

BROWARD COUNTY BOARD OF RULES & APPEALS
JOINT MEETING OF STRUCTURAL AND ELECTRICAL COMMITTEES
SEPTEMBER 9, 2019

A G E N D A

To: Broward County Board of Rules and Appeals
Electrical and Structural Committees

S. Bailey, P.E.	G. Kropp	D. Lavrich, P.E.	J. Heller
R. Kamm, P.E.	S. Busick	J. Falkanger	G. McLellan, P.E.
D. Tringo	J. Fisher	G. Elzweig, P.E.	J. Rodriguez, P.E.
D. Rice, P.E.	R. Sikorski	M. Nunez	G. Sanders, P.E.
J. Gary	B. Messing	J. Travers	M. Johnson, P.E.
K. Gilbert	J. Simmons	T. Fowler	J. Thompson, P.E.

From: Kenneth Castronovo, Chief Electrical Code Compliance Officer
Michael Guerasio, Chief Structural Code Compliance Officer

Structural Committee Chairman Daniel Lavrich and Electrical Committee Chairman Stephen Bailey have authorized a joint meeting of the Board's Electrical and Structural Committees on Monday, September 9, 2019, at 1:30 p.m. in Room 1 of Deicke Auditorium, 5701 Cypress Road, Plantation, Florida 33317.

Roll Call

Approval of Minutes – June 30, 2016 Structural Committee
May 22, 2017 Electrical Committee

Discussion Items

1. Memo to Electrical Chiefs, Electrical Inspectors and Building Officials concerning swimming pool final inspections (Page 1)
2. Adding photovoltaic plan review checklist to Building Code, Chapter 1, Section 107.3, Examination of documents (Page 7)
3. Adding photovoltaic inspection checklist to Building Code, Chapter 1, Section 110.3, Required inspections (Page 10)
4. Fire Marshalls working on a countywide amendment for emergency standby generator installations (Page 13)
5. Receptacle and breaker replacements (Page 15)
6. Electrical Contractor Licensing Board licensing update for bi-directional amplifier installers (Page 27)



BROWARD COUNTY

Board of Rules & Appeals

One North University Drive, Suite 3500B, Plantation, Florida 33324

Phone (954) 765-4500 Fax: (954) 765-4504

<http://www.broward.org/codeappeals.htm>

STRUCTURAL COMMITTEE MEETING

JUNE 30, 2016

MEETING MINUTES

Call to order:

Chair Daniel Lavrich called a published meeting of the Structural Committee to order at 2:02 p.m. The roll was called and the following members were present:

Present:

Daniel Lavrich, P.E., Chair

Ricky D. Anderson

Ted Fowler

John C. Heller

Joaquin Rodriguez, P.E. (arrived shortly after roll call)

Gerard Sullivan, P.E.

John Travers

After the roll call, the presence of a quorum was announced by Chair Lavrich.

1. Attorney Opinion on Sunshine Law applicability to Advisory Committees

Mr. D. Cris Fardelmann, BORA Chief Structural Code Compliance Officer, clarified that as a standing committee, this committee is required to adhere to the Sunshine Law.

2. Discuss Possible Avenues for Addressing (Playground Equipment, Playhouses and Treehouses)

Chair Lavrich provided some background information as to how this issue was raised initially. An appeal was filed with the Board. At that time, a two-story treehouse was constructed and the question was raised as to what has to comply with the building code including treehouses, playhouses and playground equipment. He went on to elaborate upon the purpose of the building code being to protect life and property against all types of hazards. He believed that anything that is built is a structure. The question is whether there should be an exemption from the building code. Playground equipment is exempted from the building code in Section 102.2 however he did not think this exemption applies to playhouses. Mr. Anderson agreed with Chair Lavrich that once walls and roofs are added, it is no longer equipment. Mr. Travers indicated that the appeal was filed for something in the City of Fort

Lauderdale where he is the building official. He was seeking clarification as to which sections of the building code would apply. He was never seeking an exemption. He believed Chair Lavrich's concern expressed at the Board meeting had to do with issues that could arise with applying a threshold. He would like this committee to consider dictating what would apply.

Mr. Bill Dumbaugh, Chief Structural Code Compliance Officer, advised that two terms were used when the appeal was heard and also today. Those two are elevated playhouse and treehouse. The definition of treehouse is something built amongst the branches of a tree according to the dictionary referenced by the building code. He questioned how one would regulate something built in the branches of a tree when the tree roots are only what is holding it there. Whereas a playhouse is constructed. He raised the idea of excluding treehouses in the committee's consideration. Mr. Rodriguez felt there should be a threshold from something like a cottage in one's backyard that would have to meet the full building code requirements. He was not aware of any sized tool shed or storage shed that is exempt from the building code. Mr. Anderson noted an example of a shed design that snaps apart and is therefore considered temporary. Mr. Rodriguez indicated in Fort Lauderdale, the Code Enforcement Board considered temporary as anything that can be picked up by four people and placed in a garage, otherwise it would be considered permanent. He would agree with classifying as Category 1 as it is not habitable and a less stringent Category B with respect to wind exposure. Mr. Fowler noted that there is manufactured playground equipment with a playhouse. It is not easily dismantled and stored in a garage. It could blow away. Elevation allows many features to be included. He is concerned about the distinction between a built playhouse versus a pre-manufactured one with the same components but likely not as well anchored as a built playhouse.

Mr. Travers referred to the Mr. Rodriguez's idea of a threshold, and pointed out language in the electrical code as to what is and is not permanent. The term, storable, is used for swimming pools. He suggested adding it to Paragraph L. He felt any structure with electrical, plumbing or mechanical systems would be a habitable distinction. Chair Lavrich was concerned about allowing these kinds of structures without meeting the building code from a liability standpoint. Some issues are windload and safety. For example, there would be platforms accessible by ladders with no safeguards. Mr. Anderson felt the committee is going beyond the intent of toys. Mr. Sullivan said he is on the fence with regulating. Mr. Rodriguez felt the distinguishing or threshold line needs to first be defined. Mr. Travers pointed out that now many things could be constructed and not have to conform to the building code. Mr. Lavrich found it difficult to propose exempting a structure but he would not object to exempting a swing set or teeter totter. Mr. Rodriguez felt it is over critical to require a 3 x 3 air conditioner to be fully anchored but not a 10 x 10 x 10 playhouse. Mr. Fowler asked about premanufactured playground equipment. Mr. Rodriguez suggested an initial step of exempting storable things. Chair Lavrich asked about large canvas canopies that would easily blow away. Mr. Rodriguez did not think the canvas would be dangerous. Mr. Travers felt if the committee tries to

craft a rule for all of the what ifs, it will not work for anything. Chair Lavrich agreed and was opposed to adding any language to approve certain items. He did not favor revising the language, but rather to use good common sense in the enforcement. Mr. Anderson pointed out in some areas one might see a dog house for three or four dogs. Chair Lavrich felt everything that is a structure should meet the building code. It is a matter of good judgment. Mr. Fowler favored leaving Paragraph L as it presently is written which allows the building official discretion. Municipalities can define accessory structure by local ordinance. Chair Lavrich pointed out that municipalities cannot govern whether the structure must comply with the building code. Mr. Travers thought the Florida Building Commission may take issue with Broward County trying to define limits etc. and may take the position that it should be addressed globally. Mr. Dumbaugh advised that Paragraph L is going to be adopted verbatim into the next version of the Florida Building Code. Mr. Sullivan did not think the language needs to be revised. Mr. Fowler felt if there are enough of these types of structures, municipal governing bodies will enact legislation that addresses them. Mr. Rodriguez suggested adding language in Paragraph L in the exception provision, providing a threshold to define when a building permit would be needed.

Chair Lavrich raised the idea of entertaining a formal interpretation of Paragraph L. It could indicate that the intent of Paragraph L is to apply to swing sets, seesaws, monkey bars and similar types of apparatus. Mr. Travers did not feel that the building official has the luxury of cherry picking certain portions of the code to apply to this as a permanent structure. This may be something that the Commission may have to clarify. He did not feel there are sufficient tools in Chapter 1 to require a permit. Chair Lavrich felt they have a responsibility to enforce the code and promulgate it in a way that the public is protected. He questioned if the public would be protected if certain things like this are exempted. Mr. Travers indicated that he would like to see permitting. He agreed it could become a windborne object. There is no disagreement that it is a structure, but is it a structure where only certain portions of the code could be applied. Once it is considered a structure, there are other things to consider besides windload, uplift and overturn, but also its use and habitability and so forth. It is then questionable whether one remembers what it is. Chair Lavrich disagreed. He pointed out it is a structure and has a certain occupancy. It has to meet those requirements such as exit and safeguard but not certain other things like lighted egress for example. Mr. Fowler felt it becomes all or nothing in terms of requirements. Mr. Travers did not think he could defend such requirements on a structure that is not inside an occupancy. Mr. Rodriguez suggested a threshold based on portability where permanent anchoring would be required. Mr. Dumbaugh noted there is already a precedent in the code with farm equipment and farm structures. Chair Lavrich did not think an unreasonable decision should be furthered. It is circumventing the building code. Mr. Dumbaugh said he would be uncomfortable requiring a building permit for a manufactured playhouse. Mr. Rodriguez advocated for having such authority; anything in the Florida airstream should be properly anchored. Mr. Dumbaugh indicated that he wrote this section of the code. It was left vague intentionally for the AHJ (Authority Having Jurisdiction) to make the decision. The AHJs have been making those decisions statewide. Chair

Lavrich indicated that he strongly disagreed with some of those decisions. Mr. Dumbaugh pointed out many of the structures will be torn down once the children grow up. Chair Lavrich felt the code is clear as it is currently written.

Mr. Fardelmann noted that this matter was an appeal and the Board decided it was a structure. The Board is looking for an answer. Chair Lavrich agreed with the Board's decision, but there are those that feel further clarification is advisable. He went on to say that perhaps a formal interpretation may be in order. However, he felt such a structure as the one in the photograph should meet the building code. The building code defines a structure and anything that is a structure should meet the building code. Mr. Sullivan indicated that he tends to believe that Paragraph L should be left alone and the matter be left to the discretion of the building official. However, at the same time, such a course may be doing a disservice to the building officials. Chair Lavrich reiterated the idea of a formal interpretation of Paragraph L that it intends to exempt swing sets and similar types of playground apparatus such as teeter totters, monkey bars and the like. Mr. Fowler agreed that there would be challenges for the building officials in deciding what should be permitted. Some discussion ensued about whether there is a trend of the building code becoming more permissive.

Mr. Travers noted the dimensions on the structure in Fort Lauderdale, 11x11, the height to the bottom structural member from the ground level is 7 feet and the height inside the playhouse area is 7 feet also. The dome roof violates the City's zoning ordinance maximum of 11 feet for an accessory use. The supports are 6x6 posts in the ground.

A MOTION WAS MADE BY MR. SULLIVAN AND SECONDED BY MR. FOWLER TO NOT CHANGE PARAGRAPH L OF SECTION 102.2. THE MOTION PASSED BY A VOTE OF 5-2, WITH MR. RODRIGUEZ AND CHAIR LAVRICH VOTING NO.

During discussion of the above motion, Mr. Sullivan expressed concern that many playhouses could not be structurally sound yet he did not know how to arrive upon and establish a threshold. He concluded that permitting would be at the building official's discretion. Mr. Fowler pointed out the potential for more appeals. Chair Lavrich suggested a formal interpretation of Paragraph L, stating its intent is to exempt swing sets, seesaws, monkey bars or similar types of apparatus. Anything further would become a matter of the building official's interpretation. Mr. Rodriguez concurred.

A MOTION WAS MADE BY MR. RODRIGUEZ AND SECONDED BY MR. ANDERSON TO RECOMMEND A FORMAL INTERPRETATION CLARIFYING THE INTENT OF PARAGRAPH L OF SECTION 102.2 IS TO INCLUDE SWING SETS, SLIDING BOARDS, TEETER TOTTERS, MONKEY BARS AND SIMILAR TYPES OF PLAYGROUND EQUIPMENT OF THE SAME CATEGORY THAT IS STATED. THE MOTION PASSED BY A VOTE OF 4-3, WITH MR. FOWLER, MR. SULLIVAN AND MR. TRAVERS VOTING NO.

During discussion of the above motion, there was some discussion about the platform at the top of a sliding board. Mr. Fowler understood that a playhouse would now be subject to a permit and Chair Lavrich agreed that is the general consensus. Mr. Fowler believed there would not be a potential for appeals because it would be clearer. Some discussion also ensued about pre-manufactured and whether there should be a distinction. Chair Lavrich did not think it makes a difference. Mr. Anderson questioned whether grandfathering of existing playhouses should be addressed but no other members wanted to pursue such a provision.

Mr. Heller changed his original vote of no to a yes vote as reflected above.

In response to Mr. Anderson's question, Mr. Fowler viewed anything constructed prior to this interpretation would stand. Chair Lavrich felt it is a decision of the building official.

There was consensus for staff to draft the interpretation for the Chair's review. Chair Lavrich indicated that he will present a Committee report at the Board meeting. In response to Mr. Fowler, Mr. Fardelmann indicated that the next Board meeting will be August 11, although there is a very slim chance there could be a meeting in July.

Public Comment – none

Adjournment

Having no further business, the meeting adjourned at 3:40 p.m.



BROWARD COUNTY

Board of Rules & Appeals

One North University Drive, Suite 3500B, Plantation, Florida 33324

Phone (954) 765-4500 Fax: (954) 765-4504

<http://www.broward.org/codeappeals.htm>

ELECTRICAL COMMITTEE MEETING

MAY 22, 2017

MEETING MINUTES

Call to order:

Acting Chair Jack Fisher called a published meeting of the Electrical Committee to order at 1:37 p.m. The roll was called and the following members were present:

Present:

Jack Fisher, Acting Chair
Stephen E. Bailey, P.E.
Jeff Gary
Kenneth Gilbert
George W. Kropp
Jimmie Heath
Robert J. Sikorski, C.F.P.S.
Bob Messing

Approval of Minutes – March 20, 2016

A MOTION WAS MADE BY MR. GILBERT AND SECONDED BY MR. MESSING TO APPROVE THE MARCH 20, 2016 MINUTES AS SUBMITTED. MOTION PASSED BY UNANIMOUS VOTE OF 8-0.

Discussion Items

1. Recommending to the Broward County Board of Rules and Appeals to Adopt NEC 2017, Section 690.12, Rapid PV Shutdown

Mr. Kenneth Castronovo, Chief Electrical Code Compliance Officer, noted that the 2017 code will be available soon and he recommended it be adopted. It is a big improvement over 2014; safer and more protective. Some twenty-five states are using the 2017 code today. There are correlation issues with the Florida Building Code. However, if it is made a local ordinance, those issues would not be a concern. Currently solar contractors are using sub-standard technology for profit. If this committee supports the recommendation, it would be channeled through the Board Attorney.

Chairman Fisher opened the floor for public comment.

Mr. Steve Busick, City of Sunrise, liked the idea in the 2017 code of a shut-down at the panel.

A MOTION WAS MADE BY MR. GILBERT AND SECONDED BY MR. HEATH TO SUBMIT NEC 2017, SECTION 690.12 TO THE BOARD FOR THEIR APPROVAL. MOTION PASSED BY UNANIMOUS VOTE OF 8-0.

2. Smoke Alarm Inconsistency Requirements from the Existing Building Code to the Residential Building Code

Mr. Ken Castronovo, Chief Electrical Code Compliance Officer, indicated he would like authority to submit a declaratory statement to the State (Florida Building Commission) for clarification. There are exceptions in the residential code but none in the existing building code. The residential code excludes work that has to do with replacing roofing or siding, windows or doors, or porch or deck (addition). Also, there is an exception for installation, alteration or repair of plumbing or mechanical systems. In summary, there are exceptions in the residential code but not in the existing building code. It is very confusing as to when a smoke alarm will be required and which code to follow.

A general discussion ensued. Mr. Kropp had obtained an informal interpretation through the Building Officials Association of Florida, indicating the only exceptions are roofing, replacement of doors and windows, air conditioning, and for all other permits, smoke alarms are required.

Ted Licitra, City of Pembroke Pines, questioned the concept as to when smoke alarms are required. He advocated for clarity on this point.

Mr. Kropp pointed out that the language in the residential code, Section R314.3.1, does not specify the discipline of the permit. Municipalities are enforcing it differently. Because it functions by battery, electrical is not necessary. Mr. Messing pointed out that the objective is safety and cost. People do not want to spend the extra money on smoke alarms if they are installing an additional television outlet, for example. Mr. Kropp pointed out if some municipalities are enforcing hardwiring, it becomes a cost of \$700 to install perhaps five smoke alarms where the homeowner may have just wanted to replace a bathroom cabinet. Mr. Castronovo wanted to ensure protection across the board. Mr. Sikorski suggested using the Life Safety Code however Chief Gary indicated that code cannot be enforced in residential. Mr. Fisher pointed out if the Life Safety Code is adopted in the Florida Building Code by reference, it could then be enforced.

Mr. Gilbert reiterated his request for a comparative matrix. Mr. Castronovo indicated that Steve Busick, City of Sunrise, is working on a matrix that could hopefully be available at the Committee's next meeting along with a declaratory statement for their consideration.

A MOTION WAS MADE BY MR. GILBERT AND SECONDED BY MR. MESSING DIRECTING STAFF TO PREPARE A DECLARATORY STATEMENT FOR THE FLORIDA BUILDING COMMISSION TO CLARIFY THE EXISTING BUILDING CODE WITH RESPECT TO SMOKE ALARMS FOR THE COMMITTEE'S CONSIDERATION. MOTION PASSED BY UNANIMOUS VOTE OF 8-0.

During discussion of the above motion, Mr. Castronovo indicated he will seek clarity on hardwiring or battery for Level 1, whether there should be exceptions, and uniformity in the residential code and the existing building code. Mr. Kropp discussed hardwiring and interconnectivity in the case of additions and questions that exist also.

3. 2017 NEC and Florida Building Code Glitch Cycle

For informational purposes, Mr. Ken Castronovo, Chief Electrical Code Compliance Officer, provided a summary of what has been done on this matter to date. Mo Madani of the Florida Department of Business and Professional Regulation (DBPR) has promised the Board can use the glitch cycle (six months after the code is implemented). There was great support for this effort at the Florida Chapter meeting. All references to 2014 NEC must be marked out in the new 2017 code and replaced with 2017 NEC. He stressed the need to be in communication with the Building Commission to keep them informed. Even though the first attempt was unsuccessful, he felt it is worth another try. He asked the Committee members to help get the word out to support this endeavor. He felt it is key to work with the staff. He will be working with Chairman Rice. Mr. Gilbert thought it would be helpful to bring up this issue at every Building Commission meeting. Mr. Castronovo indicated that at the end of each meeting individuals are afforded three minutes to speak about new business. Mr. Gilbert felt it is important to take advantage of that time to bring up the issue and demonstrate that he is not going away.

4. Certified Solar Contractor Limitation

For informational purposes, Mr. Ken Castronovo, Chief Electrical Code Compliance Officer, advised this memorandum will be distributed to all Broward County electrical inspectors, plans examiners and chief alerting them to these cases where the work needs to be handled by an electrical contractor and not the solar contractor. It has to do with a micro inverter on some solar panels where the voltage is changed to 240 volts and solar contractors are not allowed to handle anything after the inverter. Mr. Kropp thought plan review is the time to detect such cases. Mr. Castronovo advised that all solar jobs need an electrical contractor.

Mr. Gilbert pointed out a couple typographical errors in the spelling of Florida Administrative Code and National Electrical Code.

A MOTION WAS MADE BY MR. KROPP AND SECONDED BY MR. GILBERT APPROVING THE DRAFT MEMORANDUM PROVIDED TO THE COMMITTEE, DATED MAY 22, 2017, TO BE SENT OUT TO ALL MUNICIPALITIES IN BROWARD COUNTY (ELECTRICAL INSPECTORS, PLAN EXAMINERS AND CHIEFS), AS CORRECTED. MOTION PASSED BY UNANIMOUS VOTE OF 8-0.

General Discussion

Mr. Castronovo, Chief Electrical Code Compliance Officer, indicated that Florida Statute 377 requires that solar plans be stamped by the Florida Solar Energy Commission. However, he does not know how to enforce this because the code is silent on it. Mr. Fisher thought perhaps this is something that should be decided at the state governmental level. He believed there is an alliance being formed and eventually one may be able to purchase their plans without going through an engineer. Mr. Castronovo noted that House Bill 1021 gives the same authority to engineers as the Florida Solar Energy Commission. No action is requested at this time.

Public Comment – none

Adjournment

Having no further business, the meeting adjourned at 2:31 p.m.



BROWARD COUNTY BOARD OF RULES AND APPEALS

ITEM 1

ONE NORTH UNIVERSITY DRIVE
SUITE 3500-B
PLANTATION, FLORIDA 33324

PHONE: 954-765-4500
FAX: 954-765-4504
www.broward.org/codeappeal

2019 Voting Members

Chair
Mr. Daniel Lavrich,
P.E., S.I., SECB, F.ASCE, F.SEI
Structural Engineer

Vice-Chair
Mr. Stephen E. Bailey, P.E.
Electrical Engineer

Mr. Jeffrey Lucas, FM, CFI, CFEI
Fire Service Professional

Mr. John Famularo,
Roofing Contractor

Mrs. Shalanda Giles Nelson,
General Contractor

Mr. Daniel Rourke
Master Plumber

Mr. Gregg D'Attile,
Mechanical Contractor

Mr. Ron Burr
Swimming Pool Contractor

Mr. John Sims,
Master Electrician

Mr. Dennis A. Ulmer
Consumer Advocate

Mr. Abbas H. Zackria, CSI
Architect

Mr. Robert A. Kamm, P.E.
Mechanical Engineer

Vacant
Representative Disabled Community

2019 Alternate Board Members

Mr. Jeff Falkanger
Architect

Mr. Steven Feller, P.E.
Mechanical Engineer

Mr. Alberto Fernandez,
General Contractor

Mr. Robert Taylor
Fire Service

Mr. Gary Elzweig, P.E., F.ASCE
Structural Engineer

Mr. David Rice, P.E.
Electrical Engineer

Mr. James Terry,
Master Plumber

Mr. David Tringo,
Master Electrician

Mr. William Flett,
Roofing Contractor

Board Attorney
Charles M. Kramer, Esq.

Board Administrative Director
James DiPietro

—ESTABLISHED 1971—

To: Broward County Board of Rules and Appeals Electrical Committee and Structural Committee

From: Kenneth Castronovo. Chief Electrical Code Compliance Officer

Date: September 9, 2019

Subj: Memo concerning alarm inspections for swimming pools

The swimming pool safety act Chapter 515 of the Florida Statutes requires minimum safety requirements for all newly constructed swimming pools. Florida Statute 515.27 for residential swimming pools has a list of required safety options of which one is to be chosen from. Section 515.29 (1)(e) and (c) has options to require alarms that are activated when someone enters the pool or pool area. The statute does not state who would enforce this law, only that it must be done. Chapter One of the Broward County Florida Building Code Section 110.3, A (Building) #24 states that the child barrier be the third structural inspection. It is clear in this section that the child barrier inspection is to be carried out by the Structural Inspector. The section then states that the pool is to be filled with water after the Electrical Final Inspection. The final pool inspection is to be carried out only by the Structural Inspector.

It has been my experience that in some cities in Broward County an Electrical Inspection is required to comply with the child safety act. According to our local Chapter One amendment this inspection is to be performed by the Structural Inspector and not the Electrical Inspector.

Sincerely

Kenneth Castronovo

Ch. 1, Broward County Administrative Provisions for the 2017 FBC (6th Edition)

devices, and after final electrical, mechanical and plumbing. Approval of Fire Department accessibility and all tests of fire alarm detection and suppression systems, smoke evacuation systems and life safety systems shall be approved prior to final inspection and issuance of Certificate of Occupancy.

- a. In flood hazard areas, as part of the final inspection, a final certification of the lowest floor elevation shall be submitted to the authority having jurisdiction.
- 22. **Certificate of Occupancy:** This final inspection shall signify the completion of all work and that the structure is safe for Occupancy. Final adjustments to mechanical devices may be made after this inspection and during Occupancy.
- 23. **Fence:** Final only
- 24. **Swimming Pools/Spas Inspection:** First inspections to be made after excavation and installation of reinforcing steel, bonding and main drain and prior to placing of concrete, gunite or shotcrete. Second inspection(s) of perimeter plumbing, pressure test, deck electrical perimeter bonding and deck structural (includes soil reports as applicable, paver type decks, special perimeter footings or deck features) is (are) to follow after the completion of each phase. Child barrier (exit) alarms (if applicable), and yard barriers that are part of the fourth wall protection as described in FBC Building Section 454.2.17, shall be completed and approved inspection prior to the swimming pool/spa being filled with water. Final zoning (if applicable) is to be completed prior to the swimming pool/spa being completed. Electrical final is to be completed prior to the swimming pool/spa being filled with water. Final structural and plumbing are to be completed after the swimming pool/spa is filled with water and the filtration system is in operation.

a. Structural inspections:

- (1) Steel
- (2) Deck (includes soil reports as applicable, paver type decks, special perimeter footings or deck features)
- (3) Child barrier fences (if applicable) and yard barriers that are part of the fourth wall protection prior to the swimming pool/spa being filled with water
- (4) Final structural (after filling of the swimming pool/spa with water and the filtration system is in operation)

B. Electrical:

- 1. **General:** All Underground, Slab, low voltage and Rough Electrical Installations shall be left uncovered and convenient for examination until Inspected and approved by the Electrical Inspector.
- 2. **Temporary Electrical Service Installations**
 - a. Rough.
 - b. Final
- 3. **Underground Electrical Inspection:** To be made after trenches or ditches are excavated, underground conduits or cables installed, and before any backfill is put in place.
- 4. **Slab Electrical Inspection:** To be made and after conduits and boxes are installed, and prior to pouring concrete.
 - a. Grounding Electrode Conductor to Foundation Steel
- 5. **Rough Electrical Inspection:** To be made after the roof, framing, fire blocking bracing are in place, and the building is deemed dry, and conduits, cables, panels, receptacles, etc. are installed, and prior to the installation of wall or ceiling membranes.
- 6. **Electrical Service Inspection:**
 - a. Electrical rough
 - b. Electrical Final Inspection
- 7. **Miscellaneous Electrical Inspection:**
- 8. **Swimming Pool/Spa Electrical Inspection:**
 - a. Steel Bonding
 - b. Underground
 - c. Deck perimeter bonding
 - d. Final electrical prior to the swimming pool/spa being filled with water
- 9. **Temporary Electrical 30-Day Power for Testing**
- 10. **Final Inspection:** To be made after the building is complete, all electrical fixtures are in place and properly connected, or protected, and the structure is ready for occupancy and deemed safe for power by the Building Official.

Final Electrical Inspection shall be made prior to Final Structural Inspection.

C. Gas:

- 1. **General:** To be made for all underground work, and at each floor and roof level where gas work is installed. All gas work shall be left uncovered and convenient for examination until inspected and approved by the Plumbing Inspector.
- 2. **Underground inspection:** To be made after trenches or ditches are excavated, piping installed, and before any backfill is put in place.

Select Year:

The 2016 Florida Statutes

<u>Title XXXIII</u> REGULATION OF TRADE, COMMERCE, INVESTMENTS, AND SOLICITATIONS	<u>Chapter 515</u> RESIDENTIAL SWIMMING POOL SAFETY ACT	<u>View Entire Chapter</u>
---	---	--------------------------------

CHAPTER 515 RESIDENTIAL SWIMMING POOL SAFETY ACT

- 515.21 Short title.**
- 515.23 Legislative findings and intent.**
- 515.25 Definitions.**
- 515.27 Residential swimming pool safety feature options; penalties.**
- 515.29 Residential swimming pool barrier requirements.**
- 515.31 Drowning prevention education program; public information publication.**
- 515.33 Information required to be furnished to buyers.**
- 515.35 Rulemaking authority.**
- 515.37 Exemptions.**

515.21 Short title.—This chapter may be cited as the “Preston de Ibern/McKenzie Merriam Residential Swimming Pool Safety Act.”

History.—s. 1, ch. 2000-143.

515.23 Legislative findings and intent.—The Legislature finds that drowning is the leading cause of death of young children in this state and is also a significant cause of death for medically frail elderly persons in this state, that constant adult supervision is the key to accomplishing the objective of reducing the number of submersion incidents, and that when lapses in supervision occur a pool safety feature designed to deny, delay, or detect unsupervised entry to the swimming pool, spa, or hot tub will reduce drowning and near-drowning incidents. In addition to the incalculable human cost of these submersion incidents, the health care costs, loss of lifetime productivity, and legal and administrative expenses associated with drownings of young children and medically frail elderly persons in this state each year and the lifetime costs for the care and treatment of young children who have suffered brain disability due to near-drowning incidents each year are enormous. Therefore, it is the intent of the Legislature that all new residential swimming pools, spas, and hot tubs be equipped with at least one pool safety feature as specified in this chapter. It is also the intent of the Legislature that the Department of Health be responsible for producing its own or adopting a nationally recognized publication that provides the public with information on drowning prevention and the responsibilities of pool ownership and also for developing its own or adopting a nationally recognized drowning prevention education program for the public and for persons violating the pool safety requirements of this chapter.

History.—s. 1, ch. 2000-143.

515.25 Definitions.—As used in this chapter, the term:

- (1) "Approved safety pool cover" means a manually or power-operated safety pool cover that meets all of the performance standards of the American Society for Testing and Materials (ASTM) in compliance with standard F1346-91.
- (2) "Barrier" means a fence, dwelling wall, or nondwelling wall, or any combination thereof, which completely surrounds the swimming pool and obstructs access to the swimming pool, especially access from the residence or from the yard outside the barrier.
- (3) "Department" means the Department of Health.
- (4) "Exit alarm" means a device that makes audible, continuous alarm sounds when any door or window which permits access from the residence to any pool area that is without an intervening enclosure is opened or left ajar.
- (5) "Indoor swimming pool" means a swimming pool that is totally contained within a building and surrounded on all four sides by walls of or within the building.
- (6) "Medically frail elderly person" means any person who is at least 65 years of age and has a medical problem that affects balance, vision, or judgment, including, but not limited to, a heart condition, diabetes, or Alzheimer's disease or any related disorder.
- (7) "Outdoor swimming pool" means any swimming pool that is not an indoor swimming pool.
- (8) "Portable spa" means a nonpermanent structure intended for recreational bathing, in which all controls and water-heating and water-circulating equipment are an integral part of the product and which is cord-connected and not permanently electrically wired.
- (9) "Public swimming pool" means a swimming pool, as defined in s. 514.011(2), which is operated, with or without charge, for the use of the general public; however, the term does not include a swimming pool located on the grounds of a private residence.
- (10) "Residential" means situated on the premises of a detached one-family or two-family dwelling or a one-family townhouse not more than three stories high.
- (11) "Swimming pool" means any structure, located in a residential area, that is intended for swimming or recreational bathing and contains water over 24 inches deep, including, but not limited to, in-ground, aboveground, and on-ground swimming pools; hot tubs; and nonportable spas.
- (12) "Young child" means any person under the age of 6 years.

History.—s. 1, ch. 2000-143.

515.27 Residential swimming pool safety feature options; penalties.—

- (1) In order to pass final inspection and receive a certificate of completion, a residential swimming pool must meet at least one of the following requirements relating to pool safety features:
 - (a) The pool must be isolated from access to a home by an enclosure that meets the pool barrier requirements of s. 515.29;
 - (b) The pool must be equipped with an approved safety pool cover;
 - (c) All doors and windows providing direct access from the home to the pool must be equipped with an exit alarm that has a minimum sound pressure rating of 85 dB A at 10 feet;
 - (d) All doors providing direct access from the home to the pool must be equipped with a self-closing, self-latching device with a release mechanism placed no lower than 54 inches above the floor; or
 - (e) A swimming pool alarm that, when placed in a pool, sounds an alarm upon detection of an accidental or unauthorized entrance into the water. Such pool alarm must meet and be independently certified to ASTM Standard F2208, titled "Standard Safety Specification for Residential Pool Alarms," which includes surface motion, pressure, sonar, laser, and infrared alarms. For purposes of this paragraph, the term "swimming pool alarm" does not include any swimming protection alarm device

designed for individual use, such as an alarm attached to a child that sounds when the child exceeds a certain distance or becomes submerged in water.

(2) A person who fails to equip a new residential swimming pool with at least one pool safety feature as required in subsection (1) commits a misdemeanor of the second degree, punishable as provided in s. 775.082 or s. 775.083, except that no penalty shall be imposed if the person, within 45 days after arrest or issuance of a summons or a notice to appear, has equipped the pool with at least one safety feature as required in subsection (1) and has attended a drowning prevention education program established by s. 515.31. However, the requirement of attending a drowning prevention education program is waived if such program is not offered within 45 days after issuance of the citation.

History.—s. 1, ch. 2000-143; s. 14, ch. 2016-129.

515.29 Residential swimming pool barrier requirements.—

(1) A residential swimming pool barrier must have all of the following characteristics:

- (a) The barrier must be at least 4 feet high on the outside.
- (b) The barrier may not have any gaps, openings, indentations, protrusions, or structural components that could allow a young child to crawl under, squeeze through, or climb over the barrier.
- (c) The barrier must be placed around the perimeter of the pool and must be separate from any fence, wall, or other enclosure surrounding the yard unless the fence, wall, or other enclosure or portion thereof is situated on the perimeter of the pool, is being used as part of the barrier, and meets the barrier requirements of this section.

(d) The barrier must be placed sufficiently away from the water's edge to prevent a young child or medically frail elderly person who may have managed to penetrate the barrier from immediately falling into the water.

(2) The structure of an aboveground swimming pool may be used as its barrier or the barrier for such a pool may be mounted on top of its structure; however, such structure or separately mounted barrier must meet all barrier requirements of this section. In addition, any ladder or steps that are the means of access to an aboveground pool must be capable of being secured, locked, or removed to prevent access or must be surrounded by a barrier that meets the requirements of this section.

(3) Gates that provide access to swimming pools must open outward away from the pool and be self-closing and equipped with a self-latching locking device, the release mechanism of which must be located on the pool side of the gate and so placed that it cannot be reached by a young child over the top or through any opening or gap.

(4) A wall of a dwelling may serve as part of the barrier if it does not contain any door or window that opens to provide access to the swimming pool.

(5) A barrier may not be located in a way that allows any permanent structure, equipment, or similar object to be used for climbing the barrier.

History.—s. 1, ch. 2000-143.

515.31 Drowning prevention education program; public information publication.—

(1) The department shall develop a drowning prevention education program, which shall be made available to the public at the state and local levels and which shall be required as set forth in s. 515.27 (2) for persons in violation of the pool safety requirements of this chapter. The department may charge a fee, not to exceed \$100, for attendance at such a program. The drowning prevention education program shall be funded using fee proceeds, state funds appropriated for such purpose, and grants. The department, in lieu of developing its own program, may adopt a nationally recognized drowning

prevention education program to be approved for use in local safety education programs, as provided in rule of the department.

(2) The department shall also produce, for distribution to the public at no charge, a publication that provides information on drowning prevention and the responsibilities of pool ownership. The department, in lieu of developing its own publication, may adopt a nationally recognized drowning prevention and responsibilities of pool ownership publication, as provided in rule of the department.

History.—s. 1, ch. 2000-143.

515.33 Information required to be furnished to buyers.—A licensed pool contractor, on entering into an agreement with a buyer to build a residential swimming pool, or a licensed home builder or developer, on entering into an agreement with a buyer to build a house that includes a residential swimming pool, must give the buyer a document containing the requirements of this chapter and a copy of the publication produced by the department under s. 515.31 that provides information on drowning prevention and the responsibilities of pool ownership.

History.—s. 1, ch. 2000-143.

515.35 Rulemaking authority.—The department shall adopt rules pursuant to the Administrative Procedure Act establishing the fees required to attend drowning prevention education programs and setting forth the information required under this chapter to be provided by licensed pool contractors and licensed home builders or developers.

History.—s. 1, ch. 2000-143.

515.37 Exemptions.—This chapter does not apply to:

- (1) Any system of sumps, irrigation canals, or irrigation flood control or drainage works constructed or operated for the purpose of storing, delivering, distributing, or conveying water.
- (2) Stock ponds, storage tanks, livestock operations, livestock watering troughs, or other structures used in normal agricultural practices.
- (3) Public swimming pools.
- (4) Any political subdivision that has adopted or adopts a residential pool safety ordinance, provided the ordinance is equal to or more stringent than the provisions of this chapter.
- (5) Any portable spa with a safety cover that complies with ASTM F1346-91 (Standard Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs).
- (6) Small, temporary pools without motors, which are commonly referred to or known as "kiddie pools."

History.—s. 1, ch. 2000-143.



BROWARD COUNTY

BOARD OF RULES AND APPEALS

ITEM 2

ONE NORTH UNIVERSITY DRIVE

SUITE 3500-B

PLANTATION, FLORIDA 33324

PHONE: 954-765-4500

FAX: 954-765-4504

www.broward.org/codeappeal

2019 Voting Members

Chair

Mr. Daniel Lavrich,
P.E., S.I., SECB, F.ASCE, F.SEI
Structural Engineer

Vice-Chair

Mr. Stephen E. Bailey, P.E.
Electrical Engineer

Mr. Jeffrey Lucas, FM, CFI, CFEI
Fire Service Professional

Mr. John Famularo,
Roofing Contractor

Mrs. Shalandra Giles Nelson,
General Contractor

Mr. Daniel Rourke
Master Plumber

Mr. Gregg D'Attile,
Mechanical Contractor

Mr. Ron Burr
Swimming Pool Contractor

Mr. John Sims,
Master Electrician

Mr. Dennis A. Ulmer
Consumer Advocate

Mr. Abbas H. Zackria, CSI
Architect

Mr. Robert A. Kamm, P.E.
Mechanical Engineer

Vacant

Representative Disabled Community

2019 Alternate Board Members

Mr. Jeff Falkanger
Architect

Mr. Steven Feller, P.E.
Mechanical Engineer

Mr. Alberto Fernandez,
General Contractor

Mr. Robert Taylor
Fire Service

Mr. Gary Elzweig, P.E., F.ASCE
Structural Engineer

Mr. David Rice, P.E.
Electrical Engineer

Mr. James Terry,
Master Plumber

Mr. David Tringo,
Master Electrician

Mr. William Flett,
Roofing Contractor

Board Attorney

Charles M. Kramer, Esq.

Board Administrative Director

James DiPietro

—ESTABLISHED 1971—

To: Broward County Board of Rules and Appeals Electrical Committee and Structural Committee

From: Kenneth Castronovo. Chief Electrical Code Compliance Officer

Date: September 9, 2019

Subj: Adding Photovoltaic Plan Review List for Chapter One Section 107.3

Chapter One Section 107.3 proposed change to add plan review for photovoltaic installations.

Plan review

107.3.5 A. Building

14. Photovoltaic

- a. Site Plan**
- b. Roof penetration approval**
- c. Roof sealing detail**
- d. Wind resistance ratings of modules**
- e. Roof live load approval**
- f. Fire classification of building and modules**
- g. Roof top shingle or tile module ratings if installed.**

107.3.5 B. Electrical.

19. Photovoltaic

- a. Lay out plan including combiner box and accessible junction boxes**
- b. Size of system, number of modules**
- c. Wire size at coldest temperature**
- d. Listing and model numbers of all equipment and racking**
- e. Inverter rating and location**
- f. Three-line diagram**
- g. Connection to utility. Line side or load side. Buss bar ratings**
- h. Grounding**
- i. Labeling**

Sincerely,

Kenneth Castronovo

Ch. 1, Broward County Administrative Provisions for the 2017 FBC (6th Edition)

seal of an Architect or Engineer shall be submitted by the designer with the application as set forth in Section 105.3.

107.3.4.3.3 Construction Inspection. The Professional Engineer of Record or the Architect of Record in responsible charge of the structural design shall include in the construction documents the following:

1. Special inspections required by Sub-section 110.10.2.
2. Other structural inspections required by the Professional Engineer of Record or the Architect of Record in responsible charge of the structural design.

107.3.4.3.4 Application for permit for new construction and additions shall be accompanied by a registered land surveyor's certificate and plan in duplicate on which shall be clearly indicated the property-corner stakes, property-line dimensions, existing structures and their location, existing right-of-way, sidewalks, easements, street zoning and property zoning of record, critical elevations and building setbacks required by law, general block plan and other plan and other pertinent survey data which may be required. The Building Official may waive the requirements for such survey when property-line stakes are existing and known to be in place, and the work involved is minor and/or is clearly within building lines.

Exceptions:

1. The Building Official may authorize the issuance of a permit without plans and/or specifications for small or unimportant work, but in no instance where the work is of a structural nature except as set forth below.
2. The Building Official will authorize the issuance of a permit for a single-family fall-out shelter without a professional seal on the plans where the cost of such work does not exceed \$5,000.

107.3.5 Minimum plan review criteria for buildings. The examination of the documents by the Building Official, or his or her duly authorized representative and/or Fire Marshal/Fire Code Official, or his or her duly authorized representative for that discipline qualified under section 104 of this Code shall include the following minimum criteria and documents: a floor plan; site plan; foundation plan; floor/roof framing plan or truss layout; all fenestration penetrations; flashing; and rough opening dimensions; and all exterior elevations:

A. Building

1. Site Requirements:
 - a. parking
 - b. fire access
 - c. vehicle loading

- d. driving/turning radius
- e. fire hydrant/water supply/Post Indicator Valve (PIV)
- f. setback/separation (assumed property lines)
- g. location of specific tanks, water lines and sewer lines
- h. flood hazard areas, flood zones, design flood elevations, lowest floor elevations, enclosures, equipment, and flood damage-resistant materials
2. Occupancy group and special occupancy requirements shall be determined.
3. Minimum type of construction shall be determined (see Table 503) (Table 500).
4. Fire resistant construction requirements shall include the following components:
 - a. fire resistant separations
 - b. fire resistant protection for type of construction
 - c. protection of openings and penetrations of all rated components
 - d. fire blocking and draftstopping
 - e. calculated fire resistance
5. Fire suppression systems shall include:
 - a. early warning
 - b. smoke evacuation systems schematic
 - c. fire sprinklers
 - d. standpipes
 - e. pre-engineered systems
 - f. riser diagram
6. Life Safety systems shall be determined and shall include the following requirements:
 - a. occupant load and egress capacities
 - b. early warning
 - c. smoke control
 - d. stair pressurization
 - e. systems schematic
 - f. BDA submittal, if applicable
7. Occupancy Load/Egress Requirements shall include:
 - a. occupancy load
 - b. gross occupancy
 - c. net occupancy
 - d. means of egress
 - e. exit access
 - f. exit
 - g. exit discharge
 - h. stairs construction/geometry and protection
 - i. doors
 - j. emergency lighting and exit signs
 - k. specific occupancy requirements
 - l. construction requirements
 - m. horizontal exits/exit passageways
8. Structural requirements shall include:
 - a. soil conditions/analysis
 - b. termite protection
 - c. design loads
 - d. wind requirements
 - e. building envelope
 - f. structural calculations (if required)
 - g. foundation
 - h. impact resistant coverings or systems
 - i. wall systems
 - j. floor systems
 - k. roof systems

Ch. 1, Broward County Administrative Provisions for the 2017 FBC (6th Edition)

- I. threshold inspection plan
 - m. stair systems
 - n. Flood requirements in accordance with Section 1612, including lowest floor elevations, enclosures, flood damage-resistant materials
 - 9. Materials shall be reviewed and shall at a minimum include the following:
 - a. wood
 - b. steel
 - c. aluminum
 - d. concrete
 - e. plastic
 - f. glass
 - g. masonry
 - h. gypsum board and plaster
 - i. insulating (mechanical)
 - j. roofing
 - k. insulation
 - 10. Accessibility requirements shall include the following:
 - a. site requirements
 - b. accessible route
 - c. vertical accessibility
 - d. toilet and bathing facilities
 - e. drinking fountains
 - f. equipment
 - g. special occupancy requirements
 - h. fair housing requirements
 - 11. Interior requirements shall include the following:
 - a. interior finishes (flame spread/smoke develop)
 - b. light and ventilation
 - c. sanitation
 - 12. Special systems:
 - a. elevators
 - b. escalators
 - c. lifts
 - 13. Swimming Pools:
 - a. barrier requirements
 - b. spas
 - c. wading pools
 - 14. Photovoltaic
- B. Electrical**
- 1. Wiring Methods and materials.
 - 2. Services, including riser diagram electrical and/or fire
 - 3. Feeders and Branch Circuits, include circuit and location, AFCI's and GFCI's
 - 4. Overcurrent Protection
 - 5. Grounding and Bonding
 - 6. Equipment Location, sizes all equipment
 - 7. Special Occupancies
 - 8. Emergency Systems
 - 9. Communication Systems
 - 10. Low Voltage
 - 11. Load calculations and panel schedules
 - 12. Design flood elevations
 - 13. Short circuit analysis
 - 14. Electrical legend
 - 15. Lighting specifications
 - 16. Accessibility requirements
- 17. Selective coordination study if required by NFPA 70-2011
 - 18. Emergency generator, if applicable
 - 19. Photovoltaic
- C. Gas:**
- 1. Gas piping
 - 2. Venting
 - 3. Combustion air
 - 4. Chimneys and vents
 - 5. Appliances
 - 6. Type of gas
 - 7. Fireplaces
 - 8. LP tank location
 - 9. Riser diagram/shutoffs
 - 10. Design flood elevation
- D. Mechanical**
- Energy Calculations as required by FBC Energy Conservation
- A complete duct layout with:
- 1. Specified materials
 - 2. Duct sizes
 - 3. Ventilation calculations, outside air intakes/make up air
 - 4. CFM air volumes at each duct inlet and outlet
 - 5. Diffuser sizes
 - 6. Routing and location of ducts, including risers
 - 7. Thermal resistance ratings for ducts and duct insulation
 - 8. Heating, ventilation, air conditioning and refrigeration equipment, boilers and appliances, show:
 - a. Equipment manufacturer
 - b. Equipment model numbers
 - c. Equipment locations
 - d. Equipment efficiency ratings
 - e. Equipment mounting/support details (Mechanical equipment exposed to the wind must comply with Section 301.15 of the Florida Mechanical Code)
 - 9. Roof mounted equipment – Detail of equipment attachment to roof stand/curb and attachment of roof stand/curb to supporting structure (Must comply with requirements of the High Velocity Hurricane Zone):
 - a. Equipment accessibility
 - b. Equipment capacity in tonnage and/or horsepower
 - c. Air conditioning refrigerant type and amount of refrigerant in system (pounds)
 - 10. Fire protection assemblies and devices – Show make, model, type, location and installation details for:
 - a. Fire dampers
 - b. Ceiling dampers
 - c. Smoke dampers
 - d. Smoke detectors (duct)
 - e. Heat detectors
 - f. Automatic fire doors
 - 11. Exhaust systems – Show:
 - a. Bathroom ventilation
 - b. Kitchen equipment exhaust
 - c. Clothes dryer exhaust
 - d. Specialty exhaust systems
 - e. Laboratory



BROWARD COUNTY

BOARD OF RULES AND APPEALS

ITEM 3

ONE NORTH UNIVERSITY DRIVE
SUITE 3500-B
PLANTATION, FLORIDA 33324

PHONE: 954-765-4500
FAX: 954-765-4504
www.broward.org/codeappeal

2019 Voting Members

Chair
Mr. Daniel Lavrich,
P.E., S.I., SECB, F.ASCE, F.SEI
Structural Engineer

Vice-Chair
Mr. Stephen E. Bailey, P.E.
Electrical Engineer
Mr. Jeffrey Lucas, FM, CFI, CFEI
Fire Service Professional

Mr. John Famularo,
Roofing Contractor
Mrs. Shalanda Giles Nelson,
General Contractor
Mr. Daniel Rourke
Master Plumber
Mr. Gregg D'Attile,
Mechanical Contractor
Mr. Ron Burr
Swimming Pool Contractor
Mr. John Sims,
Master Electrician
Mr. Dennis A. Ulmer
Consumer Advocate
Mr. Abbas H. Zackria, CSI
Architect
Mr. Robert A. Kamm, P.E.
Mechanical Engineer

Vacant
Representative Disabled Community

2019 Alternate Board Members

Mr. Jeff Falkanger
Architect
Mr. Steven Feller, P.E.
Mechanical Engineer
Mr. Alberto Fernandez,
General Contractor
Mr. Robert Taylor
Fire Service
Mr. Gary Elzweig, P.E., F.ASCE
Structural Engineer
Mr. David Rice, P.E.
Electrical Engineer
Mr. James Terry,
Master Plumber
Mr. David Tringo,
Master Electrician
Mr. William Flett,
Roofing Contractor

Board Attorney
Charles M. Kramer, Esq.

Board Administrative Director
James DiPietro

—ESTABLISHED 1971—

To: Broward County Board of Rules and Appeals Electrical Committee and Structural Committee

From: Kenneth Castronovo. Chief Electrical Code Compliance Officer

Date: September 9, 2019

Subj: Adding Photovoltaic Inspection List for Chapter One Section 110.3

Chapter One Section 110.3 should be changed to add required inspection for photovoltaic installations.

110.3 A. Building

25. Photovoltaic

a. Rough

a. (1). Check specifications, model numbers and lay out.

a. (2) check attachments, penetrations on roof, torque requirements.

b. Final

110.3. B. Electrical.

11. Photovoltaic

a. Rough. Before modules are installed

a. (1) Check specifications, model numbers and lay out.

a. (2). All wiring for junction boxes, combiner, and inverter completed.

a. (3). Grounding system completed, torque requirements.

Exception: Rail less systems do not need a rough inspection.

b. Final. Module must be available for inspection.

b. (1) Verify proper labeling

b. (2) Test system

c. Service Change if needed

Sincerely

Kenneth Castronovo

Ch. 1, Broward County Administrative Provisions for the 2017 FBC (6th Edition)

requirements specified for temporary lighting, heat or power in Chapter 27 of FBC, Building.

108.4 Termination of approval. The Building Official is authorized, for good cause, to terminate such permit for a temporary structure or use and to order the temporary structure or use to be discontinued.

SECTION 109 FEES

109.1 Payment of fees. A permit shall not be valid until the fees prescribed by law have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.

109.2 Schedule of Permit Fees. On all buildings, structures, electrical, plumbing, mechanical, and gas systems or alterations requiring a permit, a fee for each permit shall be paid as required in accordance with the schedule as established by the applicable governing authority.

109.3 Building permit valuations. The applicant for a permit shall provide an estimated permit value at a time of application. Permit valuations, shall include total value of work, including materials and labor, for which the permit is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. If, in the opinion of the building official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the Building Official. Final building permit valuation shall be set by the Building Official.

109.3.1 The Building Official may require an estimate of the cost utilizing RSMeans, copies of signed contract and/or other descriptive data as a basis for determining the permit fee.

109.4 Work commencing before permit issuance. Any person who commences any work on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary permits or the Building Official's written approval, shall be subject to a penalty not to exceed 100 percent of the usual permit fee that shall be in addition to the required permit fees.

109.5 Related fees. Reserved.

109.6 Refunds. Reserved.

SECTION 110 INSPECTIONS

110.1 General. Construction or work for which a permit is required shall be subject to inspection by the Building Official and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this Code or of other

ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this Code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the Building Official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

110.1.2 The Building Official shall make the inspections called for by these requirements or he or she may accept reports of inspectors of recognized qualifications for special inspections, except that no certificate called for by any provisions of this Code shall be based on if such reports are in writing and certified.

110.1.3 No inspection shall be made until sanitary facilities have been provided, as required in Section 311.1 of the FBC Plumbing.

110.1.4 When the services and reports of inspection and testing laboratories are required by this Code, only such services and reports shall be accepted as are submitted from impartial inspecting and testing laboratories having an Engineer in active responsible charge of the work of sampling and testing.

110.1.5 Testing laboratories engaged in the sampling and testing of concrete and steel products shall have complied with the Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection ASTM E329-14a.

110.1.6 Testing laboratories located out of this State and under the supervision of an Engineer legally qualified in the State in which the laboratory is located, and where such testing laboratory has complied with the above Standard, may submit test reports as required by this Code.

110.1.7 All equipment, material, power, coordination for access and labor, necessary for inspection and/or test shall be supplied by the permit holder.

110.2 Preliminary inspection. Before issuing a permit, the Building Official is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

110.3 Required Inspections. The Building Official, upon notification from the permit holder or his or her agent, shall make the following inspections performed by Inspectors BORA certified in the categories involved who shall either release that portion of the work completed or shall notify the permit holder or his or her agent of any violations which shall be corrected in order to comply with the technical codes. The Building Official shall determine the timing and sequencing of when inspections occur and what elements are inspected at each inspection.

A. Building

Ch. 1, Broward County Administrative Provisions for the 2017 FBC (6th Edition)

devices, and after final electrical, mechanical and plumbing. Approval of Fire Department accessibility and all tests of fire alarm detection and suppression systems, smoke evacuation systems and life safety systems shall be approved prior to final inspection and issuance of Certificate of Occupancy.

- a. In flood hazard areas, as part of the final inspection, a final certification of the lowest floor elevation shall be submitted to the authority having jurisdiction.

22. Certificate of Occupancy: This final inspection shall signify the completion of all work and that the structure is safe for Occupancy. Final adjustments to mechanical devices may be made after this inspection and during Occupancy.

23. Fence: Final only

24. Swimming Pools/Spas Inspection: First inspections to be made after excavation and installation of reinforcing steel, bonding and main drain and prior to placing of concrete, gunite or shotcrete. Second inspection(s) of perimeter plumbing, pressure test, deck electrical perimeter bonding and deck structural (includes soil reports as applicable, paver type decks, special perimeter footings or deck features) is (are) to follow after the completion of each phase. Child barrier (exit) alarms (if applicable), and yard barriers that are part of the fourth wall protection as described in FBC Building Section 454.2.17, shall be completed and approved inspection prior to the swimming pool/spa being filled with water. Final zoning (if applicable) is to be completed prior to the swimming pool/spa being completed. Electrical final is to be completed prior to the swimming pool/spa being filled with water. Final structural and plumbing are to be completed after the swimming pool/spa is filled with water and the filtration system is in operation.

#25. Photovoltaic Structural inspections:

- (1) Steel
- (2) Deck (includes soil reports as applicable, paver type decks, special perimeter footings or deck features)
- (3) Child barrier fences (if applicable) and yard barriers that are part of the fourth wall protection prior to the swimming pool/spa being filled with water
- (4) Final structural (after filling of the swimming pool/spa with water and the filtration system is in operation)

B. Electrical:

1. **General:** All Underground, Slab, low voltage and Rough Electrical Installations shall be left uncovered and convenient for examination until Inspected and approved by the Electrical Inspector.
2. **Temporary Electrical Service Installations**
 - a. Rough.
 - b. Final
3. **Underground Electrical Inspection:** To be made after trenches or ditches are excavated, underground conduits or cables installed, and before any backfill is put in place.
4. **Slab Electrical Inspection:** To be made and after conduits and boxes are installed, and prior to pouring concrete.
 - a. Grounding Electrode Conductor to Foundation Steel
5. **Rough Electrical Inspection:** To be made after the roof, framing, fire blocking bracing are in place, and the building is deemed dry, and conduits, cables, panels, receptacles, etc. are installed, and prior to the installation of wall or ceiling membranes.
6. **Electrical Service Inspection:**
 - a. Electrical rough
 - b. Electrical Final Inspection
7. **Miscellaneous Electrical Inspection:**
8. **Swimming Pool/Spa Electrical Inspection:**
 - a. Steel Bonding
 - b. Underground
 - c. Deck perimeter bonding
 - d. Final electrical prior to the swimming pool/spa being filled with water
9. **Temporary Electrical 30-Day Power for Testing**
10. **Final Inspection:** To be made after the building is complete, all electrical fixtures are in place and properly connected, or protected, and the structure is ready for occupancy and deemed safe for power by the Building Official.

Final Electrical Inspection shall be made prior to Final Structural Inspection.

11. Photovoltaic

C. Gas:

1. **General:** To be made for all underground work, and at each floor and roof level where gas work is installed. All gas work shall be left uncovered and convenient for examination until inspected and approved by the Plumbing Inspector.
2. **Underground inspection:** To be made after trenches or ditches are excavated, piping installed, and before any backfill is put in place.



BROWARD COUNTY

BOARD OF RULES AND APPEALS

ITEM 4

ONE NORTH UNIVERSITY DRIVE

SUITE 3500-B

PLANTATION, FLORIDA 33324

PHONE: 954-765-4500

FAX: 954-765-4504

www.broward.org/codeappeal

2019 Voting Members

Chair

Mr. Daniel Lavrich,
P.E., S.I., SECB, F.ASCE, F.SEI
Structural Engineer

Vice-Chair

Mr. Stephen E. Bailey, P.E.
Electrical Engineer
Mr. Jeffrey Lucas, FM, CFI, CFEI

Fire Service Professional

Mr. John Famularo,
Roofing Contractor

Mrs. Shalanda Giles Nelson,
General Contractor

Mr. Daniel Rourke

Master Plumber

Mr. Gregg D'Attile,
Mechanical Contractor

Mr. Ron Burr

Swimming Pool Contractor

Mr. John Sims,
Master Electrician

Mr. Dennis A. Ulmer

Consumer Advocate

Mr. Abbas H. Zackria, CSI
Architect

Mr. Robert A. Kamm, P.E.
Mechanical Engineer

Vacant

Representative Disabled Community

2019 Alternate Board Members

Mr. Jeff Falkanger
Architect

Mr. Steven Feller, P.E.
Mechanical Engineer

Mr. Alberto Fernandez,
General Contractor

Mr. Robert Taylor
Fire Service

Mr. Gary Elzweig, P.E., F.ASCE
Structural Engineer

Mr. David Rice, P.E.
Electrical Engineer

Mr. James Terry,
Master Plumber

Mr. David Tringo,
Master Electrician

Mr. William Flett,
Roofing Contractor

Board Attorney

Charles M. Kramer, Esq.

Board Administrative Director

James DiPietro

—ESTABLISHED 1971—

To: Broward County Board of Rules and Appeals Electrical Committee

From: Kenneth Castronovo, Chief Electrical Code Compliance Officer

Date: September 9, 2019

Subject: Generator Installation Requirement Review

Recently, there is a concern with which codes are necessary to install and inspect stand by generators that are being used at occupancies. The Florida Building Code and Florida Fire Prevention Code requires that generators be installed using NFPA 1, 101, 110, 111, 99 and NFPA 70, Article 700 (emergency standby system), Article 701 (legally required standby systems) and Article 701 (optional standby systems). These three NFPA 70 articles are used to enforce requirements for different levels of occupancy. Each article specifies which occupancy is to be used under each code section in order to install a generator, thus protecting the life of residents in occupancies when normal power is interrupted.

Due to the increase in generator permits being received for emergency standby power, the local Electrical Chiefs and Fire Marshals are concerned that the submitters and reviewers do not have a clear code compliant path for these generator installations. A consistent code compliant method of generator installations is needed in occupancies for the residents living in any type of facility that provides care in temporary, long term, overnight or rely on machines for their health and survival.

The Board currently has an administrative procedure (#06-03) for residential generators and believes that these occupancies other than residential should have the same guidance as to how and what codes need to be applied.

The Electrical Chiefs and Fire Marshal's in Broward County feel that the State Statute and Florida Administrative Codes are not providing clear direction to what standards the installers need to be applying when submitting a permit application for approval which becomes a time consuming and an undue burden on the occupancy owner.

Therefore, the Electrical Chiefs and Fire Marshalls along with State Department of Children and Families and Department of Health Care along with Broward Emergency Management have established a committee to draft a local uniform code amendment that they feel is the responsible way to address the required code sections and articles which would be able to be used consistently in the county.

We are providing this for purpose of information to the Board being that staff believes the Broward County Fire Chiefs will be submitting a proposed code section to be added to the Local Fire Code Amendments in the coming months.



BROWARD COUNTY

BOARD OF RULES AND APPEALS

ITEM 5

ONE NORTH UNIVERSITY DRIVE
SUITE 3500-B
PLANTATION, FLORIDA 33324

PHONE: 954-765-4500
FAX: 954-765-4504
www.broward.org/codeappeal

2019 Voting Members

Chair
Mr. Daniel Lavrich,
P.E., S.I., SECB, F.ASCE, F.SEI
Structural Engineer

Vice-Chair
Mr. Stephen E. Bailey, P.E.
Electrical Engineer
Mr. Jeffrey Lucas, FM, CFI, CFEI
Fire Service Professional

Mr. John Famularo,
Roofing Contractor
Mrs. Shalanda Giles Nelson,
General Contractor

Mr. Daniel Rourke
Master Plumber
Mr. Gregg D'Attile,
Mechanical Contractor

Mr. Ron Burr
Swimming Pool Contractor
Mr. John Sims,
Master Electrician
Mr. Dennis A. Ulmer
Consumer Advocate
Mr. Abbas H. Zackria, CSI
Architect

Mr. Robert A. Kamm, P.E.
Mechanical Engineer

Vacant
Representative Disabled Community

2019 Alternate Board Members

Mr. Jeff Falkanger
Architect

Mr. Steven Feller, P.E.
Mechanical Engineer

Mr. Alberto Fernandez,
General Contractor

Mr. Robert Taylor
Fire Service

Mr. Gary Elzweig, P.E., F.ASCE
Structural Engineer

Mr. David Rice, P.E.
Electrical Engineer

Mr. James Terry,
Master Plumber

Mr. David Tringo,
Master Electrician

Mr. William Flett,
Roofing Contractor

Board Attorney
Charles M. Kramer, Esq.

Board Administrative Director
James DiPietro

—ESTABLISHED 1971—

To: Broward County Board of Rules and Appeals Electrical Committee and Structural Committee

From: Kenneth Castronovo, Chief Electrical Code Compliance Officer

Date: September 9, 2019

Subject: AFCI replacement requirements.

Recently, there has been some confusion relating to replacement of outlets and breakers in existing building.

NEC 70, Section 406.4(D) 1-4 details receptacle replacements in an existing building.

NEC 70, Section 210.12(B) and the exception explains when an area has been modified.

Florida Building Code, 6th Edition, Existing Building Code details Florida requirements for when existing building are modified.

Chapter 5, FBC 6th Edition, Existing defines the level of work.

Chapter 6, FBC 6th Existing Building Code describes repair work.

Chapter 7, 8 and 9 of the FBC 6th Edition describes how to comply with each level.

Sincerely

Kenneth Castronovo

406.3

Article 406 • Receptacles, Cord Connectors, and Attachment Plugs (Caps)

406.3 Receptacle Rating and Type

(A) **Receptacles.** Receptacles shall be listed and marked with the manufacturer's name or identification and voltage and ampere ratings.

(B) **Rating.** Receptacles and cord connectors shall be rated not less than 15 amperes, 125 volts, or 15 amperes, 250 volts, and shall be of a type not suitable for use as lampholders.

Informational Note: See 210.21(B) for receptacle ratings where installed on branch circuits.

(C) **Receptacles for Aluminum Conductors.** Receptacles rated 20 amperes or less and designed for the direct connection of aluminum conductors shall be marked CO/ALR.

If the receptacle is not of the CO/ALR type, it can be connected with a copper pigtail to an aluminum branch-circuit conductor only if the wire connector is suitable for such a connection and is marked with the letters AL and CU. The commentary following 110.14(B) further explains the suitability of wire connectors used to join copper and aluminum conductors.

(D) **Isolated Ground Receptacles.** Receptacles incorporating an isolated grounding conductor connection intended for the reduction of electrical noise (electromagnetic interference) as permitted in 250.146(D) shall be identified by an orange triangle located on the face of the receptacle.

(1) **Isolated Equipment Grounding Conductor Required.** Receptacles so identified shall be used only with equipment grounding conductors that are isolated in accordance with 250.146(D).

(2) **Installation in Nonmetallic Boxes.** Isolated ground receptacles installed in nonmetallic boxes shall be covered with a nonmetallic faceplate.

Exception: Where an isolated ground receptacle is installed in a nonmetallic box, a metal faceplate shall be permitted if the box contains a feature or accessory that permits the effective grounding of the faceplate.

(E) **Controlled Receptacle Marking.** All nonlocking-type, 125-volt, 15- and 20-ampere receptacles that are controlled by an automatic control device, or that incorporate control features that remove power from the outlet for the purpose of energy management or building automation, shall be marked with the symbol shown in Figure 406.3(E) and located on the controlled receptacle outlet where visible after installation.

Exception: The marking is not required for receptacles controlled by a wall switch that provide the required room lighting outlets as permitted by 210.70.

Many energy efficiency codes require that a percentage of installed 125-volt, 15- and 20-ampere receptacles be automatically controlled. These receptacles are required to be marked to indicate to users which loads will be automatically de-energized by



FIGURE 406.3(E) Controlled Receptacle Marking Symbol.

the controller. This allows the user to select a different receptacle if, for instance, the load must be supplied during overnight hours.

406.4 General Installation Requirements

Receptacle outlets shall be located in branch circuits in accordance with Part III of Article 210. General installation requirements shall be in accordance with 406.4(A) through (F).

(A) **Grounding Type.** Except as provided in 406.4(D), receptacles installed on 15- and 20-ampere branch circuits shall be of the grounding type. Grounding-type receptacles shall be installed only on circuits of the voltage class and current for which they are rated, except as provided in Table 210.21(B)(2) and Table 210.21(B)(3).

•

(B) **To Be Grounded.** Receptacles and cord connectors that have equipment grounding conductor contacts shall have those contacts connected to an equipment grounding conductor.

Exception No. 1: Receptacles mounted on portable and vehicle-mounted generators in accordance with 250.34.

Exception No. 2: Replacement receptacles as permitted by 406.4(D).

(C) **Methods of Grounding.** The equipment grounding conductor contacts of receptacles and cord connectors shall be grounded by connection to the equipment grounding conductor of the circuit supplying the receptacle or cord connector.

Informational Note: For installation requirements for the reduction of electrical noise, see 250.146(D).

The branch-circuit wiring method shall include or provide an equipment grounding conductor to which the equipment grounding conductor contacts of the receptacle or cord connector are connected.

Informational Note No. 1: See 250.118 for acceptable grounding means.

Informational Note No. 2: For extensions of existing branch circuits, see 250.130.

(D) **Replacements.** Replacement of receptacles shall comply with 406.4(D)(1) through (D)(6), as applicable. Arc-fault circuit-interrupter type and ground-fault circuit-interrupter type receptacles shall be installed in a readily accessible location.

(1) **Grounding-Type Receptacles.** Where a grounding means exists in the receptacle enclosure or an equipment grounding conductor is installed in accordance with 250.130(C),

grounding-type receptacles shall be used and shall be connected to the equipment grounding conductor in accordance with 406.4(C) or 250.130(C).

(2) Non-Grounding-Type Receptacles. Where attachment to an equipment grounding conductor does not exist in the receptacle enclosure, the installation shall comply with (D)(2)(a), (D)(2)(b), or (D)(2)(c).

(a) A non-grounding-type receptacle(s) shall be permitted to be replaced with another non-grounding-type receptacle(s).

(b) A non-grounding-type receptacle(s) shall be permitted to be replaced with a ground-fault circuit interrupter-type of receptacle(s). These receptacles shall be marked "No Equipment Ground." An equipment grounding conductor shall not be connected from the ground-fault circuit-interrupter-type receptacle to any outlet supplied from the ground-fault circuit-interrupter receptacle.

(c) A non-grounding-type receptacle(s) shall be permitted to be replaced with a grounding-type receptacle(s) where supplied through a ground-fault circuit interrupter. Grounding-type receptacles supplied through the ground-fault circuit interrupter shall be marked "GFCI Protected" and "No Equipment Ground." An equipment grounding conductor shall not be connected between the grounding-type receptacles.

(3) Ground-Fault Circuit Interrupters. Ground-fault circuit-interrupter protected receptacles shall be provided where replacements are made at receptacle outlets that are required to be so protected elsewhere in this *Code*.

Exception: Where replacement of the receptacle type is impracticable, such as where the outlet box size will not permit the installation of the GFCI receptacle, the receptacle shall be permitted to be replaced with a new receptacle of the existing type, where GFCI protection is provided and the receptacle is marked "GFCI protected" and "no equipment ground," in accordance with 406.4(D)(2)(a), (b), or (c).

(4) Arc-Fault Circuit-Interrupter Protection. Where a receptacle outlet is supplied by a branch circuit that requires arc-fault circuit-interrupter protection as specified elsewhere in this *Code*, a replacement receptacle at this outlet shall be one of the following:

- (1) A listed outlet branch-circuit type arc-fault circuit-interrupter receptacle
- (2) A receptacle protected by a listed outlet branch-circuit type arc-fault circuit-interrupter type receptacle
- (3) A receptacle protected by a listed combination type arc-fault circuit-interrupter type circuit breaker

This requirement becomes effective January 1, 2014.

Older homes are statistically more vulnerable to electrical fires. Extra protection for older homes is provided by the gradual replacement, over time, of non-AFCI-protected receptacles with new AFCI-protected ones.

(5) Tamper-Resistant Receptacles. Listed tamper-resistant receptacles shall be provided where replacements are made at receptacle outlets that are required to be tamper-resistant elsewhere in this *Code*.

This requirement does not mandate receptacle replacement. It merely institutes a requirement for the receptacle if it is replaced. For example, an ordinary 15-ampere receptacle in a bedroom of a 10-year-old one-family dwelling would be required to be replaced with a tamper-resistant receptacle because tamper-resistant receptacles are required in a bedroom of a new home constructed under the current edition of the *Code*.

(6) Weather-Resistant Receptacles. Weather-resistant receptacles shall be provided where replacements are made at receptacle outlets that are required to be so protected elsewhere in this *Code*.

Without the requirement for weather-resistant receptacles to be installed at the time of replacement, ordinary receptacles may be installed and subjected to the same failures as the receptacles they replaced.

(E) Cord- and Plug-Connected Equipment. The installation of grounding-type receptacles shall not be used as a requirement that all cord-and plug-connected equipment be of the grounded type.

Informational Note: See 250.114 for types of cord-and plug-connected equipment to be grounded.

(F) Noninterchangeable Types. Receptacles connected to circuits that have different voltages, frequencies, or types of current (ac or dc) on the same premises shall be of such design that the attachment plugs used on these circuits are not interchangeable.

406.5 Receptacle Mounting

Receptacles shall be mounted in identified boxes or assemblies. The boxes or assemblies shall be securely fastened in place unless otherwise permitted elsewhere in this *Code*. Screws used for the purpose of attaching receptacles to a box shall be of the type provided with a listed receptacle, or shall be machine screws having 32 threads per inch or part of listed assemblies or systems, in accordance with the manufacturer's instructions.

Receptacles in pendant boxes are permitted, provided the box is supported from the flexible cord in accordance with 314.23(H)(1). A pendant box that is properly suspended is not required to be securely fastened in place.

(A) Boxes That Are Set Back. Receptacles mounted in boxes that are set back from the finished surface as permitted in 314.20 shall be installed such that the mounting yoke or strap of the receptacle is held rigidly at the finished surface.

(B) Boxes That Are Flush. Receptacles mounted in boxes that are flush with the finished surface or project therefrom shall be

protection as well as providing protection against series arcing, such as could occur in a cord set.

AFCI protection is required for all 15- and 20-A, 120-V branch circuits that supply outlets (including receptacle, lighting, and other outlets; see definition of *outlet* in Article 100) located throughout a dwelling unit. For the 2014 Code, the requirement was expanded to include outlets installed in kitchens and laundry areas. The requirement does not include outlets in bathrooms, unfinished basements, garages, and outdoors. Because circuits are often shared between a bedroom and other areas such as closets and hallways, providing AFCI protection on the complete circuit would comply with 210.12. AFCI protection on other circuits or locations other than those specified in 210.12(A) is not prohibited.

- (4) A listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet on the branch circuit in combination with a listed branch-circuit overcurrent protective device where all of the following conditions are met:
- a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.
 - b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 15.2 m (50 ft) for a 14 AWG conductor or 21.3 m (70 ft) for a 12 AWG conductor.
 - c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.
 - d. The combination of the branch-circuit overcurrent device and outlet branch-circuit AFCI shall be identified as meeting the requirements for a system combination-type AFCI and shall be listed as such.
- (5) If RMC, IMC, EMT, Type MC, or steel-armored Type AC cables meeting the requirements of 250.118, metal wireways, metal auxiliary gutters, and metal outlet and junction boxes are installed for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed outlet branch-circuit type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.
- (6) Where a listed metal or nonmetallic conduit or tubing or Type MC cable is encased in not less than 50 mm (2 in.) of concrete for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed outlet branch-circuit type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.

Exception: Where an individual branch circuit to a fire alarm system installed in accordance with 760.41(B) or 760.121(B) is installed in RMC, IMC, EMT, or steel-sheathed cable, Type AC

or Type MC, meeting the requirements of 250.118, with metal outlet and junction boxes, AFCI protection shall be permitted to be omitted.

Informational Note No. 1: For information on combination-type and branch/feeder-type arc-fault circuit interrupters, see UL 1699-2011, *Standard for Arc-Fault Circuit Interrupters*. For information on outlet branch-circuit type arc-fault circuit interrupters, see UL Subject 1699A, *Outline of Investigation for Outlet Branch Circuit Arc-Fault Circuit-Interrupters*. For information on system combination AFCIs, see UL Subject 1699C, *Outline of Investigation for System Combination Arc-Fault Circuit Interrupters*.

Informational Note No. 2: See 29.6.3(5) of NFPA 72-2013, *National Fire Alarm and Signaling Code*, for information related to secondary power-supply requirements for smoke alarms installed in dwelling units.

Informational Note No. 3: See 760.41(B) and 760.121(B) for power-supply requirements for fire alarm systems.

(B) Branch Circuit Extensions or Modifications — Dwelling Units. In any of the areas specified in 210.12(A), where branch-circuit wiring is modified, replaced, or extended, the branch circuit shall be protected by one of the following:

- (1) A listed combination-type AFCI located at the origin of the branch circuit
- (2) A listed outlet branch-circuit type AFCI located at the first receptacle outlet of the existing branch circuit

This section details how to implement AFCI protection when performing work on existing branch-circuit wiring. To address potential existing wiring system obstacles to providing some level of AFCI protection, the Code provides the option of installing a combination-type device at the point where the branch circuit originates (as is required for new branch-circuit installations) or of installing an outlet branch-circuit-type AFCI at the first receptacle outlet in the branch circuit. Where the location of the first receptacle outlet in the existing branch circuit cannot be ascertained, installing a new receptacle outlet, and ensuring it is the first one in the branch circuit, is a means to implement the protection required by 210.12(B)(2).

Exception: AFCI protection shall not be required where the extension of the existing conductors is not more than 1.8 m (6 ft) and does not include any additional outlets or devices.

(C) Dormitory Units. All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets installed in dormitory unit bedrooms, living rooms, hallways, closets, and similar rooms shall be protected by a listed arc-fault circuit interrupter meeting the requirements of 210.12(A)(1) through (6) as appropriate.

210.13 Ground-Fault Protection of Equipment

Each branch-circuit disconnect rated 1000 A or more and installed on solidly grounded wye electrical systems of more than 150 volts to ground, but not exceeding 600 volts phase-to-phase, shall be provided with ground-fault protection of equipment in accordance with the provisions of 230.95.

CHAPTER 5

CLASSIFICATION OF WORK

SECTION 501 GENERAL

501.1 Scope. The provisions of this chapter shall be used in conjunction with Chapters 6 through 13 and shall apply to the *alteration, repair, addition and change of occupancy* of existing structures, including historic and moved structures, as referenced in Section 301.1.2. The work performed on an *existing building* shall be classified in accordance with this chapter.

501.1.1 Compliance with other alternatives. *Alterations, repairs, additions and changes of occupancy* to existing structures shall comply with the provisions of Chapters 6 through 13 or with one of the alternatives provided in Section 301.1.

501.2 Work area. The *work area*, as defined in Chapter 2, shall be identified on the construction documents.

* **501.3 Structure seaward of a coastal construction line.** Structures located seaward of the coastal construction line shall be designed to resist the predicted forces of a 100-year storm event in accordance with Section 3109 of the *Florida Building Code, Building*.

501.4 Dangerous buildings. When an historic building is determined as dangerous, no work shall be required except as necessary to correct identified dangerous conditions.

SECTION 502 REPAIRS

502.1 Scope. *Repairs*, as defined in Chapter 2, include the patching or restoration or replacement of damaged materials, elements, *equipment or fixtures* for the purpose of maintaining such components in good or sound condition with respect to existing loads or performance requirements.

502.2 Application. *Repairs* shall comply with the provisions of Chapter 6. Reroofing shall comply with the provisions of Section 706.

502.3 Related work. Work on nondamaged components that is necessary for the required *repair* of damaged components shall be considered part of the *repair* and shall not be subject to the provisions of Chapter 7, 8, 9, 10 or 11.

SECTION 503 ALTERATION—LEVEL 1

503.1 Scope. Level 1 alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.

503.2 Application. Level 1 *alterations* shall comply with the provisions of Chapter 7.

SECTION 504 ALTERATION—LEVEL 2

504.1 Scope. Level 2 *alterations* include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.

504.2 Application. Level 2 *alterations* shall comply with the provisions of Chapter 7 for Level 1 *alterations* as well as the provisions of Chapter 8.

SECTION 505 ALTERATION—LEVEL 3

505.1 Scope. Level 3 *alterations* apply where the work area exceeds 50 percent of the *building area*.

505.2 Application. Level 3 *alterations* shall comply with the provisions of Chapters 7 and 8 for Level 1 and 2 *alterations*, respectively, as well as the provisions of Chapter 9.

SECTION 506 CHANGE OF OCCUPANCY

506.1 Scope. *Change of occupancy* provisions apply where the activity is classified as a *change of occupancy* as defined in Chapter 2.

506.2 Application. *Changes of occupancy* shall comply with the provisions of Chapter 10.

SECTION 507 ADDITIONS

507.1 Scope. Provisions for *additions* shall apply where work is classified as an *addition* as defined in Chapter 2.

507.2 Application. *Additions* to existing buildings shall comply with the provisions of Chapter 11.

SECTION 508 HISTORIC BUILDINGS

508.1 Scope. *Historic building* provisions shall apply to buildings classified as historic as defined in Chapter 12.

508.2 Application. Except as specifically provided for in Chapter 12, *historic buildings* shall comply with applicable provisions of this code for the type of work being performed.

SECTION 509 RELOCATED BUILDINGS

509.1 Scope. Relocated building provisions shall apply to relocated or moved buildings.

[BS] 606.2 Repairs to damaged buildings. Repairs to damaged buildings shall comply with this section and Section 706, Reroofing.

[BS] 606.2.1 Repairs for less than substantial structural damage. For damage less than *substantial structural damage*, the damaged elements shall be permitted to be restored to their predamage condition.

[BS] 606.2.2 Substantial structural damage to vertical elements of the lateral force-resisting system. A building that has sustained *substantial structural damage* to the vertical elements of its lateral force-resisting system shall be evaluated in accordance with Section 606.2.2.1, and either repaired in accordance with Section 606.2.2.2 or repaired and rehabilitated in accordance with Section 606.2.2.3, depending on the results of the evaluation.

Exceptions:

1. Buildings assigned to Seismic Design Category A, B, or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.
2. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.

[BS] 606.2.2.1 Evaluation. The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the *code official*. The evaluation shall establish whether the damaged building, if repaired to its predamage state, would comply with the provisions of the *Florida Building Code, Building* for load combinations that include wind or earthquake effects, except that the seismic forces shall be the reduced *Florida Building Code, Building*-level seismic forces.

[BS] 606.2.2.2 Extent of repair for compliant buildings. If the evaluation establishes that the building in its predamage condition complies with the provisions of Section 606.2.2.1, then the damaged elements shall be permitted to be restored to their predamage condition.

[BS] 606.2.2.3 Extent of repair for noncompliant buildings. If the evaluation does not establish that the building in its predamage condition complies with the provisions of Section 606.2.2.1, then the building shall be rehabilitated to comply with the provisions of this section. The wind loads for the *repair* and *rehabilitation* shall be those required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be in accordance with the *Florida Building Code, Building*. The seismic loads for this *rehabilitation* design shall be those required by the building code in effect at the time of original construction, but not less than the reduced *Florida Building Code, Building*-level seismic forces.

[BS] 606.2.3 Substantial structural damage to gravity load-carrying components. Gravity load-carrying components that have sustained *substantial structural damage*

shall be rehabilitated to comply with the applicable provisions for dead and live loads in the *Florida Building Code, Building*. Snow loads shall be considered if the *substantial structural damage* was caused by or related to snow load effects. Undamaged gravity load-carrying components that receive dead, live or snow loads from rehabilitated components shall also be rehabilitated if required to comply with the design loads of the *rehabilitation* design.

[BS] 606.2.3.1 Lateral force-resisting elements. Regardless of the level of damage to gravity elements of the lateral force-resisting system, if substantial structural damage to gravity load-carrying components was caused primarily by wind or seismic effects, then the building shall be evaluated in accordance with Section 606.2.2.1 and, if noncompliant, rehabilitated in accordance with Section 606.2.2.3.

Exceptions:

1. Buildings assigned to Seismic Design Category A, B, or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.
2. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.

[BS] 606.2.4 Flood hazard areas. In *flood hazard* areas, buildings that have sustained *substantial damage* shall be brought into compliance with Section 1612 of the *Florida Building Code, Building*, or Section R322 of the *Florida Building Code, Residential*, as applicable.

SECTION 607 ELECTRICAL

607.1 Material. Existing electrical wiring and equipment undergoing *repair* shall be allowed to be repaired or replaced with like material.

607.1.1 Receptacles. Replacement of electrical receptacles shall comply with the applicable requirements of Section 406.4(D) of NFPA 70.

607.1.2 Plug fuses. Plug fuses of the Edison-base type shall be used for replacements only where there is no evidence of over fusing or tampering per applicable requirements of Section 240.51(B) of NFPA 70.

607.1.3 Nongrounding-type receptacles. For replacement of nongrounding-type receptacles with grounding-type receptacles and for branch circuits that do not have an equipment grounding conductor in the branch circuitry, the grounding conductor of a grounding-type receptacle outlet shall be permitted to be grounded to any accessible point on the grounding electrode system or to any accessible point on the grounding electrode conductor in accordance with Section 250.130(C) of NFPA 70.

607.1.4 Group I-2 receptacles. Non-“hospital grade” receptacles in patient bed locations of Group I-2 shall be replaced with “hospital grade” receptacles, as required by NFPA 99 and Article 517 of NFPA 70.

CHAPTER 7

ALTERATIONS—LEVEL 1

SECTION 701 GENERAL

701.1 Scope. Level 1 *alterations* as described in Section 503 shall comply with the requirements of this chapter. Level 1 *alterations* to *historic buildings* shall comply with this chapter, except as modified in Chapter 12.

701.2 Conformance. An *existing building* or portion thereof shall not be altered such that the building becomes less safe or energy efficient than its existing condition.

Exception: Where the current level of safety or sanitation is proposed to be reduced, the portion altered shall conform to the requirements of the *Florida Building Code, Building*.

[BS] 701.3 Flood hazard areas. In *flood hazard areas*, *alterations* that constitute *substantial improvement* shall require that the building comply with Section 1612 of the *Florida Building Code, Building*, or Section R322 of the *Florida Building Code, Residential*, as applicable.

SECTION 702 BUILDING ELEMENTS AND MATERIALS

702.1 Interior finishes. All newly installed interior wall and ceiling finishes shall comply with Chapter 8 of the *Florida Building Code, Building*.

702.2 Interior floor finish. New interior floor finish, including new carpeting used as an interior floor finish material, shall comply with Section 804 of the *Florida Building Code, Building*.

702.3 Interior trim. All newly installed interior trim materials shall comply with Section 806 of the *Florida Building Code, Building*.

702.4 Window opening control devices. In Group R-2 or R-3 buildings containing dwelling units and one- and two-family dwellings and townhouses regulated by the *Florida Building Code, Residential*, window opening control devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable;
2. The window replacement includes replacement of the sash and the frame;
3. One of the following applies:
 - 3.1. In Group R-2 or R-3 buildings containing dwelling units, the top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor; or
 - 3.2. In one- and two-family dwellings and townhouses regulated by the *Florida Building Code, Residential*, the top sill of the window opening

is at a height less than 24 inches (610 mm) above the finished floor;

4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position; and
5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by the *Florida Building Code, Building*.

Exceptions:

1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F2006.
2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F2090.

702.5 Emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings in Group R-2 and R-3 occupancies and one- and two-family dwellings and townhouses regulated by the *Florida Building Code, Residential*, replacement windows shall be exempt from the requirements of Sections 1030.2, 1030.3 and 1030.5 of the *Florida Building Code, Building* and Sections R310.21 and R310.2.3 of the *Florida Building Code, Residential* accordingly, provided the replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.

Window opening control devices complying with ASTM F2090 shall be permitted for use on windows required to provide *emergency escape and rescue openings*.

702.6 Materials and methods. All new work shall comply with the materials and methods requirements in the *Florida Building Code, Building*; *Florida Building Code, Energy Conservation*; *Florida Building Code, Mechanical*; and *Florida Building Code, Plumbing*, as applicable, that specify material standards, detail of installation and connection, joints, penetrations, and continuity of any element, component, or system in the building.

[FG] 702.6.1 Florida Building Code, Fuel Gas. The following sections of the *Florida Building Code, Fuel Gas*

shall constitute the fuel gas materials and methods requirements for Level 1 alterations.

1. All of Chapter 3, entitled "General Regulations," except Sections 303.7 and 306.
2. All of Chapter 4, entitled "Gas Piping Installations," except Sections 401.8 and 402.3.
 - 2.1. Sections 401.8 and 402.3 shall apply when the work being performed increases the load on the system such that the existing pipe does not meet the size required by code. Existing systems that are modified shall not require resizing as long as the load on the system is not increased and the system length is not increased even if the altered system does not meet code minimums.
3. All of Chapter 5, entitled "Chimneys and Vents."
4. All of Chapter 6, entitled "Specific Appliances."

SECTION 703 FIRE PROTECTION

703.1 General. *Alterations* shall be done in a manner that maintains the level of fire protection provided.

703.2 Smoke alarms in one-family and two-family dwellings and townhomes. One-family and two-family dwellings and townhomes undergoing a repair, or a Level 1 alteration as defined in the *Florida Building Code*, may use smoke alarms powered by 10-year nonremovable, nonreplaceable batteries in lieu of retrofitting such dwelling with smoke alarms powered by the dwelling's electrical system. A battery-powered smoke alarm that is newly installed or replaces an existing battery-powered smoke alarm as a result of a Level 1 alteration must be powered by a nonremovable, nonreplaceable battery that powers the alarm for at least 10 years. The battery requirements of this section do not apply to a fire alarm, smoke detector, smoke alarm, or ancillary component that is electronically connected as a part of a centrally monitored or supervised alarm system, that uses a low-power, radio frequency wireless communication signal; or that contains multiple sensors, such as a smoke alarm combined with a carbon monoxide alarm or other multisensor devices, and is approved and listed by a nationally recognized testing laboratory.

SECTION 704 MEANS OF EGRESS

704.1 General. *Alterations* shall be done in a manner that maintains the level of protection provided for the means of egress.

SECTION 705 ACCESSIBILITY

705.1 General. Accessibility shall be in accordance with the provisions of the *Florida Building Code, Accessibility*.

705.1.1 Entrances. Reserved.

705.1.2 Elevators. Reserved.

705.1.3 Platform lifts. Reserved.

705.1.4 Ramps. Reserved.

Table 705.1.4 Ramps. Reserved.

705.1.5 Dining areas. Reserved.

705.1.6 Jury boxes and witness stands. Reserved.

705.1.7 Accessible dwelling or sleeping units. Reserved.

705.1.8 Type A dwelling or sleeping units. Reserved.

705.1.9 Toilet rooms. Reserved.

705.1.10 Dressing, fitting and locker rooms. Reserved.

705.1.11 Fuel dispensers. Reserved.

705.1.12 Thresholds. Reserved.

705.1.13 Extent of application. Reserved.

705.1.14 Amusement rides. Reserved.

705.2 Alterations affecting an area containing a primary function. Reserved.

SECTION 706 EXISTING ROOFING

[BS] 706.1 General. Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 15 of the *Florida Building Code, Building*, or Chapter 9 of the *Florida Building Code, Residential*. Roof repairs to existing roofs and roof coverings shall comply with the provisions of this code.

Exception: Reroofing shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section 1507 of the *Florida Building Code, Building* for roofs that provide positive roof drainage (High-Velocity Hurricane Zones shall comply with Sections 1515.2.2.1 and 1516.2.4 of the *Florida Building Code, Building*).

706.1.1 Not more than 25 percent of the total roof area or roof section of any existing building or structure shall be repaired, replaced or recovered in any 12-month period unless the entire existing roofing system or roof section is replaced to conform to requirements of this code.

[BS] 706.2 Structural and construction loads. Structural roof components shall be capable of supporting the roof-covering system and the material and equipment loads that will be encountered during installation of the system.

[BS] 706.3 Recovering versus replacement. New roof coverings shall not be installed without first removing all existing layers of roof coverings down to the roof deck where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. Where the existing roof covering is wood shake, slate, clay, cement or asbestos-cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.

CHAPTER 8

ALTERATIONS—LEVEL 2

SECTION 801 GENERAL

801.1 Scope. Level 2 alterations as described in Section 504 shall comply with the requirements of this chapter.

Exception: Buildings in which the reconfiguration is exclusively the result of compliance with the accessibility requirements of Section 705.2 shall be permitted to comply with Chapter 7.

801.2 Alteration Level 1 compliance. In addition to the requirements of this chapter, all work shall comply with the requirements of Chapter 7.

801.3 Compliance. All new construction elements, components, systems, and spaces shall comply with the requirements of the *Florida Building Code, Building*.

Exceptions:

1. Windows may be added without requiring compliance with the light and ventilation requirements of the *Florida Building Code, Building*.
2. Newly installed electrical equipment shall comply with the requirements of Section 808.
3. The length of dead-end corridors in newly constructed spaces shall only be required to comply with the provisions of Section 805.6.
4. The minimum ceiling height of the newly created habitable and occupiable spaces and corridors shall be 7 feet (2134 mm).

SECTION 802 SPECIAL USE AND OCCUPANCY

802.1 General. Alteration of buildings classified as special use and occupancy as described in the *Florida Building Code, Building* shall comply with the requirements of Section 801.1 and the scoping provisions of Chapter 1 where applicable.

SECTION 803 BUILDING ELEMENTS AND MATERIALS

803.1 Scope. The requirements of this section are limited to work areas in which Level 2 alterations are being performed and shall apply beyond the work area where specified.

803.2 Vertical openings. Existing vertical openings shall comply with the provisions of Sections 803.2.1, 803.2.2 and 803.2.3.

803.2.1 Existing vertical openings. All existing interior vertical openings connecting two or more floors shall be enclosed with approved assemblies having a fire-resistance rating of not less than 1 hour with approved opening protectives.

Exceptions:

1. Where vertical opening enclosure is not required by the *Florida Building Code, Building* or the *Florida Fire Prevention Code*.
2. Interior vertical openings other than stairways may be blocked at the floor and ceiling of the *work area* by installation of not less than 2 inches (51 mm) of solid wood or equivalent construction.
3. The enclosure shall not be required where:
 - 3.1. Connecting the main floor and mezzanines; or
 - 3.2. All of the following conditions are met:
 - 3.2.1. The communicating area has a low hazard occupancy or has a moderate hazard occupancy that is protected throughout by an automatic sprinkler system.
 - 3.2.2. The lowest or next to the lowest level is a street floor.
 - 3.2.3. The entire area is open and unobstructed in a manner such that it may be assumed that a fire in any part of the interconnected spaces will be readily obvious to all of the occupants.
 - 3.2.4. Exit capacity is sufficient to provide egress simultaneously for all occupants of all levels by considering all areas to be a single floor area for the determination of required exit capacity.
 - 3.2.5. Each floor level, considered separately, has at least one-half of its individual required exit capacity provided by an exit or exits leading directly out of that level without having to traverse another communicating floor level or be exposed to the smoke or fire spreading from another communicating floor level.
 4. In Group A occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories.
 5. In Group B occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories.

804.4.1 Occupancy requirements. A fire alarm system shall be installed in accordance with Sections 804.4.1.1 through 804.4.1.7. Existing alarm-notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm-notification appliances within the *work area* shall be provided and automatically activated.

Exceptions:

1. Occupancies with an existing, previously approved fire alarm system.
2. Where selective notification is permitted, alarm-notification appliances shall be automatically activated in the areas selected.

804.4.1.1 Group E. A fire alarm system shall be installed in *work areas* of Group E occupancies as required by the *Florida Fire Prevention Code* for existing Group E occupancies.

804.4.1.2 Group I-1. A fire alarm system shall be installed in *work areas* of Group I-1 residential care/assisted living facilities as required by the *Florida Fire Prevention Code* for existing Group I-1 occupancies.

804.4.1.3 Group I-2. A fire alarm system shall be installed throughout Group I-2 occupancies as required by the *Florida Fire Prevention Code*.

804.4.1.4 Group I-3. A fire alarm system shall be installed in *work areas* of Group I-3 occupancies as required by the *Florida Fire Prevention Code*.

804.4.1.5 Group R-1. A fire alarm system shall be installed in Group R-1 occupancies as required by the *Florida Fire Prevention Code* for existing Group R-1 occupancies.

804.4.1.6 Group R-2. A fire alarm system shall be installed in *work areas* of Group R-2 apartment buildings as required by the *Florida Fire Prevention Code* for existing Group R-2 occupancies.

804.4.1.7 Group R-4. A fire alarm system shall be installed in *work areas* of Group R-4 residential care/assisted living facilities as required by the *Florida Fire Prevention Code* for existing Group R-4 occupancies.

804.4.2 Supplemental fire alarm system requirements. Where the *work area* on any floor exceeds 50 percent of that floor area, Section 804.4.1 shall apply throughout the floor.

Exception: Alarm-initiating and notification appliances shall not be required to be installed in tenant spaces outside of the *work area*.

804.4.3 Smoke alarms. Individual sleeping units and individual dwelling units in any *work area* in Group R and I-1 occupancies shall be provided with smoke alarms in accordance with the *Florida Fire Prevention Code*.

Exception: Interconnection of smoke alarms outside of the *work area* shall not be required.

SECTION 805 MEANS OF EGRESS

805.1 Scope. The requirements of this section shall be limited to work areas that include exits or corridors shared by more than one tenant within the *work area* in which Level 2 *alterations* are being performed, and where specified they shall apply throughout the floor on which the *work areas* are located or otherwise beyond the *work area*.

805.2 General. The means of egress shall comply with the requirements of this section.

Exceptions:

1. Where the *work area* and the means of egress serving it complies with NFPA 101.
2. Means of egress conforming to the requirements of the building code under which the building was constructed shall be considered compliant means of egress if, in the opinion of the *code official*, they do not constitute a distinct hazard to life.

805.3 Number of exits. The number of exits shall be in accordance with Sections 805.3.1 through 805.3.3.

805.3.1 Minimum number. Every story utilized for human occupancy on which there is a *work area* that includes exits or corridors shared by more than one tenant within the *work area* shall be provided with the minimum number of exits based on the occupancy and the occupant load in accordance with the *Florida Building Code, Building*. In addition, the exits shall comply with Sections 805.3.1.1 and 805.3.1.2.

805.3.1.1 Single-exit buildings. Only one exit is required from buildings and spaces of the following occupancies:

1. In Group A, B, E, F, M, U and S occupancies, a single exit is permitted in the story at the level of exit discharge when the occupant load of the story does not exceed 50 and the exit access travel distance does not exceed 75 feet (22 860 mm).
2. Group B, F-2, and S-2 occupancies not more than two stories in height that are not greater than 3,500 square feet per floor (326 m^2), when the exit access travel distance does not exceed 75 feet (22 860 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.
3. Open parking structures where vehicles are mechanically parked.
4. In Group R-4 occupancies, the maximum occupant load excluding staff is 16.
5. Groups R-1 and R-2 not more than two stories in height, when there are not more than four dwelling units per floor and the exit access travel distance does not exceed 50 feet (15 240 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.

Building, provided that an engineering analysis is submitted to show that:

1. The capacity of existing structural elements required to resist forces is not reduced;
2. The lateral loading to existing structural elements is not increased either beyond its capacity or more than 10 percent;
3. New structural elements are detailed and connected to the existing structural elements as required by the *Florida Building Code, Building*;
4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by the *Florida Building Code, Building*; and
5. A dangerous condition as defined in this code is not created. Voluntary *alterations* to lateral force-resisting systems conducted in accordance with Appendix A and the referenced standards of this code shall be permitted.

SECTION 808 ELECTRICAL

808.1 New installations. All newly installed electrical equipment and wiring relating to work done in any work area shall comply with all applicable requirements of NFPA 70 except as provided for in Section 808.3.

808.2 Existing installations. Existing wiring in all work areas in Group A-1, A-2, A-5, H and I occupancies shall be upgraded to meet the materials and methods requirements of Chapter 7.

808.3 Residential occupancies. In Group R-2, R-3 and R-4 occupancies and buildings regulated by the *Florida Building Code, Residential*, the requirements of Sections 808.3.1 through 808.3.7 shall be applicable only to work areas located within a dwelling unit.

808.3.1 Enclosed areas. All enclosed areas, other than closets, kitchens, basements, garages, hallways, laundry areas, utility areas, storage areas and bathrooms shall have a minimum of two duplex receptacle outlets or one duplex receptacle outlet and one ceiling or wall-type lighting outlet.

808.3.2 Kitchens. Kitchen areas shall have a minimum of two duplex receptacle outlets.

808.3.3 Laundry areas. Laundry areas shall have a minimum of one duplex receptacle outlet located near the laundry equipment and installed on an independent circuit.

808.3.4 Ground fault circuit interruption. Newly installed receptacle outlets shall be provided with ground fault circuit interruption as required by NFPA 70.

808.3.5 Minimum lighting outlets. At least one lighting outlet shall be provided in every bathroom, hallway, stairway, attached garage, and detached garage with electric power, and to illuminate outdoor entrances and exits.

808.3.6 Utility rooms and basements. At least one lighting outlet shall be provided in utility rooms and basements

where such spaces are used for storage or contain equipment requiring service.

808.3.7 Clearance for equipment. Clearance for electrical service equipment shall be provided in accordance with the NFPA 70.

SECTION 809 MECHANICAL

809.1 Reconfigured or converted spaces. All reconfigured spaces intended for occupancy and all spaces converted to habitable or occupiable space in any *work area* shall be provided with natural or mechanical ventilation in accordance with the *Florida Building Code, Mechanical*.

Exception: Existing mechanical ventilation systems shall comply with the requirements of Section 809.2.

809.2 Altered existing systems. In mechanically ventilated spaces, existing mechanical ventilation systems that are altered, reconfigured, or extended shall provide not less than 5 cubic feet per minute (cfm) (0.0024 m³/s) per person of outdoor air and not less than 15 cfm (0.0071 m³/s) of ventilation air per person; or not less than the amount of ventilation air determined by the Indoor Air Quality Procedure of ASHRAE 62.

809.3 Local exhaust. All newly introduced devices, equipment, or operations that produce airborne particulate matter, odors, fumes, vapor, combustion products, gaseous contaminants, pathogenic and allergenic organisms, and microbial contaminants in such quantities as to affect adversely or impair health or cause discomfort to occupants shall be provided with local exhaust.

SECTION 810 PLUMBING

810.1 Minimum fixtures. Where the occupant load of the story is increased by more than 20 percent, plumbing fixtures for the story shall be provided in quantities specified in the *Florida Building Code, Plumbing* based on the increased occupant load.

810.2 Separate facilities. Separate facilities shall not be required for single-user facilities that are or will be provided in places of public accommodation or commercial facilities (as defined in 28 C.F.R. 36.104). Two single-user facilities that are not identified for exclusive use by either sex shall be permitted to serve as required separate facilities and shall count toward the minimum number of required plumbing fixtures. Signage identifying these facilities shall be provided as set forth in the *Florida Building Code, Accessibility*.

SECTION 811 ENERGY CONSERVATION

811.1 Minimum requirements. Alteration subject to this chapter shall comply with the requirements of the *Florida Building Code, Energy Conservation*.

CHAPTER 9

ALTERATIONS—LEVEL 3

SECTION 901 GENERAL

901.1 Scope. Level 3 *alterations* as described in Section 505 shall comply with the requirements of this chapter.

901.2 Compliance. In addition to the provisions of this chapter, work shall comply with all of the requirements of Chapters 7 and 8. The requirements of Sections 803, 804 and 805 shall apply within all *work areas* whether or not they include exits and corridors shared by more than one tenant and regardless of the occupant load.

Exception: Buildings in which the reconfiguration of space affecting exits or shared egress access is exclusively the result of compliance with the accessibility requirements of Section 705.2 shall not be required to comply with this chapter.

SECTION 902 SPECIAL USE AND OCCUPANCY

902.1 High-rise buildings. Any building having occupied floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall comply with the requirements of Sections 902.1.1 and 902.1.2.

902.1.1 Recirculating air or exhaust systems. When a floor is served by a recirculating air or exhaust system with a capacity greater than 15,000 cubic feet per minute ($701 \text{ m}^3/\text{s}$), that system shall be equipped with approved smoke and heat detection devices installed in accordance with the *Florida Building Code, Mechanical*.

902.1.2 Elevators. Where there is an elevator or elevators for public use, at least one elevator serving the *work area* shall comply with this section. Existing elevators with a travel distance of 25 feet (7620 mm) or more above or below the main floor or other level of a building and intended to serve the needs of emergency personnel for fire-fighting or rescue purposes shall be provided with emergency operation in accordance with ASME A17.3. New elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ASME A17.1/CSAB44.1.

902.2 Boiler and furnace equipment rooms. Boiler and furnace equipment rooms adjacent to or within Groups I-1, I-2, I-4, R-1, R-2 and R-4 occupancies shall be enclosed by 1-hour fire-resistance-rated construction.

Exceptions:

1. Steam boiler equipment operating at pressures of 15 pounds per square inch gauge (psig) (103.4 KPa) or less is not required to be enclosed.
2. Hot water boilers operating at pressures of 170 psig (1171 KPa) or less are not required to be enclosed.

3. Furnace and boiler equipment with 400,000 British thermal units (Btu) ($4.22 \times 108 \text{ J}$) per hour input rating or less is not required to be enclosed.
4. Furnace rooms protected with an automatic sprinkler system are not required to be enclosed.

SECTION 903 BUILDING ELEMENTS AND MATERIALS

903.1 Existing shafts and vertical openings. Existing stairways that are part of the means of egress shall be enclosed in accordance with Section 803.2.1 from the highest *work area* floor to, and including, the level of exit discharge and all floors below.

903.2 Fire partitions in Group R-3. Fire separation in Group R-3 occupancies shall be in accordance with Section 903.2.1.

903.2.1 Separation required. Where the *work area* is in any attached dwelling unit in Group R-3 or any multiple single-family dwelling (townhouse), walls separating the dwelling units that are not continuous from the foundation to the underside of the roof sheathing shall be constructed to provide a continuous fire separation using construction materials consistent with the existing wall or complying with the requirements for new structures. All work shall be performed on the side of the dwelling unit wall that is part of the *work area*.

Exception: Where *alterations* or *repairs* do not result in the removal of wall or ceiling finishes exposing the structure, walls are not required to be continuous through concealed floor spaces.

903.3 Interior finish. Interior finish in exits serving the *work area* shall comply with Section 803.4 between the highest floor on which there is a *work area* to the floor of exit discharge.

SECTION 904 FIRE PROTECTION

904.1 Automatic sprinkler systems. An automatic sprinkler system shall be provided in a *work area* where required by Section 804.2 or this section.

904.1.1 High-rise buildings. An automatic sprinkler system shall be provided in *work areas* where the high-rise building has a sufficient municipal water supply for the design and installation of an automatic sprinkler system at the site.

904.1.2 Rubbish and linen chutes. Rubbish and linen chutes located in the *work area* shall be provided with automatic sprinkler system protection or an approved automatic fire-extinguishing system where protection of the rubbish and linen chute would be required under the



BROWARD COUNTY

BOARD OF RULES AND APPEALS

ITEM 6

ONE NORTH UNIVERSITY DRIVE
SUITE 3500-B
PLANTATION, FLORIDA 33324

PHONE: 954-765-4500
FAX: 954-765-4504

www.broward.org/codeappeal
2019 Voting Members

Chair

Mr. Daniel Lavrich,
P.E., S.I., SECB, F.ASCE, F.SEI
Structural Engineer

Vice-Chair

Mr. Stephen E. Bailey, P.E.
Electrical Engineer

Mr. Jeffrey Lucas, FM, CFI, CFEI
Fire Service Professional

Mr. John Famularo,
Roofing Contractor

Mrs. Shalanda Giles Nelson,
General Contractor

Mr. Daniel Rourke

Master Plumber

Mr. Gregg D'Attile,
Mechanical Contractor

Mr. Ron Burr

Swimming Pool Contractor

Mr. John Sims,
Master Electrician

Mr. Dennis A. Ulmer
Consumer Advocate

Mr. Abbas H. Zackria, CSI
Architect

Mr. Robert A. Kamm, P.E.
Mechanical Engineer

Vacant

Representative Disabled Community

2019 Alternate Board Members

Mr. Jeff Falkanger
Architect

Mr. Steven Feller, P.E.
Mechanical Engineer

Mr. Alberto Fernandez,
General Contractor

Mr. Robert Taylor
Fire Service

Mr. Gary Elzweig, P.E., FASCE
Structural Engineer

Mr. David Rice, P.E.
Electrical Engineer

Mr. James Terry,
Master Plumber

Mr. David Tringo,
Master Electrician

Mr. William Flett,
Roofing Contractor

Board Attorney

Charles M. Kramer, Esq.

Board Administrative Director
James DiPietro

—ESTABLISHED 1971—

To: Broward County Board of Rules and Appeals Electrical Committee

From: Kenneth Castronovo, Chief Electrical Code Compliance Officer

Subject: Electrical Contractors Licensing Board General Meeting

Date: September 9, 2019

The general meeting of the Electrical Contractors Licensing Board was held on January 25, 2019 in Fernandina Beach, Florida. A continuation of discussion concerning establishing a specialty license for the Bi-Directional Amplifier industry. It was agreed that the title of the specialty would be “Two-Way Radio Communications Enhancement Systems”. Other discussions were on how many licenses would be issued for this specialty. There were no other issues brought up at this time and the Board voted in favor to name the specialty “Two-way radio Communications Enhancement Systems”.

The Board has directed for the Bureau of Education and Testing to develop an exam for the new specialty license named “Two-way radio Communications Enhancement Systems” and to estimate the date the exam will effective. The Bureau is in the process of writing the exam and it is estimated that the exam will be ready to implement at the beginning of 2020.

As of now the only categories allowed to be issued permits for BDA’s are EC, EF and EY. Please make sure that the license holder is the qualifier of the company who is signing a contract for any BDA work.

Respectfully

Kenneth Castronovo