

# **2017 Florida Building Code 6<sup>th</sup> Edition, Public Swimming Pool Changes, FBC Section 454.1, Effective January 1, 2018**

Published on June 16, 2017 by the Florida Public Swimming Pool Coalition  
Florida Swimming Pool Association (FSPA), United Pool & Spa Association (UPSA),  
Florida Department of Health (DOH), and Building Officials Association of Florida (BOAF)

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*Description: FBC Mod #7058: removed modification term and clarified that an IWF is a pool (& part of FBC Mod #6584 creating sun shelf definition)*

## **454.1**

**"Interactive water features"** means a structure designed to allow for recreational activities with recirculated, filtered, and treated water; but having minimal standing water. Water from the interactive fountain type features is collected by gravity below grade in a collector tank or sump. The water is filtered, disinfected and then pumped to the feature spray discharge heads. The collector tank and water filtration features required make this structure a type of public swimming pool.

~~**"Modification"** means any act which changes or alters the original characteristics of the pool as approved. For example, changes in the recirculation systems, decking, treatment systems, disinfection system and pool shape are modifications.~~

A **"public swimming pool"** or "public pool" means a watertight structure of concrete, masonry, or other approved materials which is located either indoors or outdoors, used for bathing or swimming by humans, and filled with a filtered and disinfected water supply, together with buildings, appurtenances, and equipment used in connection therewith. A public swimming pool or public pool shall mean a conventional pool, spa-type pool, wading pool, special purpose pool, interactive water feature or water recreation attraction, to which admission may be gained with or without payment of a fee and includes, but is not limited to, pools operated by or serving camps, churches, cities, counties, day care centers, group home facilities for eight or more clients, health spas, institutions, parks, state agencies, schools, subdivisions, or the cooperative living-type projects of five or more living units, such as apartments, boardinghouses, hotels, mobile home parks, motels, recreational vehicle parks, and townhouses. The term does not include a swimming pool located on the grounds of a private residence.

**"Sun Shelf"** means an area of a pool that adjoins the pool wall with a water depth less than 12 inches (305 mm), and is used for seating and play.

~~**"Wade pool"** means a water recreation attraction ride which is characterized by having trough-like or tubular flumes or chutes.~~

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*Description: Part of FBC Mod #6584: creates provisions for allowable underwater sunshelves*

### **454.1.2.2.3 Pool floor slope and slope transition.**

The radius of curvature between the floor and walls is excluded from these requirements. ~~Multiple floor levels in pools are prohibited.~~ however, an area meeting all of the requirements of a sun shelf shall not be considered a violation of this requirement.

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*Description: FBC Mod #6509: clarifies depth marker tile location for certain coping styles for certain coping styles*

**454.1.2.3.1 Depth and markings.** Depth and markings shall meet the following criteria:

1. The minimum water depth shall be 3 feet (914 mm) in shallow areas and 4 feet (1219 mm) in deep areas.
2. Permanent depth markings followed by the appropriate full or abbreviated words "FEET," "FT," or "INCHES," "IN," shall be installed in minimum 4-inch-high (102 mm) numbers and letters on a contrasting background. Depth markers shall indicate the actual pool depth, within 3 inches (76 mm), at normal operating water level when measured 3 feet (914 mm) from the pool wall. Symmetrical pool designs with the deep point at the center may be allowed provided a dual marking system is used which indicates the depth at the wall and at the deep point.
3. At a minimum, the markings shall be located on both sides of the pool at the shallow end, slope break, deep end wall and deep point (if located more than five feet from the deep end wall). Depth markings shall be legible from inside the pool and also from the pool deck. The maximum perimeter distance between depth markings is 25 feet (7620 mm). Pool size and geometry may necessitate additional depth marking placements about all sides of the pool to meet this requirement.
4. When a curb is provided, the depth markings shall be installed on the inside and outside or top of the pool curb. When a pool curb is not provided, the depth markings shall be located on the inside vertical wall at or above the water level and on the edge of the deck within 2 feet (610 mm) of the pool water. When open type gutter designs are utilized, depth markers shall be located on the back of the gutter wall. When a coping stone with curved or angled underside is provided, the depth markings may be installed on the curved or angled coping underside, and outside or top of the pool curb.

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*Description: A March 2017 glitch item to provide the accurate metric conversion.*

**454.1.2.3.3 Lane markings.** Pools that are not intended to be utilized for officially sanctioned competition may install lap lane markings provided they meet the following criteria: the markings must be 2 to 6 inches (51 to 152 mm) wide, they must terminate 5 feet (1524 mm) from the end wall in a "T" with the "T" bar at least 18 inches (~~4524~~ 457.2 mm) long, they must be placed at 7-foot (2134 mm) intervals on center and be no closer than 4 feet (1219 mm) from any side wall, steps or other obstructions. Floating rope lines associated with lap lanes must not obstruct the entrance or exit from the pool and are prohibited when the pool is open for general use.

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*Description: Part of FBC Mod #6584: creates provisions for allowable underwater sunshelves*

**454.1.2.3.5 Rules and regulations signage.** Rules and regulations for bathers shall be installed in minimum 1 inch letters which must be legible from the pool deck, and shall contain the following:

1. No food or beverages in pool or on pool wet deck.
  2. No glass or animals in the fenced pool area (or 50 feet from unfenced pool).
  3. Bathing load: \_\_\_ persons.
  4. Pool hours: \_\_ a.m. to \_\_ p.m.
  5. Shower before entering.
  6. Pools of 200 square feet in area or greater without an approved diving well configuration shall have “NO DIVING”, in four inch letters included with the above listed pool rules.
  7. Do not swallow the pool water. This statement shall be added to signs at pools that conduct ~~modifications~~ alterations as that term is defined.
  8. If the pool includes a sun shelf, “WARNING: DROP OFF AT SUN SHELF EDGE IS \_x\_ FEET DEEP” in 4-inch (102 mm) letters.
  9. If the pool includes a sun shelf, “DO NOT PLACE FURNITURE IN POOL.”
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*Description: FBC Mod #7073: creates a quantifiable standard for allowable pool surface colors & FBC Mod #6511: corrects existing surface color language*

**454.1.2.4 Color.** Pool floors and walls shall be white or light pastel in color and shall have the characteristic of reflecting rather than absorbing light. The interior finish coating floors and walls shall be comprised of a non-pigmented white cementitious binder component together with a sand/aggregate component. The finish coating shall have a dry Lightness level (CIE L value) of 80.0 or greater and a wet Luminous Reflectance Value (CIE Y value) of 50.0 or greater, as determined by test results provided by the manufacturer, utilizing testing methodology from American Standard ASTM D 4086, ASTM E 1477, ASTM E 1347. Pools constructed of fiberglass, thermoplastic, or stainless steel shall be subject to the same interior finish color requirements. A minimum 4 inch tile line, each tile a minimum size of one inch on all sides, shall be installed at the water line, but shall not exceed 12 inches in height if a dark color is used. Gutter type pools may substitute 2-inch tile, each a minimum size of one inch on all sides, along the pool wall edge of the gutter lip.

**Exception:** A dark color may be used if (1) a tile line [minimum 4 inches (102 mm), maximum 12 inches (305 mm)] is installed at the water line or (2) if 2 inch (51 mm) tile is installed along the pool wall edge of the gutter lip for gutter type pools.

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*Description: Remaining provisions of FBC Mod #6584, including glitch fixes from April 2017: creates provisions for allowable underwater sunshelves*

**454.1.2.5.3 Stairs.** Stairs shall have a minimum tread width of 10 inches (254 mm) and a maximum width of 48 inches (1219 mm) for a minimum tread length of 24 inches (610 mm) and a maximum riser height of 10 inches (254 mm). Treads and risers between the top and bottom treads shall be uniform to within 1/2 inch (12.7 mm) in width and height. The riser heights shall be measured at the marked step edges and the differences in elevation shall be considered the riser heights. The front 3/4 to 2 inches (19.1 to 51 mm) of the tread and the top 2 inches (51 mm) of the riser shall be tile, dark in color, contrasting with the interior of the pool. Tile shall be slip resistant. Bullnose tile that is slip resistant may be used when the 3/4 inch (19 mm) segment is placed on the tread or horizontal surface and the 2-inch (51 mm) segment is placed on the riser or vertical surface. Where the gutter is used as the top step, the tile on the gutter for the width of the steps shall be slip resistant. Vinyl liner and fiberglass pools may use other material for the step edge marking, provided the material is permanent, permanently secured, dark in color, nonfading and slip resistant.

Exception: Where a gutter is used as top step, the gutter's 2" slope from lip to the drain shall be continuous for the full length of the stairs, and the riser from the gutter to the next tread need not be uniform with the remaining risers and treads.

#### **454.1.2.5.5 Handrails and grabrails.**

Handrails shall be provided for all stairs, shall be anchored in the bottom step and the deck. Where "figure 4" deck-mounted-type handrails are used, they shall be anchored in the deck and extend laterally to any point vertically above the bottom step. Grabrails must be mounted in the pool deck at each side of recessed steps. Handrails and grabrails shall extend between 28 and 40 inches (711 mm and 1016 mm) above the step edge and deck. Where stairs are used as an access point between a sun shelf and pool area, a handrail shall be provided. The hand rail shall be anchored into the bottom step and the sun shelf floor.

#### **454.1.2.6 Obstructions.**

The pool water area shall be unobstructed by any type structure unless justified by engineering design as a part of the recirculation system. Engineering design and material specifications shall show that such structures will not endanger the pool patron, can be maintained in a sanitary condition and will not create a problem for sanitary maintenance of any part of the pool, pool water, or pool facilities. Structures in accord with the above shall not be located in a diving bowl area or within 15 feet (4572 mm) of any pool wall.

#### **Exceptions:**

1. Stairs, ladders and ramps, necessary for entrance/exit from the pool are not considered obstructions.
2. Underwater seat benches may be installed in areas less than 5 feet (1524 mm) deep. Bench seats must be 14

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to 18 inches (356 to 457 mm) wide and must have a dark contrasting tile marking on the seat edge extending two inches (51 mm) on the horizontal and vertical surface. Tile shall be slip resistant. Bullnose tile may be substituted and installed in accordance with Section 454.1.2.5.3. Vinyl liner, stainless steel and fiberglass pools may use other material for the bench edge marking as detailed in Section 454.1.2.3.1, Item 7, provided the material is permanently secured, dark in color, nonfading and slip resistant. Benches shall not protrude into the 15-foot (4572 mm) clearance requirement of Section 454.1.2.6. The bench shall not protrude into the diving bowl.

3. A sun shelf may be installed in pool areas with no more than 4 feet (1219 mm) of water depth, or less. A sun shelf must have a dark contrasting slip resistant tile marking at the edge of the shelf and the pool wall extending 4 inches (102 mm) from the horizontal shelf edge surface. Additionally, a 2 inch (51 mm) contrasting tile line is required on the vertical pool wall at the edge of the shelf. Vinyl liner, stainless steel and fiberglass pools may use other material for the sun shelf edge marking as detailed in Section 454.1.2.3.1, Item 7, provided the material is permanently secured, dark in color, nonfading and slip resistant. When the edge of a sun shelf uses stairs as a transition, the sun shelf edge tile markings shall comply with step edge requirements as provided in Section 454.1.2.5.3. A sun shelf shall not protrude into the 15-foot (4572 mm) clearance requirement of Section 454.1.2.6. A sun shelf shall not protrude into the diving bowl. A sun shelf must additionally comply with 454.1.2.8.

## **454.1.2.8 Sun shelves**

### **454.1.2.8.1 Sun shelf Dimensional Requirements**

Sun shelf areas must be a minimum of 20 inches (508 mm) wide and provide a minimum of 10 square feet (0.93 square meters) of horizontal surface adjoining on the edge of the pool over a distance of not less than 3 feet (914 mm). The sun shelf floor shall be horizontal or shall have uniform slope from a zero depth entry, and its maximum depth shall be between 8 inches (203 mm) to 12 inches (254 mm) below the water surface.

### **454.1.2.8.2 Depth Markers at sun shelves**

Where a sun shelf is installed, wet deck-located depth and no-diving markers shall be placed every 20 feet (6096 mm) or less. If the vertical distance between the coping or wet deck and the shelf floor adjacent to the wall is 12 inches (305 mm) or less, these markers shall indicate the water depth of the sun shelf. For open-type gutter pools, the vertical distance shall be measured from the gutter lip to the shelf floor. Where vertical distance between the coping or wet deck and the shelf floor adjacent to the wall is more than 12 inches (305 mm), “No-Entry” markers as described in Section 454.1.9.6.4 shall be provided in the deck. When the sun shelf does not use stairs as a transition, depth markers of the adjacent pool depth at the sun shelf edge, and no-dive markers shall be placed on the sun shelf floor, every 10 feet (3048 mm) or less, along a line no more than 1 foot (305 mm) back from the edge of the sun shelf above the deeper pool. All markers shall comply with Items 2, 6, and 7 of Section 454.1.2.3.1., except the distance between them as described in this section shall be followed.

### **454.1.2.8.3 Access to sun shelf**

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For the purposes of Section 454.1.2.5, a sun shelf area shall be considered an entrance to or exit from the pool. If the vertical distance between the coping and the shelf floor adjacent to the wall is more than 10 in (254 mm), stairs up to the deck or coping shall be provided which shall comply with Sections 454.1.2.5.3 and 454.1.2.5.5, or a zero depth entry area, complying with Section 454.1.9.6, may be provided instead of stairs. For open gutter pools, where the gutter is used as a step, additional steps shall not be required where the distance from the gutter lip to the shelf floor is 10 inches or less. At least one handrail that is compliant with Section 454.1.2.5.5 must be provided at the sun shelf.

## **454.1.2.8.4 Sun Shelf Turnover Rate**

Additional inlets shall be provided in the sun shelf area. The numbers and location shall be such as to ensure the volume of water in the shelf is filtered and chemically treated once every 60 minutes (1 hour) or less.

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*Description: FBC Mod # 7016: increases allowable amount of perimeter obstruction*

**454.1.3.1.6** Twenty percent of the deck along the pool perimeter may be obstructed as long as any one obstruction does not exceed 10 percent of the pool perimeter or ten feet (3048 mm), or 20 feet (6096 mm), whichever is less, in any one area where water depth is 5 feet or less. Obstructions shall have a wet deck area behind or through them, with the near edge of the walk within 15 feet (4572 mm) of the water except approved slide obstructions shall have the near edge of the walk within 35 feet (10 668 mm) of the water. These obstructions must be protected by a barrier or must be designed to discourage patron access. Obstructions shall not include pool exit points. When an obstruction exists in multiple areas around the pool, the minimum distance between obstructions shall be 4 feet (1219 mm).

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*Description: addressed in March glitch; removed modification and department terms no longer applicable.*

**454.1.3.3.6** Floating and climb-on devices, objects or toys that are not a part of the approved pool design shall not be tethered in the pool or installed without an engineering modification alterations application and department's approval.

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*Description: FBC Mod #6531: provides verbiage consistent with the National Electrical Code, noting GFCI requirement if certain voltages are used.*

**454.1.4.1 Electrical equipment and wiring.** Electrical equipment wiring and installation, including the bonding and grounding of pool components shall conform comply with Chapter 27 of the Florida Building Code, Building. Outlets supplying pool pump motors connected to single-phase 120-volt through 240-volt branch circuits, whether by receptacle or by direct connection, and outlets supplying other electrical equipment

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and underwater luminaires operating at voltages greater than the Low Voltage Contact Limit, connected to single-phase, 120 volt through 240 volt branch circuits, rated 15 or 20 amperes, whether by receptacle or by direct connection, shall be provided with ground-fault circuit interrupter protection for personnel.

*Description: FBC Mod #6452: provides for consistency with the NEC, allowing both low and high voltage lighting.*

**454.1.4.2.3 Underwater lighting.** Underwater luminaires shall comply with Chapter 27 of the Florida Building Code, Building. Underwater lighting shall utilize transformers and low-voltage circuits with each underwater light being grounded. The maximum voltage for each light shall be 15 volts and the maximum incandescent lamp size shall be 300 watts. The location of the underwater lights luminaires shall be such that the underwater illumination is as uniform as possible. and shall not be less than 18 inches (457 mm) below the normal operating water level determined by the center line of the skimmer or top lip of the gutter. All underwater lights which depend upon submersion for safe operation shall have protection from overheating when not submerged. Underwater lighting requirements can be waived when the overhead lighting provides at least 15 footcandles (150 lux) of illumination at the pool water surface and pool wet deck surface. Alternative lighting systems which use 15 volts or less, or use no electricity in the pool or on the pool deck, such as LED (light emitting diode) fiber-optic systems, may be utilized if the manufactures specifications provide for the equivalency in watt output.

*Description: FBC Mod #6512: additional requirements for slip-resistant tiles*

**454.1.6.5.3.1.3** The gutter lip shall be tiled with a minimum of 2-inch (51 mm) tile on the pool wall, each a minimum size of 1 inch (25 mm) on all sides. The back vertical wall of the gutter shall be tiled with glazed tile. All tile used on the flat, horizontal part, or the leading edge of an open-type gutter, must be slip-resistant.

Exception: Stainless steel gutter systems when it can be shown that the surfaces at the waterline and back of the gutter are easily cleanable.

*Description: FBC Mod #7014: defines locations requiring validation*

**454.1.6.5.16.6** Ultraviolet (UV) light disinfectant equipment may be used as supplemental water treatment on public pools and additional treatment on interactive water features (IWFs)] subject to the conditions of this paragraph and manufacturer's specifications. UV is encouraged to be used to eliminate or reduce chlorine-resistant pathogens, especially the protozoan cryptosporidium.

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1. UV equipment and electrical components and wiring shall comply with the requirements of the National Electrical Code and the manufacturer shall provide a certification of conformance to the jurisdictional building department.
2. UV equipment shall meet UL standards and shall be electrically interlocked with recirculation pump(s) on all pools and with feature pumps(s) on an IWF such that when the UV equipment fails to produce the required dosage as measured by an automated sensor, the feature pump(s) are disabled so the water features do not operate.
3. UV equipment used in higher risk facilities such interactive water features, wading pools, and activity pools shall be validated by a capable party that it delivers the required and predicted UV dose at the validated flow, lamp power and water UV transmittance conditions, and has complied with all professional practices summarized in the USEPA Ultraviolet Disinfectant Guidance Manual dated November 2006, which is publication number EPA 815-R-06-007 available from the department at <http://www.floridashealth.org/Environment/water/swim/index.html> or at [http://www.epa.gov/safewater/disinfection/t2/pdfs/guideit2\\_uvguidance.pdf](http://www.epa.gov/safewater/disinfection/t2/pdfs/guideit2_uvguidance.pdf).  
Exception: Not applicable when Section 454.1.9.8.6.1 alternative is used.
4. UV equipment shall constantly produce a validated dosage of at least 40 mJ/cm<sup>2</sup> (millijoules per square centimeter) at the end of lamp life.
5. The UV equipment shall not be located in a side stream flow and shall be located to treat all water returning to the pool or water features.

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***Description: FBC Mod #7072: Fixed a glitch where ‘inches’ should have been ‘feet’.***

**454.1.9.6.3** The pool deck may slope toward the pool for no more than 7 feet (2133 mm), as measured from the overflow system grate outward. Beyond this area the deck shall slope away from the pool in accordance with Section 454.1.2.2.3.

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***Description: FBC Mod #7074: allows for UV systems to be installed on the filter return lines as an alternate to the feature return line placement***

**454.1.9.8.6.1** All (100%) of the water from the collector tank must be first filtered, treated with disinfectant and pH adjustment chemicals, and then final treatment provided by an NSF Standard 50 certified UV disinfection unit with a minimum 40 mJ/cm<sup>2</sup> dose before any of this treated water is piped to the water features. The filter system shall filter and chemically treat all water that is returned to the spray features. The filter system shall



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~~draft from the collector tank and return filtered water directly to the spray features. Excess water not required by the spray features shall be returned to the collector tank.~~

454.1.9.8.6.2 ~~In the design above and the alternative below: excess water not required by the water features shall be returned to the collector tank; the recirculation system shall be sized to treat the contained volume of water based upon a 30 minute turnover with a chlorine feeder/generator capable of producing a dosage of at least 12ppm; and the UV disinfection equipment shall be electrically interconnected such that whenever it fails to produce the required UV dosage, the water spray features pump(s) and flow will be immediately stopped. The water feature pump shall draft from the collector tank.~~

454.1.9.8.6.3 ~~In lieu of Section 454.1.9.8.6.1, the recirculation system must be designed to continuously return 100% of the water to the collector tank after all (100%) of the water is first filtered, treated with disinfectant and pH adjustment chemicals, and the final treatment provided by a validated UV disinfectant unit described in Section 454.1.6.5.16.6 before any of this treated water is piped to the water features. Alternatively, the contained volume of the system may be filtered and chemically treated based upon a 30-minute turnover of the contained volume with 100 percent returned to the collector tank by manifold piping. If this alternative is chosen, all water returned to the spray feature(s) must also be treated with an Ultraviolet (UV) light disinfection equipment to accomplish protozoan destruction in accordance with sound engineering and the requirements of Section 454.1.6.5.16.6. This alternative must have the ability to feed 6 mg/L free chlorine to the feature water as it is returned to the spray feature. The UV disinfection equipment shall be electrically interconnected such that whenever it fails to produce the required UV dosage, the water spray features pump(s) and flow will be immediately stopped.~~

454.1.9.8.6.4 ~~The flow rate through the feature nozzles of the water features shall be such as not to harm the patrons and shall not exceed 20 feet per second (6096 mm/s) unless justified by the design engineer and by the fountain system manufacturer.~~

454.1.9.8.6.5 ~~An automatic water level controller shall be provided.~~

454.1.9.8.6.6 ~~An overflow waste line with air gap shall be provided.~~

454.1.9.8.6.7 ~~A means of vacuuming and completely draining the tank(s) shall be provided.~~

454.1.9.8.6.8 ~~Reserved. Where the filter system described in Section 454.1.9.8.6.1 is utilized, a second filter system and disinfection system shall be provided to treat the water in the collector tank when the feature/filter pump is not in operation. Said system shall be capable of filtering the total volume of water in the collector tank in 30 minutes and the disinfection system shall be capable of providing 12 mg/L of disinfectant to this flow rate.~~

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*Description: FBC Mod #7070: reinstates resurfacing requirements, removes modification term, and corrects a reference to FDOH 64E-9 rules (and incorporates April 2017 glitch fixes to clarify what is considered a repair or alteration).*

**454.1.10.1 Modifications.** Repairs or Alterations of Pool Structure and Equipment. ~~Modifications include nonequivalent changes or additions to the recirculation system, treatment equipment, physical structure or appurtenances. Replacement of the pool or spa shell is considered to be construction of a new facility and shall be processed as such. The installation of new decking is not considered a modification if it is installed in conformance with Section 454.1.3.1, and deck markings are upgraded in accordance with Section 454.1.2.3. Resurfacing the pool interior to original nontoxic, slip-resistant and smooth specifications or equivalent replacement of equipment are not is considered modifications a repair or alteration. Equivalent replacement of equipment is not considered a repair or alteration. However, †~~The following items shall be addressed during resurfacing projects:

**454.1.10.1.1** The lip of the gutter must be leveled to within 1/4 inch (6.4 mm) between the highest and lowest point and the downward slope from the lip to the drain must be maintained as originally designed or increased, but shall not exceed new construction standards.

**454.1.10.1.2** Tile step markings must be installed meeting the requirements of Section 454.1.2.5.3.

**454.1.10.1.3** Where applicable the slope break marking must be installed meeting the requirements of Section 454.1.2.2.3.2 and safety line must be installed 2 feet (610 mm) before the marking.

**454.1.10.1.4** Depth markers and NO DIVING markers must be installed in accordance with Section 454.1.2.3.

**454.1.10.1.5** The pool ladder must have a 3 to 6 inch (76 to 152 mm) clearance from the pool wall. New cross-braced ladder(s) shall be installed in place of non cross-braced ladder(s) in conformance with Section 454.1.2.5.1 during a pool resurfacing.

**454.1.10.1.6** Should resurfacing works affect the step riser heights, no riser shall exceed 10 inches (254 mm) for pools and 12 inches (305 mm) for spas, and the intermediate risers shall be made uniform.

**454.1.10.1.7** Step treads that protrude from the pool wall shall be removed and replaced with a cross-braced ladder or reconstructed to meet the requirements of Sections 454.1.2.5.1 or 454.1.2.5.2.

**454.1.10.2** The painting of pools shall not be considered a ~~modification~~ repair or alteration provided the following conditions are met:

1. Only paints designated by the manufacturer as pool paints are used.

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2. All step stripes, slope break markers and safety line, and depth and NO DIVING markings shall be provided to comply with the applicable provision(s) this section.

**454.1.10.3** The installation of copper or copper/silver ionization units and ozone generators capable of producing less than a pool water ozone contact concentration of 0.1 milligrams per liter (mg/L) shall not be considered a pool ~~modification~~ repair or alteration provided compliance when the following is met:

1. The ionization or ozone generator unit complies with paragraph 64E-9.007(16)~~(16)~~8(10)(e), *Florida Administrative Code*.
2. The manufacturer provides one set of signed and sealed engineering drawings indicating the following:
  - a. The unit does not interfere with the design flow rate.
  - b. The unit and the typical installation meet the requirements of the *National Electrical Code*.
  - c. A copper test kit and information regarding the maximum allowed copper and silver level and the minimum required chlorine level shall be available to the pool owner.
  - d. The unit shall meet the requirements of NSF/ANSI Standard 50.
3. At least 7 days before the time of installation, the installer will provide a photocopy of the above drawings and a letter of intent identifying the pool on which the unit is to be installed.
4. Upon completion of the installation, a professional engineer or electrician licensed in the state of Florida shall provide a letter to the county health department, indicating the unit was properly installed in accordance with the typical drawings, the *National Electrical Code* and local codes.

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**Description: FBC Mod #6496: provides for electrical requirements when repairing or altering existing public pools.**

## **454.1.10.4 Electrical**

**454.1.10.4.1 Ground-Fault Circuit-Interrupter Protection for Personnel.** Outlets supplying repaired, replaced, altered, or relocated pool pump motors connected to single-phase, 120-volt through 240-volt branch circuits, whether by receptacle or by direct connection, and outlets supplying all other repaired, replaced, altered, or relocated electrical equipment and underwater luminaires operating at voltages greater than the low voltage contact limit, connected to single-phase, 120-volt through 240-volt branch circuits, rated 15- and 20-

# 2017 Florida Building Code 6<sup>th</sup> Edition, Public Swimming Pool Changes, FBC Section 454.1, Effective January 1, 2018

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Florida Department of Health (DOH), and Building Officials Association of Florida (BOAF)

amperes, whether by receptacle or by direct connection, shall be provided with ground-fault circuit interrupter protection for personnel.

**454.1.10.4.1 Equipotential Bonding.** Any of the parts specified in Sections 680.26(B)(1) through (B)(7) of the NFPA 70, National Electrical Code that are repaired, replaced, altered, or installed new at an existing swimming pool shall be connected to the existing bonding system using solid copper conductors, insulated, covered, or bare, not smaller than 8 AWG or with rigid metal conduit of brass or other identified corrosion-resistant metal. Connections to bonded parts shall be made in accordance with Section 250.8 of NFPA 70, National Electrical Code. An 8 AWG or larger solid copper bonding conductor provided to reduce voltage gradients in the pool area shall not be required to be extended or attached to remote panelboards, service equipment, or electrodes. All metallic float-in light rings shall be connected to the equipotential bonding grid. Float-in light rings with no provision for bonding, and other devices which do not provide an electrical connection between a metallic underwater luminaire and the forming shell of a wet niche fixture, including screws or bolts not supplied by the luminaire's manufacturer and listed for use with the specific luminaire, shall not be allowed for use with any underwater luminaire that is required to be grounded. Where none of the bonded parts is in direct connection with the pool water, the pool water shall be in direct contact with an approved corrosion-resistant conductive surface that exposes not less than 5800 mm<sup>2</sup> (9 in.<sup>2</sup>) of surface area to the pool water at all times. The conductive surface shall be located where it is not exposed to physical damage

or dislodgement during usual pool activities, and it shall be bonded in accordance with Section 680.26(B) of the NFPA 70, National Electrical Code. A bonded concrete pool shell shall be considered to be a conductive surface. The interior metallic surface or surfaces of any forming shell (wet niche) shall not be covered with any material, including plaster, except potting compound covering internal bonding connections in conformance with Section 680.23(B)(2)(b) of NFPA 70, National Electrical Code, shall be allowed.