiative may be addressed to the Code Assistance Unit at (609) 984-7609.

Source: Darren Port  
Code Assistance Unit

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