TAC: Swimming Pool

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850-487-1824

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

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SW11876

Date Submitted	01/31/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

No bathing load calculation for slides and IWFs.

Rationale

1. The code should be clarified that the calculated bathing load is a maximum, so we can infer that the owner or operator is allowed to post a lower load. 2. Interactive water features do not need a maximum bathing load because they do not have standing water and all the feature water has just been UV treated. 3. With slides, the bathers are the number of people using the slide at one time, which is dictated by the manufacturer's safety plan, and will be enforced by staff, not by a bathing load on a rules sign. 4. With slides and IWFs removed from the list of things that need a bathing load calculation, it was important to get more specific so it is clear that river rides and wave pools still should have bathing loads.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
Reduces cost substantially for IWF operators who attempted to enforce a limit on bather load
Impact to industry relative to the cost of compliance with code
No cost.
Impact to small business relative to the cost of compliance with code
No cost.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Interactive water features do not need a maximum bathing load because they do not have standing water and all the feature water has just been UV treated.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

A small runout system that has a tank holding 5000 gallons and a code-compliant turnover rate of 100 gpm would be allowed to have 20 people on it. There is no slide on the market that can safely have 20 people on it at once.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination

Does not degrade the effectiveness of the code

The code becomes more effective because it will only give a bathing load where it makes sense.

SW11876Text Modification

454.1.1.2 Bathing Load The maximum bathing load for conventional swimming pools, wading pools, ~~interactive water features,~~ water activity pools, wave pools, river rides, and special purpose pools shall be computed ~~either~~ on the basis of one person per 5 gpm (0.32 L/s) of recirculation flow.The maximum bathing load for spa type pools shall be based on one person per each 10 square feet (0.93 m^2) of surface area. A bathing load is not calculated for plunge pools, slides with run out lanes, or interactive water features.

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SW11877

Date Submitted	01/31/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Bring in NSF 50 requirements for safety flooring systems, allow colored floors and walls in additional shallow areas.

Rationale

A LifeFloor or similar installation meeting NSF standards should not require a variance. • The NSF 50 requirements for safety surfacing are: UV Stability, Resistance to Pool Water, Cleanability (including at seams), Imperviousness, Slip resistance, and impact attenuation. • This change would still require any part of any pool that is more than 24” deep to have white or pastel finishes, and the padding would have to be white or pastel also. The one exception would be slide landing areas, to accommodate the darker blue pads that are commonly installed in these areas.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None

Impact to building and property owners relative to cost of compliance with code
Fewer variances will be needed

Impact to industry relative to the cost of compliance with code
No cost, the compliant system is already widely adopted.

Impact to small business relative to the cost of compliance with code
Other small businesses should be able to produce products that also pass these NSF tests, and there is still a path to compliance without testing, if the padding is removable.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, the safety surfacing standards prevent slip and fall injuries as well as biofilm while ensuring durability.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, brings in relevant scientific standards.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination

Does not degrade the effectiveness of the code

The code becomes more effective because it brings in scientific standards more thoroughly.

SW11877Text Modification

454.1.2.4 Color. … Floors and walls in slide landing areas, ~~and~~ or in pool areas with a ~~maximum~~ depth of 24 inches (610 mm) or less, are exempt from this color requirement.

…

454.1.3.3.7 To reduce the possibility of injury, removable padding may be installed over the walls and floors of the pool ~~in areas where impacts are likely,~~ so long as the surface of the padding is impervious, non-toxic, smooth, and slip resistant. A safety flooring system that has beencertified by a third party as passing all acceptance criteria listed in Chapter 26 of the NSF Standard 50-2023 shall be acceptable for placement above or below the waterline in any depth of water.Such padding shall be installed and maintained according to the manufacturer's specifications. The color of the padding shall satisfy 454.1.2.4, if applicable.

The surface underneath the padding must be structurally rigid, impervious, non-toxic, smooth, and slip resistant. ~~The padding may be white or a contrasting color.~~

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SW11878

Date Submitted	01/31/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

The arbitrary 3 ft/sec speed limit on gravity pipe velocity is replaced with more scientifically based limitations.

Rationale

• Flow up to 6 ft/s in a main drain pipe mainly increases the drawdown in the collector tank. This should be allowed so long as there are multiple drains that each flow at 3 ft/s and the drawdown is quantified. Engineers that are not comfortable making these drawdown calculations will still be able to make designs complying with the old code. • Flow at 3 ft/s is too fast for smaller gutter piping, considering that these pipes are partially full. They need to have at least 15% of their area as air for stable flow. Yet at larger pipe sizes, much more than 3ft/s can be conveyed. Other parts of the code already incorporate this science and can be brought in here. • The table for storm drain piping in the plumbing code is based on the smoothest, schedule 40 pipes on the market. The real world of swimming pools may have rougher, schedule 80 pipes. For this reason, the ISPSC already asks for a 125% factor to be applied to pool gutter pipe design.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
Reduced cost because generally, smaller pipe sizes and fewer pipes will be permitted
Impact to industry relative to the cost of compliance with code
No cost, no new types of pipes are needed.
Impact to small business relative to the cost of compliance with code
No impact.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

These requirements are meant to ensure that the water will flow out of the pool at the intended flow rate and from the intended locations. Now the requirements become more scientific.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, this borrows a requirement from another part of the code, making the code as a whole more rational.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination

Does not degrade the effectiveness of the code

The code becomes more effective because it brings in specific calculations and existing empirically tested standards more thoroughly.

1st Comment Period History

SW11878-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:11:44 AM Attachments No

Comment:

The Florida Swimming Pool Associations Opposes this modification.

SW11878Text Modification

454.1.6.5.8 Flow velocity.

454.1.6.5.8.1 Pressure and Suction Piping Pressure piping shall not exceed 10-feet per second (2038 mm/s), except that precoat lines with higher velocities may be used when necessary for agitation purposes. The flow velocity in suction piping shall not exceed 6-feet per second (1829 mm/s) except that flow velocities up to 10-feet per second (3048 mm/s) in filter assembly headers will be acceptable.

454.1.6.5.8.2 Main Drain Piping All main drain piping shall discharge to a collector tank or tanks. The flow velocity in main drain piping shall not exceed 3 feet per second (914 mm/s)

Exception: In Main Drain piping, velocities up to 6 feet per second (1,828 mm/s) are acceptable where all of the following conditions are met:

1. There are multiple drain sumps or fittings that are separated by at least 3 feet (914 mm).
2. The flow in the pipe would remain 6 feet per second (1,828 mm/s) or slower when one of the drain sumps or fittings were blocked
3. The design engineer performs a calculation of the reduction in water level in the collector tank resulting from the friction and/or dynamic pressure lossin the Main Drain Piping, and states that the pump or pumps will function correctly at this flow rate and water level.

454.1.6.5.8.3 Perimeter Overflow Gutter Piping All perimeter overflow gutter piping shall discharge to a collector tank or tanks. The gutter pipes shall be designed for 125% of the minimum turnover rate, using maximum flow rates found on Table 1106.2 in the *Florida Building Code, Plumbing*. The design drawings shall state the minimum pipe slope. ~~Main drain systems and surface overflow systems which discharge to collector tanks shall be sized with a maximum flow velocity of 3-feet per second (914 mm/s).~~

454.1.6.5.8.4 Other Required Piping The filter and vacuuming system shall have the necessary valves and piping to allow filtering to pool, vacuuming to waste, vacuuming to filter, complete drainage of the filter tank, backwashing for sand and pressure D.E.type filters and precoat recirculation for D.E.-type filters.

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SW11878Rationale

Flow rates in Swimming Pool Gutter pipes compared to Flow rates in Roof Drains

Table IPC 1106.2 compared to FBC 454 requirements:

PIPE SIZE (inches)	CAPACITY (gpm)					
	VERTICAL DRAIN	SLOPE OF HORIZONTAL DRAIN				
		1/16 inch per foot	1/8 inch per foot	1/4 inch per foot	1/2 inch per foot	Current FBC 454
2	34	15	22	31	44	31
2.5						45
3	87	39	55	79	111	69
4	180	81	115	163	231	119
5	311	117	165	234	331	187
6	538	243	344	487	689	270
8	1,117	505	714	1,010	1,429	468
10	2,050	927	1,311	1,855	2,623	737
12	3,272	1,480	2,093	2,960	4,187	1,047

MARTIN AQUATIC

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Mod_11878_Rationale_gutter pipes FBC and IPC.pdf

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SW11879

Date Submitted	01/31/2025	**Section**	454.1.6.5.15	**Proponent**	Samuel Liberatore
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Elimination of pool waste water to sanitary sewers.

Rationale

Discharge to sanitary should not be allowed and discouraged. Sanitary sewers are not designed to incorporate high flow rates and velocities created from pool backwash. They are designed on a different basis. Sanitary sewer pipes are sized smaller than storm pipes, and are not designed or sized for pool discharge. Pool discharge should be treated as runoff and sent to storm water retention areas and have the pool water naturally drain into the environment. This was common industry practice for years. Local building officials have been mandating Engineers to design pools to discharge wastewater into undersized sanitary sewers rather than the storm. Discharge into the sanitary sewer has always been frowned upon, because it can cause backups in the sanitary sewer. It can push sanitary sewage back into residences, pool area and affect treatment in sewage facilities causing health and safety issues. Discharging to storm retention areas is the logical and safest place to direct pool wastewater.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Discharge of pool water to the sanitary sewer can cause backups in the sanitary sewer, and push sanitary sewage back into residences, pool areas causing health and safety issues. Discharging to storm retention areas is the logical and safest place to direct pool wastewater.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Sanitary sewers were design based on the fixture count per unit and designed as such. Pool discharge is not accounted for as bases for the sanitary sewer design. This would allow the sanitary sewer to work as designed and strengthen and improve the system.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not degrade the effectiveness of the code

This does not degrade the effectiveness of the code.

1st Comment Period History

FSW11879-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:09:56 AM Attachments No

Comment:

The Florida Swimming Pool Associations Opposes this modification. Waste water disposal procedures are under the jurisdiction of Counties, Cities, and local water districts based on local needs. The FBC specifying procedures would cause with local ordinances.

SW11879Text Modification

454.1.6.5.15 Pool waste water disposal.

Pool waste water shall be discharged through an air gap; disposal shall be with flex hose or pipe to drain fields or storm retention areas. ~~to sanitary sewers, storm sewers, drainfields, or by other means, in accordance with local requirements including obtaining all necessary permits~~. Disposal of water from pools using D.E. powder shall be accomplished through separation tanks which are equipped with air bleed valves, bottom drain lines, and isolation valves, or through a settling tank with final disposal being acceptable to local authorities. D.E. separator tanks shall have a capacity as rated by the manufacturer, equal to the square footage of the filter system. All lines shall be sized to handle the expected flow. There shall not be a direct physical connection between any drain from a pool or recirculation system and a sewer line.

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Total Mods for report: 65

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SW11882

Date Submitted	01/31/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Clarify the lighting requirements and bring them more in line with the market and other codes.

Rationale

1. Footcandles are an imperial unit and lux are an SI unit. The conversion between footcandles and lux is not 1 to 10, it's 1 to 10.76, so all of the mentions of lux need to be corrected. 2. A footcandle is a lumen per square foot. The existing mentions of lumens per square foot should be changed to footcandles for consistency and clarity. 3. The mention of "incandescent equivalent" is not meaningful for lighting science because there are many types of incandescent lights that vary in the amount of lumens per watt they can produce. Therefore the mention of watts should be confined to when incandescent bulbs are being used, and the more scientifically repeatable unit of footcandles is applied to all other light types. 4. The required underwater light output in terms of lumens per square foot or footcandles should be reduced from 10 to 8. This matches the International Swimming Pool and Spa Code and is still conservative. On the market today, underwater pool lights that are claimed to be equivalent to 500W incandescent lights produce between 4000 and 5000 lumens. The conversion therefore is approximately 8 to 10 lumens per watt. Reducing the Florida requirement from 10 lumens per square foot to 8 lumens per square foot changes the code's underlying assumption from 20 lumens per watt to 16 lumens per watt, and both greatly exceed what the market is providing today.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
none
Impact to building and property owners relative to cost of compliance with code
small decrease, the number of lumens is reduced in some situations.
Impact to industry relative to the cost of compliance with code
none
Impact to small business relative to the cost of compliance with code

none, many small businesses are already offering underwater lights and they are already measuring their lumen output.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, good lighting is essential to pool safety at night.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, clarifies that LED and other light technologies will be judged by lumens only.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
no discrimination, no change to which lights are acceptable or not.

Does not degrade the effectiveness of the code
increases the effectiveness because it will have accurate information about how lighting works.

1st Comment Period History

W11882-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:12:51 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW11882Text Modification

454.1.4.2.1 Outdoor overhead pool lighting. Lighting shall provide a minimum of 3 footcandles (~~30~~ 32 lux) of illumination at the pool water surface and the pool wet deck surface. ~~Underwater lighting shall be a minimum of $^{1}/_{2}$ watt incandescent equivalent, or 10 lumens, per square foot of pool water surface area.~~

454.1.4.2.2 Indoor overhead pool lighting. Lighting shall provide a minimum of 10 footcandles (~~100~~ 108 lux) of illumination at the pool water surface and the pool wet deck surface. ~~Underwater lighting shall be a minimum of $^{8}/_{10}$ watt incandescent equivalent, or 15 lumens, per square foot of pool surface area.~~

454.1.4.2.3 Underwater lighting. Underwater lighting shall meet or exceed the value in the table below which corresponds to the pool's location and the type of light used:

Table 454.1.4.2.3

-	**Incandescent lights**	**LED and all other light types**
Outdoor pools	0.5 watts per square foot	8 footcandles
Indoor pools	0.75 watts per square foot	12 footcandles

Note: 1 footcandle = 1 lumen per square foot

Underwater luminaires shall comply with Chapter 27 of the *Florida Building Code, Building*. The location of the underwater luminaires shall be such that the underwater illumination is as uniform as possible. Underwater lighting requirements can be waived when the overhead lighting provides at least 15 footcandles (~~150~~ 161lux) of illumination at the pool water surface and pool wet deck surface. If signage clearly indicates that night swimming is prohibited, underwater lights supplying less than minimum illumination required for night swimming may be installed for safety and decorative purposes. Nothing in this section exempts swimming pools located in coastal areas, as specified in Section 3109 of this code, from compliance with all applicable local and state wildlife and environmental lighting requirements.

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TAC: Swimming Pool

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SW11883

Date Submitted	01/31/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Clarify the clearance requirements with regard to sloped entries.

Rationale

The 15' clearance rule is intended to prevent injuries when daredevils attempt jumps across the pool. They will not make such attempts at a disabled access entrance because it has handrails breaking the water surface.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
none
Impact to building and property owners relative to cost of compliance with code
none
Impact to industry relative to the cost of compliance with code
none
Impact to small business relative to the cost of compliance with code
none

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, these pools are already being built with a finger wall separating the sloped entry from the rest of the pool, the officials are choosing to interpret the accessibility code as over and above the pool code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
This removes ambiguity about which part of the code controls.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

no discrimination

Does not degrade the effectiveness of the code

increases the effectiveness because it will not have a contradiction.

1st Comment Period History

SW11883-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:14:01 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW11883Text Modification

454.1.2.2.2 Walls and corners. All pool walls shall have a clearance of 15 feet (4572 mm) perpendicular to the edge (as measured at design water level from gutter lip to gutter lip, or on skimmer pools, from vertical wall to vertical wall). Offset steps, spa pools and wading pools are exempt from this clearance requirement. Sloped entries that comply with section 1009.3 of the *Florida Building Code, Accessibility* are also exempt from this requirement. Where interior steps or a sun shelf protrude into the pool resulting in less than 15 feet (4572 mm) of clearance from any wall, the remaining width from the junction of the step or shelf riser and the floor to the opposite wall shall be 10 ft or more.

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TAC: Swimming Pool

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Total Mods for report: 65

Sub Code: Building

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SW11884

Date Submitted	01/31/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Ensure UV treatment for spray features in wading pools.

Rationale

Both wading pools and IWFs are intended for use by children who are under 5. The main difference between the two of them is one has standing water and one doesn't. This difference is not sufficient that spray features on one should be UV treated while spray features on the other are not. A spray feature often seems like a water fountain to a child under 5.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This adds another check that has to be made on feature water in wading pools, the official must determine if the feature water meets the spray feature criteria

Impact to building and property owners relative to cost of compliance with code

UV will have to be added to certain projects, a cost increase.

Impact to industry relative to the cost of compliance with code

none

Impact to small business relative to the cost of compliance with code

none.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes, this part of the code is all about preventing fecal-oral disease transmission.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, an owner hoping to have spray features may switch his design from an IWF with no standing water to a wading pool with a small amount of water in order to avoid specifying UV. This would stop that.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

no discrimination

Does not degrade the effectiveness of the code

increases the effectiveness

1st Comment Period History

W11884-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:15:30 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW11884Text Modification

454.1.7.10 Wading pool spray features -If the wading pool includes water features that emit pool water out of nozzles or openings that are above the pool water surface or outside of the pool walls, and not part of a swimming pool slide or recreational water slide, the water coming out of those features shall comply with 454.1.9.8.6.1 through 454.1.9.8.6.4, except the minimum turnover rate shall be 1 hour. A feature that only causes water to trickle down the pool wall shall not be subject to this requirement.

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SW11886

Date Submitted	01/31/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language Yes**

Related Modifications

Summary of Modification

Allow longer vanishing edge lengths subject to certain conditions.

Rationale

The 65' limitation was put in to harmonize with thee requirement to have a means of access every 75'. Instead of this, we suggest that a longer vanishing edge would be acceptable in a narrow pool, as a rescuer would be able to reach a bather in distress by entering the pool from the other side.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
none
Impact to building and property owners relative to cost of compliance with code
Allows owners to create iconic designs that are already installed at competing, leading tourist destinations
Impact to industry relative to the cost of compliance with code
None.
Impact to small business relative to the cost of compliance with code
None.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, this is about ensuring that a rescuer can easily get to a bather in distress in order to assist them.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, this proposal adds flexibility in consideration of real-world scenarios
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination.

Does not degrade the effectiveness of the code

No degradation, the exception introduced has specific conditions and limitations.

Alternate Language

1st Comment Period History

SW11886-A1

Proponent Dallas Thiesen **Submitted** 4/16/2025 9:21:40 AM **Attachments** No

Rationale:

This alternate language only modifies the maximum vertical distance from the top of the vanishing edge to the catch basin from 36 inches to 30 inches to conform fall protection standards.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

None

Impact to industry relative to the cost of compliance with code

None

Impact to small business relative to the cost of compliance with code

None.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Increases safety by lowering the total distance of a potential fall.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves safety.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not specify materials or products.

Does not degrade the effectiveness of the code

Improves the code.

SW11886-A1Text Modification

Text of Modification

454.1.9.10.4 The vanishing edge length shall not exceed ~~65 feet (19 812 mm) or~~ 40 percent of the pool perimeter~~, whichever is less~~. If the vanishing edge length is greater than 65 feet (19 812 mm), the pool width in that area shall be 30 feet (9 140 mm) or less, and the deck on the opposite side shall not be obstructed. The means of access required under 454.1.2.5 shall not be required along a vanishing edge, but shall be required along the remainder of the pool perimeter. The maximum vertical distance from the top of the vanishing edge wall to the trough or catch basin cover or adjacent grade shall be ~~36~~30 inches (~~914~~762 mm). The maximum water depth in the pool at the vanishing edge wall shall be 4 feet (1219 mm). The vanishing edge wall shall not be considered as a perimeter deck obstruction. Water line tile at the top of the edge wall as required by 454.1.2.1(a) is not required to be non-skid.

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SW11886Text Modification

454.1.9.10.4 The vanishing edge length shall not exceed ~~65 feet (19 812 mm) or~~ 40 percent of the pool perimeter~~, whichever is less~~. If the vanishing edge length is greater than 65 feet (19 812 mm), the pool width in that area shall be 30 feet (9 140 mm) or less, and the deck on the opposite side shall not be obstructed. The means of access required under 454.1.2.5 shall not be required along a vanishing edge, but shall be required along the remainder of the pool perimeter. The maximum vertical distance from the top of the vanishing edge wall to the trough or catch basin cover or adjacent grade shall be 36 inches (914 mm). The maximum water depth in the pool at the vanishing edge wall shall be 4 feet (1219 mm). The vanishing edge wall shall not be considered as a perimeter deck obstruction. Water line tile at the top of the edge wall as required by 454.1.2.1(a) is not required to be non-skid.

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TAC: Swimming Pool

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Sub Code: Building

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SW11887

Date Submitted	01/31/2025	**Section**	454.1	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Clarify and rationalize requirements for fences and barriers between Wading pools or IWFs and other features.

Rationale

These requirements are confusing and need clarification. The statements about "carefully considering" something that is not required do not belong in a code. If the requirements are the same between IWFs and wading pools, they should only be mentioned once. The "Water theme park" section states the general principle the best, that we want to keep areas for children at least 50' away from areas with water depth of 3' or more. The remaining changes are meant to apply this principle to all IWFs and all wading pools. The reference to 20' is based on an assumption that the second pool area might be a zero entry area, which will slope down from 0' depth at a 20' distance from the IWF or wading pool, to a 3' depth at a 50' distance, which is to say, it would have the code-maximum 1:10 slope.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies the code
Impact to building and property owners relative to cost of compliance with code
reduces fencing requirements, reduces cost.
Impact to industry relative to the cost of compliance with code
no impact
Impact to small business relative to the cost of compliance with code
no impact

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, this relates to parents being able to direct their children who can't swim to areas that don't have deep water and aren't close to deep water.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, the code will read more clearly this way.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination.

Does not degrade the effectiveness of the code

The code is still clear.

1st Comment Period History

W11887-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:23:09 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW11887Text Modification

454.1.7.6 ~~Reserved~~

~~454.1.7.7~~ Wading pool ~~decks~~barriers. ~~When within 50 feet of swimming pools, w~~Wading pools shall be separated from ~~the swimming pool~~ other public swimming pools by an effective barrier or a fence of a minimum of 48 inches (1219 mm) in height with ~~self-~~self-latching and self-closing gates when either of the following conditions is met:.

1. When there is less than 20 feet (6 096 mm) of walking distance between the wading pool and an adjacent public swimming pool, other than a wading pool or interactive water feature,
2. When there is a pool depth of 3 feet (914 mm) or more within a 50 feet (15 240 mm) walking distance from the wading pool.

454.1.7.6.1 If the walking distance between the wading pool and the adjacent public swimming poolis not a straight line, the barriers defining the walking distance shall be one of the following:

1. A building orequivalent structure
2. A 48-inch (1 219 mm) minimum height fence,
3. A barrier designed by a licensed landscape architect or architect for the purpose of preventing children from walking over or through it.

~~When adjacent to areas less than 1 foot (305 mm) deep of zero depth entry pools, the fence or effective barrier is required if the water edges are less than 40 feet (12 192 mm) apart. Where the walking distance is at least 50 feet (15 240 mm) between the wading pool and all other pools, fencing requirements should be carefully considered by the applicant to control usage, but are not required by rule. Effective barriers that are designed to define the walking path shall be subject to review and approval by the department.~~

454.1.7.7 Wading pool decks. Wading pools shall have a minimum 10 feet (3048 mm) wide deck around at least 50 percent of their perimeter with the remainder of the perimeter deck being at least 4 feet (1219 mm) wide. There shall be at least 10 feet (3048 mm) between adjacent swimming pools and wading pools.

…

454.1.9.8.6.9 The requirements for fences, barriers and gates at IWFs ~~shall be fenced in the same fashion~~ are the same as those for ~~as~~ wading pools, as noted in Section 454.1.7.~~7~~6. ~~Where the walking distance is at least 50 feet (15 240 mm) between the IWF and all other pools and the IWF is not designed to have any standing water, fencing requirements should be carefully considered by the applicant to control usage, but are not required by rule. Effective barriers that are designed to define the walking path shall be subject to review and approval by the department.~~

…

454.1.9.8.7.3 Water theme parks are exempt from the fencing requirements of Section 454.1.3.1.9, except that pools designed for small children shall be fenced when located within 50 feet (15 240 mm) walking distance of a pool area with water depths of 3 feet (914 mm) or more. ~~Where the walking distance is at least 50 feet (15 240 mm) between a pool designed for small children and all other pools, fencing requirements should be carefully considered by the applicant to control usage, but are not required by rule. Barriers that are designed to define the walking path shall be subject to review and approval by the department.~~ If the walking distance is not a straight line, the barriers defining the walking distance shall be as noted in section 454.1.7.6.1.

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Mod11887_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

10

SW11889

Date Submitted	01/31/2025	**Section**	454.1	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

SW11887

Summary of Modification

Allows fences between two bodies of water to be eliminated if a safety/lifeguard plan is submitted.

Rationale

The fence or barrier is meant to prevent a child who is enjoying the "safer" body of water from entering the "less safe" body of water without a parent or guardian realizing it. An attendant/lifeguard would perform the same function. The IWF or wading pool will not attract any children while they are not in operation.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
More safety/lifeguard plans may be submitted, taking more time to review.
Impact to building and property owners relative to cost of compliance with code
This gives the owner a new option that actually costs more money, but may increase guest enjoyment.
Impact to industry relative to the cost of compliance with code
No impact
Impact to small business relative to the cost of compliance with code
no impact

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, this is all about preventing drowning.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not. The safety/lifeguard plans are already required in other situations.

1st Comment Period History

SW11889-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:24:50 AM Attachments No

Comment:

The Florida Swimming Pool Association Opposes this modification. Life Guard and attendants are not replacement for an barrier.

1st Comment Period History

SW11889-G2

Proponent bob vincent Submitted 4/16/2025 11:18:00 PM Attachments No

Comment:

The department's safety/lifeguard plans are required for slides and their pools, whether they are plunge pools or water activity pools. So this exemption offered would not be applicable to a wade pool, nor any other pool without a slide and its climbable structure. The proposal would never be used.

SW11889Text Modification

454.1.7.7 Wading pool decks. When within 50 feet of swimming pools, wading pools shall be separated from the swimming pool by an effective barrier or a fence of a minimum of 48 inches (1219 mm) in height with self latching and self-closing gates. When adjacent to areas less than 1 foot (305 mm) deep of zero depth entry pools, the fence or effective barrier is required if the water edges are less than 40 feet (12 192 mm) apart. Where the walking distance is at least 50 feet (15 240 mm) between the wading pool and all other pools, fencing requirements should be carefully considered by the applicant to control usage, but are not required by rule. Effective barriers that are designed to define the walking path shall be subject to review and approval by the department.

Exception: Fencing or barriers are not required when attendants or lifeguards are provided at both the wading pool and the other pool in accordance with a safety/lifeguard plan approved by the Department of Health.

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Mod11889_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

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SW11890

Date Submitted	01/31/2025	**Section**	454.1	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Reduces required deck width at runouts to harmonize with ISPSC, manufacturer practice, and the Florida requirements for other swimming pool decks.

Rationale

This will allow run out lanes to be installed closer together without impacting safety.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
No impact
Impact to building and property owners relative to cost of compliance with code
This allows more slides to be installed on less space, increasing land value.
Impact to industry relative to the cost of compliance with code
No impact
Impact to small business relative to the cost of compliance with code
No impact.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, we don't slide users walking out on soft ground when they come out of a slide runout
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
Does not.

Does not degrade the effectiveness of the code

Does not. The code remains clear.

1st Comment Period History

FW11890-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:25:39 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW11890Text Modification

454.1.9.2.2.2 ~~Five-foot-wide (1524 mm) w~~Walkways with a minimum width of four feet (1219 mm) shall be provided adjacent to run out lanes, as either dry deck or as part of a pool with up to 12 inches (305 mm) of water depth in this area. The ~~five foot~~ walkway need only be on one side of the run out lane. One walkway is sufficient for two run out lanes if it is installed between them.

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Mod11890_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

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SW11891

Date Submitted	01/31/2025	**Section**	454.1	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Ensure that rules signs are clear

Rationale

For the most part, the rules written in this proposal are not actually changing, they are just using clearer, more concise language. The exceptions that don't apply to a particular pool should not apply on that pool's rules sign. The changes are: Water would be allowed as a beverage in any container other than glass, instead of just commercially bottled. "do not swallow the pool water, it is recirculated" would appear on all pool rules signs no bathing load would appear on IWF rules signs.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
No impact
Impact to building and property owners relative to cost of compliance with code
The signs get smaller and simpler.
Impact to industry relative to the cost of compliance with code
Industry is already producing standard rules signs for florida. Comically, these now have the "commercially bottled water" exception verbatim.
Impact to small business relative to the cost of compliance with code
No impact

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, rules signs are critical to encouraging healthy behavior in and around swimming pools.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not. The code remains clear.

1st Comment Period History

RW11891-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:26:39 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW11891Text Modification

454.1.2.3.5 Rules and regulations signage.

Rules and regulations ~~for bathers~~ signage shall be installed ~~in minimum 1 inch (25.4 mm) letters that must be legible from the pool deck,~~ and shall contain the~~following~~text appearing in quotation marks below:

~~1. No food or beverages in the pool or on pool wet deck. Commercially bottled water in plastic bottles is allowed on the pool wet deck for pool patron hydration.~~

~~Exception: Food and beverages served in accordance with swim-up bar requirements found in Department of Health (DOH) Rule 64E-9.004, Florida Administrative Code.~~

~~2. No glass or animals in the fenced pool area (or 50 feet (15 240 mm) from unfenced pool).~~
~~Exception: Service animals as defined in s. 413.08, Florida Statutes All animals are prohibited to enter the pool water or onto the drained area of an interactive water feature.~~

~~3. Bathing load: ____ persons.~~

~~4. Pool hours: __ a.m. to __ p.m.~~

~~5. Shower before entering.~~

~~6. Pools of 200 square feet (18.58 m2) in area or greater without an approved diving well configuration shall have "NO DIVING", in 4 inch (102 mm) 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 alterations as that term is defined.~~

~~8. If the pool includes a sun shelf, "WARNING: DROP OFF AT SUN SHELF EDGE IS ___ FEET DEEP" in 4-inch (102 mm) letters. Not required where sun shelves transition to steps.~~

1. If the pool is over 200 square feet (18.52 m^2), and does not have an *approved* diving well, in minimum 4-inch (102 mm) letters: "No Diving"

2. In minimum 2-inch (51 mm) letters: "Pool Maximum Depth: ____ Feet ____ Inches"

3. If the pool includes a sun shelf edge that does not transition to steps, in minimum 2-inch (51 mm) letters: "Warning: Drop off at Sun Shelf edge is ____ feet ____ inches deep"

The remaining rules appearing in quotation marks below shall appear in minimum 1-inch (25 mm) letters.

4. "Bathing Load: __ persons"

5. "Pool hours: __ a.m. to __ p.m."

6. "Shower before entering."

7. "Do not swallow the water."

8. Unless food and beverages are served in accordance with swim-up bar requirements found in Department of Health (DOH) Rule 64E-9.004, Florida Administrative Code, "No food or beverages other than water in the pool or within 4 ft of the pool"

9. "No glass in the fenced pool area."

10. "No animals other than service animals in the fenced pool area."

11. "No animals, not even service animals, are permitted to enter the pool water"

12. If the pool includes a sun shelf or a zero depth entry area, and the deck includes movable furniture that is not entirely made from UV-resistant, inert plastic, "~~DO NOT PLACE FURNITURE IN POOL~~"Do not place

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Mod11891_TextOfModification.pdf

SW11891Text Modification

furniture in pool.," ~~Not required when all movable furniture on the deck or in the pool is entirely made from UV-resistant, inert plastic.~~

These rules may be distributed among multiple sign boards. These rules may appear in upper case or sentence case if the lower case letters are at least 50% of the height of the upper case letters.

454.1.9.3.7

In addition to the requirements of Section 454.1.2.3.5, all water activity pool signs installed shall have the following added in ~~one~~ 1-inch (25 mm) letters:

~~"Do not swallow the pool water, it is recirculated."~~

"Do not use pool if you are ill with diarrhea."

454.1.9.8.6.13

In ~~addition to~~ lieu of the requirements of Section 454.1.2.3.5, all IWF pool rule signs installed shall have the following text appearing in quotation marks added in ~~one~~ 1-inch (25 mm) letters:

1. "Shower before entering."
2. "Interactive Water Feature hours: a.m. to p.m."
3. If the Interactive Water Feature area is fenced "No glass in the fenced area," otherwise "No glass within 50 feet of the Interactive Water Feature"
4. If the Interactive Water Feature area is fenced, "No animals other than service animals in the fenced area," otherwise "No animals other than service animals within 50 feet of the Interactive Water Feature."
5. "No animals, not even service animals, are permitted to enter the splash zone of the Interactive Water Feature"
6. "Do not swallow the fountain water, it is recirculated."
7. "Do not use fountain if you are ill with diarrhea."

The signage may use the words "Splash Pad" or "Spray Pad" in lieu of "Interactive Water Feature." These rules may be distributed among multiple sign boards. These rules may appear in upper case or sentence case if the lower case letters are at least 50% of the height of the upper case letters.

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Mod11891_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

13

SW11922

Date Submitted	02/06/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Revert 680.5 of 2023 National Electric Code to 2020 National Electric Code text.

Rationale

The 2023 SPGFCI requirements are onerous. For pumps over 40 HP, the required SPGFCI device is not mass produced, and only one vendor in the United States is making them. We have not seen any evidence that people have been injured by current leakage from pool pumps that operate over 150 leg to ground. Further, these devices generally aren't compatible with VFDs.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
The new code requirement is onerous. This proposal keeps the code requirements the same as they are now.
Impact to building and property owners relative to cost of compliance with code
Costs are reduced.
Impact to industry relative to the cost of compliance with code
Industry is not mass-producing the larger devices that the NEC update requires, so this proposal will alleviate that pain point.
Impact to small business relative to the cost of compliance with code
This does not favor or disfavor small businesses.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, preventing electrical shocks and fires is very important
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
This prevents an onerous update to the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

There is no discrimination

Does not degrade the effectiveness of the code

The code under this proposal would be just as effective as the 2023 edition of the Florida Building Code..

SW11922Text Modification

454.1.4.1.1

Ground-Fault Circuit Interrupters.

Ground-fault circuit interrupters (GFCIs) shall be self-contained units, circuit-breaker or receptacle types, or other listed types. The provisions of the 2023 National Electrical Code 680.5 shall not apply.

...

454.2.16.1

Ground-Fault Circuit Interrupters.

Ground-fault circuit interrupters (GFCIs) shall be self-contained units, circuit-breaker or receptacle types, or other listed types. The provisions of the 2023 National Electrical Code 680.5 shall not apply.

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Mod11922_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

14

SW11924

Date Submitted	02/06/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Allow skimmers in commercial pools in more situations

Rationale

We know that skimmers are most effective when there is a wall inlet that directs water to the skimmer. This justifies the code requirements that limit the width of the pool and require a wall inlet opposite the skimmer. But it does not justify the limitation on area. Whatever the limit on pool width should be, a pool that is 200' long but never wider than that limit should have just as effective of skimming as a pool that is only 50' long.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Requirements are still easy to understand
Impact to building and property owners relative to cost of compliance with code
Reduced cost, skimmer pools are less expensive to build.
Impact to industry relative to the cost of compliance with code
No impact
Impact to small business relative to the cost of compliance with code
No impact.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, pool skimming is important for removing nastiness from the pool
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, we can show that in these situations skimmers are just as good as gutters

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This reduces discrimination against skimmers

Does not degrade the effectiveness of the code

The code remains effective.

1st Comment Period History

W11924-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:29:59 AM Attachments No

Comment:

The Florida Swimming Pool Association Opposes this modification. Skimmers do not provide adequate debris removal in pools over with over 1000 feet of surface area. Gutter systems are far more effective and efficient.

SW11924Text Modification

454.1.6.5.3.2 Recessed automatic surface skimmers. Recessed automatic surface skimmers may be utilized when the ~~pool water surface area is 1,000 square feet (93 m^2) or less excluding offset stairs and swimouts and the~~ width of the pool is not over ~~20~~ 30 feet (~~6096~~ 9144 mm) and there are no floor inlets.

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Mod11924_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

15

SW11925

Date Submitted	02/06/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Clarify that feature pumps on IWFs do not require pH adjustment

Rationale

1) The UV system will remove the free chlorine residual, but it does not change the pH of the water. The 2023 code changes did not intend to require an acid feed on the feature pump, but the word "adjustment" in this context implies that an acid feed is needed. That word should be deleted. 2) The chemical feed needs to be controlled by an interlock, just like other chemical feeds, to prevent buildup of chemicals in a stagnant pipe.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
The requirements are longer but clearer
Impact to building and property owners relative to cost of compliance with code
No impact, as we understand this is already how the code is being enforced.
Impact to industry relative to the cost of compliance with code
No impact
Impact to small business relative to the cost of compliance with code
No impact.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, free chlorine residual is needed at splashpads to prevent biofilms
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, this brings in clearer and more explanatory language.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination.

Does not degrade the effectiveness of the code

The code remains effective.

1st Comment Period History

W11925-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:30:39 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW11925Text Modification

454.1.6.5.16.6

…

4. UV equipment that is not certified for secondary disinfection per NSF 50 – 2020 shall be installed and configured to constantly produce a validated dosage of at least 40 mJ/cm2 (millijoules per square centimeter) at the end of lamp life. Whenever these devices are used in high risk pools for secondary disinfection, they shall meet third party validation criteria in accordance with USEPA Ultraviolet Disinfectant Guidance Manual dated November 2006, publication number EPA 815-R-06-007 ~~whenever these devices are used in high risk pools for secondary disinfection~~

…

454.1.9.8.6.1

All water discharged to the spray features must first be treated with UV disinfection as described in 454.1.6.5.16.6, with final treatment provided by disinfectant ~~adjustment~~ chemicals, before any of this treated water is piped to the spray features. The flow of disinfectant chemicals must be controlled by an interlock that will enable flow when the feature pump is on and stop flow when the feature pump is off. An additional, optional interlock may be provided to stop flow of disinfectant chemicals to the feature pump when the ORP controller detects sufficient disinfectant residual in the treatment tank.

The recirculation system shall be sized to treat the contained volume of water in the tank and piping system based upon a 30 minute turnover with chlorine feeder/generators capable of producing a dosage of at least ~~12ppm~~12 mg/L.

The UV disinfection equipment shall be electrically ~~interconnected~~ interlocked such that whenever it fails to produce the required UV dosage, the water spray features pump(s) will be immediately stopped. All pumps must draw suction from the collector tank.

454.1.9.8.6.2

In addition to the above, ~~A~~all IWFs must comply with one of three options for filtration and disinfection systems as follows:

Option 1: A single pump may be used for water treatment and to supply the water features. Flow must be filtered, treated by a UV unit certified for supplemental disinfection per NSF Standard 50, then treated with disinfectant ~~adjustment~~ chemicals prior to discharge to the spray features. Excess flow not required by the features must be directed back to the collector tank following UV treatment and must be treated with disinfectant and pH adjustment chemicals prior to discharge to the tank.

-

Option 2: Separate filter and feature pumps may be utilized. The filter flow must be filtered and treated with disinfectant and pH adjustment chemicals prior to discharge to the tank. All feature flow must be filtered, then treated by a unit certified for supplemental disinfection per NSF Standard 50, then treated with disinfectant ~~adjustment~~ chemicals prior to discharge to the spray features. UV flow capacity must meet the feature pump(s) flow capacity, and a rate of flow indicator complying with 454.1.6.5.13 shall be provided for each UV system.

Option 3: Separate filter and feature pumps may be utilized. The filter flow must be filtered and treated with disinfectant and pH adjustment chemicals prior to discharge to the tank. All feature flow must be treated by a UV disinfection certified for secondary disinfection per NSF Standard 50, then treated with disinfectant ~~adjustment~~ chemicals prior to discharge to the water features. UV flow capacity must meet the feature pump(s) flow capacity, and a rate of flow indicator complying with 454.1.6.5.13 shall be provided for each UV system.

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Mod11925_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

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SW11927

Date Submitted	02/06/2025	**Section**	454.1.1	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

SW11925

Summary of Modification

define "Interlock"

Rationale

Some code enforcement officials believe that an interlock has to be a dedicated device separate from the chemical controller or pump VFD. However, many chemical controllers and pump VFDs are capable of this function, and they should be considered as meeting the requirement if connected and programmed to do so.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Adds clarity
Impact to building and property owners relative to cost of compliance with code
Reduces cost
Impact to industry relative to the cost of compliance with code
No impact.
Impact to small business relative to the cost of compliance with code
No impact.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, the code currently calls for interlock to prevent hazardous situations
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Eliminates a small amount of discrimination.

Does not degrade the effectiveness of the code

Does not degrade.

1st Comment Period History

SW11927-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:31:25 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

1st Comment Period History

SW11927-G2

Proponent bob vincent Submitted 4/16/2025 10:58:44 PM Attachments No

Comment:

Many devices have been claimed to be electrical interlocks by CPCs and engineers. This definition proposed her is wide, but is useful. Please show the TAC a number of electrical interlocks that meet these criteria and have been or can be used with VSPs and VFDs to accomplish the goal of stopping power to the chemical feeders when the pump is no longer pumping pool water near for any reason.

1st Comment Period History

SW11927-G3

Proponent bob vincent Submitted 4/16/2025 11:02:13 PM Attachments No

Comment:

Many devices have been claimed to be electrical interlocks by CPCs. This definition proposed here is wide, but is useful in solving this conundrum. Please show the TAC a number of electrical interlock technical data sheets that meet these criteria and have been, or can be, used with VSPs or VFDs to accomplish the goal of stopping power to the chemical feeders when the pump is no longer pumping pool water due to any reason.

1st Comment Period History

SW11927-G4

Proponent bob vincent Submitted 4/16/2025 11:36:43 PM Attachments No

Comment:

Lets ask the electrical construction TAC about this electrical system fail-safe system. Chemical overfeeds and poisonous gases result in the system when this system fails to shut off power to the chemical feeders. This is rare in Florida, but devastating when it occurs.

SW11927Text Modification

"Interlock" means any electronic switch that connects or disconnects power or an enabling signal to a device based on the state of electronic signals from other devices. An interlock may be a standalone device or part of a programmable logic controller that also performs other functions.

"Interlocked" means connected electronically through an interlock.

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Mod11927_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

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SW11928

Date Submitted	02/06/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Glitch fix, remove references to deleted provision

Rationale

This is a glitch fix. Last cycle, provision 454.1.2.2.4 for minimum depth of a swimming pool was ultimately removed. Areas of the code called out exceptions to that rule, and now the rule is no longer there, these are references to nothing that should be removed for clarity.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
none
Impact to industry relative to the cost of compliance with code
none
Impact to small business relative to the cost of compliance with code
none

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not

Does not degrade the effectiveness of the code

Does not

1st Comment Period History

SW11928-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:32:45 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW11928Text Modification

454.1.9.7.3 'Epsom salt float tanks' are special purpose pools leased by the public for a brief period of time to float quietly immersed in water with dissolved Epsom salt. Florida Building Code sections in 454.1 through 454.1,10 apply to these pools, and only the following code sections do not apply to these pools as these code requirements are not necessary for health or safety in these special purpose pools: 454.1.2.1 (at: ~~454.1.2.2.4.~~ 454.1.3.1.2, 454.1.3.2. 454.1.4.2.2. 454.1.6.1,454.1.6.5.10.5, 454.1.6.5.11.454.1.6.5.14, 454.1.6.5.16.6(3). and 454.1.6.5.3.2.5

…

454.1.9.7.4.4 Non applicable requirements

The following code provisions do apply to resistance exercise pool: 454.1.1.1, 454.1.2.2.3.1; 454.1.2.6~~; 454.1.2.2.4~~.

…

Construction standards for artificial lagoons. If an artificial liner is utilized as a containment system, the artificial liner used to contain the water shall consist of a material tested and certified by an ANSI-accredited certification body to SF/ANSI/CAN Standard 61-2021, Drinking Water System Components--**Health** Effects, April 14, 2021, hereby incorporated by reference, which has been deemed copyright protected, and is available for review at the Department of State, R.A. Gray Building, 500 South Bronough Street, Tallahassee, FL 32399-0250. The liner or artificial bottom, the floor, and the walls, if any, shall be white or light pastel in color and shall have the characteristic of reflecting rather than absorbing light. The liner material color 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 ASTM D4086, ASTM E1477 or ASTM E1347. The design of such liner system is the responsibility of a professional engineer licensed in Florida. If any designated swimming area, or portion thereof, is designed with swimming pool features, including concrete vertical walls and floors, such areas of the artificial lagoon shall be designed in compliance with Sections 454.1.2.2.2, and 454.1.2.2.3 ~~and 454.1.2.2.4~~. Additionally, debris skimmers shall be provided in such areas at least every 40 linear feet (12.19 m). Zero depth entry areas of artificial lagoons shall be designed in compliance with Sections 454.1.11.5 and 454.1.11.6.

…

454.1.12.3 Construction standards

If an artificial liner is utilized as a containment system, the artificial liner used to contain the water shall consist of a material certified under NSF/ANSI Standard 61-2021, Drinking Water System Components—Health Effects, dated April 14, 2021, hereby incorporated by reference, which has been deemed copyright protected, and is available for review at the Department of State, R.A. Gray Building, 500 South Bronough Street, Tallahassee, FL 32399-0250. The liner or artificial bottom, the floor, and the walls, if any, shall be white or light pastel in color and shall have the characteristic of reflecting rather than absorbing light. The liner material color shall have 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 ASTM D4086, ASTM E1477 or ASTM E1347. The design of such liner system is the responsibility of a professional engineer licensed in Florida. If any designated surfing area, or portion thereof, is designed with swimming pool features, including concrete vertical walls and floors, such areas of the pool shall be designed in compliance with Sections 454.1.2.2.2, and 454.1.2.2.3 ~~and 454.1.2.2.4~~.

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Mod11928_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

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SW11973

Date Submitted	02/11/2025	**Section**	454.1.2.6	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Allows for a sunshelf terminate into five feet of water or less. Allows a sunshelf to terminate in to depths greater than five feet of water if the sunself transitions to a bench first.

Rationale

The use of bench, like stairs, allows for gradual transition from the sun shelf to the main pool. Allowing water depths greater than five feet for sunshelfs that transitions to a bench does not pose a risk to bathers. Sunshelf is a means of ingress and egress under Florida Building Code Section 454.1.2.8.3.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Allows for gradual transition from a sunself to the main swimming area of the pool.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improves design options for commercial swimming pool sunshelfs.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not specify a product or material.

Does not degrade the effectiveness of the code

This improves the effectiveness of the code by increasing safe design options for commercial pools.

1st Comment Period History

SW11973-G1

Proponent bob vincent Submitted 4/16/2025 11:58:08 PM Attachments No

Comment:

Dept of Health opposes this change for a bench at the sun shelf. this is a hazard when someone steps off or falls off the shelf onto a bench only 1, 2 or 3 feet below.

SW11973Text Modification

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 to 18 inches (356 to 457 mm) wide and must have a dark contrasting tile marking on the seat edge extending 2 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 45 feet (1219 mm) of water depth, or less, except where the entire sun shelf transitions to steps, where the depth at the bottom of the steps can exceed 4 feet (1219 mm)or where the sun shelf transitions to a bench, the water depth may exceed 45feet (1219 mm). A sun shelf must have the same markings at the edge as a bench. A sun shelf shall not protrude into the diving bowl. A sun shelf must additionally comply with Section 454.1.2.8.

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Mod11973_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

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SW11975

Date Submitted	02/11/2025	**Section**	454.1.10.4.2	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Creates an exception in the Florida Building Code for the swimming pool and spa equipotential bonding requirements of NFPA 70 Sec. 680.26(2)(a)-(b).

Rationale

The requirements to use a copper or steel grid for the bonding of swimming pool permitter surfaces is not justified and does not provide improvements in the elimination of voltage gradients compared to existing methods. This proposal seeks to maintain the status quo single wire bonding that has been in place in Florida for 20 years. In that 20 year period there has not been a single documented case of the failure of the single wire bonding method. Additionally, it is estimated that the requirements of 2023 NFPA 70 Sec. 680.26(2)(a)-(b) will add between 2% to 10% to the cost of residential pool construction depending on copper prices and even greater costs increases for remodels having to bring the equipotential bonding up to the 2023 NFPA 70 standard.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
This proposal will prevent unnecessary cost increases to consumers.
Impact to industry relative to the cost of compliance with code
This proposal will prevent unnecessary cost increases to the industry.
Impact to small business relative to the cost of compliance with code
This proposal will prevent unnecessary cost increases to the industry.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
This preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This prevents unnecessary and costly requirements from being adopted in to the Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This prevents specification of materials an methods. NFPA 70 locks consumers and the industry in to a speicific method of compliance whereas this modification allows for multiple methods of compliance and varied use of materials.

Does not degrade the effectiveness of the code

This preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

SW11975Text Modification

454.1.10.4.2 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 9 square inches (5800 mm2) 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 680.23(B)(2)(b) of NFPA 70, National Electrical Code, shall be allowed.

In lieu of the requirements of NFPA 70 Sec. 680.26(2)(a)-(b) for conductive paved and unpaved swimming pool perimeter surfaces, swimming pools and spas may be bonded by single copper conductor where the following requirements are met:

(1)At least one minimum 8 AWG bare solid copper conductor shall be provided.

(2) The conductors shall follow the contour of the perimeter surface.

(3) Only listed splicing devices or exothermic welding shall be permitted.

(4) The required conductor shall be 450 mm to 600 mm (18 in. to 24 in.) from the inside walls of the pool.

(5) The required conductor shall be secured within or under the perimeter surface 100 mm to 150 mm (4 in. to 6 in.) below the subgrade.

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Mod11975_TextOfModification.pdf

SW11975Rationale

F.E. Santos PE
5333 COLLINS AVENUE
MIAMI BEACH, Fl 33140
PE # 19522 (Electrical)
Ph: 786.367.3261.
Office: 305.688.2000.Fax: 305.688.3000.Email:shineco1@bellsouth.net

MIAMI-DADE COUNTY
BUILDING & ZONING DEPARTMENT
11805 SW 26TH Street
Miami,Fl 33175-2474
Attn: Mr. Stuart Bazerman Electrical Division Director

March 13, 2007

Ref: Resistance test for bonding installation in new Swimming Pool
Job Name: Nicolas Tempestini Residence Swimming Pool
Job address: 9821 NW 26th Street Doral,Fl

Dear Mr. Bazerman:

This is to certify that an additional Fall-of-Potential test was performed for a different bonding installation at the above address.

The bonding installation consisted of a #8 solid bare copper grid 12"x 12"and 36"wide installed around the perimeter of the pool.

All metallic components of the pool including the reinforcing rebar in the pool walls were bonded to the bonding installation at 4 places.

Copper Clad ground rods were driven adjacent to the pool area and resistance tests was performed to determine the ground continuity between the ground rods and the bonding installation.

A resistance to ground was measured for the bonding installation the results listed below showed resistance with and without copper grid, less than 25 ohms for both systems.

Tests Date: March 7, 2007 (Single # 8) and March 13, 2007(Copper grid)

Test Instruments: Biddle Series 3 Resistance Tester, Simpson 260

		(Single # 8)	(Copper grid)
Location 1:	Adjacent to north side of pool @ 8 feet	= 5.6 ohms	5.9 ohms
Location 2:	Adjacent to east side of pool @ 6 feet	= 3.4 ohms	5.4 ohms
Location 3:	Adjacent to south side of pool @ 5 feet	= 7.7 ohms	8.6 ohms

Should you have any questions regarding the above, or require additional information, please contact us.

Respectfully,

F.E. Santos, PE

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Mod_11975_Rationale_Santos Bonding Tests_2007.pdf

SW11975Rationale

Jason W Rice, P.E.
Consulting Engineer
10289 Penningcroft Lane
Mechanicsville, VA 23116
P 804-514-0743
F 804-368-7287

February 1, 2007

FSPA
Attn: Jennifer Hatfield
1718 main st. Suite 303
Sarasota, FL 34236
P 941-952-9293
F 941-366-7433

Project Location: NEC Bonding Issue

Ms. Hatfield,

I would like to take this opportunity to express my professional opinion about the equipotential bonding question as they pertain to pools. It is my opinion that the proposed language for the 2008 NEC, Section 680.26 is sufficient to reduce the potential for voltage gradients in a pool area. The section in question states that providing adequate bonding for a perimeter surface requires a single, minimum 8 AWG, bare solid copper conductor to follow the contour of the pool. This "contour bonding" shall be connected to the pool steel in at least four (4) uniformly spaced locations (except for non-conductive pool shells). Additionally, this contour bonding shall be 18-24 in. from the inside wall of the pool and secured under 4-6 in. of topsoil. All splicing and connections shall conform to NEC requirements.

I have had the opportunity as engineer of record on more than 3,000 pool related projects, both commercial and residential. Additionally, I have actively been providing electrical engineering designs in the residential, commercial and

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Mod_11975_Rationale_Rice Engineering Report_2007.pdf

SW11975Rationale

industrial industries for the past 12 years. It is my professional opinion that the above perimeter bonding is all that is required to ensure a reduction in the potential for voltage gradients for the perimeter surfaces in a pool area.

Please don't hesitate to contact me if you have any further questions or comments.

Sincerely,

Jason W. Rice, P.E.

Attachments: 1 – Jason Rice Curriculum Vitae

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SW11975Rationale

Jason W. Rice, PE

Mr. Rice has over 12 years of professional experience in all aspects of governmental, institutional, commercial, industrial, residential, recreational, structural, electrical and environmental engineering. His work has traversed the United States, the Caribbean and includes the engineering of more than 3,500 projects (over 2,000 pools) and conducting over 1,000 inspections.

His He is supported by three assistants, a field technician, a GIS technician and a project engineer. The field technician is licensed as a Certified Pool Operator and a Pool & Spa Repair Contractor with over 10 years' experience in the pool industry. The GIS technician has over 10 years' of government, commercial and residential engineering experience. The project engineer is a mechanical engineer with over 15 years of design engineering experience.

Prior to his independent consulting work, Mr. Rice worked with an environmental and electrical engineering, design-build firm and several multi-disciplined, civil & MEP engineering firms. His responsibilities were in all phases of engineering, from assisting clients with conceptual layout, preliminary or forensic inspections and review, obtaining public official approval on preliminary designs, preparing the final design documents, management of construction (including inspections) to the final turnover to the client. Mr Rice's experience provides not only multi-discipline engineering design but also a firm comprehension of how these fields affect the overall scope on a project.

Commercial

Electrical, Columbia Restaurant, Sarasota, FL. The engineering design of modifications to the 1000A electrical distribution system.

Electrical, Dwyers Irish Pub, Ft Myers, FL. The engineering design of modifications to the 2000A electrical distribution system.

Electrical, Metro Coffee & Wine Club, Sarasota, FL. The engineering design of modifications to the 2500A electrical distribution system.

Electrical, Sarasota Commercial Management Office Building, Sarasota, FL. The engineering design of modifications to the 1000A electrical distribution system.

Electrical, Mariott Resort, West Palm Beach, FL. The engineering design of the modifications to a 800A electrical distribution system.

Electrical, AutoPilot Systems, Ft Lauderdale, FL. The engineering design of the modifications to the 2000A electrical distribution system.

Electrical, Lo Chlor, Ft Lauderdale, FL. The engineering design of the manufacturing control system.

Electrical, Days Inn, Port Charlotte, FL. The engineering design of the fire alarm and control system.

Electrical, Collier County Public Library, Immokalee, FL. The engineering design of the fire alarm and control system.

Registrations:
Professional
Engineer/FL/2002

Professional Engineer/VA/2004

Professional Engineer/MD/2004

Professional Memberships:
American Concrete Institute

Association of Pool & Spa Professionals

National Fire Prevention Association, NEC

Florida Swimming Pool Association

Community Involvement:
King's Charter Architectural Control Committee Member, 2006-2007.

Florida Swimming Pool Association, State of Florida Technical Advisor, responsible for providing technical and building code guidance on policies and represented the association at the state and national level, 2004-2006.

Conducted Building Code Training Courses for city officials, various Broward & Palm Beach County cities, FL 2004 - 2005.

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SW11975Rationale

Electrical, Homewood Suites by Hilton, Sarasota, FL. The engineering design of the fire alarm and control system.

Electrical, The Courtyard at Market Square, Sarasota, FL. The engineering design of the fire alarm and control system.

Electrical, Homewood Suites by Hilton, Sarasota, FL. The engineering design of the fire alarm and control system.

Water Resources, The Singer Island Resort, Singer Island, FL. a 1,500+ SF, beach entry and recreational slide swimming pool, a 850+ SF perimeter overflow formal pool and a 35+ SF spa. All of these pools are located above the parking garage and supported on a column system structural design.

Water Resources, Walt Disney World, Typhoon Lagoon, Orlando, FL, a 2000+ SF, 170,000+ gal beach entry and recreational slide swimming pool. The engineering included all hydraulic, electrical, structural and mechanical systems. Provided construction management on all phases.

Water Resources, US Marines, 29 Palms Base, Adobe Flats II Clubhouse, Ocotillo Heights Community Center, Desert View Terrace Clubhouse, Twenty-Nine Palms, CA, three (3) separate 1,200 SF, 45,000 gal pools with kiddie water feature play areas. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, Landstar-Waterstone Development, Miami, FL a 2000+ SF, 120,000+ gal pool, 200+ SF kiddie pool and 35+ SF spa. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, The Mariott Courtard, Pembroke Pines, FL, a 800+ SF, 30,000+ gal pool. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, The Aman Yara Resort, Turks & Caicos Island, a 2000+ SF, 120,000+ gal pool, 200+ SF kiddie pool and 35+ SF spa. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, Rolling Hills Golf & CC, Akron, OH, remodeling of a 1,800 SF pool and decking. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, The Jungle Club, Vero Beach, FL, remodeling of a 2,800 SF pool, a 49 SF spa and a new 2,300 SF pool. The engineering included all hydraulic, electrical, structural and mechanical systems.

Drainage Design, Universal Studios, Universal's Islands of Adventure, Orlando, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system;

International Aquatics Foundation, member of IAF-7 committee, this committee is responsible for updating the national code for swimming pool standards, Washington DC, 2005

Facing It Together, non-profit organization that raises money through sponsorship of athletic events and provides monies for surgical reconstruction of facial abnormalities for disadvantaged children, Broward County, FL 2004 - 2006.

Leukemia & Lymphoma Society, non-profit organization that raises money through sponsorship of athletic events and provides monies for research into the treatment of cancer, Palm Springs, CA 2003 - 2004.

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SW11975Rationale

Residential

Electrical, Falcone Residence, Boca Raton, FL. The engineering design of the 1500A electrical distribution system on new residence.

Electrical, Manchester Residence, Sarasota, FL. The engineering design of the refurbishments to the 1600A electrical distribution system on an existing residence.

Electrical, Cannon Residence, Sarasota, FL. The engineering design of the refurbishments to the 600A electrical distribution system on an existing residence.

Water Resources, Brown Residence, Paradise Island, Bahamas, engineering design of 600 SF, 18,000 gal., deep foundation koi pond and multiple water features. Additionally, this project included the design of a 1,800 SF, 180,000 gal. pool, a 28 foot single-span RC bridge, a 120 SF, 4 column, grade beam and deep foundation gazebo structure, a 240 SF by 8 feet high RC and masonry deep foundation water fall structure. The engineering included all hydraulic, electrical, structural and mechanical systems. Provided construction management on all phases.

Water Resources, Venturi Residence, Ft Lauderdale, FL. Engineering design of 1,200 SF, 96,000 gal. pool and a 600 SF, two-story, RC and masonry waterfall/cave structure. A key feature of the cave was the 28 feet single span opening on one side. The engineering included all hydraulic, electrical, structural (shallow foundation) and mechanical systems. Provided construction management on all phases.

Water Resources, Smith Residence, Plantation, FL. Engineering design of 500 SF, 21,000 gal. pool and a 100 SF, two-story, RC spa and waterfall structure. The engineering included all hydraulic, electrical, structural (shallow foundation) and mechanical systems..

Municipal

Control System/Drainage Design, Gore Street Alum Treatment System, City of Orlando, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Lake Howard Alum Treatment System, City of Winter Haven, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Port Orange Alum Treatment System, City of Port Orange, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

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Control System/Drainage Design, East Lake Alum Treatment System, Hillsborough County, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Clearwater Alum Treatment System, City of Clearwater, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Winter Park Alum Treatment System, City of Winter Park, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Polk County Environmental Services, Lake Blue/Lake Cannon, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Water and Sewer, Miami-Dade Water & Sewer, Alexander Orr Water Treatment Plant, Miami, FL. Complete design of temperature and vibration control systems on four, 2000 amp emergency generators. Provided installation, startup and calibration of the complete system.

Control System/Water and Sewer, East Waste Water Treatment Plant, City of Orlando, FL. Provided hydraulic and controls engineering and design of refurbishments to 100,000 GPD reuse system and annual hydraulic system testing, calibration and certification. Provided controls and electrical engineering design for activated sludge, heat-tracing system.

Control System/Water and Sewer, Bradenton Waste Water Treatment Plant, City of Bradenton, FL. Engineering design and build of methanol feed system for 35 MGD plant.

Water and Sewer, Sykes Creek Waste Water Treatment Plant, Brevard County, FL. Engineering design of rehab to 25 MGD influent structure hydraulics, monitoring and control system.

Control System/Water and Sewer, US Air Force, Tyndall AFB Waste Water Treatment Plant, Tyndall, FL. Engineering design and build of effluent hydraulic, UV treatment and control system for 100,000 GPD plant.

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SW11975Rationale

industrial industries for the past 12 years. It is my professional opinion that the above perimeter bonding is all that is required to ensure a reduction in the potential for voltage gradients for the perimeter surfaces in a pool area.

Please don't hesitate to contact me if you have any further questions or comments.

Sincerely,

Jason W. Rice, P.E.

Attachments: 1 – Jason Rice Curriculum Vitae

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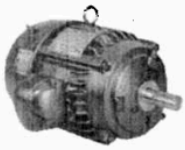
SW11975Rationale



Electro-Kinetic Corporation

Licensed Electrical Contractors

1801 S. Ocean Drive Hallandale, Fl. 33009 Phone/Fax (954) 456-7889

March 8, 2007

Stu Bazerman
11805 SW 26th Street
Miami, Fl. 33175-2474

Job Name: Angie Daza
Job Address: 11103 NW 71 Terrace Doral, Fl.

Dear Mr. Bazerman,

We have inspected and tested the bonding components of the swimming pool installed at the above address. A single #8 bond wire has been installed 360 degrees around the swimming pool. This bonding conductor is 18" from the inside of the pool wall. All metallic components of the pool are bonded to this wire including the reinforcing rods in the pool walls. We certify that the installed components meet the requirements of Article 680 of the National Electric Code. Resistance tests of the bonded equipment were completed on March 7, 2007.

Copper Clad ground rods were driven adjacent to the pool area and resistance tests performed to determine the ground continuity between the ground rods and the bonded pool equipment. An acceptable resistance to ground was measured for this swimming pool bonding system (less than 25 ohms). There is no further recommendation for additional bonding methods required for this location. The results of our resistance tests of the bonded equipment are listed below.

Test Date: March 7, 2007
Test Instruments: Biddle Series 3 Resistance Tester; Simpson 260

Location 1:	Adjacent to west side of pool @ 6 feet	16.8 ohms
Location 2:	Adjacent to north side of spa @ 5 feet	12.1 ohms
Location 3:	Adjacent to south side of pool @ 6 feet	13.4 ohms

Sincerely,

George DeSalle
Florida State Certification: # EC 1767

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Mod_11975_Rationale_DeSalle Bonding Tests_2007.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

20

SW11978

Date Submitted	02/11/2025	**Section**	454.1.8.15	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Excepts spas equipped with gravity flow drain systems from the emergency cut off switch requirements of NFPA 70.

Rationale

Spas with gravity flow drain systems are at extremely low risk for suction entrapment incidents. The inclusion of an unnecessary cutoff switch can lead to unsanitary spa conditions when the switch is accidentally or intentionally erroneously activated. The Florida Department of Health argued for the adoption of gravity flow systems due to their inherent safety.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
Reduces costs by preventing nuisance trips.
Impact to industry relative to the cost of compliance with code
Reduces costs by preventing nuisance trips.
Impact to small business relative to the cost of compliance with code
Reduces costs by preventing nuisance trips.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Spas with gravity flow drain systems are at extremely low risk for suction entrapment incidents. The inclusion of an unnecessary cutoff switch can lead to unsanitary spa conditions when the switch is accidentally or intentionally erroneously activated.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Spas with gravity flow drain systems are at extremely low risk for suction entrapment incidents. The inclusion of an unnecessary cutoff switch can lead to unsanitary spa conditions when the switch is accidentally or intentionally erroneously activated.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not specify a product or material.

Does not degrade the effectiveness of the code

Spas with gravity flow drain systems are at extremely low risk for suction entrapment incidents. The inclusion of an unnecessary cutoff switch can lead to unsanitary spa conditions when the switch is accidentally or intentionally erroneously activated.

1st Comment Period History

SW11978-G1

Proponent Michael Weinbaum Submitted 4/9/2025 9:10:20 PM Attachments No

Comment:

Martin Aquatic supports this code change. We note that emergency stops would still be required on some public spas in Florida that were built without gravity drainage, before Florida required gravity drainage on all public pools. We think it is appropriate to maintain the requirement for these spas only, and let the vast majority of spas not have them, because the vast majority have inherent protection against suction entrapment already.

SW11978Text Modification

454.1.8.15 Emergency cutoff switches

Spas equipped with gravity flow drain systems, regardless of when constructed, are exempted from Section 680.41 of NFPA-70.

However, ~~I~~if a spa is equipped with an emergency cutoff or kill switch, it shall include provisions for a minimum 80 decibel audible alarm near the spa to sound continuously until deactivated when such device is triggered. The following additional rule sign shall be installed to be visible by the spa which reads “ALARM INDICATES SPA PUMPS OFF. DO NOT USE SPA WHEN ALARM SOUNDS UNTIL ADVISED OTHERWISE.”

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Mod11978_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

21

SW11979

Date Submitted	02/11/2025	**Section**	454.1.1	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Expands the allowable munsel value range for contrasting makings in commercial swimming pools and spa.

Rationale

A Munsel rating of seven or darker is more than sufficient contrast to against the allowable finish colors specified by this code. Expanding the Munsel color value range for markings will give commercial pool owners more choices of commercially available tiles without negatively affecting bather safety.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
This modification will potentially lower the cost of compliance by allowing a wider selection of compliant products.
Impact to industry relative to the cost of compliance with code
This modification will potentially lower the cost of compliance by allowing a wider selection of compliant products.
Impact to small business relative to the cost of compliance with code
This modification will potentially lower the cost of compliance by allowing a wider selection of compliant products.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
A Munsel rating of seven or darker is more than sufficient contrast to against the allowable finish colors specified by this code. Expanding the Munsel color value range for markings will not negatively affecting bather safety.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
A Munsel rating of seven or darker is more than sufficient contrast to against the allowable finish colors specified by this code. Expanding the Munsel color value range for markings will not negatively affecting bather safety.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not specify a product or material.

Does not degrade the effectiveness of the code

A Munsel rating of seven or darker is more than sufficient contrast to against the allowable finish colors specified by this code. Expanding the Munsel color value range for markings will not negatively affecting bather safety.

1st Comment Period History

SW11979-G1

Proponent Michael Weinbaum Submitted 4/9/2025 9:11:08 PM Attachments No

Comment:

Martin Aquatic supports this code change.

1st Comment Period History

SW11979-G2

Proponent bob vincent Submitted 4/16/2025 11:51:14 PM Attachments No

Comment:

Department of Health opposes this change from a dark 0-4 color value to a much lighter color contrast used to visually warn patrons that they are near edges of stairs, benches, sun shelfs, and readily read depth and no dive markers.

SW11979Text Modification

454.1.1 Definitions

“Marking” or “Markings” refers to the placement and installation of visual marking cues to help patrons identify step, bench and swimout outlines, slope break location, depth designations and NO ENTRY and NO DIVING warnings. When markings are specified by code to be dark, the term “dark” shall mean a Munsell color value from zero to ~~four~~ seven.

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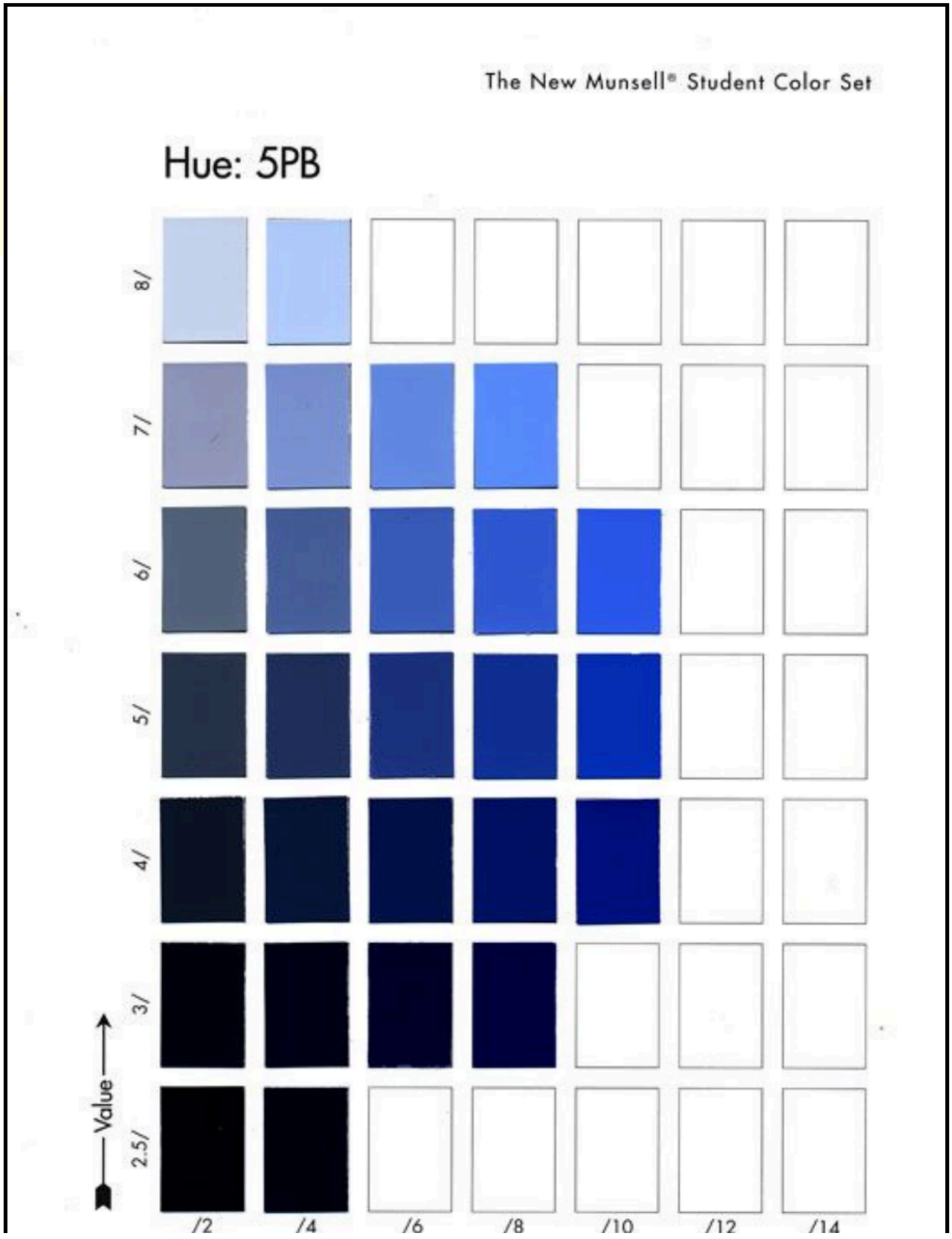
Mod11979_TextOfModification.pdf

SW11979Rationale



Mod_11979_Rationale_Munsel Charts Blue.pdf Page: 1

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

22

SW11981

Date Submitted	02/11/2025	**Section**	454.1.1	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Updates the definition of spa pool to better match with industry standards and practice.

Rationale

Despite what the code currently says, many spas in Florida do not actually have any high velocity air or water. The proposed definition brings the code inline with industry standards and practice.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The proposed definition brings the code inline with industry standards and practice.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The proposed definition brings the code inline with industry standards and practice.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code

The proposed definition brings the code inline with industry standards and practice.

1st Comment Period History

SW11981-G1

Proponent Michael Weinbaum Submitted 4/16/2025 11:30:35 AM Attachments No

Comment:

Martin Aquatic Design and Engineering supports this proposed code change. This will become similar to the current ISPSC definition.

SW11981Text Modification

454.1.1 Definitions

"Spa pool" means a pool ~~used in conjunction with high-velocity air or water coming from a nozzle in the back wall of a bench.~~ intended for the immersion of persons in recirculated water for the purpose of relaxing, exercise, therapy, or treatment. A swim spa is also a type of spa pool.

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Mod11981_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

23

SW11982

Date Submitted	02/11/2025	**Section**	454.2.2	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Updates and clarifies private pool definitions. Removes unnecessary terms.

Rationale

Updates terms to current industry parlance. Deletes outdated and unnecessary definitions. Adds need definitions for clarification.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code

Updates and modernizes code.

SW11982Text Modification

454.2.2 Definitions.

ABOVE-GROUND/ON-GROUND POOL. See “Swimming pool.”

ADMINISTRATIVE AUTHORITY. The individual official, board, department or agency established and authorized by a state, county, city or other political subdivision created by law to administer and enforce the provisions of the swimming pool code as adopted or amended.

APPROVED. Accepted or acceptable under an applicable specification stated or cited in this code, or accepted as suitable for the proposed use under procedures and power of the administrative authority.

APPROVED SAFETY COVER. A manually or power-applied safety pool cover that meets all of the performance standards of ASTM International in compliance with ASTM F1346.

APPROVED TESTING AGENCY. An organization primarily established for the purpose of testing to approved standards and approved by the administrative authority.

BACKWASH PIPING. See “Filter waste discharge piping.”

BARRIER. 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.

BODY FEED. Filter aid fed into a diatomite-type filter throughout the filtering cycle.

CARTRIDGE FILTER. A filter using cartridge-type filter elements.

CHEMICAL ~~PIPING~~Feeder. Piping which conveys concentrated chemical solutions from a feeding apparatus to the circulation piping.

~~**CIRCULATION PIPING SYSTEM.** Piping between the pool structure and the mechanical equipment. Usually includes suction piping, face piping and return piping.~~

COMBINATION VALVE. A multipart valve intended to perform more than one function.

~~**DESIGN HEAD.** Total head requirement of the circulation system at the design rate of flow.~~

DIATOMITE (DIATOMACEOUS EARTH). A type of filter aid.

DIATOMITE-TYPE FILTER. A filter designed to be used with filter aid.

DIRECT ACCESS FROM THE HOME. Any opening which discharges into the “perimeter” of the pool or any opening in an exterior dwelling wall, or interior wall (for indoor pools) which faces the pool.

EXIT ALARM. A device that makes audible, continuous alarm sounds when any door or window which permits access from the residence to any pool that is without an intervening enclosure is opened or left ajar.

FACE PIPING. Piping, with all valves and fittings, which is used to connect the filter system together as a unit.

FILTER. Any apparatus by which water is clarified.

FILTER AID. A nonpermanent type of filter medium or aid such as diatomite, alum, etc.

FILTER CARTRIDGE. A disposable or renewable filter element which generally employs no filter aid.

FILTER ELEMENT. That part of a filter which retains the filter medium.

FILTER MEDIUM. Fine material which entraps the suspended particles and removes them from the water.

FILTER RATE. Average rate of flow per square foot of filter area.

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Mod11982_TextOfModification.pdf

SW11982Text Modification

FILTER ROCK. Specially graded rock and gravel used to support filter sand.

FILTER SAND. A specially graded type of permanent filter medium.

FILTER SEPTUM. That part of the filter element in a diatomite-type filter upon which a cake of diatomite or other nonpermanent filter aid may be deposited.

FILTER WASTE DISCHARGE PIPING. Piping that conducts waste water from a filter to a drainage system. Connection to drainage system is made through an air gap or other approved methods.

FRESH WATER. Those waters having a specific conductivity less than a solution containing 6,000 ppm of sodium chloride.

HIGH RATE SAND FILTER. A sand filter designed for flows in excess of 5 gpm (0.3 L/s) per square foot.

HOT TUB. See "Swimming pool."

INGROUND POOL. See "Swimming pool."

~~INLET FITTING~~RETURN INLET. Fitting or fixture through which circulated water enters the pool~~.~~through the pressure side.

MAIN DRAIN ~~SUCTION OUTLET~~ ~~Outlet at the deep portion of the pool through which the main flow of water leaves the pool when being drained or circulated.~~ See **SUCTION OUTLET FITTING ASSEMBLY (SOFA).**

SUCTION OUTLET FITTING ASSEMBLY (SOFA). A submerged fitting, fitting assembly, cover/grate and related components that provide a localized low-pressure area for the transfer of water from a swimming pool, spa or hot tub. Submerged suction outlets have been referred to as main drains.

~~**MEDICALLY FRAIL ELDERLY PERSON.** 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.~~

MESH SAFETY BARRIER. A combination of materials, including fabric, posts, and other hardware to form a barrier around a swimming pool.

POOL. See "Swimming pool."

POOL DEPTHS. The distance between the floor of pool and the maximum operating water level.

POOL PERIMETER. A pool perimeter is defined by the limits of the pool deck, its surrounding area including yard area on same property, and any dwelling or nondwelling wall or any combination thereof which completely surrounds the pool.

POOL ~~PLUMBING~~PIPING. All chemical, circulation, filter waste discharge piping, deck drainage and water filling systems.

PORTABLE POOL. A prefabricated pool which may be erected at the point of intended use and which may be subsequently disassembled and ~~reerected~~ reassembled at a new location. Generally installed on the surface of the ground and without excavation.

~~**PRECOAT.** In a diatomite-type filter, the initial coating or filter aid placed on the filter septum at the start of the filter cycle.~~

RAPID SAND FILTER. A filter designed to be used with sand as the filter medium and for flows not to exceed 5 gpm (0.3 L/s) per square foot.

RECEPTOR. An approved plumbing fixture or device of such material, shape and capacity as to adequately receive the discharge from indirect waste piping, so constructed and located as to be readily cleaned.

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Mod11982_TextOfModification.pdf

SW11982Text Modification

RESIDENTIAL. Situated on the premises of a detached one- or two-family dwelling or a one-family townhouse not more than three stories high.

RETURN ~~PIPING~~. That portion of the circulation piping which extends from the outlet side of the filters to the pool.

SALINE WATER. Those waters having a specific conductivity in excess of a solution containing 6,000 ppm of sodium chloride.

SEPARATION TANK. A device used to clarify filter rinse or waste water; sometimes called a “reclamation tank.”

SKIM FILTER. A surface skimmer ~~combined with a vacuum diatomite~~ with an integral filter.

SPA, NONPORTABLE. See “Swimming pool.”

SPA, PORTABLE. 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~~ installed on or above grade. May not be installed with raised decking to allow access.

~~**SUCTION PIPING.** That portion of the circulation piping located between the pool structure and the inlet side of the pump and usually includes main outlet piping, skimmer piping, vacuum piping and surge tank piping.~~

SUBMERGED VACUUM FITTING. A fitting intended to provide a point of connection for suction side automatic swimming pool, spa, and hot tub cleaners.

SUCTION OUTLET. See **SUCTION OUTLET FITTING ASSEMBLY (SOFA)**.

SURFACE SKIMMING SYSTEM. A device or system installed in the pool or spa that permits the removal of floating debris and surface water to the filter.

~~**SURFACE SKIMMER.** A device generally located in the pool wall which skims the pool surface by drawing pool water over a self-adjusting weir.~~

SWIMMING POOL, INDOOR. A swimming pool which is totally contained within a structure and surrounded on all four sides by walls of said structure.

SWIMMING POOL, OUTDOOR. Any swimming pool which is not an indoor pool.

SWIMMING POOL, PRIVATE. Any structure, located in a residential area, that is intended for swimming or recreational bathing and contains water over 24 inches (610 mm) deep including but not limited to inground, above-ground, and on-ground swimming pools, hot tubs, and nonportable spas~~.~~ that are permanently installed.

SWIMMING POOL, PUBLIC. A watertight structure of concrete, masonry, fiberglass, stainless steel or plastic 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 or water recreation attraction, to which admission may be gained with or without payment of a fee and includes, 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, boarding houses, hotels, mobile home parks, motels, recreational vehicle parks and townhouses.

SWIMMING POOL, RESIDENTIAL. See “Swimming pool, private.”

TURNOVER TIME. The time in hours required for the circulation system to filter and recirculate a volume of water equal to the pool volume.

UNDERWATER BENCH. An underwater seat that can be recessed into the pool wall or placed completely inside the perimeter shape of the pool.

Mod11982_TextOfModification.pdf

SW11982Text Modification

UNDERWATER LEDGE. A narrow shelf projecting from the side of a vertical structure whose dimensions are defined in the appropriate standard.

VACUUM FITTING. A fitting in the pool which is used as a convenient outlet for connecting the underwater suction cleaning equipment.

VACUUM PIPING. The piping from the suction side of a pump connected to a vacuum fitting located at the pool and below the water level.

WASTE PIPING. See “Filter waste discharge piping.”

WIDTH AND/OR LENGTH. Actual water dimension taken from wall to wall at the maximum operating water level.

~~**YOUNG CHILD.** Any person under the age of 6 years.~~

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Mod11982_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

24

SW11985

Date Submitted	02/11/2025	**Section**	454.2.6.3	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language Yes**

Related Modifications

Summary of Modification

Brings the FBC in line with the requirements of ANSI/PHTA 5 Standard.

Rationale

Brings the FBC in line with the requirements of ANSI/PHTA 5 Standard.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code
Updates and modernizes code.

Alternate Language

1st Comment Period History

SW11985-A1

Proponent Dallas Thiesen **Submitted** 4/16/2025 9:42:23 AM **Attachments** No

Rationale:

The addition of table to this section will provide a quick reference guide for contractors, engineers, and code officials on how pipe size affects flow rates while meeting the code standard of 8 fps.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Makes enforcement easier by adding clarity to the code.

Impact to building and property owners relative to cost of compliance with code
None

Impact to industry relative to the cost of compliance with code
None

Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Keeps pool flow rates withing safe operating ranges.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Adds clarity to the code requirements.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
Does not specify materials.

Does not degrade the effectiveness of the code
Improves the code.

SW11985-A1Text Modification

454.2.6.3 Water velocity.

Pool piping shall be designed so the water velocity will not exceed ~~10~~ 8 feet per second (mm/s) for pressure piping and 8 feet per second (mm/s) for suction piping, except that the water velocity shall not exceed 8 feet per second (3048 mm/s) in copper tubing. Main suction outlet velocity must comply with ANSI/~~APSP~~PHTA/ICC ~~7~~5.

~~**Exception:** Jet inlet fittings shall not be deemed subject to this requirement.~~

Flow rates and pipe sizes

Pipe Size:	**1.5"**	**2"**	**2.5"'**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**
Nominal GPM @ 8 fps	51	84	119	184	317	499	720	1247	1966	2791

NOTE: Flow rates are based on the nominal inside diameter for ASTM Standard D1785, schedule 40 PVC pipe.

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Mod11985_A1_TextOfModification.pdf

SW11985Text Modification

454.2.6.3 Water velocity.

Pool piping shall be designed so the water velocity will not exceed ~~10~~ 8 feet per second (mm/s) for pressure piping and 8 feet per second (mm/s) for suction piping, except that the water velocity shall not exceed 8 feet per second (3048 mm/s) in copper tubing. Main suction outlet velocity must comply with ANSI/~~APSP~~PHTA/ICC ~~7~~5.

~~**Exception:** Jet inlet fittings shall not be deemed subject to this requirement.~~

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Mod11985_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

25

SW11988

Date Submitted	02/11/2025	**Section**	454.2.6.6	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Updates standard references and clarifies terminology for Suction Outlet Fitting Assemblies.

Rationale

Updates standard references and clarifies terminology.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code
Updates and modernizes code.

SW11988Text Modification

454.2.6.6

Entrapment protection for suction outlets (SOFAs) shall be installed in accordance with requirements of ANSI/APSP/ICC 7 ~~–~~and ANSI/APSP/ICC-16.

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Mod11988_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

26

SW11991

Date Submitted	02/11/2025	**Section**	454.2.7.3	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Eliminates manufacturing requirements covered in a referenced standard.

Rationale

These provisions are unneeded due to moder manufacturing standards. Covered in NSF 50 Standard.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code
Updates and modernizes code.

SW11991Text Modification

454.2.7.3 ~~Capacity.~~

~~Pumps shall have design capacity at the following heads.~~

~~1.Pressure diatomaceous earth. At least 60 feet (18 288 mm).~~

~~2.Vacuum D.E. 20 inch (508 mm) vacuum on the suction side and 40 feet (1219 mm) total head.~~

~~3.Rapid sand. At least 45 feet (13 716 mm).~~

~~4.High rate sand. At least 60 feet (18 288 mm).~~

Reserved

454.2.7.4 ~~Materials.~~

~~Pump impellers, shafts, wear rings and other working parts shall be of corrosion-resistant materials.~~

Reserved

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Mod11991_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

27

SW11999

Date Submitted	02/11/2025	**Section**	454.2.12.1	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Updates the requirements for swimming pool and spa pressure pipping tests.

Rationale

Air pressure should not be used to test PVC piping. 25 psi is sufficient to determine proper system function.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code
Updates and modernizes code.

SW11999Text Modification

454.2.12.1 Pressure test.

All pool piping shall be tested and proved tight to the satisfaction of the administrative authority, under a static, water ~~or air~~pressure test of not less than ~~35~~25 psi (~~241~~172 kPa) for 15 minutes.

Exception: Circulating pumps need not be tested as required in this section.

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Mod11999_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

28

SW12001

Date Submitted	02/11/2025	**Section**	454.2.21.3	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Updates the terms and standard references for Suction Outlet Fitting Assemblies.

Rationale

Updates language to conform with national standards and updates requirements for SOFA placement.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes the code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes the code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code
Updates and modernizes the code.

SW12001Text Modification

454.2.21.3 ~~Main outlet~~ Suction Outlet Fitting Assembly.

An approved ~~main outlet~~ Suction Outlet Fitting Assembly (SOFA), when provided, shall be located on a wall or floor ~~at or near the deepest point in the pool for emptying or circulation, or both, of the water in the pool~~.

Page: 1

Mod12001_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

29

SW12003

Date Submitted	02/11/2025	**Section**	454.2.21.5	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Eliminates requirements that are already outlined in referenced standard ANSI/PHTA-5.

Rationale

Inlet fitting requirements are specified in ANSI/PHTA 5 Standard and do not need to be restated here.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Streamlines code by eliminating duplicative standards.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Streamlines code by eliminating duplicative standards.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code
Streamlines code by eliminating duplicative standards.

SW12003Text Modification

454.2.21.5 ~~Inlet fittings.~~

~~Approved manufactured inlet fittings for the return of recirculated pool water shall be provided on the basis of at least one per 300 square feet (28 m^2) of surface area. Such inlet fittings shall be designed and constructed to insure an adequate seal to the pool structure and shall incorporate a convenient means of sealing for pressure testing of the pool circulation piping. Where more than one inlet is required, the shortest distance between any two required inlets shall be at least 10 feet (3048 mm).~~ Reserved

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Mod12003_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

30

SW12005

Date Submitted	02/11/2025	**Section**	454.2.16	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Creates and exception to the 2023 NFPA 70 for bonding pools and spas. Preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

Rationale

The requirements to use a copper or steel grid for the bonding of swimming pool permitter surfaces is not justified and does not provide improvements in the elimination of voltage gradients compared to existing methods. This proposal seeks to maintain the status quo single wire bonding that has been in place in Florida for 20 years. In that 20 year period there has not been a single documented case of the failure of the single wire bonding method. Additionally, it is estimated that the requirements of 2023 NFPA 70 Sec. 680.26(2)(a)-(b) will add between 2% to 10% to the cost of residential pool construction depending on copper prices and even greater costs increases for remodels having to bring the equipotential bonding up to the 2023 NFPA 70 standard.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
This proposal will prevent unnecessary cost increases to consumers.
Impact to industry relative to the cost of compliance with code
This proposal will prevent unnecessary cost increases to the industry.
Impact to small business relative to the cost of compliance with code
This proposal will prevent unnecessary cost increases to the industry.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
This preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This prevents specification of materials an methods. NFPA 70 locks consumers and the industry in to a specific method of compliance whereas this modification allows for multiple methods of compliance and varied use of materials.

Does not degrade the effectiveness of the code

This preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

SW12005Text Modification

454.2.16 Electrical.

Electrical equipment wiring and installation, including the bonding and grounding of pool components, shall 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 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.

Exception: In lieu of the requirements of NFPA 70 Sec. 680.26(2)(a)-(b) for conductive paved and unpaved swimming pool perimeter surfaces, swimming pools and spas may be bonded by single copper conductor where the following requirements are met:

(1) At least one minimum 8 AWG bare solid copper conductor shall be provided.

(2) The conductors shall follow the contour of the perimeter surface.

(3) Only listed splicing devices or exothermic welding shall be permitted.

(4) The required conductor shall be 450 mm to 600 mm (18 in. to 24 in.) from the inside walls of the pool.

(5) The required conductor shall be secured within or under the perimeter surface 100 mm to 150 mm (4 in. to 6 in.) below the subgrade.

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Mod12005_TextOfModification.pdf

SW12005Rationale

F.E. Santos PE
5333 COLLINS AVENUE
MIAMI BEACH, Fl 33140
PE # 19522 (Electrical)
Ph: 786.367.3261.
Office: 305.688.2000.Fax: 305.688.3000.Email:shineco1@bellsouth.net

MIAMI-DADE COUNTY
BUILDING & ZONING DEPARTMENT
11805 SW 26TH Street
Miami,Fl 33175-2474
Attn: Mr. Stuart Bazerman Electrical Division Director

March 13, 2007

Ref: Resistance test for bonding installation in new Swimming Pool
Job Name: Nicolas Tempestini Residence Swimming Pool
Job address: 9821 NW 26th Street Doral,Fl

Dear Mr. Bazerman:

This is to certify that an additional Fall-of-Potential test was performed for a different bonding installation at the above address.

The bonding installation consisted of a #8 solid bare copper grid 12"x 12"and 36"wide installed around the perimeter of the pool.

All metallic components of the pool including the reinforcing rebar in the pool walls were bonded to the bonding installation at 4 places.

Copper Clad ground rods were driven adjacent to the pool area and resistance tests was performed to determine the ground continuity between the ground rods and the bonding installation.

A resistance to ground was measured for the bonding installation the results listed below showed resistance with and without copper grid, less than 25 ohms for both systems.

Tests Date: March 7, 2007 (Single # 8) and March 13, 2007(Copper grid)

Test Instruments: Biddle Series 3 Resistance Tester, Simpson 260

		(Single # 8)	(Copper grid)
Location 1:	Adjacent to north side of pool @ 8 feet	= 5.6 ohms	5.9 ohms
Location 2:	Adjacent to east side of pool @ 6 feet	= 3.4 ohms	5.4 ohms
Location 3:	Adjacent to south side of pool @ 5 feet	= 7.7 ohms	8.6 ohms

Should you have any questions regarding the above, or require additional information, please contact us.

Respectfully,

F.E. Santos, PE

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Mod_12005_Rationale_Santos Bonding Tests_2007.pdf

SW12005Rationale

Jason W Rice, P.E.
Consulting Engineer
10289 Penningcroft Lane
Mechanicsville, VA 23116
P 804-514-0743
F 804-368-7287

February 1, 2007

FSPA
Attn: Jennifer Hatfield
1718 main st. Suite 303
Sarasota, FL 34236
P 941-952-9293
F 941-366-7433

Project Location: NEC Bonding Issue

Ms. Hatfield,

I would like to take this opportunity to express my professional opinion about the equipotential bonding question as they pertain to pools. It is my opinion that the proposed language for the 2008 NEC, Section 680.26 is sufficient to reduce the potential for voltage gradients in a pool area. The section in question states that providing adequate bonding for a perimeter surface requires a single, minimum 8 AWG, bare solid copper conductor to follow the contour of the pool. This "contour bonding" shall be connected to the pool steel in at least four (4) uniformly spaced locations (except for non-conductive pool shells). Additionally, this contour bonding shall be 18-24 in. from the inside wall of the pool and secured under 4-6 in. of topsoil. All splicing and connections shall conform to NEC requirements.

I have had the opportunity as engineer of record on more than 3,000 pool related projects, both commercial and residential. Additionally, I have actively been providing electrical engineering designs in the residential, commercial and

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Mod_12005_Rationale_Rice Engineering Report_2007.pdf

SW12005Rationale

industrial industries for the past 12 years. It is my professional opinion that the above perimeter bonding is all that is required to ensure a reduction in the potential for voltage gradients for the perimeter surfaces in a pool area.

Please don't hesitate to contact me if you have any further questions or comments.

Sincerely,

Jason W. Rice, P.E.

Attachments: 1 – Jason Rice Curriculum Vitae

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Mod_12005_Rationale_Rice Engineering Report_2007.pdf

SW12005Rationale

Jason W. Rice, PE

Mr. Rice has over 12 years of professional experience in all aspects of governmental, institutional, commercial, industrial, residential, recreational, structural, electrical and environmental engineering. His work has traversed the United States, the Caribbean and includes the engineering of more than 3,500 projects (over 2,000 pools) and conducting over 1,000 inspections.

His He is supported by three assistants, a field technician, a GIS technician and a project engineer. The field technician is licensed as a Certified Pool Operator and a Pool & Spa Repair Contractor with over 10 years' experience in the pool industry. The GIS technician has over 10 years' of government, commercial and residential engineering experience. The project engineer is a mechanical engineer with over 15 years of design engineering experience.

Prior to his independent consulting work, Mr. Rice worked with an environmental and electrical engineering, design-build firm and several multi-disciplined, civil & MEP engineering firms. His responsibilities were in all phases of engineering, from assisting clients with conceptual layout, preliminary or forensic inspections and review, obtaining public official approval on preliminary designs, preparing the final design documents, management of construction (including inspections) to the final turnover to the client. Mr Rice's experience provides not only multi-discipline engineering design but also a firm comprehension of how these fields affect the overall scope on a project.

Commercial

Electrical, Columbia Restaurant, Sarasota, FL. The engineering design of modifications to the 1000A electrical distribution system.

Electrical, Dwyers Irish Pub, Ft Myers, FL. The engineering design of modifications to the 2000A electrical distribution system.

Electrical, Metro Coffee & Wine Club, Sarasota, FL. The engineering design of modifications to the 2500A electrical distribution system.

Electrical, Sarasota Commercial Management Office Building, Sarasota, FL. The engineering design of modifications to the 1000A electrical distribution system.

Electrical, Mariott Resort, West Palm Beach, FL. The engineering design of the modifications to a 800A electrical distribution system.

Electrical, AutoPilot Systems, Ft Lauderdale, FL. The engineering design of the modifications to the 2000A electrical distribution system.

Electrical, Lo Chlor, Ft Lauderdale, FL. The engineering design of the manufacturing control system.

Electrical, Days Inn, Port Charlotte, FL. The engineering design of the fire alarm and control system.

Electrical, Collier County Public Library, Immokalee, FL. The engineering design of the fire alarm and control system.

Registrations:
Professional
Engineer/FL/2002

Professional Engineer/VA/2004

Professional Engineer/MD/2004

Professional Memberships:
American Concrete Institute

Association of Pool & Spa Professionals

National Fire Prevention Association, NEC

Florida Swimming Pool Association

Community Involvement:
King's Charter Architectural Control Committee Member, 2006-2007.

Florida Swimming Pool Association, State of Florida Technical Advisor, responsible for providing technical and building code guidance on policies and represented the association at the state and national level, 2004-2006.

Conducted Building Code Training Courses for city officials, various Broward & Palm Beach County cities, FL 2004 - 2005.

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Mod_12005_Rationale_Rice Engineering Report_2007.pdf

SW12005Rationale

Electrical, Homewood Suites by Hilton, Sarasota, FL. The engineering design of the fire alarm and control system.

Electrical, The Courtyard at Market Square, Sarasota, FL. The engineering design of the fire alarm and control system.

Electrical, Homewood Suites by Hilton, Sarasota, FL. The engineering design of the fire alarm and control system.

Water Resources, The Singer Island Resort, Singer Island, FL. a 1,500+ SF, beach entry and recreational slide swimming pool, a 850+ SF perimeter overflow formal pool and a 35+ SF spa. All of these pools are located above the parking garage and supported on a column system structural design.

Water Resources, Walt Disney World, Typhoon Lagoon, Orlando, FL, a 2000+ SF, 170,000+ gal beach entry and recreational slide swimming pool. The engineering included all hydraulic, electrical, structural and mechanical systems. Provided construction management on all phases.

Water Resources, US Marines, 29 Palms Base, Adobe Flats II Clubhouse, Ocotillo Heights Community Center, Desert View Terrace Clubhouse, Twenty-Nine Palms, CA, three (3) separate 1,200 SF, 45,000 gal pools with kiddie water feature play areas. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, Landstar-Waterstone Development, Miami, FL a 2000+ SF, 120,000+ gal pool, 200+ SF kiddie pool and 35+ SF spa. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, The Mariott Courtard, Pembroke Pines, FL, a 800+ SF, 30,000+ gal pool. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, The Aman Yara Resort, Turks & Caicos Island, a 2000+ SF, 120,000+ gal pool, 200+ SF kiddie pool and 35+ SF spa. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, Rolling Hills Golf & CC, Akron, OH, remodeling of a 1,800 SF pool and decking. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, The Jungle Club, Vero Beach, FL, remodeling of a 2,800 SF pool, a 49 SF spa and a new 2,300 SF pool. The engineering included all hydraulic, electrical, structural and mechanical systems.

Drainage Design, Universal Studios, Universal's Islands of Adventure, Orlando, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system;

International Aquatics Foundation, member of IAF-7 committee, this committee is responsible for updating the national code for swimming pool standards, Washington DC, 2005

Facing It Together, non-profit organization that raises money through sponsorship of athletic events and provides monies for surgical reconstruction of facial abnormalities for disadvantaged children, Broward County, FL 2004 - 2006.

Leukemia & Lymphoma Society, non-profit organization that raises money through sponsorship of athletic events and provides monies for research into the treatment of cancer, Palm Springs, CA 2003 - 2004.

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Mod_12005_Rationale_Rice Engineering Report_2007.pdf

SW12005Rationale

Residential

Electrical, Falcone Residence, Boca Raton, FL. The engineering design of the 1500A electrical distribution system on new residence.

Electrical, Manchester Residence, Sarasota, FL. The engineering design of the refurbishments to the 1600A electrical distribution system on an existing residence.

Electrical, Cannon Residence, Sarasota, FL. The engineering design of the refurbishments to the 600A electrical distribution system on an existing residence.

Water Resources, Brown Residence, Paradise Island, Bahamas, engineering design of 600 SF, 18,000 gal., deep foundation koi pond and multiple water features. Additionally, this project included the design of a 1,800 SF, 180,000 gal. pool, a 28 foot single-span RC bridge, a 120 SF, 4 column, grade beam and deep foundation gazebo structure, a 240 SF by 8 feet high RC and masonry deep foundation water fall structure. The engineering included all hydraulic, electrical, structural and mechanical systems. Provided construction management on all phases.

Water Resources, Venturi Residence, Ft Lauderdale, FL. Engineering design of 1,200 SF, 96,000 gal. pool and a 600 SF, two-story, RC and masonry waterfall/cave structure. A key feature of the cave was the 28 feet single span opening on one side. The engineering included all hydraulic, electrical, structural (shallow foundation) and mechanical systems. Provided construction management on all phases.

Water Resources, Smith Residence, Plantation, FL. Engineering design of 500 SF, 21,000 gal. pool and a 100 SF, two-story, RC spa and waterfall structure. The engineering included all hydraulic, electrical, structural (shallow foundation) and mechanical systems..

Municipal

Control System/Drainage Design, Gore Street Alum Treatment System, City of Orlando, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Lake Howard Alum Treatment System, City of Winter Haven, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Port Orange Alum Treatment System, City of Port Orange, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

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Mod_12005_Rationale_Rice Engineering Report_2007.pdf

SW12005Rationale

Control System/Drainage Design, East Lake Alum Treatment System, Hillsborough County, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Clearwater Alum Treatment System, City of Clearwater, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Winter Park Alum Treatment System, City of Winter Park, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Polk County Environmental Services, Lake Blue/Lake Cannon, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Water and Sewer, Miami-Dade Water & Sewer, Alexander Orr Water Treatment Plant, Miami, FL. Complete design of temperature and vibration control systems on four, 2000 amp emergency generators. Provided installation, startup and calibration of the complete system.

Control System/Water and Sewer, East Waste Water Treatment Plant, City of Orlando, FL. Provided hydraulic and controls engineering and design of refurbishments to 100,000 GPD reuse system and annual hydraulic system testing, calibration and certification. Provided controls and electrical engineering design for activated sludge, heat-tracing system.

Control System/Water and Sewer, Bradenton Waste Water Treatment Plant, City of Bradenton, FL. Engineering design and build of methanol feed system for 35 MGD plant.

Water and Sewer, Sykes Creek Waste Water Treatment Plant, Brevard County, FL. Engineering design of rehab to 25 MGD influent structure hydraulics, monitoring and control system.

Control System/Water and Sewer, US Air Force, Tyndall AFB Waste Water Treatment Plant, Tyndall, FL. Engineering design and build of effluent hydraulic, UV treatment and control system for 100,000 GPD plant.

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Mod_12005_Rationale_Rice Engineering Report_2007.pdf

SW12005Rationale

industrial industries for the past 12 years. It is my professional opinion that the above perimeter bonding is all that is required to ensure a reduction in the potential for voltage gradients for the perimeter surfaces in a pool area.

Please don't hesitate to contact me if you have any further questions or comments.

Sincerely,

Jason W. Rice, P.E.

Attachments: 1 – Jason Rice Curriculum Vitae

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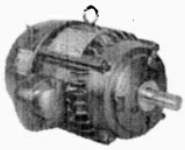
Mod_12005_Rationale_Rice Engineering Report_2007.pdf

SW12005Rationale



Electro-Kinetic Corporation

Licensed Electrical Contractors

1801 S. Ocean Drive Hallandale, Fl. 33009 Phone/Fax (954) 456-7889

March 8, 2007

Stu Bazerman
11805 SW 26th Street
Miami, Fl. 33175-2474

Job Name: Angie Daza
Job Address: 11103 NW 71 Terrace Doral, Fl.

Dear Mr. Bazerman,

We have inspected and tested the bonding components of the swimming pool installed at the above address. A single #8 bond wire has been installed 360 degrees around the swimming pool. This bonding conductor is 18" from the inside of the pool wall. All metallic components of the pool are bonded to this wire including the reinforcing rods in the pool walls. We certify that the installed components meet the requirements of Article 680 of the National Electric Code. Resistance tests of the bonded equipment were completed on March 7, 2007.

Copper Clad ground rods were driven adjacent to the pool area and resistance tests performed to determine the ground continuity between the ground rods and the bonded pool equipment. An acceptable resistance to ground was measured for this swimming pool bonding system (less than 25 ohms). There is no further recommendation for additional bonding methods required for this location. The results of our resistance tests of the bonded equipment are listed below.

Test Date: March 7, 2007
Test Instruments: Biddle Series 3 Resistance Tester; Simpson 260

Location 1:	Adjacent to west side of pool @ 6 feet	16.8 ohms
Location 2:	Adjacent to north side of spa @ 5 feet	12.1 ohms
Location 3:	Adjacent to south side of pool @ 6 feet	13.4 ohms

Sincerely,

George DeSalle
Florida State Certification: # EC 1767

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Mod_12005_Rationale_DeSalle Bonding Tests_2007.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

31

SW12008

Date Submitted	02/11/2025	**Section**	454.2.14.2	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Eliminates equipment manufacturing requirements that are no longer needed due to industry manufacturing standards and practice.

Rationale

Specifying pool heater features in the FBC is unnecessary due to current industry manufacturing practices and technology.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes the code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes the code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.

Does not degrade the effectiveness of the code
Updates and modernizes the code.

SW12008Text Modification

454.2.14.2 ~~Water retention.~~

~~If a heater is not equipped or designed for an approved permanent bypass or antisiphon device, an approved permanent bypass or antisiphon device shall be installed to provide a positive means of retaining water in the heater when the pump is not in operation.~~ Reserved.

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Mod12008_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

32

SW12010

Date Submitted	02/11/2025	**Section**	454.2.14.5	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Eliminates equipment manufacturing requirements that are redundant and unnecessary due to modern manufacturing standards and practice.

Rationale

Specifying pool heater features in the FBC is unnecessary due to current industry manufacturing practices and technology.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes the code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes the code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.

Does not degrade the effectiveness of the code
Updates and modernizes the code.

SW12010Text Modification

454.2.14.5 ~~Relief valve.~~

~~When water heating equipment which is installed in a closed system has a valve between the appliance and the pool, a pressure relief valve shall be installed on the discharge side of the water heating equipment. For units up to and including 200,000 Btu/hour input, the relief valve shall be rated by the American Gas Association.~~
Reserved.

Page: 1

Mod12010_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

33

SW12012

Date Submitted	02/11/2025	**Section**	454.2.16.1	**Proponent**	Dallas Thiesen
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Requires underwater lights on new residential pools to be low voltage.

Rationale

All underwater lights should be low voltage to reduce the possibility of electrical hazards in swimming pools and spas. Commercial swimming pools and spas have been successfully using low voltage lights for years.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None.

Impact to building and property owners relative to cost of compliance with code

Minimal, slight increase in cost on light components but this will be offset with longer service LED lights now mandated under Federal rules.

Impact to industry relative to the cost of compliance with code

Minimal, slight increase in cost on light components but this will be offset with longer service LED lights now mandated under Federal rules.

Impact to small business relative to the cost of compliance with code

Minimal, slight increase in cost on light components but this will be offset with longer service LED lights now mandated under Federal rules.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Updates and modernizes the code. Eliminates potential electrical risks.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Updates and modernizes the code. Eliminates potential electrical risks.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not specify a product or material.

Does not degrade the effectiveness of the code

Updates and modernizes the code. Eliminates potential electrical risks.

SW12012Text Modification

454.2.16.1 Voltage Limitation

Underwater lighting, or lighting that may be exposed to nozzle-directed pool water, shall not exceed 30 volts DC or 15 volts AC. Such lights shall be installed in accordance with the manufacturer's installation instructions and be listed by a nationally recognized testing laboratory.

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Mod12012_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

34

SW12016

Date Submitted	02/11/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Reduce number of skimmers required in designated swimming areas of artificial lagoons, add requirement for wall inlets.

Rationale

Skimmer spacing should be driven more by flow rate, and flow rates may vary widely because there is no minimum turnover rate. Surface flow on a pool or basin will have many small and random vortices unless wall inlets steer that flow into larger vortices, and those larger vortices are needed to bring more of the surface scum to the skimmer. Because the flow velocity at a wall inlet is much greater than the flow velocity at a skimmer, the inlet will drive the flow pattern much more than the skimmer does.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None.
Impact to building and property owners relative to cost of compliance with code
Cost is reduced, inlets are less expensive than skimmers
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Floating scum needs to be removed from artificial swimming lagoons.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

As described in the rationale, wall inlets are important for steering flow patterns.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination.

Does not degrade the effectiveness of the code

No degradation.

SW12016Text Modification

454.1.11.3 Construction standards for artificial lagoons. … If any designated swimming area, or portion thereof, is designed with swimming pool features, including concrete vertical walls and floors, such areas of the artificial lagoon shall be designed in compliance with Sections 454.1.2.2.2, 454.1.2.2.3 and 454.1.2.2.4. Additionally, at least one debris skimmers and one wall inlet shall be provided ~~in such areas at least every~~along eachvertical wall that is over 40 linear feet (12.19 m) in length. Zero depth entry areas of artificial lagoons shall be designed in compliance with Sections 454.1.11.5 and 454.1.11.6.

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Mod12016_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

35

SW12102

Date Submitted	02/14/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Simplify pastel color requirements

Rationale

The pool finish material is always wet when in use. The dry requirement is an extra test that has no impact on safety.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement
Impact to building and property owners relative to cost of compliance with code
No impact but they would get more choices
Impact to industry relative to the cost of compliance with code
Industry wouldn't need to do as many tests
Impact to small business relative to the cost of compliance with code
No impact

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, the wet reflectance value needs to be high to increase the ability to see people and objects submerged in the pool.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, this makes proving compliance easier for companies that manufacture non-absorbent pool finish materials such as tile, padding, and liners.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Because only plaster changes its reflectivity when wet or dry, today the code is effectively saying that plaster can have a reflectivity of 50 while other materials must be 80. This change eliminates that discrimination.

Does not degrade the effectiveness of the code

There is no degradation.

1st Comment Period History

SW12102-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:51:34 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW12102Text Modification

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. Floors and walls in slide landing areas, and in pools with a maximum depth of 24 inches (610 mm) or less, are exempt from this color requirement. The interior finish coating floors and walls shall be comprised of a nonpigmented 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 D4086, ASTM E1477, ASTM E1347. Pools constructed of fiberglass, thermoplastic, or stainless steel shall be subject to the same interior finish color requirements. A minimum 4-inch (102 mm) tile line, each tile a minimum size of 1 inch (25 mm) on all sides, shall be installed at the water line, but shall not exceed 12 inches (305 mm) in height if a dark color is used. Gutter-type pools may substitute a 2-inch (51 mm) tile line, each tile a minimum size of 1 inch (25 mm) on all sides, along the pool wall edge of the gutter lip.

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Mod12102_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

36

SW12103

Date Submitted	02/14/2025	**Section**	454	**Proponent**	Michael Weinbaum
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

All pools should have wall inlets.

Rationale

All pools should have a wall inlet to optimize the action of the skimmers.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
No impact
Impact to building and property owners relative to cost of compliance with code
No impact, most pools have some wall inlets anyhow, wall inlets are usually less expensive to plumb than floor inlets
Impact to industry relative to the cost of compliance with code
No impact
Impact to small business relative to the cost of compliance with code
No impact

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, it is important to make sure skimming is effective.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, it eliminates the "no wall inlets" choice which is more costly and less effective.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No discrimination.

Does not degrade the effectiveness of the code
No degradation.

1st Comment Period History

RW12103-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:52:07 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW12103Text Modification

454.1.6.5.9 Inlets. All inlets shall be adjustable with wall-type inlets being directionally adjustable and floor-type inlets having a means of flow adjustment. Floor inlets shall be designed and installed such that they do not protrude above the pool floor and all inlets shall be designed and installed so as not to constitute sharp edges or protrusions hazardous to pool bathers. Floor inlets for vinyl liner and fiberglass pools, shall be smooth with no sharp edges, and shall not extend more than $^{3}/_{8}$ inch (9.5 mm) above the pool floor. Wall inlets shall be installed a minimum of 12 inches (305 mm) below the normal operating water level unless precluded by the pool depth or intended for a specific acceptable purpose. The spacing of inlets shall comply with one of the following:

1. The pool is 30 feet (9144 mm) in width or less and has wall inlets such that the inlet spacing does not exceed 20 feet (6096 mm) along the entire pool water perimeter.

~~1. The pool has floor inlets such that the spacing between adjacent inlets does not exceed 20 feet (6096 mm) and the spacing between inlets and adjacent walls does not exceed 10 feet (3048 mm).~~

2. The pool has a combination of wall and floor inlets such that the spacing between adjacent ~~inlets of the same type~~ floor inlets does not exceed 20 feet (6096 mm), the spacing between a ~~floor inlet and an adjacent~~ wall without inlets and the nearest floor inlet does not exceed 10 feet (3048 mm), and the spacing between a ~~floor inlet and an adjacent~~ wall with inlets and the nearest floor inlet does not exceed 25 ft (7620 mm). The minimum number of wall inlets shall be one for a pool whose perimeter is 150 ft (45.72 m) or less, otherwise, two.

In each case, additional wall or floor inlets may be provided above and beyond these minimum requirements.

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Mod12103_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

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SW12111

Date Submitted	02/14/2025	**Section**	454.1.10.4.1	**Proponent**	John Hall
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

This modification is a local technical amendment to address the voltage limitations for commercial swimming pools.

Rationale

This is a local technical amendment to limit the voltage of underwater lighting in commercial swimming pools. This amendment will limit the voltage levels in underwater swimming pools which will provide a greater degree of safety to pool users.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The impact to the local entity (Miami-Dade County) will zero due to the fact that this provision has been in the county code for several years. This amendment is an update of language in 454.1.4.2.5.

Impact to building and property owners relative to cost of compliance with code

The impact to building and property owners will not change due to the fact that this is simply an update to current language already adopted locally.

Impact to industry relative to the cost of compliance with code

The impact to industry will be none, due to the fact that this provision has been in effect for several years. This is an update to the previous language.

Impact to small business relative to the cost of compliance with code

Impact to small business relative the cost of compliance will be zero due to the fact that this provision has been in effect for several years. This is simply an update to the language.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This provision has a direct connection with the health, safety, and welfare of the general public by reducing the voltage level in swimming pools should an event occur regarding a malfunction in the pool lighting equipment..

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This provision strengthens the code by providing better products, methods and systems of providing the required illumination on swimming pools.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This provision limits the hazard from line voltage shock incidents in swimming pools.

Does not degrade the effectiveness of the code

This provision does not degrade the effectiveness of the code. To the contrary, this provision increases the effectiveness of the code by reducing the shock hazard in swimming pools.

1st Comment Period History

SW12111-G1

Proponent bob vincent Submitted 4/16/2025 11:53:54 PM Attachments No

Comment:

Department of Health supports this revision.

SW12111Text Modification

454.1.10.4.1 Ground-fault circuit interrupter protection for personnel.

Outlets supplying repaired, replaced, altered, or relocated poolpump motors connected to single-phase, 120-voltthrough 240-voltbranch 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 through240-volt branch circuits, rated 15- and 20-amperes, whether by receptacle or by direct connection, shall be provided with ground-fault circuit interrupter protection for personnel. For underwater luminaires refer to **454.1.4.2.5 Voltage limitation.**

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Mod12111_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

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SW12115

Date Submitted	02/14/2025	**Section**	454.2.16	**Proponent**	John Hall
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

This modification is a local technical amendment to adderss the voltage limitations for residential swimming pools.

Rationale

This is a local technical amendment to limit the voltage of underwater lighting in private swimming pools. This amendment will limit the voltage levels in underwater swimming pools which will provide a greater degree of safety to pool users.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The impact to the local entity (Miami-Dade County) will be zero due to the fact that this provision has been in the county code for several years. This amendment is an update of language in 454.

Impact to building and property owners relative to cost of compliance with code

The impact to building and property owners will not change due to the fact that this is simply an update to current language already adopted locally.

Impact to industry relative to the cost of compliance with code

The impact to industry will be none, due to the fact that this provision has been in effect for several years. This is an update to the previous language.

Impact to small business relative to the cost of compliance with code

The impact to small business related to the cost of compliance will remain as is due to the fact that this provision has been in effect for several years.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This provision has a direct connection with the health, safety, and welfare of the general public by reducing the voltage level in swimming pools should an event occur regarding a malfunction in the pool lighting equipment..

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This provision strengthens the code by providing better products, methods and systems of providing the required illumination on swimming pools.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This provision limits the hazard from line voltage shock incidents in swimming pools.

Does not degrade the effectiveness of the code

This provision does not degrade the effectiveness of the code. To the contrary, this provision increases the effectiveness of the code by reducing the shock hazard in swimming pools.

SW12115Text Modification

454.2.16

Electric equipment wiring and installation, including the bonding and grounding of pool components, shall 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 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 or 20 amperes, whether by receptacle or by direct connection, shall be provided with ground-fault circuit interrupter protection for personnel.

454.2.16.1 Voltage Limitation. Underwater lighting, or lighting that may be exposed to nozzle-directed pool water, shall not exceed 30 volts DC or 15 volts AC. Such lights shall be installed in accordance with manufacturer's installation instructions and be listed by a nationally recognized testing laboratory.

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Mod12115_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

39

SW12197

Date Submitted	02/17/2025	**Section**	454.1.2.5.4	**Proponent**	Samuel Liberatore
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

454.1.2.5

Summary of Modification

Modify the depth of the swimout to 12" below the water line.

Rationale

The waterline for continues overflow (scum gutter) pools starts 6" to 8" below the deck. The swimout will on have 4" to 6" of water depth. 10" below the waterline would provide adequate space for not only ingress and egress, and would be the same as maximum depth as a step.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Swimouts provide easy access for people to enter and exit the pool. Providing an adequate depth for a swimout should be the same maximum depth as a step.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This will provide easier access for people to enter and exit the pool and provide a better and more adequate depth for a swimout. It should be the same as the maximum depth as a step.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This will not discriminate against materials, products, methods, or systems of construction for demonstrated capabilities.

Does not degrade the effectiveness of the code

This does not degrade the effectiveness of the code.

1st Comment Period History

FW12197-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:53:46 AM Attachments No

Comment:

The Florida Swimming Pool Association Opposes this modification.

SW12197Text Modification

Swimouts shall extend 18 (457 mm) to 24 inches (610 mm) back from the pool wall, shall be 4 to 5 feet (1219 mm to 1524 mm) wide, shall be a maximum of 10 inches (254 mm) ~~12 inches (305 mm)~~ below the waterline ~~deck~~, unless stairs are provided in the swimout, and shall be located only in areas of the pool greater than 5 feet (1524 mm) deep. Pools that do not utilize a continuous perimeter overflow system must provide a wall return inlet in the swimout for circulation. A permanent dark contrasting colored band of tile shall be installed at the intersection of the pool wall and the swimout and must extend 2 inches (51 mm) on the horizontal and vertical surfaces. Tile must be slip resistant. Bullnose tile may be substituted and installed in accordance with Section 454.1.2.5.3 above.

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Mod12197_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

40

SW12199

Date Submitted	02/17/2025	**Section**	454.1.9.6.5	**Proponent**	Samuel Liberatore
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

454.1.9.6.6

Summary of Modification

Eliminate the need for additional inlets reference.

Rationale

The wording is confusing. "Additional" indicates more than necessary and is being misinterpreted. Although there may be enough or "additional" returns in the zero-entry, Officials are requesting more returns for the remaining portion of the pool even though there is turnover calculation provides 1-hour for the zero-entry.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
This provides better clarity and interpretation of the code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
This provides better clarity and interpretation of the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This does not discriminate against any material, products, methods, or system of construction and provides better clarity and interpretation of the code.

Does not degrade the effectiveness of the code

This does not degrade the effectiveness of the coded and provides better clarity and interpretation of the code.

1st Comment Period History

SW12199-G1

Proponent Michael Weinbaum Submitted 4/9/2025 9:12:51 PM Attachments No

Comment:

Martin Aquatic Design and Engineering supports this code change.

1st Comment Period History

SW12199-G2

Proponent Dallas Thiesen Submitted 4/16/2025 9:55:29 AM Attachments No

Comment:

The Florida Swimming Pool Association Opposes this modification. The word "additional" does not is clear and needs no clarification.

SW12199Text Modification

~~Additional inlets shall be provided in areas of less than 18 inches (457 mm) deep.~~ Provide enough inlets in areas 18 inches (457 mm) or less, ~~The numbers and location shall be such as~~ to ensure a 1-hour turnover in this area.

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Mod12199_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

41

SW12202

Date Submitted	02/17/2025	**Section**	454.1.2.6	**Proponent**	bob vincent
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language Yes**

Related Modifications

Summary of Modification

Allows a minimum width 2-inch wide edge marker at 4-foot water depth drop-off sun shelf, increasing width from 3/4-inch (19.1 mm) minimum to 51 mm minimum.

Rationale

This is sound engineering for safety at this 4-foot deep drop-off. A wider drop-off edge marker provides a highly visible warning to sun shelf patrons, especially for non-swimmer children and for their parents or guardians. Previous to the 2023 version, since its inception, this code section required a 4-inch wide marker.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
Nominal
Impact to industry relative to the cost of compliance with code
Nominal
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Will prevent injuries and drowning
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not

Does not degrade the effectiveness of the code

Does not

Alternate Language

1st Comment Period History

SW12202-A1

Proponent Michael Weinbaum **Submitted** 4/10/2025 6:50:06 PM **Attachments** No

Rationale:

This eliminates a sentence from the original proposal that would create a conflict. The clearance requirement from the edge of a sun shelf to the opposite wall in 454.1.2.2.2 is 10 feet.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

none

Impact to building and property owners relative to cost of compliance with code

none

Impact to industry relative to the cost of compliance with code

none

Impact to small business relative to the cost of compliance with code

None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes, it is important for sun shelf edges to be clearly marked

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, the original proposal gives clarity, except for that last sentence.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

1st Comment Period History

SW12202-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:57:34 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW12202-A1Text Modification

454.1.2.6

…

3. A sun shelf may be installed in pool areas with no more than 4 feet (1219 mm) of water depth, or less, except where the entire sun shelf transitions to steps, where the depth at the bottom of the steps can exceed 4 feet (1219 mm). ~~A sun shelf must have the same markings at the edge of a bench.~~ A sun shelf must have a dark contrasting slip resistant tile marking at the edge of the shelf and the pool wall extending a minimum of 2 inches (51 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. A sun shelf may not protrude into the diving bowl. A sun shelf must additionally comply with Section 454.1.2.8.

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Mod12202_A1_TextOfModification.pdf

SW12202Text Modification

454.1.2.6- 3. A sun shelf may be installed in pool areas with no more than 4 feet (1219 mm) of water depth, or less, except where the entire sun shelf transitions to steps, where the depth at the bottom of the steps can exceed 4 feet (1219 mm). ~~A sun shelf must have the same markings at the edge of a bench.~~ A sun shelf must have a dark contrasting slip resistant tile marking at the edge of the shelf and the pool wall extending a minimum of 2 inches (51 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.A sun shelf shall not protrude into the 15-foot (4572 mm) clearance requirement of Section 454.1.2.6. A sun shelf may not protrude into the diving bowl. A sun shelf must additionally comply with Section 454.1.2.8.

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Mod12202_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

42

SW12207

Date Submitted	02/17/2025	**Section**	454.1.9.10.4	**Proponent**	bob vincent
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language Yes**

Related Modifications

Summary of Modification

Vanishing edge (a type of gutter) is a walkable horizontal surface, thus needs to be slip resistant as are all horizontal gutters.

Rationale

This clarifies code that this gutter surface, a walkable horizontal surface, needs to be designed with slip resistant surface materials to prevent accidental falls and injuries by pool patrons. Word change from non-skid to slip resistant is for code consistency, there are 15 slip resistant references in 454 code and only this one non-skid. Added clarity of water line tile to indicate it is vertical wall surface.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
Nominal
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Will prevent slip & fall injuries on the code-allowable 65 feet long edge of a pool's gutter system.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not

Does not degrade the effectiveness of the code

Does not

Alternate Language

1st Comment Period History

SW12207-A1

Proponent Michael Weinbaum **Submitted** 4/10/2025 7:05:18 PM **Attachments** No

Rationale:

Slip resistance is important when a user might place their foot upon the surface. We think the Code already has enough provisions to direct pool users to steps and ladders and not enter or exit via the top of the vanishing edge. In our experience, the horizontal width of these edges varies from 6" to 12". Often the entire top side is tiled. But we do agree that once that top gets wider, it may seem to invite people to walk along it, and in that case we do agree it should be slip resistant.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

none

Impact to building and property owners relative to cost of compliance with code

only a small impact, and the original proposal language would have a larger impact.

Impact to industry relative to the cost of compliance with code

no impact

Impact to small business relative to the cost of compliance with code

None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes, it is important to prevent slip and fall accidents.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, this precisely zeroes in on a specific area where slip and falls are more likely to happen, without affecting vanishing edges where slip and falls are much less likely.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination

Does not degrade the effectiveness of the code

No degradation.

1st Comment Period History

SW12207-G1

Proponent Dallas Thiesen Submitted 4/16/2025 9:58:45 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW12207-A1Text Modification

454.1.9.10.4 The vanishing edge length shall not exceed 65 feet (19 812 mm) or 40 percent of the pool perimeter, whichever is less. The maximum vertical distance from the top of the vanishing edge wall to the trough or catch basin cover or adjacent grade shall be 36 inches (914 mm). The maximum water depth in the pool at the vanishing edge wall shall be 4 feet (1219 mm). The vanishing edge wall shall not be considered as a perimeter deck obstruction. Water line tile at the top of the edge wall as required by Section 454.1.2.1(a) is not required to be ~~non-skid.~~ slip resistant. If the horizontal width of the surface at the top of the edge wall is 18 inches (457 mm) or more, that surface shall be slip resistant.

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SW12207Text Modification

454.1.9.10.4 The vanishing edge length shall not exceed 65 feet (19 812 mm) or 40 percent of the pool perimeter, whichever is less. The maximum vertical distance from the top of the vanishing edge wall to the trough or catch basin cover or adjacent grade shall be 36 inches (914 mm). The maximum water depth in the pool at the vanishing edge wall shall be 4 feet (1219 mm). The vanishing edge wall shall not be considered as a perimeter deck obstruction. Water line tile on the vertical wall at the top of the edge wall as required by Section 454.1.2.1(a) is not required to be ~~non-skid.~~ slip resistant. Tile installed on the horizontal surface of an edge wall shall be slip resistant.

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Mod12207_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

43

SW12212

Date Submitted	02/17/2025	**Section**	454.1	**Proponent**	bob vincent
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language Yes**

Related Modifications

Summary of Modification

Edits to preamble, existing definition and new added definitions. Edits to update referenced national standards dates.

Rationale

Update of F.S. 514.0115(5 was changed to 9 in 2021). Clarification of older definitions and some new definitions to aid in new types of pools. FBC referenced national standards (NSF 50 and 61) are updated for Public Swimming Pool Equipment and Drinking Water System Components.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, these standards and definitions are health, safety, and welfare connected
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, improves code
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not

Does not degrade the effectiveness of the code

Does not

Alternate Language

1st Comment Period History

SW12212-A2

Proponent Michael Weinbaum **Submitted** 4/16/2025 12:18:35 PM **Attachments** No

Rationale:

Martin Aquatic Design and Engineering agrees with most of the original proposal. We agree with updating code references, having a new category of cold plunge pools, and more specifics on measuring deck width. Martin Aquatic does not agree with treating secondary and supplemental disinfection the same, and Martin Aquatic does not agree with splitting public spas into hot and cold categories.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

becomes easier

Impact to building and property owners relative to cost of compliance with code

Owners installing cold plunge pools will have an easier time.

Impact to industry relative to the cost of compliance with code

No impact.

Impact to small business relative to the cost of compliance with code

None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, keeps the standards up to date.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination

Does not degrade the effectiveness of the code

The cold plunge definition is limited, there is no degradation.

1st Comment Period History

SW12212-G1

Proponent Dallas Thiesen Submitted 4/16/2025 10:00:32 AM Attachments No

Comment:

The Florida Swimming Pool Association Opposes this modification.

SW12212-A2Text Modification

454.1.1 Flood hazard areas.

Public swimming pools installed in flood hazard areas...

...Building officials shall recognize and enforce variance orders issued by the Department of Health pursuant to Section 514.0115(~~5~~2), *Florida Statutes* including any conditions attached to the granting of the variance.

"Cold Plunge Pool" means a special purpose pool for one patron with or without supervision leased by the public for a brief period of time for immersion in chilled water.

~~...~~

"Wet deck area" means the 4-foot-wide (1219 mm) unobstructed pool deck area around the outside of the pool water perimeter, including the pool-side edge of coping, curb, ladders, handrails, escutcheons, diving boards, diving towers, or pool slides, waterfalls, water features, starting blocks, planters or lifeguard chairs.

454.1.1 "Precoat pot" means a container with a valved connection to the suction side of the

recirculation pump of a pressure diatomaceous earth (D.E.) type filter system used for coating the filter with D.E.

powder or NSF/ANSI Standard 50-2024~~19~~ and manufacturer approved substitute filter aid.

454.1.6.5.16.6

Ultraviolet (UV) light disinfectant equipment may be used 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.

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 shall be certified for secondary or supplemental disinfection per NSF 50–2024~~0~~.

4.UV equipment that is not certified for secondary disinfection per NSF 50–2024~~0~~ shall be installed and configured to constantly produce a validated dosage of at least 40 mJ/cm2 (millijoules per square centimeter) at the end of lamp life, and other third party validation criteria in accordance with the USEPA Ultraviolet Disinfectant Guidance Manual dated November 2006, publication number EPA 815-R-06-007, whenever these devices are used in high-risk pools for secondary disinfection.

454.1.8.16 Cold Plunge Pools

Florida Building Code sections 454.1 through 454.1.10 apply to these pools, and only the following code sections do not apply to these pools as these code requirements are not necessary for health or safety in these special purpose pools: 454.1.2.1(a), 454.1.2.2.2, 454.1.2.3.1, 454.1.3.1.2, 454.1.3.2, 454.1.4.2.2, 454.1.6.5.3.2.5, 454.1.6.5.10.5, 454.1.6.5.11, and 454.1.6.5.16.6(3).

454.1.11.3 Construction standards for artificial lagoons.

If an artificial liner is utilized as a containment system, the artificial liner used to contain the water shall consist of a material certified under NSF/ANSI Standard 61—2024~~19~~, Drinking Water System Components—Health Effects, hereby incorporated by reference, which has been deemed copyright protected, and is available for review at the Department of State, R.A. Gray Building, 500 South Bronough Street, Tallahassee, FL 32399-0250.

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Mod12212_A2_TextOfModification.pdf

SW12212-A2Text Modification

454.1.12.3 Construction standards

If an artificial liner is utilized as a containment system, the artificial liner used to contain the water shall consist of a material certified under NSF/ANSI Standard 61-2024~~21~~, Drinking Water System Components—Health Effects~~, dated April 14, 2021~~, hereby incorporated by reference, which has been deemed copyright protected, and is available for review at the Department of State, R.A. Gray Building, 500 South Bronough Street, Tallahassee, FL 32399-0250.

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Mod12212_A2_TextOfModification.pdf

SW12212Text Modification

454.1.1 Flood hazard areas.

Public swimming pools installed in flood hazard areas...

...Building officials shall recognize and enforce variance orders issued by the Department of Health pursuant to Section 514.0115(~~5~~9), *Florida Statutes* including any conditions attached to the granting of the variance.

"Cold Plunge Pool" means a special purpose pool for one patron with or without supervision leased by the public for a brief period of time for immersion in chilled water. Florida Building Code sections 454.1 through 454.1.10 apply to these pools, and only the following code sections do not apply to these pools as these code requirements are not necessary for health or safety in these special purpose pools: 454.1.2.1(a), 454.1.2.2.2, 454.1.2.3.1, 454.1.3.1.2, 454.1.3.2, 454.1.4.2.2, 454.1.6.5.3.2.5, 454.1.6.5.10.5, 454.1.6.5.11, and 454.1.6.5.16.6(3).

"Spa pool - Hot" means a pool used in conjunction with high-velocity air or water coming from a nozzle in the back wall of a bench.

"Spa pool – Cold" means pool used for chilled water immersion and does not require high-velocity air or water nozzles.

"Wet deck area" means the 4-foot-wide (1219 mm) unobstructed pool deck area around the outside of the pool water perimeter, including the pool-side edge of coping, curb, ladders, handrails, escutcheons, diving boards, diving towers, or pool slides, waterfalls, water features, starting blocks, planters or lifeguard chairs.

454.1.1 "Precoat pot" means a container with a valved connection to the suction side of the recirculation pump of a pressure diatomaceous earth (D.E.) type filter system used for coating the filter with D.E. powder or NSF/ANSI Standard 50-2024~~19~~ and manufacturer approved substitute filter aid.

454.1.6.5.16.6
Ultraviolet (UV) light disinfectant equipment may be used 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.

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 shall be certified for secondary or supplemental disinfection per NSF 50–2024 ~~0~~.

4.UV equipment that is not certified for secondary disinfection per NSF 50–2024 ~~0~~ shall be installed and configured to constantly produce a validated dosage of at least 40 mJ/cm2 (millijoules per square centimeter) at the end of lamp life, and other third party validation criteria in accordance with the USEPA Ultraviolet Disinfectant Guidance Manual dated November 2006, publication number EPA 815-R-06-007, whenever these devices are used in high-risk pools for ~~secondary~~ disinfection.

454.1.11.3 Construction standards for artificial lagoons.

If an artificial liner is utilized as a containment system, the artificial liner used to contain the water shall consist of a material certified under NSF/ANSI Standard 61—2024~~19~~, Drinking Water System Components—Health Effects, hereby incorporated by reference, which has been deemed copyright protected, and is available for review at the Department of State, R.A. Gray Building, 500 South Bronough Street, Tallahassee, FL 32399-0250.

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Mod12212_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

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SW12220

Date Submitted	02/17/2025	**Section**	454.1.6.5.16	**Proponent**	bob vincent
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Edits to electrical interlock alone and allowing for ORP flow sensors

Rationale

Update of code to accommodate modern technology.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
Nominal
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, health safety and welfare connected
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, improves code for use of modern technology
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
Does not
Does not degrade the effectiveness of the code
Does not

1st Comment Period History

SW12220-G1

Proponent Dallas Thiesen Submitted 4/16/2025 10:01:44 AM Attachments No

Comment:

The Florida Swimming Pool Association Opposes this modification.

SW12220Text Modification

454.1.6.5.16.2 Hypohalogenation and electrolytic chlorine generators.

The hypohalogenation-type feeder and electrolytic chlorine generators shall be adjustable from 0 to full range. A rate of flow indicator is required on erosion-type feeders. The feeders shall be capable of continuously feeding a dosage of 6 mg/L to the minimum required turnover flow rate of the filtration systems. Solution feeders shall be capable of feeding the above dosage using a 10-percent sodium hypochlorite solution, or 5-percent calcium hypochlorite solution, whichever disinfectant is to be utilized at this facility. To prevent the disinfectant from siphoning or feeding directly into the pool or pool piping under any type failure of the recirculation equipment, an electrical interlock with the recirculation pump and a flow meter/flow switch/pressure switch, or flow meter/flow switch at the pH/ORP chemical controller shall be incorporated into the system for electrically operated feeders. The minimum size of the solution reservoirs shall be at least 50 percent of the maximum daily capacity of the feeder. The solution reservoirs shall be marked to indicate contents. The solution reservoirs shall be manufactured to accommodate corrosive and oxidizing liquid chemicals.

454.1.6.5.16.3 Feeders for pH adjustment.

Feeders for pH adjustment shall be provided on all pools. pH adjustment feeders shall be positive displacement type, shall be adjustable from 0 to full range, and shall have an electrical interlock with the circulation pump and a flow meter/flow switch/pressure switch, or flow meter/flow switch at the pH/ORP chemical controller to prevent discharge when the recirculation pump is not operating. When soda ash is used for pH adjustment, the maximum concentration of soda ash solution to be fed shall not exceed 1/2-pound (0.2 kg) soda ash per gallon of water. Feeders for soda ash shall be capable of feeding a minimum of 3 gallons (11 L) of the above soda ash solution per pound of gas chlorination capacity. The minimum size of the solution reservoirs shall not be less than 50 percent of the maximum daily capacity of the feeder. The solution reservoirs shall be marked to indicate the type of contents. The solution reservoirs shall be manufactured to accommodate corrosive and oxidizing liquid chemicals.

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Mod12220_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

45

SW12242

Date Submitted	02/17/2025	**Section**	454.1.9.7.4	**Proponent**	bob vincent
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Unique public pools for 1 or 2 persons are built as special purpose pools, so they must be proven to be safe; have adequate equipment for water quality that meets Department of Health pool operations Rule 64E-9, FAC. Code section for cold plunge pools is added, Epsom float tanks is amended.

Rationale

Trends in the market for small one or two person pools with special purposes that are defined as public pools is increasing, with nearly 100 Epsom salt float tanks in recent years and 35 cold plunge pools in the last year. The products are manufactured out of state or out of country and shipped to the pool owner generally for use in health clubs or similar settings. Each manufacturer must participate in the permitting process and to to acquire a code variance for unnecessary equipment or construction, and must gain approvals from Building Departments and Department of Health proving appropriate safety features and water quality sanitation is designed into the product that is required of all pools to acquire an operating permit.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Nominal
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
Nominal
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

FBC Code presence assures that patron safety and water quality sanitation information is available about these special purpose pools for designers / manufacturers of these pools, potential owners of these pools, jurisdictional building departments and the public.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, Strengthens and Improves

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not

Does not degrade the effectiveness of the code

Does not

SW12242Text Modification

454.1.9.7.4 Epsom salt float tanks
Epsom salt float tanks are special purpose pools leased by the public... (UNCHANGED)

An Epsom salt float tank must meet all public pool code requirements that apply and be approved for use by jurisdictional Building Department and by the Florida Department of Health.(FDOH).

454.1.9.7.4.1
A float tank owner shall provide the FDOH a copy of the Building Department inspection report confirming the pool has a UL listing certificate for UL Standard #1563, Standard for Electrical Spas, or provide another Building Department electrical approval for the wall electrical outlet, the pump, the underwater lighting, and any other electrical component of pool equipment.

454.1.9.7.4.2
An approved water test kit shall be provided.

454.1.9.7.4.3
A float tank rules sign is to be provided inside of the float tank room with at least ½-inch (12.7 mm) font and shall include the following in accordance with Sections 454.1.2.3.5 and 454.1.8:

NO FOOD OR BEVERAGES IN FLOAT TANK OR ON FLOAT TANK POOL DECK.

SHOWER BEFORE ENTERING.

DO NOT SWALLOW FLOAT TANK WATER

MAXIMUM WATER TEMPERATURE 104°F (40°C)

PREGNANT WOMEN, SMALL CHILDREN, PEOPLE WITH HEALTH PROBLEMS AND PEOPLE USING ALCOHOL, NARCOTICS OR OTHER DRUGS THAT MAY CAUSE DROWSINESS SHOULD NOT USE FLOAT TANK WITH FIRST CONSULTING A DOCTOR.

454.1.9.7.5 Cold Plunge Pools

454.1.9.7.5.1 All cold plunge pools must meet minimum code requirements and be approved for use by the jurisdictional building department and the Florida Department of Health (FDOH).

454.1.9.7.5.2 A cold plunge pool owner shall provide the FDOH a copy of the Building Department inspection report confirming the pool has a UL listing certificate for UL Standard #1563, Standard for Electrical Spas, or provide another Building Department electrical approval for the wall electrical outlet, the pump, the underwater lighting, and any other electrical component of pool equipment.

454.1.9.7.5.3 Cold plunge pools rules sign is to be provided inside of the plunge pool room with at least ½-inch (12.7 mm) font and shall include the following in accordance with Sections 454.1.2.3.5 and 454.1.8.13:

NO FOOD OR BEVERAGES IN COLD PLUNGE POOL OR ON POOL DECK.

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SW12242Text Modification

SHOWER BEFORE ENTERING.

DO NOT SWALLOW POOL WATER

WATER TEMPERATURE IS ABOVE_____ DEGREES F (owner determines temperature)

PREGNANT WOMEN, SMALL CHILDREN, PEOPLE WITH HEALTH PROBLEMS AND PEOPLE USING ALCOHOL, NARCOTICS OR OTHER DRUGS THAT MAY CAUSE DROWSINESS SHOULD NOT USE FLOAT TANK WITH FIRSTY CONSULTING A DOCTOR.

MAXIMUM CONTINUOUS USE: ____ MINUTES (time dependent upon temperature)

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

46

SW12252

Date Submitted	02/17/2025	**Section**	454.1.8	**Proponent**	bob vincent
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language Yes**

Related Modifications

Summary of Modification

Adds allowance statements for spa- cold pools with appropriate patron safety .

Rationale

Cold plunge pools are also being constructed in ground onsite and do not need high velocity water jets. Some seat more than 2 patrons. The rules are different for cold water spas due to "cold water shock" with possible respiratory and/or cardiac dysfunction. CPR and AED training certification of staff on duty is required by Department of Health.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
Lower cost
Impact to industry relative to the cost of compliance with code
Lower cost
Impact to small business relative to the cost of compliance with code
Lower cost

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Allows unique special purpose public pools to provide a customer service safely.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
Does not

Does not degrade the effectiveness of the code
Does not

Alternate Language

1st Comment Period History

SW12252-A1

Proponent Dallas Thiesen **Submitted** 4/16/2025 10:08:09 AM **Attachments** No

Rationale:

This alternate language changes maximum to minimum since the section is dealing with cold plunges the code should set a minimum not a maximum.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None

Impact to building and property owners relative to cost of compliance with code
None

Impact to industry relative to the cost of compliance with code
None

Impact to small business relative to the cost of compliance with code
Lower cost

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Will help keep bather safe in cold plunges.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
Does not prescribe materials or products.

Does not degrade the effectiveness of the code
Improves the code.

1st Comment Period History

SW12252-G1

Proponent Michael Weinbaum Submitted 4/16/2025 12:21:07 PM Attachments No

Comment:

Martin Aquatic Design and Engineering opposes this change. We think that there is no need for the cold spa category, and we think the requirements and definition for the cold plunge category, which are in modification 12212, are sufficient.

SW12252-A1Text Modification

454.1.8.16 Spa – Cold pools

A spa cold pool does not require hydrotherapy jets in the design or construction; all other Sections of 454.1.8. apply

454.1.8.17

In addition to the requirements of Section 454.1.2.3.5, spa - cold pool signs installed shall include the following:

1. ~~Maximum~~ Minimum water temperature is above: ___°F (___°C). ___(owner inserts temperature)
2. Children under sixteen (16) must have adult supervision.
3. Pregnant women, small children, people with health problems and people using alcohol, narcotics or other drugs that cause drowsiness should not use spa - cold pools without first consulting a doctor.
4. Maximum continuous use: 15 minutes. (owner inserts time dependent on temperature)

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Mod12252_A1_TextOfModification.pdf

SW12252Text Modification

454.1.8.16 Spa – Cold pools

A spa cold pool does not require hydrotherapy jets in the design or construction; all other Sections of 454.1.8. apply

454.1.8.17

In addition to the requirements of Section 454.1.2.3.5, spa - cold pool signs installed shall include the following:

1. Maximum water temperature is above: ____°F (___°C). ___(owner inserts temperature)
2. Children under sixteen (16) must have adult supervision.
3. Pregnant women, small children, people with health problems and people using alcohol, narcotics or other drugs that cause drowsiness should not use spa - cold pools without first consulting a doctor.
4. Maximum continuous use: 15 minutes. (owner inserts time dependent on temperature)

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Mod12252_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

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SW12336

Date Submitted	02/18/2025	**Section**	454.1.6.5.3.1	**Proponent**	bob vincent
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Recessed gutter dam wall made not visible from above to prevent patrons from using it as a step.

Rationale

The gutter front dam wall can be used a slippery step due to its placement in the FBC 8th edition that may result in injuries. This new 8th edition location protrudes out pool ward from under the coping and allows for a patron to injure backside or other body parts when jumping into pool very near the wall.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
A safety hazard from the FBC 8th edition can be resolved and prevented.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Strengthens and Improves code for safety of patrons.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
Does not

Does not degrade the effectiveness of the code

Does not

1st Comment Period History

SW12336-G1

Proponent Dallas Thiesen Submitted 4/16/2025 10:10:54 AM Attachments No

Comment:

The Florida Swimming Pool Associations Opposes this modification.

1st Comment Period History

SW12336-G2

Proponent Michael Weinbaum Submitted 4/16/2025 12:26:10 PM Attachments No

Comment:

Martin Aquatic Design and Engineering supports this change. We feel that the gutter projecting beyond the coping this way seems to be a step, but it does not have enough tread depth to be a safe step.

SW12336Text Modification

454.1.6.5.3.1.1

Either recessed-type or open-type gutters shall be used. Special designs can be approved provided they are within limits of sound engineering practice. Recessed-type gutter open areas shall be at least 4 inches (102 mm) deep and 4 inches (102 mm) wide, with a minimum 4 inches (102 mm) clearance for cleaning. The open area of the recessed gutter, ~~ex~~including the gutter front dam wall, shall not be visible from a position directly above the gutter sighting vertically down the edge of the deck or curb. Open-type gutters shall be at least 6 inches (150 mm) deep and 12 inches (305 mm) wide. The gutter shall slope 2 inches (51 mm), +/-1/4 inch (+/-6 mm), from the lip to the drains. The gutter drains shall be located at the deepest part of the gutter.

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Mod12336_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

48

SW12340

Date Submitted	02/18/2025	**Section**	454.1	**Proponent**	bob vincent
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

For designers, contractors and Interactive Water Features (IWF) owners to completely understand the relationship of these 2 sections about UV disinfection used for disease prevention at IWF's, described in section 454.1.9.8

Rationale

Clarification of the importance of 'Secondary'-certified UV disinfection equipment in a children's IWF pool to prevent spread of infection and disease by a hard-to-kill, chlorine-resistant pathogen Cryptosporidium, where their oocysts are inactivated by 99.9% (3-log) in a single pass. 'Supplemental' UV light equipment is certified to kill only bacteria which is readily killed by chlorine; this weaker UV light does not kill Cryptosporidium.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Easier
Impact to building and property owners relative to cost of compliance with code
No change
Impact to industry relative to the cost of compliance with code
No change
Impact to small business relative to the cost of compliance with code
No change

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Will better protect children's public health from waterborne illness.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Strengthens, Improves and Clarifies code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not

Does not degrade the effectiveness of the code

Does not

1st Comment Period History

SW12340-G1

Proponent Dallas Thiesen Submitted 4/16/2025 10:11:52 AM Attachments No

Comment:

The Florida Swimming Pool Associations Opposes this modification.

1st Comment Period History

SW12340-G2

Proponent Michael Weinbaum Submitted 4/16/2025 11:17:49 AM Attachments No

Comment:

Martin Aquatic Design and Engineering opposes this modification. With secondary disinfection, there is no need for filtration. UV units are tested and certified with unfiltered water. They have automatic wipers if their bulbs ever get blocked.

SW12340Text Modification

454.1.6.5.16.6

Ultraviolet (UV) light disinfectant equipment may be used 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. IWF features must utilize UV treatment on all feature return lines. See Section 454.1.9.8 Interactive Water Features.

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 shall be certified for secondary or supplemental disinfection per NSF 50-2020. See also Section 454.1.9.8 Interactive Water Features.

454.1.9.8.6 Hydraulics.

454.1.9.8.6.1

All water discharged to the spray features must first be filtered and then treated with UV disinfection as described in Section 454.1.6.5.16.6, with final treatment provided by disinfectant and pH adjustment chemicals, before any of this treated water is piped to the spray features.

The recirculation system shall be sized to treat the contained volume of water in the tank and piping system based on a 30-minute turnover with chlorine feeder/generators capable of producing a dosage of at least 12ppm.

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) will be immediately stopped. All pumps must draw suction from the collector tank.

454.1.9.8.6.2

All IWFs must comply with one of ~~three~~ two options for filtration and disinfection systems as follows:

- Option 1: A single pump may be used for water treatment and to supply the water features. Flow must be filtered, treated by a UV unit certified for ~~supplemental~~ secondary disinfection per NSF Standard 50, then treated with disinfectant adjustment chemicals prior to discharge to the spray features. Excess flow not required by the features must be directed back to the collector tank following UV treatment and must be treated with disinfectant and pH adjustment chemicals prior to discharge to the tank.
- Option 2: Separate filter and feature pumps may be utilized. The filter flow must be filtered and treated with disinfectant and pH adjustment chemicals prior to discharge to the tank. All feature flow must be filtered, treated by a unit certified for ~~supplemental~~ secondary disinfection per NSF Standard 50, then treated with disinfectant adjustment chemicals prior to discharge to the spray features. UV flow capacity must meet the feature pump(s) flow capacity, and a rate of flow indicator complying with Section 454.1.6.5.13 shall be provided for each UV system.
- ~~Option 3: Separate filter and feature pumps may be utilized. The filter flow must be filtered and treated with disinfectant and pH adjustment chemicals prior to discharge to the tank. All feature flow must be treated by a UV disinfection certified for secondary disinfection per NSF Standard 50, then treated with disinfectant adjustment chemicals prior to discharge to the water features. UV flow capacity must meet the feature pump(s) flow capacity, and a rate of flow indicator complying with Section 454.1.6.5.13 shall be provided for each UV system.~~

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Mod12340_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

49

SW12354

Date Submitted	02/18/2025	**Section**	454.1	**Proponent**	bob vincent
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

12220

Summary of Modification

Edit U/W light intensity in lumens for pool lighting approved for night swim. This alternative to mod 12220 is from 2024 CDC Model Aquatic Health Code; these devices prevent chlorine and acid mixing in a hazardous reaction that releases toxic gas that result in injuries to pool patrons and staff.

Rationale

Major pool lighting companies have provided lumens and wattage comparisons that show the existing underwater lumens per square are not equivalent. This electrical interlock alternative to Mod 12220 is from the nationally recognized 2024 CDC Model Aquatic Health Code, and allows for modern electrical systems for chemical feeder shutdown improving safety for patrons and staff.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
less cost
Impact to industry relative to the cost of compliance with code
less cost
Impact to small business relative to the cost of compliance with code
less cost

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Adequate lighting underwater will result. Better safety for chemical feeders controlled automatically with failsafe shutdown system using electrical interlock redundancy.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Commonly used lighting; electrical and flow sensor products will cost less so improvements are a result.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not

Does not degrade the effectiveness of the code

Does not

1st Comment Period History

W12354-G1

Proponent Dallas Thiesen Submitted 4/16/2025 10:12:29 AM Attachments No

Comment:

The Florida Swimming Pool Associations Opposes this modification.

1st Comment Period History

W12354-G2

Proponent Michael Weinbaum Submitted 4/16/2025 12:23:17 PM Attachments No

Comment:

Martin Aquatic opposes this change. We would prefer adoption of modifications 11882 and 11927 to address these same issues.

SW12354Text Modification

454.1.4.2.1 Outdoor pool lighting.

Lighting shall provide a minimum of 3 footcandles (30 lux) of illumination at the pool water surface and the pool wet deck surface. Underwater lighting shall be ~~a minimum of $^{1}/_{2}$ watt incandescent equivalent, or~~ Light Emitting Diode(s) (LED) or equivalent, and shall provide a minimum of 8 ~~10~~ lumens, per square foot of pool water surface area.

454.1.4.2.2 Indoor pool lighting.

Lighting shall provide a minimum of 10 footcandles (100 lux) of illumination at the pool water surface and the pool wet deck surface. Underwater lighting shall be ~~a minimum of $^{8}/_{10}$ watt incandescent equivalent, or~~ LED(s) or equivalent, and shall provide a minimum of 12 ~~15~~ lumens, per square foot of pool surface area.

454.1.6.5.16.2 Hypohalogenation and electrolytic chlorine generators.
The hypohalogenation-type feeder and electrolytic chlorine generators shall be adjustable from 0 to full range. A rate of flow indicator is required on erosion-type feeders. The feeders shall be capable of continuously
feeding a dosage of 6 mg/L to the minimum required turnover flow rate of the filtration systems. Solution feeders shall be capable of feeding the above dosage using a 10-percent sodium hypochlorite solution, or 5-percent calcium hypochlorite solution, whichever disinfectant is to be utilized at this facility. To prevent the disinfectant from siphoning or feeding directly into the pool or pool piping under any type failure of the recirculation equipment resulting in a low flow or no flow condition, a~~n~~ means to disable electrically operated feeders with the recirculation pump ~~an electrical interlock with the recirculation pump~~ shall be incorporated into the recirculation system ~~for electrically operated feeders~~. This shall be accomplished through an electrical interlock consisting of at least two of the following:
1. Recirculation pump power monitor,
2. Flow meter/flow switch/pressure switch in the return line, or
3. Flow meter/flow switch at the chemical controller.
The minimum size of the solution reservoirs shall be at least 50 percent of the maximum daily capacity of the feeder. The solution reservoirs shall be marked to indicate contents. The solution reservoirs shall be manufactured to accommodate corrosive and oxidizing chemicals.

454.1.6.5.16.3 Feeders for pH adjustment.
Feeders for pH adjustment shall be provided on all pools. pH adjustment feeders shall be positive displacement type, shall be adjustable from 0 to full range, and shall have a~~n~~ means to disable electrically operated
feeders ~~an electrical interlock with the circulation pump~~ to prevent discharge when the recirculation pump is not operating, resulting in a low flow or no flow condition. This shall be accomplished through an electrical interlock consisting of at least two of the following:
1. Recirculation pump power monitor,
2. Flow meter/flow switch/pressure switch in the return line, or
3. Flow meter/flow switch at the chemical controller.
When soda ash is used for pH adjustment, the maximum concentration of soda ash solution to be fed shall not exceed 1/2-pound (0.2 kg) soda ash per gallon of water. Feeders for soda ash shall be capable
of feeding a minimum of 3 gallons (11 L) of the above soda ash solution per pound of gas chlorination capacity. The minimum size of the solution reservoirs shall not be less than 50 percent of the maximum
daily capacity of the feeder. The solution reservoirs shall be marked to indicate contents. The solution reservoirs shall be manufactured to accommodate corrosive and oxidizing chemicals.

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Mod12354_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

50

SP11980

Date Submitted	02/11/2025	**Section**	1612.4.2	**Proponent**	Dallas Thiesen
Chapter	16	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Modifies the requirements for pool equipment installed in Special Flood Hazard Zones.

Rationale

Swimming pool and spa equipment is designed for outdoor use and is generally weather resistant. Pool and spa equipment is not designed to work at a substantially different elevation than the pool or spa that it is serving, requiring pool and spa equipment to be installed above grade can cause loss of prime, can damage to the equipment, and can shorten the service life of the equipment. Pool and spa equipment is also expressly excluded from flood insurance coverage under the National Flood Insurance Program (NFIP) and there is no duty to mitigate or minimize damage to such equipment.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
This will save consumers the unnecessary cost of elevating swimming pool and spa equipment and by extending the service life of the equipment.
Impact to industry relative to the cost of compliance with code
This will save industry the unnecessary cost of elevating swimming pool and spa equipment and by extending the service life of the equipment.
Impact to small business relative to the cost of compliance with code
This will save industry the unnecessary cost of elevating swimming pool and spa equipment and by extending the service life of the equipment.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This will save consumers the unnecessary cost of elevating swimming pool and spa equipment and by extending the service life of the equipment.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Allows swimming pool and spa equipment to be installed in a manner that maximizes its efficiency and design limitations.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not specify a product or material.

Does not degrade the effectiveness of the code

Allows swimming pool and spa equipment to be installed in a manner that maximizes its efficiency and design limitations.

1st Comment Period History

SP11980-G1

Proponent Michael Weinbaum Submitted 4/9/2025 9:05:24 PM Attachments No

Comment:

Martin Aquatic Design and Engineering supports this code change.

SP11980Text Modification

1612.4.2 Modification of ASCE 24 9.6 Pools.

Modify Section 9.6 in ASCE 24 by adding an exception as follows:

9.6 Pools. In-ground and above-ground pools shall be designed to withstand all flood-related loads and load combinations. Mechanical equipment for pools such as pumps, heating systems and filtering systems, and their associated electrical systems, shall comply with Chapter 7.

Exception: Equipment for pools, spas and water features shall be permitted below the elevation required in Table 7-1, provided it ~~is elevated to the extent practical,~~ is anchored to prevent flotation and resist flood forces, and is supplied by branch circuits that have ground-fault circuit-interrupter protection.

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Mod11980_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Building

51

SW12309

Date Submitted	02/18/2025	**Section**	35	**Proponent**	Jennifer Hatfield
Chapter	35	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Pool & Hot Tub Alliance (PHTA), this proposal simply updates referenced standards and the PHTA address.

Rationale

This proposal simply updates referenced standards and the PHTA address.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes by providing the latest editions of industry standards.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes by providing the latest editions of industry standards.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
It does not.
Does not degrade the effectiveness of the code

It does not.

1st Comment Period History

FW12309-G1

Proponent Dallas Thiesen Submitted 4/16/2025 10:09:05 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW12309Text Modification

APSP (PHTA Standards)

Pool & Hot Tub Alliance

1650 King Street, Suite 602 ~~2111 Eisenhower Avenue, Suite 500~~

Alexandria, VA 22314

ANSI/APSP/ICC 3—2014(R2023) American National Standard for Permanently Installed Residential Spas and Swim Spas

454.2.6.1

ANSI/APSP/ICC 4— 2025~~2012(R2022)~~
American National Standard for Aboveground /Onground Residential Swimming Pools454.2.6.1

ANSI/APSP/ICC 5—2025~~2012(R2022)~~ American National Standard for Residential Inground Swimming Pools
454.2.6.1

ANSI/APSP/ICC 6—2013(R2023) American National Standard for Residential Portable Spas and Swim Spas
454.2.6.1

ANSI/PHTA/ICC 7—2020
American National Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Catch Basins
454.2.6.1, 454.2.6.3, 454.2.6.6

ANSI/APSP 16—2025~~17~~
American National Standard for Suction Outlet Fittings Assemblies (SOFA) for Use in Pools, Spas, and Hot Tubs
454.1.6.5.10, 454.1.6.5.12

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Mod12309_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Existing Building

52

SW11977

Date Submitted	02/11/2025	**Section**	302.6.2	**Proponent**	Dallas Thiesen
Chapter	3	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Excepts Florida from the equipotential bonding requirements of 2023 NFPA 70 and preserves the status quo, allowing the continued use of single wire the single wire bonding method which has no history of failure in the 20 years that it has been in use.

Rationale

The requirements to use a copper or steel grid for the bonding of swimming pool permitter surfaces is not justified and does not provide improvements in the elimination of voltage gradients compared to existing methods. This proposal seeks to maintain the status quo single wire bonding that has been in place in Florida for 20 years. In that 20 year period there has not been a single documented case of the failure of the single wire bonding method. Additionally, it is estimated that the requirements of 2023 NFPA 70 Sec. 680.26(2)(a)-(b) will add between 2% to 10% to the cost of residential pool construction depending on copper prices and even greater costs increases for remodels having to bring the equipotential bonding up to the 2023 NFPA 70 standard.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
This proposal will prevent unnecessary cost increases to consumers.
Impact to industry relative to the cost of compliance with code
This proposal will prevent unnecessary cost increases to the industry.
Impact to small business relative to the cost of compliance with code
This proposal will prevent unnecessary cost increases to the industry.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This prevents specification of materials an methods. NFPA 70 locks consumers and the industry in to a speicific method of compliance whereas this modification allows for multiple methods of compliance and varied use of materials.

Does not degrade the effectiveness of the code

This preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

SW11977Text Modification

302.6.2 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 9 square inches (5800 mm2) 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 680.23(B)(2)(b) of NFPA 70, National Electrical Code, shall be allowed.

In lieu of the requirements of NFPA 70 Sec. 680.26(2)(a)-(b) for conductive paved and unpaved swimming pool perimeter surfaces, swimming pools and spas may be bonded by single copper conductor where the following requirements are met:

(1)At least one minimum 8 AWG bare solid copper conductor shall be provided.

(2) The conductors shall follow the contour of the perimeter surface.

(3) Only listed splicing devices or exothermic welding shall be permitted.

(4) The required conductor shall be 450 mm to 600 mm (18 in. to 24 in.) from the inside walls of the pool.

(5) The required conductor shall be secured within or under the perimeter surface 100 mm to 150 mm (4 in. to 6 in.) below the subgrade.

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Mod11977_TextOfModification.pdf

SW11977Rationale

F.E. Santos PE
5333 COLLINS AVENUE
MIAMI BEACH, Fl 33140
PE # 19522 (Electrical)
Ph: 786.367.3261.
Office: 305.688.2000.Fax: 305.688.3000.Email:shineco1@bellsouth.net

MIAMI-DADE COUNTY
BUILDING & ZONING DEPARTMENT
11805 SW 26TH Street
Miami,Fl 33175-2474
Attn: Mr. Stuart Bazerman Electrical Division Director

March 13, 2007

Ref: Resistance test for bonding installation in new Swimming Pool
Job Name: Nicolas Tempestini Residence Swimming Pool
Job address: 9821 NW 26th Street Doral,Fl

Dear Mr. Bazerman:

This is to certify that an additional Fall-of-Potential test was performed for a different bonding installation at the above address.

The bonding installation consisted of a #8 solid bare copper grid 12"x 12"and 36"wide installed around the perimeter of the pool.

All metallic components of the pool including the reinforcing rebar in the pool walls were bonded to the bonding installation at 4 places.

Copper Clad ground rods were driven adjacent to the pool area and resistance tests was performed to determine the ground continuity between the ground rods and the bonding installation.

A resistance to ground was measured for the bonding installation the results listed below showed resistance with and without copper grid, less than 25 ohms for both systems.

Tests Date: March 7, 2007 (Single # 8) and March 13, 2007(Copper grid)

Test Instruments: Biddle Series 3 Resistance Tester, Simpson 260

		(Single # 8)	(Copper grid)
Location 1:	Adjacent to north side of pool @ 8 feet	= 5.6 ohms	5.9 ohms
Location 2:	Adjacent to east side of pool @ 6 feet	= 3.4 ohms	5.4 ohms
Location 3:	Adjacent to south side of pool @ 5 feet	= 7.7 ohms	8.6 ohms

Should you have any questions regarding the above, or require additional information, please contact us.

Respectfully,

F.E. Santos, PE

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SW11977Rationale

Jason W Rice, P.E.
Consulting Engineer
10289 Penningcroft Lane
Mechanicsville, VA 23116
P 804-514-0743
F 804-368-7287

February 1, 2007

FSPA
Attn: Jennifer Hatfield
1718 main st. Suite 303
Sarasota, FL 34236
P 941-952-9293
F 941-366-7433

Project Location: NEC Bonding Issue

Ms. Hatfield,

I would like to take this opportunity to express my professional opinion about the equipotential bonding question as they pertain to pools. It is my opinion that the proposed language for the 2008 NEC, Section 680.26 is sufficient to reduce the potential for voltage gradients in a pool area. The section in question states that providing adequate bonding for a perimeter surface requires a single, minimum 8 AWG, bare solid copper conductor to follow the contour of the pool. This "contour bonding" shall be connected to the pool steel in at least four (4) uniformly spaced locations (except for non-conductive pool shells). Additionally, this contour bonding shall be 18-24 in. from the inside wall of the pool and secured under 4-6 in. of topsoil. All splicing and connections shall conform to NEC requirements.

I have had the opportunity as engineer of record on more than 3,000 pool related projects, both commercial and residential. Additionally, I have actively been providing electrical engineering designs in the residential, commercial and

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Mod_11977_Rationale_Rice Engineering Report_2007.pdf

SW11977Rationale

industrial industries for the past 12 years. It is my professional opinion that the above perimeter bonding is all that is required to ensure a reduction in the potential for voltage gradients for the perimeter surfaces in a pool area.

Please don't hesitate to contact me if you have any further questions or comments.

Sincerely,

Jason W. Rice, P.E.

Attachments: 1 – Jason Rice Curriculum Vitae

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SW11977Rationale

Jason W. Rice, PE

Mr. Rice has over 12 years of professional experience in all aspects of governmental, institutional, commercial, industrial, residential, recreational, structural, electrical and environmental engineering. His work has traversed the United States, the Caribbean and includes the engineering of more than 3,500 projects (over 2,000 pools) and conducting over 1,000 inspections.

His He is supported by three assistants, a field technician, a GIS technician and a project engineer. The field technician is licensed as a Certified Pool Operator and a Pool & Spa Repair Contractor with over 10 years' experience in the pool industry. The GIS technician has over 10 years' of government, commercial and residential engineering experience. The project engineer is a mechanical engineer with over 15 years of design engineering experience.

Prior to his independent consulting work, Mr. Rice worked with an environmental and electrical engineering, design-build firm and several multi-disciplined, civil & MEP engineering firms. His responsibilities were in all phases of engineering, from assisting clients with conceptual layout, preliminary or forensic inspections and review, obtaining public official approval on preliminary designs, preparing the final design documents, management of construction (including inspections) to the final turnover to the client. Mr Rice's experience provides not only multi-discipline engineering design but also a firm comprehension of how these fields affect the overall scope on a project.

Commercial

Electrical, Columbia Restaurant, Sarasota, FL. The engineering design of modifications to the 1000A electrical distribution system.

Electrical, Dwyers Irish Pub, Ft Myers, FL. The engineering design of modifications to the 2000A electrical distribution system.

Electrical, Metro Coffee & Wine Club, Sarasota, FL. The engineering design of modifications to the 2500A electrical distribution system.

Electrical, Sarasota Commercial Management Office Building, Sarasota, FL. The engineering design of modifications to the 1000A electrical distribution system.

Electrical, Mariott Resort, West Palm Beach, FL. The engineering design of the modifications to a 800A electrical distribution system.

Electrical, AutoPilot Systems, Ft Lauderdale, FL. The engineering design of the modifications to the 2000A electrical distribution system.

Electrical, Lo Chlor, Ft Lauderdale, FL. The engineering design of the manufacturing control system.

Electrical, Days Inn, Port Charlotte, FL. The engineering design of the fire alarm and control system.

Electrical, Collier County Public Library, Immokalee, FL. The engineering design of the fire alarm and control system.

Registrations:
Professional
Engineer/FL/2002

Professional Engineer/VA/2004

Professional Engineer/MD/2004

Professional Memberships:
American Concrete Institute

Association of Pool & Spa Professionals

National Fire Prevention Association, NEC

Florida Swimming Pool Association

Community Involvement:
King's Charter Architectural Control Committee Member, 2006-2007.

Florida Swimming Pool Association, State of Florida Technical Advisor, responsible for providing technical and building code guidance on policies and represented the association at the state and national level, 2004-2006.

Conducted Building Code Training Courses for city officials, various Broward & Palm Beach County cities, FL 2004 - 2005.

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SW11977Rationale

Electrical, Homewood Suites by Hilton, Sarasota, FL. The engineering design of the fire alarm and control system.

Electrical, The Courtyard at Market Square, Sarasota, FL. The engineering design of the fire alarm and control system.

Electrical, Homewood Suites by Hilton, Sarasota, FL. The engineering design of the fire alarm and control system.

Water Resources, The Singer Island Resort, Singer Island, FL. a 1,500+ SF, beach entry and recreational slide swimming pool, a 850+ SF perimeter overflow formal pool and a 35+ SF spa. All of these pools are located above the parking garage and supported on a column system structural design.

Water Resources, Walt Disney World, Typhoon Lagoon, Orlando, FL, a 2000+ SF, 170,000+ gal beach entry and recreational slide swimming pool. The engineering included all hydraulic, electrical, structural and mechanical systems. Provided construction management on all phases.

Water Resources, US Marines, 29 Palms Base, Adobe Flats II Clubhouse, Ocotillo Heights Community Center, Desert View Terrace Clubhouse, Twenty-Nine Palms, CA, three (3) separate 1,200 SF, 45,000 gal pools with kiddie water feature play areas. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, Landstar-Waterstone Development, Miami, FL a 2000+ SF, 120,000+ gal pool, 200+ SF kiddie pool and 35+ SF spa. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, The Mariott Courtard, Pembroke Pines, FL, a 800+ SF, 30,000+ gal pool. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, The Aman Yara Resort, Turks & Caicos Island, a 2000+ SF, 120,000+ gal pool, 200+ SF kiddie pool and 35+ SF spa. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, Rolling Hills Golf & CC, Akron, OH, remodeling of a 1,800 SF pool and decking. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, The Jungle Club, Vero Beach, FL, remodeling of a 2,800 SF pool, a 49 SF spa and a new 2,300 SF pool. The engineering included all hydraulic, electrical, structural and mechanical systems.

Drainage Design, Universal Studios, Universal's Islands of Adventure, Orlando, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system;

International Aquatics Foundation, member of IAF-7 committee, this committee is responsible for updating the national code for swimming pool standards, Washington DC, 2005

Facing It Together, non-profit organization that raises money through sponsorship of athletic events and provides monies for surgical reconstruction of facial abnormalities for disadvantaged children, Broward County, FL 2004 - 2006.

Leukemia & Lymphoma Society, non-profit organization that raises money through sponsorship of athletic events and provides monies for research into the treatment of cancer, Palm Springs, CA 2003 - 2004.

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SW11977Rationale

Residential

Electrical, Falcone Residence, Boca Raton, FL. The engineering design of the 1500A electrical distribution system on new residence.

Electrical, Manchester Residence, Sarasota, FL. The engineering design of the refurbishments to the 1600A electrical distribution system on an existing residence.

Electrical, Cannon Residence, Sarasota, FL. The engineering design of the refurbishments to the 600A electrical distribution system on an existing residence.

Water Resources, Brown Residence, Paradise Island, Bahamas, engineering design of 600 SF, 18,000 gal., deep foundation koi pond and multiple water features. Additionally, this project included the design of a 1,800 SF, 180,000 gal. pool, a 28 foot single-span RC bridge, a 120 SF, 4 column, grade beam and deep foundation gazebo structure, a 240 SF by 8 feet high RC and masonry deep foundation water fall structure. The engineering included all hydraulic, electrical, structural and mechanical systems. Provided construction management on all phases.

Water Resources, Venturi Residence, Ft Lauderdale, FL. Engineering design of 1,200 SF, 96,000 gal. pool and a 600 SF, two-story, RC and masonry waterfall/cave structure. A key feature of the cave was the 28 feet single span opening on one side. The engineering included all hydraulic, electrical, structural (shallow foundation) and mechanical systems. Provided construction management on all phases.

Water Resources, Smith Residence, Plantation, FL. Engineering design of 500 SF, 21,000 gal. pool and a 100 SF, two-story, RC spa and waterfall structure. The engineering included all hydraulic, electrical, structural (shallow foundation) and mechanical systems..

Municipal

Control System/Drainage Design, Gore Street Alum Treatment System, City of Orlando, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Lake Howard Alum Treatment System, City of Winter Haven, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Port Orange Alum Treatment System, City of Port Orange, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Mod_11977_Rationale_Rice Engineering Report_2007.pdf Page: 5

SW11977Rationale

Control System/Drainage Design, East Lake Alum Treatment System, Hillsborough County, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Clearwater Alum Treatment System, City of Clearwater, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Winter Park Alum Treatment System, City of Winter Park, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Polk County Environmental Services, Lake Blue/Lake Cannon, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Water and Sewer, Miami-Dade Water & Sewer, Alexander Orr Water Treatment Plant, Miami, FL. Complete design of temperature and vibration control systems on four, 2000 amp emergency generators. Provided installation, startup and calibration of the complete system.

Control System/Water and Sewer, East Waste Water Treatment Plant, City of Orlando, FL. Provided hydraulic and controls engineering and design of refurbishments to 100,000 GPD reuse system and annual hydraulic system testing, calibration and certification. Provided controls and electrical engineering design for activated sludge, heat-tracing system.

Control System/Water and Sewer, Bradenton Waste Water Treatment Plant, City of Bradenton, FL. Engineering design and build of methanol feed system for 35 MGD plant.

Water and Sewer, Sykes Creek Waste Water Treatment Plant, Brevard County, FL. Engineering design of rehab to 25 MGD influent structure hydraulics, monitoring and control system.

Control System/Water and Sewer, US Air Force, Tyndall AFB Waste Water Treatment Plant, Tyndall, FL. Engineering design and build of effluent hydraulic, UV treatment and control system for 100,000 GPD plant.

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Mod_11977_Rationale_Rice Engineering Report_2007.pdf

SW11977Rationale

industrial industries for the past 12 years. It is my professional opinion that the above perimeter bonding is all that is required to ensure a reduction in the potential for voltage gradients for the perimeter surfaces in a pool area.

Please don't hesitate to contact me if you have any further questions or comments.

Sincerely,

Jason W. Rice, P.E.

Attachments: 1 – Jason Rice Curriculum Vitae

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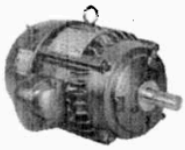
Mod_11977_Rationale_Rice Engineering Report_2007.pdf

SW11977Rationale



Electro-Kinetic Corporation

Licensed Electrical Contractors

1801 S. Ocean Drive Hallandale, Fl. 33009 Phone/Fax (954) 456-7889

March 8, 2007

Stu Bazerman
11805 SW 26th Street
Miami, Fl. 33175-2474

Job Name: Angie Daza
Job Address: 11103 NW 71 Terrace Doral, Fl.

Dear Mr. Bazerman,

We have inspected and tested the bonding components of the swimming pool installed at the above address. A single #8 bond wire has been installed 360 degrees around the swimming pool. This bonding conductor is 18" from the inside of the pool wall. All metallic components of the pool are bonded to this wire including the reinforcing rods in the pool walls. We certify that the installed components meet the requirements of Article 680 of the National Electric Code. Resistance tests of the bonded equipment were completed on March 7, 2007.

Copper Clad ground rods were driven adjacent to the pool area and resistance tests performed to determine the ground continuity between the ground rods and the bonded pool equipment. An acceptable resistance to ground was measured for this swimming pool bonding system (less than 25 ohms). There is no further recommendation for additional bonding methods required for this location. The results of our resistance tests of the bonded equipment are listed below.

Test Date: March 7, 2007
Test Instruments: Biddle Series 3 Resistance Tester; Simpson 260

Location 1:	Adjacent to west side of pool @ 6 feet	16.8 ohms
Location 2:	Adjacent to north side of spa @ 5 feet	12.1 ohms
Location 3:	Adjacent to south side of pool @ 6 feet	13.4 ohms

Sincerely,

George DeSalle
Florida State Certification: # EC 1767

Page: 1

Mod_11977_Rationale_DeSalle Bonding Tests_2007.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

53

M11743

Date Submitted	01/13/2025	**Section**	2006	**Proponent**	Mo Madani
Chapter	20	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

NA

Summary of Modification

This proposal clarifies that various types of equipment shall be “listed and labeled”, which are defined terms in the code, and is consistent with the style used in other sections of the code, such as M1403.1.

Rationale

See attached.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Overlap
Impact to building and property owners relative to cost of compliance with code
Overlap
Impact to industry relative to the cost of compliance with code
Overlap
Impact to small business relative to the cost of compliance with code
Overlap

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Overlap
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Overlap
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not degrade the effectiveness of the code

Overlap

M11743Text Modification

See attached.

Mod11743_TextOfModification.pdf Page: 1

M11743Text Modification

2024 IRC

M2006.1 General. Pool and spa heaters shall be installed in accordance with the manufacturer's installation instructions. Oil-fired pool heaters shall ~~comply~~ be *listed* and *labeled* in accordance with UL 726. Electric pool and spa heaters shall ~~comply be *listed* and *labeled* in accordance~~ with UL 1261. Pool and spa heat pump water heaters shall ~~comply~~ be *listed* and *labeled* in accordance with UL 1995, or UL/CSA~~/ANCE~~ 60335-2-40 ~~or CSA C22.2 No. 236~~.

Exception: Portable residential spas and portable residential exercise spas shall ~~comply~~ be *listed* and *labeled* in accordance with UL 1563 or CSA C22.2 No. 218.1.

8th Edition (2023) FBC, Residential

M2006.1 General. Pool and spa heaters shall be installed in accordance with the manufacturer's installation instructions. Oil-fired pool heaters shall comply with UL 726. Electric pool and spa heaters shall comply with UL 1261.

(M11608) (RM4-21 AS) Overlap

Page: 1

Mod_11743_Text_M2006.1 FBC Residential.pdf

M11743Rationale

RM4-21

Original Proposal

IRC: M1402.1, M1403.1, M1412.1, M2006.1

Proponents: Jonathan Roberts, UL LLC, UL LLC (jonathan.roberts@ul.com)

2021 International Residential Code

Revise as follows:

M1402.1 General. Oil-fired central furnaces shall ~~conform to~~ be *listed* and *labeled* in accordance with ~~ANSI /~~UL 727. Electric furnaces shall ~~conform to~~ be *listed* and *labeled* in accordance with UL 1995 or UL/CSA~~/ANCE~~ 60335-2-40.

M1403.1 Heat pumps. Electric heat pumps shall be *listed* and *labeled* in accordance with UL 1995 or UL/CSA~~/ANCE~~ 60335-2-40.

M1412.1 ~~Approval of~~ Listed equipment. Absorption systems shall be installed in accordance with the manufacturer's instructions. Absorption *equipment* shall ~~comply~~ be *listed* and *labeled* in accordance with UL 1995 or UL/CSA~~/ANCE~~ 60335-2-40.

M2006.1 General. Pool and spa heaters shall be installed in accordance with the manufacturer's installation instructions. Oil-fired pool heaters shall ~~comply~~ be *listed* and *labeled* in accordance with UL 726. Electric pool and spa heaters shall~~comply be *listed* and *labeled* in accordance~~ with UL 1261. Pool and spa heat pump water heaters shall~~comply~~ be *listed* and *labeled* in accordance with UL 1995, or UL/CSA~~/ANCE~~ 60335-2-40 ~~or CSA C22.2 No. 236~~.

Exception: Portable residential spas and portable residential exercise spas shall~~comply~~ be *listed* and *labeled* in accordance with UL 1563 or CSA C22.2 No. 218.1.

Reason: This proposal clarifies that these various types of equipment shall be "listed and labeled", which are defined terms in the code, and is consistent with the style used in other sections of the code, such as M1403.1.
The first edition of the UL/CSA 60335-2-40 was jointly published with ANCE, but subsequent editions have not. The designation used for UL 727 should be shown without the prefix "ANSI/" for consistency with how all other UL standards are referenced in the I-codes.

CSA C22.2 No. 236 has been withdrawn due to the publication of UL/CSA 60335-2-40. The referenced standard of "C22.2 No. 218.1" in the exception for M2006.1 needs to be clearly identified as a CSA standard.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Clarifies the requirements and corrects the references of existing standards.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee agreed with the published reason statement. (11-0)

Final Hearing Results

RM4-21 AS

Page: 1

Mod_11743_Rationale_M11608 RM4-21 M2006.1.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

54

SW11983

Date Submitted	02/11/2025	**Section**	4501.2	**Proponent**	Dallas Thiesen
Chapter	45	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Updates and clarifies private pool definitions. Removes unnecessary terms.

Rationale

Updates terms to current industry parlance. Deletes outdated and unnecessary definitions. Adds need definitions for clarification.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code

Updates and modernizes code.

SW11983Text Modification

4501.2 Definitions.

ABOVE-GROUND/ON-GROUND POOL. See “Swimming pool.”

ADMINISTRATIVE AUTHORITY. The individual official, board, department or agency established and authorized by a state, county, city or other political subdivision created by law to administer and enforce the provisions of the swimming pool code as adopted or amended.

APPROVED. Accepted or acceptable under an applicable specification stated or cited in this code, or accepted as suitable for the proposed use under procedures and power of the administrative authority.

APPROVED SAFETY COVER. A manually or power-applied safety pool cover that meets all of the performance standards of ASTM International in compliance with ASTM F1346.

APPROVED TESTING AGENCY. An organization primarily established for the purpose of testing to approved standards and approved by the administrative authority.

BACKWASH PIPING. See “Filter waste discharge piping.”

BARRIER. 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.

BODY FEED. Filter aid fed into a diatomite-type filter throughout the filtering cycle.

CARTRIDGE FILTER. A filter using cartridge-type filter elements.

CHEMICAL ~~PIPING~~Feeder. Piping which conveys concentrated chemical solutions from a feeding apparatus to the circulation piping.

~~**CIRCULATION PIPING SYSTEM.** Piping between the pool structure and the mechanical equipment. Usually includes suction piping, face piping and return piping.~~

COMBINATION VALVE. A multipart valve intended to perform more than one function.

~~**DESIGN HEAD.** Total head requirement of the circulation system at the design rate of flow.~~

DIATOMITE (DIATOMACEOUS EARTH). A type of filter aid.

DIATOMITE-TYPE FILTER. A filter designed to be used with filter aid.

DIRECT ACCESS FROM THE HOME. Any opening which discharges into the “perimeter” of the pool or any opening in an exterior dwelling wall, or interior wall (for indoor pools) which faces the pool.

EXIT ALARM. A device that makes audible, continuous alarm sounds when any door or window which permits access from the residence to any pool that is without an intervening enclosure is opened or left ajar.

FACE PIPING. Piping, with all valves and fittings, which is used to connect the filter system together as a unit.

FILTER. Any apparatus by which water is clarified.

FILTER AID. A nonpermanent type of filter medium or aid such as diatomite, alum, etc.

FILTER CARTRIDGE. A disposable or renewable filter element which generally employs no filter aid.

FILTER ELEMENT. That part of a filter which retains the filter medium.

FILTER MEDIUM. Fine material which entraps the suspended particles and removes them from the water.

FILTER RATE. Average rate of flow per square foot of filter area.

Page: 1

Mod11983_TextOfModification.pdf

SW11983Text Modification

FILTER ROCK. Specially graded rock and gravel used to support filter sand.

FILTER SAND. A specially graded type of permanent filter medium.

FILTER SEPTUM. That part of the filter element in a diatomite-type filter upon which a cake of diatomite or other nonpermanent filter aid may be deposited.

FILTER WASTE DISCHARGE PIPING. Piping that conducts waste water from a filter to a drainage system. Connection to drainage system is made through an air gap or other approved methods.

FRESH WATER. Those waters having a specific conductivity less than a solution containing 6,000 ppm of sodium chloride.

HIGH RATE SAND FILTER. A sand filter designed for flows in excess of 5 gpm (0.3 L/s) per square foot.

HOT TUB. See "Swimming pool."

INGROUND POOL. See "Swimming pool."

~~**INLET FITTING**~~**RETURN INLET.** Fitting or fixture through which circulated water enters the pool~~.~~through the pressure side.

MAIN DRAIN ~~**SUCTION OUTLET**Outlet at the deep portion of the pool through which the main flow of water leaves the pool when being drained or circulated.~~ See **SUCTION OUTLET FITTING ASSEMBLY (SOFA).**

SUCTION OUTLET FITTING ASSEMBLY (SOFA).A submerged fitting, fitting assembly, cover/grate and related components that provide a localized low-pressure area for the transfer of water from a swimming pool, spa or hot tub. Submerged suction outlets have been referred to as main drains.

~~**MEDICALLY FRAIL ELDERLY PERSON.** 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.~~

MESH SAFETY BARRIER. A combination of materials, including fabric, posts, and other hardware to form a barrier around a swimming pool.

POOL. See "Swimming pool."

POOL DEPTHS. The distance between the floor of pool and the maximum operating water level.

POOL PERIMETER. A pool perimeter is defined by the limits of the pool deck, its surrounding area including yard area on same property, and any dwelling or nondwelling wall or any combination thereof which completely surrounds the pool.

POOL ~~**PLUMBING**~~**PIPING.** All chemical, circulation, filter waste discharge piping, deck drainage and water filling systems.

PORTABLE POOL. A prefabricated pool which may be erected at the point of intended use and which may be subsequently disassembled and ~~reerected~~ reassembled at a new location. Generally installed on the surface of the ground and without excavation.

~~**PRECOAT.** In a diatomite-type filter, the initial coating or filter aid placed on the filter septum at the start of the filter cycle.~~

RAPID SAND FILTER. A filter designed to be used with sand as the filter medium and for flows not to exceed 5 gpm (0.3 L/s) per square foot.

RECEPTOR. An approved plumbing fixture or device of such material, shape and capacity as to adequately receive the discharge from indirect waste piping, so constructed and located as to be readily cleaned.

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Mod11983_TextOfModification.pdf

SW11983Text Modification

RESIDENTIAL. Situated on the premises of a detached one- or two-family dwelling or a one-family townhouse not more than three stories high.

RETURN ~~PIPING~~. That portion of the circulation piping which extends from the outlet side of the filters to the pool.

SALINE WATER. Those waters having a specific conductivity in excess of a solution containing 6,000 ppm of sodium chloride.

SEPARATION TANK. A device used to clarify filter rinse or waste water; sometimes called a “reclamation tank.”

SKIM FILTER. A surface skimmer ~~combined with a vacuum diatomite~~ with an integral filter.

SPA, NONPORTABLE. See “Swimming pool.”

SPA, PORTABLE. 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~~ installed on or above grade. May not be installed with raised decking to allow access.

~~**SUCTION PIPING.** That portion of the circulation piping located between the pool structure and the inlet side of the pump and usually includes main outlet piping, skimmer piping, vacuum piping and surge tank piping.~~

SUBMERGED VACUUM FITTING. A fitting intended to provide a point of connection for suction side automatic swimming pool, spa, and hot tub cleaners.

SUCTION OUTLET. See **SUCTION OUTLET FITTING ASSEMBLY (SOFA)**.

SURFACE SKIMMING SYSTEM. A device or system installed in the pool or spa that permits the removal of floating debris and surface water to the filter.

~~**SURFACE SKIMMER.** A device generally located in the pool wall which skims the pool surface by drawing pool water over a self-adjusting weir.~~

SWIMMING POOL, INDOOR. A swimming pool which is totally contained within a structure and surrounded on all four sides by walls of said structure.

SWIMMING POOL, OUTDOOR. Any swimming pool which is not an indoor pool.

SWIMMING POOL, PRIVATE. Any structure, located in a residential area, that is intended for swimming or recreational bathing and contains water over 24 inches (610 mm) deep including but not limited to inground, above-ground, and on-ground swimming pools, hot tubs, and nonportable spas~~.~~ that are permanently installed.

SWIMMING POOL, PUBLIC. A watertight structure of concrete, masonry, fiberglass, stainless steel or plastic 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 or water recreation attraction, to which admission may be gained with or without payment of a fee and includes, 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, boarding houses, hotels, mobile home parks, motels, recreational vehicle parks and townhouses.

SWIMMING POOL, RESIDENTIAL. See “Swimming pool, private.”

TURNOVER TIME. The time in hours required for the circulation system to filter and recirculate a volume of water equal to the pool volume.

UNDERWATER BENCH. An underwater seat that can be recessed into the pool wall or placed completely inside the perimeter shape of the pool.

SW11983Text Modification

UNDERWATER LEDGE. A narrow shelf projecting from the side of a vertical structure whose dimensions are defined in the appropriate standard.

VACUUM FITTING. A fitting in the pool which is used as a convenient outlet for connecting the underwater suction cleaning equipment.

VACUUM PIPING. The piping from the suction side of a pump connected to a vacuum fitting located at the pool and below the water level.

WASTE PIPING. See “Filter waste discharge piping.”

WIDTH AND/OR LENGTH. Actual water dimension taken from wall to wall at the maximum operating water level.

~~**YOUNG CHILD.** Any person under the age of 6 years.~~

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Mod11983_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

55

SW11986

Date Submitted	02/11/2025	**Section**	4501.6.3	**Proponent**	Dallas Thiesen
Chapter	45	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language Yes**

Related Modifications

Summary of Modification

Brings the FBC in line with the requirements of ANSI/PHTA 5 Standard.

Rationale

Brings the FBC in line with the requirements of ANSI/PHTA 5 Standard.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code
Updates and modernizes code.

Alternate Language

1st Comment Period History

SW11986-A2

Proponent Dallas Thiesen **Submitted** 4/16/2025 9:47:46 AM **Attachments** No

Rationale:

This adds clarity to the code and helps contractors and code officials understand how pipe size affects flow rates in GPM while meeting the code standard of 8 fps.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Adds clarity, makes enforcement easier.

Impact to building and property owners relative to cost of compliance with code
None

Impact to industry relative to the cost of compliance with code
None

Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Improves safety by ensuring water velocity code compliance.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improves the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
Does not specify materials or products.

Does not degrade the effectiveness of the code
Improves the code.

SW11986-A2Text Modification

4501.6.3 Water velocity.

Pool piping shall be designed so the water velocity will not exceed ~~10~~ 8 feet per second (mm/s) for pressure piping and 8 feet per second (mm/s) for suction piping, except that the water velocity shall not exceed 8 feet per second (3048 mm/s) in copper tubing. Main suction outlet velocity must comply with ANSI/~~APSP~~PHTA/ICC ~~7~~5.

~~**Exception:** Jet inlet fittings shall not be deemed subject to this requirement.~~

Flow rates and pipe sizes

Pipe Size:	**1.5"**	**2"**	**2.5"'**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**
Nominal GPM @ 8 fps	51	84	119	184	317	499	720	1247	1966	2791

NOTE: Flow rates are based on the nominal inside diameter for ASTM Standard D1785, schedule 40 PVC pipe.

Page: 1

Mod11986_A2_TextOfModification.pdf

SW11986Text Modification

4501.6.3 Water velocity.

Pool piping shall be designed so the water velocity will not exceed ~~10~~ 8 feet per second (mm/s) for pressure piping and 8 feet per second (mm/s) for suction piping, except that the water velocity shall not exceed 8 feet per second (3048 mm/s) in copper tubing. Main suction outlet velocity must comply with ANSI/~~APSP~~PHTA/ICC ~~7~~5.

~~Exception:~~ ~~Jet inlet fittings shall not be deemed subject to this requirement.~~

Page: 1

Mod11986_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

56

SW11989

Date Submitted	02/11/2025	**Section**	4501.6.6	**Proponent**	Dallas Thiesen
Chapter	45	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Updates standard references and clarifies terminology for Suction Outlet Fitting Assemblies.

Rationale

Updates standard references and clarifies terminology.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code
Updates and modernizes code.

SW11989Text Modification

4501.6.6

Entrapment protection for suction outlets (SOFAs) shall be installed in accordance with requirements of ANSI/APSP/ICC 7 and ANSI/APSP/ICC-16.

Mod11989_TextOfModification.pdf Page: 1

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

57

SW11992

Date Submitted	02/11/2025	**Section**	4501.7.3	**Proponent**	Dallas Thiesen
Chapter	45	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Eliminates manufacturing requirements covered in a referenced standard.

Rationale

These provisions are unneeded due to moder manufacturing standards. Covered in NSF 50 Standard.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code
Updates and modernizes code.

SW11992Text Modification

4501.7.3

~~**Capacity.**~~

~~Pumps shall have design capacity at the following heads.~~

~~1.Pressure diatomaceous earth. At least 60 feet (18 288 mm).~~

~~2.Vacuum D.E. 20 inch (508 mm) vacuum on the suction side and 40 feet (1219 mm) total head.~~

~~3.Rapid sand. At least 45 feet (13 716 mm).~~

~~4.High rate sand. At least 60 feet (18 288 mm).~~

Reserved

4501.7.4 ~~**Materials.**~~

~~Pump impellers, shafts, wear rings and other working parts shall be of corrosion-resistant materials.~~

Reserved

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Mod11992_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

58

SW12000

Date Submitted	02/11/2025	**Section**	4501.12.1	**Proponent**	Dallas Thiesen
Chapter	45	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Updates the requirements for swimming pool and spa pressure pipping tests.

Rationale

Air pressure should not be used to test PVC piping. 25 psi is sufficient to determine proper system function.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code
Updates and modernizes code.

SW12000Text Modification

4501.12.1 Pressure test.

All pool piping shall be tested and proved tight to the satisfaction of the administrative authority, under a static, water ~~or air~~pressure test of not less than ~~35~~25 psi (~~241~~172 kPa) for 15 minutes.

Exception: Circulating pumps need not be tested as required in this section.

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Mod12000_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

59

SW12002

Date Submitted	02/11/2025	**Section**	4501.21.3	**Proponent**	Dallas Thiesen
Chapter	45	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Updates the terms and standard references for Suction Outlet Fitting Assemblies.

Rationale

Updates language to conform with national standards and updates requirements for SOFA placement.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes the code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes the code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code
Updates and modernizes the code.

SW12002Text Modification

4501.21.3 ~~Main outlet~~ Suction Outlet Fitting Assembly.

An approved ~~main outlet~~ Suction Outlet Fitting Assembly (SOFA), when provided, shall be located on a wall or floor ~~at or near the deepest point in the pool for emptying or circulation, or both, of the water in the pool~~.

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Mod12002_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

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SW12004

Date Submitted	02/11/2025	**Section**	4501.21.5	**Proponent**	Dallas Thiesen
Chapter	45	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Eliminates requirements that are already outlined in referenced standard ANSI/PHTA-5.

Rationale

Inlet fitting requirements are specified in ANSI/PHTA 5 Standard and do not need to be restated here.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Streamlines code by eliminating duplicative standards.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Streamlines code by eliminating duplicative standards.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.
Does not degrade the effectiveness of the code
Streamlines code by eliminating duplicative standards.

SW12004Text Modification

4501.21.5 ~~Inlet fittings.~~

~~Approved manufactured inlet fittings for the return of recirculated pool water shall be provided on the basis of at least one per 300 square feet (28 m^2) of surface area. Such inlet fittings shall be designed and constructed to insure an adequate seal to the pool structure and shall incorporate a convenient means of sealing for pressure testing of the pool circulation piping. Where more than one inlet is required, the shortest distance between any two required inlets shall be at least 10 feet (3048 mm).~~ Reserved

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Mod12004_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

61

SW12006

Date Submitted	02/11/2025	**Section**	4501.16	**Proponent**	Dallas Thiesen
Chapter	45	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Creates and exception to the 2023 NFPA 70 for bonding pools and spas. Preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

Rationale

The requirements to use a copper or steel grid for the bonding of swimming pool permitter surfaces is not justified and does not provide improvements in the elimination of voltage gradients compared to existing methods. This proposal seeks to maintain the status quo single wire bonding that has been in place in Florida for 20 years. In that 20 year period there has not been a single documented case of the failure of the single wire bonding method. Additionally, it is estimated that the requirements of 2023 NFPA 70 Sec. 680.26(2)(a)-(b) will add between 2% to 10% to the cost of residential pool construction depending on copper prices and even greater costs increases for remodels having to bring the equipotential bonding up to the 2023 NFPA 70 standard.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
This proposal will prevent unnecessary cost increases to consumers.
Impact to industry relative to the cost of compliance with code
This proposal will prevent unnecessary cost increases to the industry.
Impact to small business relative to the cost of compliance with code
This proposal will prevent unnecessary cost increases to the industry.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
This preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This prevents specification of materials an methods. NFPA 70 locks consumers and the industry in to a specific method of compliance whereas this modification allows for multiple methods of compliance and varied use of materials.

Does not degrade the effectiveness of the code

This preserves the status quo for equipotential bonding which has no record of failure in the 20 years that it has been in use in Florida.

1st Comment Period History

SW12006-G1

Proponent Reuben Clark Submitted 4/15/2025 4:22:53 PM Attachments No

Comment:

REJECT this proposal and adopt the 2023 Version of the National Electrical Code as amended with TIA 23-9 (log# 1687). The premise of the proposal contains factual errors. It states there has been no record of failure in the state of FL using the single wire method, which is untrue. The 2022 US Coast Guard Report, the Consumer Products Safety Commission, in conjunction with the Utility Industry have identified 13 (preventable) deaths, just in the state of Florida. The world's leading authority on the subject is Doug Dorr with the Electric Power Research Institute, and a resident of the state of Florida. He has identified numerous events causing physical and financial harm that would have easily been prevented had the 2023 amended NEC been followed. In 2024, the Standards Council of the NFPA deliberated on an in-depth study by an assigned Task Group for this very matter. The Task Group was initially balanced comprising 50% supporting a single wire, and 50% supporting a grid. After intensive studies over multiple meetings, the Task Group unanimously concluded that an immediate change to the NEC was necessary, as the single wire was definitively proven unsafe by multiple sources and events. The Standards Council agreed and also deemed it Emergency in Nature and thus TIA 1687 became TIA23-9 formally amending the NEC immediately. The National Electrical Code has long been known to establish the MINIMUM Level of Safety. This proposal would create Swimming Pool construction methods BELOW the MINIMUM required Level of Safety! Constructing swimming pools below the minimum level of safety subjects unacceptable amounts of the citizenry and visitors to physical and financial harm, and as proven, even death. The amended 2023 NEC provides three different options of constructing this safety feature for swimming pool decks, all incremental costs are approximately less than $300-500. I request the Florida Building Commission follow the exhaustively studied recommendation of the Electrical and Fire Safety Experts comprising the NFPA. REJECT this proposal to lower the Florida Building Code Below the Minimum Level of Safety and continue to adopt the 2023 NEC as amended with TIA 23-9.

1st Comment Period History

SW12006-G2

Proponent Douglas Dorr Submitted 4/15/2025 5:41:34 PM Attachments Yes

Comment:

I urge the committee to reject the proposed modification and to instead fully adopt the 2023 NEC with all TIAs, including: Definition of Pool and NEC 680.26 TIA 23-9 Rationale: The proposer misinforms the committee by stating that the single bare copper bonding wire has no record of failure in the 20 years it has been in use in the State of Florida. To demonstrate the magnitude of this misinformation, the attached comment file contains twelve Florida specific incidents where the single bare wire has been demonstrated as inadequate, and does in fact, show a “record of failure” resulting in fatalities and injuries. The twelve fatality incidents in the comment file all involve children over a period from 2009 to 2020 and this should give every one of us pause that we are not affording the minimum level of safety that is needed for equipotential surfaces around swimming pools. Sadly, if NEC TIA 23-9 had been used as the minimum design criteria at the pools where the fatalities occurred, both the water voltage gradients and the water to deck voltage gradients would have been limited to perception levels that would have avoided the fatalities.

1st Comment Period History

SW12006-G3

Proponent Douglas Dorr Submitted 4/16/2025 5:49:56 PM Attachments No

Comment:

I desire to amend my comments from 04/15 to remove any references to specific incidents or chlldren's ages. I further request deletion of the comment files as they pertain to the same. Please consider the below modification: I urge the committee to reject the proposed modification and fully adopt the 2023 NEC with all TIAs. Rationale: There continue to be reported, unreported, and (court sealed) incidents where electric shocks at in-ground swimming pools have occurred. They occur for many reasons including wiring errors, faulty pumps, and heaters, sticking GFCI's, neighboring electrical faults, and compromised underwater lighting. Each of these shock concerns have a common thread, with electrified water – and a surrounding walking/sitting surface that is not at the same electric potential as the water. This means that not only are the victims in danger, but the rescuers and first responders can also get electrocuted when simultaneously contacting the pool deck and the water. From 2008 through 2024 testing on both conductive and non-conductive in-ground swimming pools consistently produce the same result and conclude that a single bare copper wire is inadequate for providing equipotential between the pool deck and the water and does not have sufficient surface area to reduce water-to-water gradients. Those same tests clearly show that with the criteria described in NEC TIA 23-9, any time the pool water becomes electrified – the corresponding voltage differences between the walking/sitting surfaces and the pool water are reduced to non-fatal levels (and any water-to-water voltage gradients are correspondingly reduced). The committee should keep in mind that NEC TIA 23-9 is a MINIMUM criteria and does not reduce the voltage differences to zero. The gridded mesh described in NEC TIA 23-9 is simply intended to turn fatalities into (near miss) but still perceptible shocks. If fatalities and injuries from electric usage around in-ground pools are truly a priority public safety issue for Florida's residents and visitors, the Committee could consider in future code cycles an even more comprehensive gridded mesh that contains more coverage and density – for example a gridded mesh made up of six inch by six inch rectangles and extending out to five feet from the water - to better protect pool users when they are standing on the deck and using an aluminum handled skimmer. Such designs have been tested and demonstrate superior equipotential performance as compared to the single #8 copper ring and the 12x12 mesh.

SW12006Text Modification

4501.16 Electrical.

Electrical equipment wiring and installation, including the bonding and grounding of pool components, shall 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 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.

Exception: In lieu of the requirements of NFPA 70 Sec. 680.26(2)(a)-(b) for conductive paved and unpaved swimming pool perimeter surfaces, swimming pools and spas may be bonded by single copper conductor where the following requirements are met:

(1) At least one minimum 8 AWG bare solid copper conductor shall be provided.

(2) The conductors shall follow the contour of the perimeter surface.

(3) Only listed splicing devices or exothermic welding shall be permitted.

(4) The required conductor shall be 450 mm to 600 mm (18 in. to 24 in.) from the inside walls of the pool.

(5) The required conductor shall be secured within or under the perimeter surface 100 mm to 150 mm (4 in. to 6 in.) below the subgrade.

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Mod12006_TextOfModification.pdf

SW12006-G2General Comment

SC#23-3-8
D#23-1

Dawn Michele Bellis
Secretary, Standards Council

4 April 2023*

To: Interested Parties

Subject:

Standards Council Decision (Final):	**D#23-1**
Standards Council Agenda Item:	**SC#23-3-8**
Date of Decision:	21 March 2023
TIA No. 1687 to NFPA 70®, *National Electrical Code®*, 2023 Edition	

Dear Interested Parties:

At its meeting of March 20-21, 2023, the Standards Council considered an appeal on the above referenced matter. The Council's Final decision is now available and is attached herewith.

Sincerely,

Dawn Michele Bellis
Secretary, NFPA Standards Council

cc: S. Everett, S. Gallagher, C. Duffy, J. Sargent
Members, NEC Code-Making Panel 17 (NEC-P17)
Members, NEC Correlating Committee (NEC-AAC)
Members, NFPA Standards Council (AAD-AAA)
Individuals Providing Appeal Commentary

*NOTE: Participants in NFPA's standards development process should know that limited review of this decision may be sought from the NFPA Board of Directors. For the rules describing the available review and the method for petitioning the Board for review, please consult section 1-7 of the Regulations Governing the Development of NFPA Standards and the NFPA Regulations Governing Petitions to the Board of Directors from Decisions of the Standards Council. Notice of the intent to file such a petition must be submitted to the Clerk of the Board of Directors within 15 calendar days of the publication date of this Decision.

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Mod_12006_G2_General_FD D23-1_SC 23-3-8_NFPA 70 _TIA 1687.pdf

SW12006-G2General Comment

Standards Council Decision (Final):	**D#23-1**
Standards Council Agenda Item:	**SC#23-3-8**
Date of Decision:	21 March 2023
TIA No. 1687 to NFPA 70®, *National Electrical Code®*, 2023 Edition	

SUMMARY OF ACTION (for convenience only; not part of official decision): The Standards Council voted to uphold the appeals requesting Council to overturn the Code-Making Panel 17 ballot results and issue TIA No. 1687 to NFPA 70®, *National Electrical Code®*, 2023 Edition.

DECISION:

At its meeting of March 20-21, 2023, the Standards Council considered appeals from Frederic Hartwell, Hartwell Electrical Services, Inc., and Reuben Clark, Consolidated Manufacturing International. The appellants request that the Standards Council overturn the Code-Making Panel 17 (Panel 17) ballot results and issue TIA No. 1687 on the 2023 edition of NFPA 70®, *National Electrical Code®*. Specifically, the appellants request that the Standards Council issue TIA No. 1687, which seeks to revise the definition of "pool" and bonding requirements within Section 680.26.

As background, the TIA was balloted through Panel 17 and the NEC Correlating Committee ("CC") in accordance with the *Regulations Governing the Development of NFPA Standards (Regs)* to determine whether the necessary three-fourths majority support was achieved on technical merit, emergency nature, and correlation for recommendation of issuance. The TIA achieved the necessary support of Panel 17 on technical merit, but failed to achieve the necessary support on emergency nature. This TIA did achieve the necessary support of the CC on correlation.

The technical debate over the minimum standard for reducing voltage gradients around the perimeter of a pool, can be documented back to the 2008 edition of the NEC. As brought forward in August of 2022, the Council recognized that new information had been identified which had not fully been considered by the responsible CMP which could have bearing on the issue at hand. Additionally noted specifically by Council was that the body of additional and/or new information required "timely analysis".

As a result, the Council directed a balanced task group be established by NFPA staff to review the new and/or additional new data cited by the Appellant: namely, the the 2021 U.S. Coast Guard Report referenced during the hearing, the results of the most recent EPRI report, the case studies brought forward in TIA No. 1661 and any other new and existing reports referenced on this topic (see D#22-3 at www.nfpa.org/sc2022).

The Task Group was established with the charge to report back to Council: (1) its findings based on this data; (2) its recommendations, if any, as to the minimum safety standard within the NEC for reducing voltage gradient in the perimeter of a pool; (3) if a change to Article 680 is recommended, whether TIA No. 1661 would address the Task Group's findings; and (4) any other findings or actions that the Task Group deems necessary based on its analysis. The proposed TIA at issue herein was developed by the balanced task group[1] and represents the supported text reflective of the task group's position[2].

[1] The balanced task group established consisted of 10 total stakeholder participants: five of whom initially supported the single wire option and five of whom supported changes to currently issued requirements.
[2] Task Group position established through informal vote: one member abstained, one member did not return ballot, the Chair did not vote, and all remaining votes were in support of the text proposed.

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SW12006-G2General Comment

As evident from the Panel 17 ballots, the panel's consensus was that the proposed TIA was technically substantiated. However, the Panel was unpersuaded—despite the Council's specific finding in August that the new and/or additional information related to reducing voltage gradients around the perimeter of pools required timely analysis—that the submitted TIA met the threshold of "emergency" in accordance with the *Regulations Governing the Development of NFPA Standards*. The Standards Council disagrees. Finding an established record of incidents, testing, and solutions, the Council determined that the TIA exceeds the threshold of emergency nature as provided by the NFPA *Regulations*.

On appeal, the Council accords great respect and deference to the NFPA standards development process. In conducting its review, the Council will overturn the results of that process only where a clear and substantial basis for doing so is demonstrated.

The Council has reviewed the entire record concerning this matter and has considered all the arguments put forth in this appeal. In the view of the Council, the appeals present clear and substantial basis upon which to overturn the results yielded by the NFPA standards development process. Accordingly, the Council has voted to uphold the appeals. The effect of this action is that the NFPA 70, *National Electrical Code* will include the text of TIA No. 1687.

Council Members Michael Johnston and Rodger Reiswig recused themselves from the deliberations and vote on the appeal.

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SW12006-G2General Comment

Tentative Interim Amendment

NFPA® 70®

National Electrical Code®

2023 Edition

Reference: Definition of Pool, and 680.26
TIA 23-9
(SC 23-3-8 / TIA Log #1687)

Pursuant to Section 5 of the NFPA *Regulations Governing the Development of NFPA Standards*, the National Fire Protection Association has issued the following Tentative Interim Amendment to NFPA 70®, *National Electrical Code®*, 2023 edition. The TIA was processed by the NEC Code-Making Panel 17 and the NEC Correlating Committee, and was issued by the Standards Council on March 21, 2023, with an effective date of April 10, 2023.

1. Revise the definition of "Pool" to read as follows:

Pool. Manufactured or field-constructed equipment designed to contain water on a permanent or semipermanent basis and used by persons for swimming, wading, immersion, or therapeutic purposes, but not including bodies of water incorporated as part of an industrial process or lakes, lagoons, surf parks, or other natural and man-made bodies of water that may incorporate swimming and swimming areas. (680) (CMP-17)

Informational Note: Natural and man-made bodies of water, which includes lakes, lagoons, surf parks, or other similar bodies of water, are addressed in Article 682.

2. Revise section paragraph 680.26 to read as follows:

680.26 Equipotential Bonding.

(A) Performance. The equipotential bonding required by 680.26(B) and (C) to reduce voltage gradients in the pool area shall be installed for pools with or without associated electrical equipment related to the pool.

Informational Note No. 1: Some causes of voltage gradients originate outside the premises wiring system and are not within the scope of the *NEC*. Measures identified in Rule 097D2 of ANSI C2, *National Electrical Safety Code* can also serve to address voltage gradients originating on the utility side of the service point.

Informational Note No. 2: By its nature, equipotential bonding of swimming pools and perimeter surfaces involves contact between various metallic materials and the earth. This can, in some cases, expose various specific metals to a corrosive environment, depending on factors such as the type and chemical content of the soil and the specific
metal. Corrosive environments are also addressed in 680.14.

(B) Bonded Parts. …

(1) Conductive Pool Shells. …

(2) Perimeter Surfaces. The perimeter surface to be bonded shall be considered to extend for ~~1 m~~ 900 mm (3 ft) horizontally beyond the inside walls of the pool ~~and~~ while also at a height between 900 mm (3 ft) above and 600 mm (2 ft) below the maximum water level. The perimeter surface shall include unpaved surfaces, concrete, and other types of

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SW12006-G2General Comment

paving. Perimeter surfaces separated from the pool by a permanent wall or building 1.5 m (5 ft) in height or more shall require equipotential bonding only on the pool side of the permanent wall or building. Bonding to perimeter surfaces shall be provided as specified in 680.26(B)(2)(a), (B)(2)(b), ~~or~~ (B)(2)(c), and (B)(2)(d). ~~and~~ For conductive pool shells where bonding to perimeter surfaces is required, it shall be attached to the pool reinforcing steel or copper conductor grid at a minimum of four points uniformly spaced around the perimeter of the pool, or if the bonded perimeter surface does not surround the entire pool, it shall be attached to the pool reinforcing steel or copper conductor grid at a minimum of four uniformly spaced points along the bonded perimeter surface. For nonconductive pool shells where bonding to the perimeter surfaces is required, bonding at four points shall not be required, and the perimeter bonding shall be attached to the 8 AWG copper equipotential bonding conductor and, if present, to any conductive support structure for the pool.

Informational Note: Because the perimeter surface can incorporate various types of materials at various locations and elevations above and below maximum water level, the perimeter surface required to be bonded might not surround the entire pool. The 8 AWG copper equipotential bonding conductor can encircle the entire pool to facilitate connection of bonded parts.

(a) ~~*Structural Reinforcing Steel.* Structural reinforcing steel shall be bonded in accordance with 680.26(B)(1)(a).~~ *Conductive Paved Portions of Perimeter Surfaces.* Conductive paved portions of perimeter surfaces, including masonry pavers, if used, shall be bonded with unencapsulated structural reinforcing steel in accordance with 680.26(B)(1)(a), or with unencapsulated steel structural welded wire reinforcement (welded wire mesh, welded wire fabric), bonded together by steel tie wires or the equivalent. Steel welded wire reinforcement shall be fully embedded within the pavement unless the pavement will not allow for embedding. If the reinforcing steel is absent, or is encapsulated in a nonconductive compound, or embedding is not possible, unencapsulated welded wire steel reinforcement or a copper conductor grid shall be provided and shall be secured directly under the paving, and not more than 150 mm (6 in.) below finished grade.

Unencapsulated steel welded wire reinforcement that is not fully embedded in concrete, and copper grid regardless of location, where used for equipotential bonding, shall be listed for corrosion resistance and mechanical performance. This listing requirement shall become effective January 1, 2025. The copper grid or unencapsulated steel welded wire reinforcement shall also meet the following:

(1) Copper grid is constructed of 8 AWG solid bare copper and arranged in accordance with 680.26(B)(1)(b)(3).
(2) Steel welded wire reinforcement is minimum ASTM 6x6-W2.0 x W2.0 or minimum No. 3 rebar constructed in a 300 mm (12 in.) grid.
(3) Copper grid and steel welded wire reinforcement follow the contour of the perimeter surface extending not less than 900 mm (3 ft) horizontally beyond the inside walls of the pool.
(4) Only listed splicing devices or exothermic welding are used.

Informational Note No. 1: Performance of the equipotential bonding system at the perimeter surface is improved as the distance between the bonding means and finished grade is minimized, either by embedding within, or by direct contact with the underside of, the finished pavement.

Informational Note No. 2: See ASTM A615/A615M, *Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement;* A1064/A1064M *Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete;* A1022/A1022M *Standard Specification for Deformed and Plain Stainless Steel Wire and Welded Wire for Concrete Reinforcement;* A1060A/A1060M, *Standard Specification for Zinc-Coated (Galvanized) Steel Welded Wire Reinforcement, Plain and Deformed, for Concrete;* and ACI Standard ACI 318, *Building Code Requirements for Structural Concrete,* for examples of standards currently used in the listing of reinforcing steel bars and steel welded wire reinforcement.

(b) *Unpaved Portions of Perimeter Surfaces.* Unpaved portions of perimeter surfaces shall be bonded with any of the following methods:
(1) ~~*Copper Ring.* Where structural reinforcing steel is not available or is encapsulated in a nonconductive compound, a~~ cCopper conductor(s) shall ~~be utilized where the following requirements are met~~ meet the following:
~~(1)~~a. At least one minimum 8 AWG bare solid copper conductor, including the 8 AWG copper equipotential bonding conductor if available~~ shall be provided~~.
~~(2)~~b. The conductors ~~shall~~ follow the contour of the perimeter surface.
~~(3)~~c. Only listed splicing devices or exothermic welding are used. ~~shall be permitted.~~
~~(4)~~d. The ~~required~~ conductor(s) is ~~shall be~~ 450 mm to 600 mm (18 in. to 24 in.) from the inside walls of the pool.
~~(5)~~e. The ~~required~~ conductor(s) ~~shall be secured within or~~ is under the unpaved portion of the perimeter surface 100 mm to 150 mm (4 in. to 6 in.) below ~~the subgrade~~finished grade.

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SW12006-G2General Comment

f. Be installed only in perimeter surfaces not intended to have direct access to swimmers in the pool.

(e2) ~~*Copper Grid.* Where structural reinforcing steel is not available or is encapsulated in a nonconductive compound,~~ eCopper grid or unencapsulated steel welded wire reinforcement used for equipotential bonding of unpaved portions of perimeter surfaces shall ~~be utilized where the following requirements are met~~ meet the following:
~~(1)~~a. ~~The copper grid shall be constructed of 8 AG solid bare copper and be arranged~~ Be installed in accordance with 680.26~~(B)(1)(b)(3)~~(B)(2)(a).
~~(2) The copper grid shall follow the contour of the perimeter surface extending 1 m (3 ft) horizontally beyond the inside walls of the pool.~~
~~(3) Only listed splicing devices or exothermic welding shall be permitted.~~
~~(4)~~b. ~~The copper grid shall be secured~~ Be located within ~~or under~~ the ~~deck or~~ unpaved surface(s) between 100 mm to 150 mm (4 in. to 6 in.) below ~~the subgrade~~finished grade.

(c) *Nonconductive Perimeter Surfaces.* Equipotential bonding shall not be required for nonconductive portions of perimeter surfaces that are separated from earth or raised on nonconducting supports, and it shall not be required for any perimeter surface that is electrically separated from the pool structure and raised on nonconductive supports above an equipotentially bonded surface.

Informational Note: Nonconductive materials include, but are not limited to, wood, plastic, wood-plastic composites, fiberglass, and fiberglass composites.

(d) *Interconnection of Bonded Portions of Perimeter Surfaces.* All surfaces where equipotential bonding is required shall be interconnected using listed splicing devices or exothermic welding. Where copper wire is used for this purpose, it shall be solid copper, not smaller than 8 AWG. The conductor shall be permitted to encircle the pool to facilitate bonding connections to portions of the perimeter covered in 680.26(B)(2)(a) and (B)(2)(b) that are not contiguous.

Issue Date: March 21, 2023

Effective Date: April 10, 2023

(Note: For further information on NFPA Codes and Standards, please see www.nfpa.org/docinfo**)**
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SW12006-G2General Comment

Date 04/14/2025

From Douglas Dorr 407-968-3010 d.dorr@ieee.org

Subject: Comment Against Reducing Level of Safety for Swimming Pools – Recommendation to fully adopt NEC 2023,

I urge the committee to reject the proposed modification and to instead fully adopt the 2023 NEC with all TIAs, including: Definition of Pool and NEC 680.26 TIA 23-9

Rationale: The proposer misinforms the committee by stating that the single bare copper bonding wire has no record of failure in the 20 years it has been in use in the State of Florida.

The bulleted list below is a sampling of twelve Florida specific incidents where the single bare wire has been demonstrated as inadequate, and does in fact, show a “record of failure” resulting in fatalities and injuries:

• Tallahassee Incident: In April 2009, an 8-year-old boy was electrocuted while swimming in a pool at his family's home due to a faulty pool light.

• Pensacola Incident: In May 2010, a 16-year-old boy was electrocuted while swimming in a pool at his family's home due to a malfunctioning pool pump.

• Sarasota Incident: In July 2011, a 12-year-old girl was electrocuted while swimming in a pool at her family's home due to faulty wiring in the pool's underwater lights.

• Jacksonville Incident: In August 2012, a 10-year-old boy was electrocuted while swimming in a pool at a friend's house due to a malfunctioning pool pump.

• Fort Lauderdale Incident: In June 2013, a 14-year-old boy was electrocuted while swimming in a pool at his family's home due to a faulty pool light.

• North Miami Beach Incident: In April 2014, a 7-year-old boy was electrocuted in his family's swimming pool due to faulty wiring.

• Orlando Incident: In June 2015, a 15-year-old girl was electrocuted while swimming in a pool at a hotel due to a malfunctioning pool pump.

• Tampa Incident: In August 2016, a 13-year-old boy was electrocuted while swimming in a pool at a friend's house due to a malfunctioning pool pump.

• Miami Incident: In July 2017, a 10-year-old girl was electrocuted in a pool at a Miami apartment complex due to a malfunctioning pool pump.

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SW12006-G2General Comment

• Fort Myers Incident: In July 2018, a 9-year-old boy was electrocuted while swimming in a pool at his family's home due to a faulty pool light.

• Hialeah Incident: In June 2019, a 17-year-old boy was electrocuted while swimming in a pool at his apartment complex.

• Palm Beach Gardens Incident: In July 2020, a 6-year-old boy was electrocuted while swimming in a pool at his family's home due to a faulty pool light.

Each one of these incidents has a common thread, with electrified water – and a surrounding walking/sitting surface that is not at the same electric potential as the water.

This means not only are the victims at peril, but the rescuers and first responders could also be electrocuted by simultaneously contacting the pool deck and the water.

What is truly disturbing about the listed incidents is the reality that the electric potential differences between the walking/sitting surfaces and the pool water would have been avoided (and any water-to-water voltage gradients would have been reduced) if the new 2023 NFPA TIA 23-9 been the minimum design criteria for those pools during their construction.

Supporting Background

For background on the need for a level of safety enhancement for mitigating electric shock incidents, in October of 2022 the NFPA Standards Council directed a balanced Subject Matter Expert Task Group to review industry data on in-ground swimming pool fatalities and injuries and to make recommendations, if any, as to the minimum safety standard within the NEC for reducing voltage gradients in the perimeter of a pool and if so, what changes to NEC Article 680 are recommended. Accordingly, TIA 9-23 reflects both the recommended changes the SME Task Group Proposed and the emergency nature of these changes.

The following is an excerpt from the final recommendation from the Task Group to the Standards Council:

As set forth in the underlying appeal that prompted the Standards Council to decree prompt action on this matter, this TIA, in accordance with 5.4(d) of the Regulations, will “offer to the public a benefit that would lessen a recognized hazard and ameliorate a continuing dangerous condition or situation.” Indeed, the urgency of this matter informed the Council decision that also required the Task Group to come to a conclusion and report by November 30, 2022 so the Council could take action at its very next meeting in December. This TIA will make these benefits generally available upon issuance and enforceable as soon as possible.

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SW12006Rationale

F.E. Santos PE
5333 COLLINS AVENUE
MIAMI BEACH, Fl 33140
PE # 19522 (Electrical)
Ph: 786.367.3261.
Office: 305.688.2000.Fax: 305.688.3000.Email:shineco1@bellsouth.net

MIAMI-DADE COUNTY
BUILDING & ZONING DEPARTMENT
11805 SW 26TH Street
Miami,Fl 33175-2474
Attn: Mr. Stuart Bazerman Electrical Division Director

March 13, 2007

Ref: Resistance test for bonding installation in new Swimming Pool
Job Name: Nicolas Tempestini Residence Swimming Pool
Job address: 9821 NW 26th Street Doral,Fl

Dear Mr. Bazerman:

This is to certify that an additional Fall-of-Potential test was performed for a different bonding installation at the above address.

The bonding installation consisted of a #8 solid bare copper grid 12"x 12"and 36"wide installed around the perimeter of the pool.

All metallic components of the pool including the reinforcing rebar in the pool walls were bonded to the bonding installation at 4 places.

Copper Clad ground rods were driven adjacent to the pool area and resistance tests was performed to determine the ground continuity between the ground rods and the bonding installation.

A resistance to ground was measured for the bonding installation the results listed below showed resistance with and without copper grid, less than 25 ohms for both systems.

Tests Date: March 7, 2007 (Single # 8) and March 13, 2007(Copper grid)

Test Instruments: Biddle Series 3 Resistance Tester, Simpson 260

		(Single # 8)	(Copper grid)
Location 1:	Adjacent to north side of pool @ 8 feet	= 5.6 ohms	5.9 ohms
Location 2:	Adjacent to east side of pool @ 6 feet	= 3.4 ohms	5.4 ohms
Location 3:	Adjacent to south side of pool @ 5 feet	= 7.7 ohms	8.6 ohms

Should you have any questions regarding the above, or require additional information, please contact us.

Respectfully,

F.E. Santos, PE

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Mod_12006_Rationale_Santos Bonding Tests_2007.pdf

SW12006Rationale

Jason W Rice, P.E.
Consulting Engineer
10289 Penningcroft Lane
Mechanicsville, VA 23116
P 804-514-0743
F 804-368-7287

February 1, 2007

FSPA
Attn: Jennifer Hatfield
1718 main st. Suite 303
Sarasota, FL 34236
P 941-952-9293
F 941-366-7433

Project Location: NEC Bonding Issue

Ms. Hatfield,

I would like to take this opportunity to express my professional opinion about the equipotential bonding question as they pertain to pools. It is my opinion that the proposed language for the 2008 NEC, Section 680.26 is sufficient to reduce the potential for voltage gradients in a pool area. The section in question states that providing adequate bonding for a perimeter surface requires a single, minimum 8 AWG, bare solid copper conductor to follow the contour of the pool. This "contour bonding" shall be connected to the pool steel in at least four (4) uniformly spaced locations (except for non-conductive pool shells). Additionally, this contour bonding shall be 18-24 in. from the inside wall of the pool and secured under 4-6 in. of topsoil. All splicing and connections shall conform to NEC requirements.

I have had the opportunity as engineer of record on more than 3,000 pool related projects, both commercial and residential. Additionally, I have actively been providing electrical engineering designs in the residential, commercial and

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Mod_12006_Rationale_Rice Engineering Report_2007.pdf

SW12006Rationale

industrial industries for the past 12 years. It is my professional opinion that the above perimeter bonding is all that is required to ensure a reduction in the potential for voltage gradients for the perimeter surfaces in a pool area.

Please don't hesitate to contact me if you have any further questions or comments.

Sincerely,

Jason W. Rice, P.E.

Attachments: 1 – Jason Rice Curriculum Vitae

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SW12006Rationale

Jason W. Rice, PE

Mr. Rice has over 12 years of professional experience in all aspects of governmental, institutional, commercial, industrial, residential, recreational, structural, electrical and environmental engineering. His work has traversed the United States, the Caribbean and includes the engineering of more than 3,500 projects (over 2,000 pools) and conducting over 1,000 inspections.

His He is supported by three assistants, a field technician, a GIS technician and a project engineer. The field technician is licensed as a Certified Pool Operator and a Pool & Spa Repair Contractor with over 10 years' experience in the pool industry. The GIS technician has over 10 years' of government, commercial and residential engineering experience. The project engineer is a mechanical engineer with over 15 years of design engineering experience.

Prior to his independent consulting work, Mr. Rice worked with an environmental and electrical engineering, design-build firm and several multi-disciplined, civil & MEP engineering firms. His responsibilities were in all phases of engineering, from assisting clients with conceptual layout, preliminary or forensic inspections and review, obtaining public official approval on preliminary designs, preparing the final design documents, management of construction (including inspections) to the final turnover to the client. Mr Rice's experience provides not only multi-discipline engineering design but also a firm comprehension of how these fields affect the overall scope on a project.

Commercial

Electrical, Columbia Restaurant, Sarasota, FL. The engineering design of modifications to the 1000A electrical distribution system.

Electrical, Dwyers Irish Pub, Ft Myers, FL. The engineering design of modifications to the 2000A electrical distribution system.

Electrical, Metro Coffee & Wine Club, Sarasota, FL. The engineering design of modifications to the 2500A electrical distribution system.

Electrical, Sarasota Commercial Management Office Building, Sarasota, FL. The engineering design of modifications to the 1000A electrical distribution system.

Electrical, Mariott Resort, West Palm Beach, FL. The engineering design of the modifications to a 800A electrical distribution system.

Electrical, AutoPilot Systems, Ft Lauderdale, FL. The engineering design of the modifications to the 2000A electrical distribution system.

Electrical, Lo Chlor, Ft Lauderdale, FL. The engineering design of the manufacturing control system.

Electrical, Days Inn, Port Charlotte, FL. The engineering design of the fire alarm and control system.

Electrical, Collier County Public Library, Immokalee, FL. The engineering design of the fire alarm and control system.

Registrations:
Professional
Engineer/FL/2002

Professional Engineer/VA/2004

Professional Engineer/MD/2004

Professional Memberships:
American Concrete Institute

Association of Pool & Spa Professionals

National Fire Prevention Association, NEC

Florida Swimming Pool Association

Community Involvement:
King's Charter Architectural Control Committee Member, 2006-2007.

Florida Swimming Pool Association, State of Florida Technical Advisor, responsible for providing technical and building code guidance on policies and represented the association at the state and national level, 2004-2006.

Conducted Building Code Training Courses for city officials, various Broward & Palm Beach County cities, FL 2004 - 2005.

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Electrical, Homewood Suites by Hilton, Sarasota, FL. The engineering design of the fire alarm and control system.

Electrical, The Courtyard at Market Square, Sarasota, FL. The engineering design of the fire alarm and control system.

Electrical, Homewood Suites by Hilton, Sarasota, FL. The engineering design of the fire alarm and control system.

Water Resources, The Singer Island Resort, Singer Island, FL. a 1,500+ SF, beach entry and recreational slide swimming pool, a 850+ SF perimeter overflow formal pool and a 35+ SF spa. All of these pools are located above the parking garage and supported on a column system structural design.

Water Resources, Walt Disney World, Typhoon Lagoon, Orlando, FL, a 2000+ SF, 170,000+ gal beach entry and recreational slide swimming pool. The engineering included all hydraulic, electrical, structural and mechanical systems. Provided construction management on all phases.

Water Resources, US Marines, 29 Palms Base, Adobe Flats II Clubhouse, Ocotillo Heights Community Center, Desert View Terrace Clubhouse, Twenty-Nine Palms, CA, three (3) separate 1,200 SF, 45,000 gal pools with kiddie water feature play areas. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, Landstar-Waterstone Development, Miami, FL a 2000+ SF, 120,000+ gal pool, 200+ SF kiddie pool and 35+ SF spa. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, The Mariott Courtard, Pembroke Pines, FL, a 800+ SF, 30,000+ gal pool. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, The Aman Yara Resort, Turks & Caicos Island, a 2000+ SF, 120,000+ gal pool, 200+ SF kiddie pool and 35+ SF spa. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, Rolling Hills Golf & CC, Akron, OH, remodeling of a 1,800 SF pool and decking. The engineering included all hydraulic, electrical, structural and mechanical systems.

Water Resources, The Jungle Club, Vero Beach, FL, remodeling of a 2,800 SF pool, a 49 SF spa and a new 2,300 SF pool. The engineering included all hydraulic, electrical, structural and mechanical systems.

Drainage Design, Universal Studios, Universal's Islands of Adventure, Orlando, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system;

International Aquatics Foundation, member of IAF-7 committee, this committee is responsible for updating the national code for swimming pool standards, Washington DC, 2005

Facing It Together, non-profit organization that raises money through sponsorship of athletic events and provides monies for surgical reconstruction of facial abnormalities for disadvantaged children, Broward County, FL 2004 - 2006.

Leukemia & Lymphoma Society, non-profit organization that raises money through sponsorship of athletic events and provides monies for research into the treatment of cancer, Palm Springs, CA 2003 - 2004.

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Residential

Electrical, Falcone Residence, Boca Raton, FL. The engineering design of the 1500A electrical distribution system on new residence.

Electrical, Manchester Residence, Sarasota, FL. The engineering design of the refurbishments to the 1600A electrical distribution system on an existing residence.

Electrical, Cannon Residence, Sarasota, FL. The engineering design of the refurbishments to the 600A electrical distribution system on an existing residence.

Water Resources, Brown Residence, Paradise Island, Bahamas, engineering design of 600 SF, 18,000 gal., deep foundation koi pond and multiple water features. Additionally, this project included the design of a 1,800 SF, 180,000 gal. pool, a 28 foot single-span RC bridge, a 120 SF, 4 column, grade beam and deep foundation gazebo structure, a 240 SF by 8 feet high RC and masonry deep foundation water fall structure. The engineering included all hydraulic, electrical, structural and mechanical systems. Provided construction management on all phases.

Water Resources, Venturi Residence, Ft Lauderdale, FL. Engineering design of 1,200 SF, 96,000 gal. pool and a 600 SF, two-story, RC and masonry waterfall/cave structure. A key feature of the cave was the 28 feet single span opening on one side. The engineering included all hydraulic, electrical, structural (shallow foundation) and mechanical systems. Provided construction management on all phases.

Water Resources, Smith Residence, Plantation, FL. Engineering design of 500 SF, 21,000 gal. pool and a 100 SF, two-story, RC spa and waterfall structure. The engineering included all hydraulic, electrical, structural (shallow foundation) and mechanical systems..

Municipal

Control System/Drainage Design, Gore Street Alum Treatment System, City of Orlando, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Lake Howard Alum Treatment System, City of Winter Haven, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Port Orange Alum Treatment System, City of Port Orange, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

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Control System/Drainage Design, East Lake Alum Treatment System, Hillsborough County, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Clearwater Alum Treatment System, City of Clearwater, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Winter Park Alum Treatment System, City of Winter Park, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Drainage Design, Polk County Environmental Services, Lake Blue/Lake Cannon, FL. Provided engineering design and build services for stormwater runoff monitoring, retention and alum treatment system.

Control System/Water and Sewer, Miami-Dade Water & Sewer, Alexander Orr Water Treatment Plant, Miami, FL. Complete design of temperature and vibration control systems on four, 2000 amp emergency generators. Provided installation, startup and calibration of the complete system.

Control System/Water and Sewer, East Waste Water Treatment Plant, City of Orlando, FL. Provided hydraulic and controls engineering and design of refurbishments to 100,000 GPD reuse system and annual hydraulic system testing, calibration and certification. Provided controls and electrical engineering design for activated sludge, heat-tracing system.

Control System/Water and Sewer, Bradenton Waste Water Treatment Plant, City of Bradenton, FL. Engineering design and build of methanol feed system for 35 MGD plant.

Water and Sewer, Sykes Creek Waste Water Treatment Plant, Brevard County, FL. Engineering design of rehab to 25 MGD influent structure hydraulics, monitoring and control system.

Control System/Water and Sewer, US Air Force, Tyndall AFB Waste Water Treatment Plant, Tyndall, FL. Engineering design and build of effluent hydraulic, UV treatment and control system for 100,000 GPD plant.

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industrial industries for the past 12 years. It is my professional opinion that the above perimeter bonding is all that is required to ensure a reduction in the potential for voltage gradients for the perimeter surfaces in a pool area.

Please don't hesitate to contact me if you have any further questions or comments.

Sincerely,

Jason W. Rice, P.E.

Attachments: 1 – Jason Rice Curriculum Vitae

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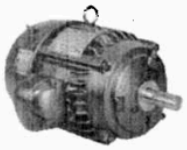
SW12006Rationale



Electro-Kinetic Corporation

Licensed Electrical Contractors

1801 S. Ocean Drive Hallandale, Fl. 33009 Phone/Fax (954) 456-7889

March 8, 2007

Stu Bazerman
11805 SW 26th Street
Miami, Fl. 33175-2474

Job Name: Angie Daza
Job Address: 11103 NW 71 Terrace Doral, Fl.

Dear Mr. Bazerman,

We have inspected and tested the bonding components of the swimming pool installed at the above address. A single #8 bond wire has been installed 360 degrees around the swimming pool. This bonding conductor is 18" from the inside of the pool wall. All metallic components of the pool are bonded to this wire including the reinforcing rods in the pool walls. We certify that the installed components meet the requirements of Article 680 of the National Electric Code. Resistance tests of the bonded equipment were completed on March 7, 2007.

Copper Clad ground rods were driven adjacent to the pool area and resistance tests performed to determine the ground continuity between the ground rods and the bonded pool equipment. An acceptable resistance to ground was measured for this swimming pool bonding system (less than 25 ohms). There is no further recommendation for additional bonding methods required for this location. The results of our resistance tests of the bonded equipment are listed below.

Test Date: March 7, 2007
Test Instruments: Biddle Series 3 Resistance Tester; Simpson 260

Location 1:	Adjacent to west side of pool @ 6 feet	16.8 ohms
Location 2:	Adjacent to north side of spa @ 5 feet	12.1 ohms
Location 3:	Adjacent to south side of pool @ 6 feet	13.4 ohms

Sincerely,

George DeSalle
Florida State Certification: # EC 1767

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Mod_12006_Rationale_DeSalle Bonding Tests_2007.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

62

SW12009

Date Submitted	02/11/2025	**Section**	4501.14.2	**Proponent**	Dallas Thiesen
Chapter	45	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Eliminates equipment manufacturing requirements that are no longer needed due to industry manufacturing standards and practice.

Rationale

Specifying pool heater features in the FBC is unnecessary due to current industry manufacturing practices and technology.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes the code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes the code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.

Does not degrade the effectiveness of the code
Updates and modernizes the code.

SW12009Text Modification

4501.14.2 ~~Water retention.~~

~~If a heater is not equipped or designed for an approved permanent bypass or antisiphon device, an approved permanent bypass or antisiphon device shall be installed to provide a positive means of retaining water in the heater when the pump is not in operation.~~ Reserved.

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Mod12009_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

63

SW12011

Date Submitted	02/11/2025	**Section**	4501.14.5	**Proponent**	Dallas Thiesen
Chapter	45	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Eliminates equipment manufacturing requirements that are redundant and unnecessary due to modern manufacturing standards and practice.

Rationale

Specifying pool heater features in the FBC is unnecessary due to current industry manufacturing practices and technology.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Simplifies enforcement by eliminating potential confusion.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Updates and modernizes the code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Updates and modernizes the code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
This proposal does not specify a product or material.

Does not degrade the effectiveness of the code
Updates and modernizes the code.

SW12011Text Modification

4501.14.5 ~~Relief valve.~~

~~When water heating equipment which is installed in a closed system has a valve between the appliance and the pool, a pressure relief valve shall be installed on the discharge side of the water heating equipment. For units up to and including 200,000 Btu/hour input, the relief valve shall be rated by the American Gas Association.~~
Reserved.

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Mod12011_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

64

SW12013

Date Submitted	02/11/2025	**Section**	4501.16.1	**Proponent**	Dallas Thiesen
Chapter	45	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Requires underwater lights on new residential pools to be low voltage.

Rationale

All underwater lights should be low voltage to reduce the possibility of electrical hazards in swimming pools and spas. Commercial swimming pools and spas have been successfully using low voltage lights for years.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None.

Impact to building and property owners relative to cost of compliance with code

Minimal, slight increase in cost on light components but this will be offset with longer service LED lights now mandated under Federal rules.

Impact to industry relative to the cost of compliance with code

Minimal, slight increase in cost on light components but this will be offset with longer service LED lights now mandated under Federal rules.

Impact to small business relative to the cost of compliance with code

Minimal, slight increase in cost on light components but this will be offset with longer service LED lights now mandated under Federal rules.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Updates and modernizes the code. Eliminates potential electrical risks.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Updates and modernizes the code. Eliminates potential electrical risks.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not specify a product or material.

Does not degrade the effectiveness of the code

Updates and modernizes the code. Eliminates potential electrical risks.

SW12013Text Modification

4501.16.1 Voltage Limitation

Underwater lighting, or lighting that may be exposed to nozzle-directed pool water, shall not exceed 30 volts DC or 15 volts AC. Such lights shall be installed in accordance with the manufacturer's installation instructions and be listed by a nationally recognized testing laboratory.

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Mod12013_TextOfModification.pdf

TAC: Swimming Pool

Total Mods for **Swimming Pool** in **Pending Review : 65**

Total Mods for report: 65

Sub Code: Residential

65

SW12310

Date Submitted	02/18/2025	**Section**	46	**Proponent**	Jennifer Hatfield
Chapter	2712	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Pool & Hot Tub Alliance (PHTA), this proposal simply updates referenced standards and the PHTA address.

Rationale

This proposal simply updates referenced standards and the PHTA address.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes by providing the latest editions of industry standards.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes by providing the latest editions of industry standards.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
It does not.
Does not degrade the effectiveness of the code

It does not.

1st Comment Period History

SW12310-G1

Proponent Dallas Thiesen Submitted 4/16/2025 10:09:49 AM Attachments No

Comment:

The Florida Swimming Pool Association Supports this modification.

SW12310Text Modification

APSP (PHTA Standards)

Pool & Hot Tub Alliance

1650 King Street, Suite 602 ~~2111 Eisenhower Avenue, Suite 500~~

Alexandria, VA 22314

ANSI/APSP/ICC 3—2014(R2023)
American National Standard for Permanently Installed Residential Spas and Swim Spas
R4501.6.1

ANSI/APSP/ICC 4— 2025~~2012(R2022)~~
American National Standard for Above-ground/On-ground Residential Swimming Pools
R4501.6.1

ANSI/APSP/ICC 5—2025~~2012(R2022)~~
American National Standard for Residential In-ground Swimming Pools
R4501.6.1

ANSI/APSP/ICC 6—2013(R2023)
American National Standard for Residential Portable Spas and Swim Spas
R4501.6.1

ANSI/PHTA/ICC 7—2020
American National Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs and Catch Basins
R4501.6.1, R4501.6.3, R4501.6.6

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Mod12310_TextOfModification.pdf