

7th Edition (2020)



**PLUMBING TAC  
WITH COMMENTS**

*This document created by the Florida Department of Business and  
Professional Regulation -  
850-487-1824*

# TAC: Plumbing

Total Mods for **Plumbing** in **Approved as Submitted: 1**

Total Mods for report: 2

## Sub Code: Building

**P7798**

1

<b>Date Submitted</b> 12/9/2018	<b>Section</b> 454.1.6.1	<b>Proponent</b> Mo Madani
<b>Chapter</b> 4	<b>Affects HVHZ</b> No	<b>Attachments</b> Yes
<b>TAC Recommendation</b> Approved as Submitted		
<b>Commission Action</b> Pending Review		

### Comments

<b>General Comments</b> No	<b>Alternate Language</b> Yes
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### Related Modifications

Table 406.3 Plumbing

### Summary of Modification

Incorporating Commission's declaratory statements as required by 553.73(7)(d), Florida Statutes. DS2018-040

### Rationale

To clarify that the square footage of interactive water features are required to be considered when calculating the "size of pool" for purpose of determining the type and number of fixtures for sanitary facilities.

### Fiscal Impact Statement

#### Impact to local entity relative to enforcement of code

There is no fiscal impact on the local entity relative to enforcement.

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

There is no fiscal impact to building and property owners relative to the cost of compliance.

#### Impact to industry relative to the cost of compliance with code

There is no fiscal impact to industry relative to the cost of compliance.

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

There is no fiscal impact to small business relative to the cost of compliance.

### Requirements

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

Has a reasonable and substantial connection with the health and safety and welfare of the general public - the code change clarifies the code

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

Strengthens or improves the code by making the code requirements clearer to the user.

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

Does not discriminate against materials, products, methods, or systems of construction. The proposed code change provides clarification to the code.

#### Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code.

The code change improves the effectiveness of the code by making it more clear.

Alternate Language

2nd Comment Period

7798-A5	<b>Proponent</b>	Kari Hebrank	<b>Submitted</b>	5/25/2019	<b>Attachments</b>	Yes	
	<b>Rationale</b>						
	The Florida Swimming Pool believes this alternative language is a proper compromise to the original code proposal. A wading pool with an Interactive Water Feature doesn't necessarily create the need for additional sanitary facilities. Allowing the installation of a unisex bathroom when the combined pool size square footage exceeds the facility threshold count is a better alternative.						
	<b>Fiscal Impact Statement</b>						
	<b>Impact to local entity relative to enforcement of code</b>						
	The alternative language should reduce enforcement costs as a unisex bathroom will need to be inspected instead of separate facilities.						
	<b>Impact to building and property owners relative to cost of compliance with code</b>						
	The alternative language provides a cost-savings to building and property owners.						
	<b>Impact to industry relative to the cost of compliance with code</b>						
	The industry will receive a cost-savings by including a unisex bathroom rather than separate sanitary facilities.						
<b>Impact to Small Business relative to the cost of compliance with code</b>							
There is no fiscal impact to small business relative to the cost of compliance.							
<b>Requirements</b>							
<b>Has a reasonable and substantial connection with the health, safety, and welfare of the general public</b>							
The alternative modification protects the health, safety and welfare of the public.							
<b>Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction</b>							
The alternative language provides a better method and system of construction.							
<b>Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities</b>							
The alternative language does not discriminate against products, methods or systems of construction.							
<b>Does not degrade the effectiveness of the code</b>							
The alternative language enhances the code by providing a logical, cost-effective alternative.							

Alternate Language

2nd Comment Period

7798-A1	<b>Proponent</b>	Jacqueline Feliciano	<b>Submitted</b>	5/1/2019	<b>Attachments</b>	Yes	
	<b>Rationale</b>						
	The inclusion of IWFs in the calculation of the "size of pool" is illogical and inconsistent with the Code's purpose to promote health and safety. The the bathing load indicates the maximum number of persons allowed in the entire pool area, not just in the water. When calculating the bathing load, IWFs should not be included in such calculation if they accompany a conventional swimming pool on the same property—the "multiple pool" exception. As such, increasing the "size of pool" calculation to account for the square footage of an IWF serves no purpose and would have absolutely no beneficial impact because the inclusion of an IWF does not add to the bathing load, nor the number of persons permitted in the general pool area (which includes the IWF). Simply put, it is counterintuitive to require additional restroom fixtures when additional people will not be permitted to use such restrooms—the added restrooms would be rendered superfluous. There would be no benefit to the health and/or safety of the bathers, in direct contradiction of the purpose of the Code. We believe adding a unisex restroom would be a perfect compromise to any concern raised.						
	<b>Fiscal Impact Statement</b>						
	<b>Impact to local entity relative to enforcement of code</b>						
	When calculating the bathing load, IWFs are not to be included in such calculation if they accompany a conventional swimming pool on the same property—the "multiple pool" exception.						
	<b>Impact to building and property owners relative to cost of compliance with code</b>						
	Would create an increase in the cost of construction of the extra fixtures, increased utility costs, and increased water consumption by the property, yet would not provide any benefit to the health and/or safety of the bathers, in direct contradiction of the purpose of the Code.						
	<b>Impact to industry relative to the cost of compliance with code</b>						
	Would affect an entire project: building's requirements for HVAC, plumbing, electrical, parking spaces, and green space impacted significantly. The foregoing are all needless expenses that would be borne by the owner of the pool, and ultimately by those persons who enjoy the use of same.						
<b>Impact to Small Business relative to the cost of compliance with code</b>							
There is no fiscal impact to small business relative to the cost of compliance.							
<b>Requirements</b>							
<b>Has a reasonable and substantial connection with the health, safety, and welfare of the general public</b>							
Compromises by providing for a unisex bathroom, without the additional expense. Simply put, it is counterintuitive to require additional restroom fixtures when additional people will not be permitted to use such restrooms—the added restrooms would be rendered superfluous.							

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

Provides better alternative.

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

Does not discriminate.

**Does not degrade the effectiveness of the code**

Does not degrade effectiveness of the code, rather strengthens.

## 1st Comment Period History

<b>Proponent</b>	Kari Hebrank	<b>Submitted</b>	2/13/2019	<b>Attachments</b>	No
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**Comment:**

The Florida Swimming Pool Association is OPPOSED to this code modification.

P7798-G1

1 Square Footage of Interactive Water Features are required to be included when calculating the "size of pool for the purposes of determining the type and number of fixtures for the sanitary facilities. For those facilities with an Interactive Water Feature in addition to the pool, causing the combined pool size square-footage to exceed the threshold required category fixture count, a unisex restroom may be installed to satisfy the fixture requirement for every additional 1,250 square feet or fraction thereof.

Language at the end of the footnote in table 454.1.6.1 should be modified to read:

In the event, the facility has an Interactive Water Feature in addition to the pool, causing the combined pool size square-footage to exceed the threshold required category fixture count, in unisex restroom may be installed to satisfy the fixture requirement for every additional 1,250 square feet or fraction thereof.

**For example:**

454.1.6.1.1 Required fixtures.

Fixtures shall be provided as indicated on Table 454.1.6.1. The fixture count on this chart is deemed to be adequate for the pool and pool deck area that is up to three times the area of the pool surface provided. When multiple fixture sets are required and separate facilities are provided for each sex, the fixtures used in ancillary family-style restrooms can be used to meet the requirements of this section. In the event, the facility has an Interactive Water Feature in addition to the pool, causing the combined pool size square-footage to exceed the threshold required category fixture count, in unisex restroom may be installed to satisfy the fixture requirement for every additional 1,250 square feet or fraction thereof.

**Explanation:**

When the amenity has a pool that is close to the threshold to go to the next level restroom fixtures, and a spa, Interactive Water Feature ("IWF"), or wade pool is going to put them over, the owner can provide a unisex restroom rather than additional fixtures. This would only be for pools that are on the threshold for the category square-footage, and the spa, IWF, or wade pool put them over.

FBC, Building

Revise table to add Note 1

**TABLE 454.1.6.1**

**PUBLIC SWIMMING POOL—REQUIRED FIXTURE COUNT**

**(No change to the Table)**

Note:

<sup>1</sup> Square Footage of Interactive water features are required to be included when calculating the “size of pool” for the purposes of determining the type and number of fixtures for the sanitary facilities.

FBC, Plumbing

Revise table to add Note 1

**TABLE 406.3**

**PUBLIC SWIMMING POOL—REQUIRED FIXTURE COUNT**

**(No change to the Table)**

Note:

<sup>1</sup> Square Footage of Interactive water features are required to be included when calculating the “size of pool” for the purposes of determining the type and number of fixtures for the sanitary facilities.

STATE OF FLORIDA  
BUILDING COMMISSION

<b>FILED</b>	
Department of Business and Professional Regulation Deputy Agency Clerk	
CLERK	Brandon Nichols
Date	8/28/2018
File #	2018-07182

In the Matter of

G.B. COLLINS ENGINEERING, P.A.

**DS 2018-040**

Petitioner.

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**DECLARATORY STATEMENT**

The foregoing proceeding came before the Florida Building Commission (Commission) by a Petition from Samuel A. Liberatore, for G.B. Collins Engineering, P.A. (Petitioner) that was received May 23, 2018. Based on the statements in the petition, the material subsequently submitted and the subsequent request by the Petitioner, the Commission states the following:

**Findings of Fact**

1. The petition is filed pursuant to, and must conform to the requirements of Rule 28-105.002, Florida Administrative Code.
2. Petitioner's representative in this matter is Samuel A. Liberatore, 300 Alternate 19 North, Suite A, Palm Harbor, FL 34683.
3. Petitioner is a professional design engineering company that is considering undertaking two projects, each of which would include a public swimming pool and interactive water features. The first project would feature a swimming pool with an area of 1,330 square feet, and an interactive water feature with an area of 1,256 square feet. The second project would feature a swimming pool with an area of 1,060 square feet, and an interactive water feature with an area of 2,490 square feet.



4. Petitioner seeks clarification of section 454.1.6.1.1, Florida Building Code, Building, 6th Edition (2017), as it pertains to the provision of sanitary facilities for the projects in question.

5. Specifically, the Petitioner requests an answer to the following question based upon the projects described within the petition for declaratory statement:

For the prospective projects, should the proposed interactive water features be considered when calculating the "size of pool" for the purpose of determining the type and number of fixtures for sanitary facilities at the accompanying public swimming pools?

#### **Conclusions of Law**

6. The Commission has the specific statutory authority pursuant to Section 553.775(3)(a), Florida Statutes (2018) to interpret the provisions of the Florida Building Code by issuing a declaratory statement.

7. Section 454.1, Florida Building Code, Building, 6th Edition (2017), states:

**Public swimming pools and bathing places.**

Public swimming pools and bathing places shall comply with the design and construction standards of this section.

**Exceptions:**

1. A portable pool used exclusively for providing swimming lessons or related instruction in support of an established educational program sponsored or provided by a school district may not be regulated as a public pool. Such pool shall be regulated as a private swimming pool under Section 454.2.

2. A temporary pool may not be regulated as a public pool. Such pool shall be regulated as a private swimming pool under Section 454.2.

8. Section 454.1.1, Florida Building Code, Building, 6th Edition (2017), states:

**Flood hazard areas.**

Public swimming pools installed in flood hazard areas established in Section 1612.3 shall comply with Section 1612.

**Note:** Other administrative and programmatic provisions apply. See Department of Health (DOH) Rule 64E-9, Florida Administrative Code and Chapter 514, Florida Statutes. The regulation and enforcement of the initial and annual operation permit for public pools are preempted to the DOH. The construction permit holder is responsible for obtaining an operation permit issued by DOH, as a public swimming pool shall not be put into operation without an inspection and operation permit issued from the DOH. DOH may grant variances from the provisions of the Florida Building Code specifically pertaining to public swimming pools and bathing places as authorized by Section 514.0115, Florida Statutes. Building officials shall recognize and enforce variance orders issued by the Department of Health pursuant to Section 514.0115(5), Florida Statutes including any conditions attached to the granting of the variance.

**“Bathing load”** means the maximum number of persons allowed in the pool or bathing place at one time.

...

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

...

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

...

**“Spa pool”** means a pool used in conjunction with high-velocity air or water.

...

**“Wading pool”** means a shallow pool designed to be used by children.

**“Water recreation attraction”** means a facility with design and operational features that provide patron recreational activity and purposefully involves immersion of the body partially or totally in the water. Water recreation attractions include water slides, river rides, water course rides, water activity pools, interactive water features, wave pools and any additional pool within the boundaries of the attraction.

**“Water activity pool”** means a water recreation attraction which has water-related activities such as rope ladders, rope swings, cargo nets and other similar activities.

(underscore provided).

9. Section 454.1.1.1, Florida Building Code, Building, 6th Edition (2017), states:

**Sizing.**

The bathing load for conventional swimming pools, wading pools, interactive water features, water activity pools less than 24 inches (610 mm) deep and special purpose pools shall be computed on the basis of one person per 5 gpm (0.32 L/s) of recirculation flow. The bathing load for spa type pools shall be based on one person per each 10 square feet (0.9 m<sup>2</sup>) of surface area. The filtration system for swimming pools shall be capable of meeting all other requirements of these rules while providing a flow rate of at least 1 gpm (0.06 L/s) for each living unit at transient facilities and <sup>3</sup>/<sub>4</sub> gpm (0.04 L/s) at nontransient facilities. Recreational vehicle sites, campsites and boat slips designated for live-aboards shall be considered a transient living unit. For properties with multiple pools, this requirement includes the cumulative total gpm of all swimming pools, excluding spas, wading pools and interactive water features. All other types of projects shall be sized according to the anticipated bathing load and proposed uses. For the purpose of determining minimum pool size only, the pool turnover period used cannot be less than 3 hours.

10. Section 454.1.6, Florida Building Code, Building, 6th Edition (2017), states:

**Sanitary facilities.**

Public swimming pools and bathing places shall comply with the

Swimming pools with a bathing load of 20 persons or less may utilize a unisex restroom. Pools with bathing loads of 40 persons or less may utilize two unisex restrooms or meet the requirements of Table 454.1.6.1. Unisex restrooms shall meet all the requirements for materials, drainage and signage as indicated in Sections 454.1.6.1.1 through 454.1.6.1.4. Each shall include a water closet, a diaper change table, a urinal and a lavatory. Pools with a bathing load larger than 40 persons shall provide separate sanitary facilities labeled for each sex. The entry doors of all restrooms shall be located within a 200-foot (60 960 mm) walking distance of the nearest water's edge of each pool served by the facilities.

**Exception:** Where a swimming pool serves only a designated group of residential dwelling units and not the general public, poolside sanitary facilities are not required if all living units are within a 200-foot (60 960 mm) horizontal radius of the nearest water's edge, are not over three stories in height unless serviced by an elevator, and are each equipped with private sanitary facilities.

TABLE 454.1.6.1  
PUBLIC SWIMMING POOL—REQUIRED FIXTURE COUNT

SIZE OF POOL (square feet)	MEN'S RESTROOM			WOMEN'S RESTROOM	
	Urinals	WC	Lavatory	WC	Lavatory
0 - 2,500	1	1	1	1	1
2,501 - 5,000	2	1	1	5	1
5,001 - 7,500	2	2	2	6	2
7,501 - 10,000	3	2	3	8	3

For SI: 1 square foot = 0.0929 m<sup>2</sup>.

- Section 454.1.6.1.1, Florida Building Code, Building, 6th Edition (2017), states:

**Required fixtures.**

Fixtures shall be provided as indicated on Table 454.1.6.1. The fixture count on this chart is deemed to be adequate for the pool and pool deck area that is up to three times the area of the pool surface provided. When multiple fixture sets are required and separate facilities are provided for each sex, the fixtures used in ancillary family-style restrooms can be used to meet the requirements of this section.

One diaper changing table shall be provided at each restroom. Diaper changing tables are not required at restrooms where all pools served are restricted to adult use only. Swim diapers are recommended for use by children that are not toilet trained. Persons that are ill with diarrhea cannot enter the pool.

**Exception:** When a public swimming pool meets all of the following conditions the following shall apply:

1. The pool serves only a designated group of dwelling units,
2. The pool is not for the use of the general public, and
3. A building provides sanitary facilities;

The fixture requirement for the building shall be determined and if it exceeds the requirement in Table 454.1.6.1 then the building requirement shall regulate the fixture count, otherwise the fixture count shall be based on the requirement for the pool. Under no circumstances shall the fixture counts be cumulative.

An additional set of fixtures shall be provided in the men's restroom for every 7,500 square feet (697 m<sup>2</sup>) or major fraction thereof for pools greater than 10,000 square feet (929 m<sup>2</sup>).

Women's restrooms shall have a ratio of three to two water closets provided for women as the combined total of water closets and urinals provided for men.

Lavatory counts shall be equal.

12. Section 403.6, Florida Building Code, Plumbing, 6th Edition (2017), states:

**Sanitary facilities for public swimming pools.**

Swimming pools with a bathing load of 20 persons or less may utilize a unisex restroom. Pools with bathing loads of 40 persons or less may utilize two unisex restrooms or meet the requirement of Table 403.6. Unisex restrooms shall meet all the requirements for materials, drainage and signage as indicated in Sections 454.1.6.1.1 through 454.1.6.1.4 of the Florida Building Code, Building. Each shall include a water closet, a diaper change table, a urinal, and a lavatory. Pools with a bathing load larger than 40 persons shall provide separate sanitary facilities labeled for each sex. The entry doors of all restrooms shall be located within a 200-foot (60 960 mm) walking distance of the nearest water's edge of each pool served by the facilities.

**Exception:** Where a swimming pool serves only a designated group of residential dwelling units and not the general public, poolside sanitary facilities are not required if all living units are within a 200-foot horizontal radius of the nearest water's edge, are not over three stories in height unless serviced by an elevator, and are each equipped with private sanitary facilities.

13. Section 403.6.1, Florida Building Code, Plumbing, 6th Edition (2017), states:

**Required fixtures.**

Fixtures shall be provided as indicated on Table 403.6. The fixture count of Table 403.6 is deemed to be adequate for the pool and pool deck area that is up to three times the area of the pool surface provided. An additional set of fixtures shall be provided in the men’s restroom for every 7,500 square feet or major fraction thereof for pools greater than 10,000 square feet. Women’s restrooms shall have a ratio of three to two water closets provided for women as the combined total of water closets and urinals provided for men. Lavatory counts shall be equal.

14. Table 403.6, Florida Building Code, Plumbing, 6th Edition (2017), states:

TABLE 403.6  
PUBLIC SWIMMING POOL - REQUIRED FIXTURES COUNT

SIZE (square feet)	MEN'S RESTROOMS			WOMEN'S RESTROOMS	
	Urinals	WC	Lavatory	WC	Lavatory
0 - 2500 sq ft	1	1	1	1	1
2501 - 5000 sq ft	2	1	1	5	1
5001 - 7500 sq ft	2	2	2	6	2
7501 - 10,000 sq ft	3	2	3	6	3

For SI: 1 square foot = 0.0929 m<sup>2</sup>.

15. In response to Petitioner’s question, the answer is yes. Pursuant to section 454.1.6.1.1 and table 454.1.6.1, Florida Building Code, Building, 6th Edition (2017), and section 403.6 and table 403.6 Florida Building Code, Plumbing, 6th Edition (2017), the size of the proposed interactive water features is required to be included when calculating the “size of pool” for the purpose of determining the type and number of fixtures for the sanitary facilities for the projects in question.

DONE AND ORDERED this 21<sup>st</sup> day of AUGUST, 2018, in Punta Gorda,  
Charlotte County, State of Florida.

  
E. JAY CARLSON  
Chairman, Florida Building Commission

DS 2018-040  
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NOTICE OF RIGHT TO APPEAL

Petitioner and all other interested parties are hereby advised of their right to seek judicial review of this Order in accordance with Section 120.68(2)(a), Florida Statutes (2018), and Florida Rules of Appellate Procedure 9.110(a) and 9.030(b)(1)(C). To initiate an appeal, a Notice of Appeal must be filed with the Agency Clerk, Department of Business and Professional Regulation, 2601 Blair Stone Road, Tallahassee, Florida 32399-2203 and with the appropriate District Court of Appeal not later than thirty (30) days after this Order is filed with the Clerk of the Department of Business and Professional Regulation. A Notice of Appeal filed with the District Court of Appeal shall be accompanied by the filing fee specified by Section 35.22(3), Florida Statutes (2018).

CERTIFICATE OF FILING AND SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing order has been filed with the undersigned and furnished by U. S. Mail to the persons listed below this 28<sup>th</sup> day of August, 2018.



Agency Clerk's Office  
Department of Business and Professional Regulation  
& Florida Building Commission  
2601 Blair Stone Road  
Tallahassee, Florida 32399-2203

Via U.S. Mail

G.B. Collins Engineering, P.A.  
Attn: Samuel A. Liberatore  
300 Alternate 19 North, Suite A  
Palm Harbor, FL 34683

Anthony Tilton  
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Tallahassee, FL 32301

Via Inter-Office or Email Delivery

Mo Madani, Planning Manager  
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2601 Blair Stone Road  
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Marjorie Holladay  
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Pepper Building, Room 680  
Tallahassee, Florida 32399-1300



# TAC: Plumbing

Total Mods for **Plumbing** in **No Affirmative Recommendation**: 1

Total Mods for report: 2

## Sub Code: Residential

**P7110**

2

<b>Date Submitted</b>	6/21/2016	<b>Section</b>	3009	<b>Proponent</b>	Eberhard Roeder
<b>Chapter</b>	30	<b>Affects HVHZ</b>	No	<b>Attachments</b>	Yes
<b>TAC Recommendation</b>	No Affirmative Recommendation				
<b>Commission Action</b>	Pending Review				

### Comments

<b>General Comments</b>	No	<b>Alternate Language</b>	Yes
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### Related Modifications

### Summary of Modification

Refer gray water landscape irrigation systems to regulation by Chapter 64E-6, Florida Administrative Code. This precludes duplicative regulations and reflects Florida statutory requirements for onsite sewage treatment and disposal.

### Rationale

The Florida Department of Health is the regulatory authority permitting onsite sewage treatment and disposal systems including gray water treatment and disposal systems (381.0065(2)(e)(k); 381.0065(3)(a)(b)(k), Florida Statutes). Chapter 64E-6, of the Florida Administrative Code, implements this authority and provides requirements.

The base document (2015 IRC) changes the topic of section P3009 from "GRAY WATER RECYCLING SYSTEMS" as in the 5th edition (2014) Florida Building Code-Residential to "SUBSURFACE LANDSCAPE IRRIGATION SYSTEMS".

The new scope includes all "nonpotable water from on-site water reuse systems", including gray water. By specifying how gray water is disposed of in subsurface irrigation systems, section P3009 creates new and duplicative regulations for wastewater disposal. The proposed modifications reference Florida regulations.

This proposal continues the approach taken in the 5th edition (2014) Florida Building Code-Residential on gray water disposal, where language from the base document on landscape irrigation (P3009.14) was reserved.

### Fiscal Impact Statement

#### Impact to local entity relative to enforcement of code

Proposal simplifies enforcement by clarifying that there is only a single jurisdiction over onsite sewage treatment and disposal systems. Gray water and laundry wastewater system tanks are included in the definition of "onsite sewage treatment and disposal system" per 381.0065(2)(k) Fl. Statutes.

#### 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

Gray water contains pathogens, and treatment and disposal of this water is necessary for the protection of health and safety. Application of Florida's onsite sewage regulations provides uniformity and protection. Florida, but not the base code, requires an unsaturated zone to remove pathogens.

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

The proposed language is consistent with the referenced language of 64E-6, Florida Administrative Code. Instead of creating a new methodology for drainfield sizing, the reference to 64E-6 provides an established methodology and construction standards that protect groundwater better from pollution.

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

The proposed language includes the material standards of 64E-6, Florida Administrative Code. Among other aspects, this allows for alternative drainfield materials, while the base code language specifies only gravel for the drainfield.

**Does not degrade the effectiveness of the code**

By making the building code and the onsite sewage treatment code more consistent with each other the code system overall will become more effective.

**Alternate Language**

**2nd Comment Period**

7110-A1

Proponent	Eberhard Roeder	Submitted	5/26/2019	Attachments	Yes
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**Rationale**

The Florida Department of Health is the regulatory authority permitting onsite sewage treatment and disposal systems including gray water treatment and disposal systems (381.0065(2)(e)(k); 381.0065(3)(a)(b)(k), Florida Statutes). Chapter 64E-6, of the Florida Administrative Code, implements this authority and provides requirements. The proposed modification and the alternative language avoid duplication of and inconsistency with this regulation by the Florida Building Code -Residential. The proposed alternative language deletes the content of this Section from the Florida Building Code - Residential consistent with the recommendations of the Plumbing TAC to maintain consistency between Chapter 14 of the Florida Building Code-Plumbing and this Section (see modification # 8384). This proposal continues the approach taken in the 5th edition (2014) Florida Building Code-Residential on gray water disposal, where language from the base document on landscape irrigation (P3009.14) was reserved.

**Fiscal Impact Statement**

**Impact to local entity relative to enforcement of code**

Proposal simplifies enforcement by clarifying that there is a single jurisdiction over onsite sewage treatment and disposal systems. Graywater systems are included in the definition of "onsite sewage treatment and disposal system" per 381.0065(2)(k) Fl. Statutes. No impact on local entities

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

Simplifies compliance with code by avoiding conflicts with Department of Health regulations. No impact on building and property owners, the existing requirements remain the same.

**Impact to industry relative to the cost of compliance with code**

Simplifies compliance with code by avoiding conflicts with Department of Health regulations. No impact, the existing requirements remain the same.

**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**

Gray water contains pathogens, and treatment is necessary for the protection of health and safety. Application of Florida's onsite sewage regulations provides uniformity and protection. For example, Florida, but not the base code, requires an unsaturated zone to remove pathogens.

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

The proposed modification makes the code clearer by avoiding conflict with another state regulation, namely 64E-6, Florida Administrative Code, which provides at least equivalent methods.

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

The proposed modification does not discriminate in this manner.

**Does not degrade the effectiveness of the code**

By making the building code and the onsite sewage treatment code more consistent with each other the code system overall will become more effective.

- SECTION P3009  
SUBSURFACE LANDSCAPE IRRIGATION SYSTEMS (reserved)

~~P3009.1 Scope.~~

~~The provisions of this section shall govern the materials, design, construction and installation of subsurface landscape irrigation systems connected to nonpotable water from on-site water reuse systems.~~

~~P3009.2 Materials.~~

~~Above-ground drain, waste and vent piping for subsurface landscape irrigation systems shall conform to one of the standards indicated in Table P3002.1(1). Subsurface landscape irrigation, underground building drainage and vent pipe shall conform to one of the standards indicated in Table P3002.1(2).~~

~~P3009.3 Tests.~~

~~Drain, waste and vent piping for subsurface landscape irrigation systems shall be tested in accordance with Section P2503.~~

~~P3009.4 Inspections.~~

~~Subsurface landscape irrigation systems shall be inspected in accordance with Section 110 of the *Florida Building Code, Building*.~~

~~P3009.5 Disinfection.~~

~~Disinfection shall not be required for on-site nonpotable reuse water for subsurface landscape irrigation systems.~~

P3009.6 Coloring.

On-site nonpotable reuse water used for subsurface landscape irrigation systems shall not be required to be dyed.

P3009.7 Sizing.

The system shall be sized in accordance with the sum of the output of all water sources connected to the subsurface irrigation system. Where gray water collection piping is connected to subsurface landscape irrigation systems, gray water output shall be calculated according to the gallons per day per occupant (liters per day per occupant) number based on the type of fixtures connected. The graywater discharge shall be calculated by the following equation:

$$\frac{A}{B} \times C$$

(Equation 30-1)

where:

*A* = Number of occupants:  
 Number of occupants shall be determined by the actual number of occupants, but not less than two occupants for one bedroom and one occupant for each additional bedroom.

*B* = Estimated flow demands for each occupant:  
 25 gallons (94.6 L) per day per occupant for showers, bathtubs and lavatories and 15 gallons (56.7 L) per day per occupant for clothes washers or laundry trays.

*C* = Estimated gray water discharge based on the total number of occupants.

P3009.8 Percolation tests.

The permeability of the soil in the proposed absorption system shall be determined by percolation tests or permeability evaluation.

#### P3009.8.1 Percolation tests and procedures.

Not less than three percolation tests in each system area shall be conducted. The holes shall be spaced uniformly in relation to the bottom depth of the proposed absorption system. More percolation tests shall be made where necessary, depending on system design.

##### P3009.8.1.1 Percolation test hole.

The test hole shall be dug or bored. The test hole shall have vertical sides and a horizontal dimension of 4 inches to 8 inches (102 mm to 203 mm). The bottom and sides of the hole shall be scratched with a sharp-pointed instrument to expose the natural soil. Loose material shall be removed from the hole and the bottom shall be covered with 2 inches (51 mm) of gravel or coarse sand.

##### P3009.8.1.2 Test procedure, sandy soils.

The hole shall be filled with clear water to not less than 12 inches (305 mm) above the bottom of the hole for tests in sandy soils. The time for this amount of water to seep away shall be determined, and this procedure shall be repeated if the water from the second filling of the hole seeps away in 10 minutes or less. The test shall proceed as follows: Water shall be added to a point not more than 6 inches (152 mm) above the gravel or coarse sand. Thereupon, from a fixed reference point, water levels shall be measured at 10-minute intervals for a period of 1 hour. Where 6 inches (152 mm) of water seeps away in less than 10 minutes, a shorter interval between measurements shall be used. The water depth shall not exceed 6 inches (152 mm). Where 6 inches (152 mm) of water seeps away in less than 2 minutes, the test shall be stopped and a rate of less than 3 minutes per inch (7.2 s/mm) shall be reported. The final water level drop shall be used to calculate the percolation rate. Soils not meeting these requirements shall be tested in accordance with Section P3009.8.1.3.

##### P3009.8.1.3 Test procedure, other soils.

The hole shall be filled with clear water, and a minimum water depth of 12 inches (305 mm) shall be maintained above the bottom of the hole for a 4-hour period by refilling whenever necessary or by use of an automatic siphon. Water remaining in the hole after 4 hours shall not be removed. Thereafter, the soil shall be allowed to swell not less than 16 hours or more than 30 hours. Immediately after the soil swelling period, the measurements for determining the percolation rate shall be made as follows: any soil sloughed

into the hole shall be removed and the water level shall be adjusted to 6 inches (152 mm) above the gravel or coarse sand. Thereupon, from a fixed reference point, the water level shall be measured at 30-minute intervals for a period of 4 hours, unless two successive water level drops do not vary by more than  $\frac{1}{16}$  inch (1.59 mm). Not less than three water level drops shall be observed and recorded. The hole shall be filled with clear water to a point not more than 6 inches (152 mm) above the gravel or coarse sand whenever it becomes nearly empty. Adjustments of the water level shall not be made during the three measurement periods except to the limits of the last measured water level drop. When the first 6 inches (152 mm) of water seeps away in less than 30 minutes, the time interval between measurements shall be 10 minutes and the test run for 1 hour. The water depth shall not exceed 5 inches (127 mm) at any time during the measurement period. The drop that occurs during the final measurement period shall be used in calculating the percolation rate.

#### P3009.8.1.4 Mechanical test equipment.

Mechanical percolation test equipment shall be of an *approved* type.

#### P3009.8.2 Permeability evaluation.

Soil shall be evaluated for estimated percolation based on structure and texture in accordance with accepted soil evaluation practices. Borings shall be made in accordance with Section P3009.8.1.1 for evaluating the soil.

#### P3009.9 Subsurface landscape irrigation site location.

The surface grade of soil absorption systems shall be located at a point lower than the surface grade of any water well or reservoir on the same or adjoining lot. Where this is not possible, the site shall be located so surface water drainage from the site is not directed toward a well or reservoir. The soil absorption system shall be located with a minimum horizontal distance between various elements as indicated in Table P3009.9. Private sewage disposal systems in compacted areas, such as parking lots and driveways, are prohibited. Surface water shall be diverted away from any soil absorption site on the same or neighboring lots.

TABLE P3009.9

#### LOCATION OF SUBSURFACE IRRIGATION SYSTEM

MINIMUM HORIZONTAL DISTANCE

ELEMENT	MINIMUM HORIZONTAL DISTANCE	
	STORAGE TANK (feet)	IRRIGATION DISPOSAL FIELD (feet)
Buildings	5	2
Lot line adjoining private property	5	5
Water wells	50	100
Streams and lakes	50	50
Seepage pits	5	5
Septic tanks	0	5
Water service	5	5
Public water main	10	10

For SI: 1 foot = 304.8 mm.

~~P3009.10 Installation.~~

~~Absorption systems shall be installed in accordance with Sections P3009.10.1 through P3009.11 to provide landscape irrigation without surfacing of water.~~

~~P3009.10.1 Absorption area.~~

The total absorption area required shall be computed from the estimated daily graywater discharge and the design loading rate based on the percolation rate for the site. The required absorption area equals the estimated gray water discharge divided by the design loading rate from Table P3009.10.1.

TABLE P3009.10.1

## DESIGN LOADING RATE

PERCOLATION RATE (minutes per inch)	DESIGN LOADING FACTOR (gallons per square foot per day)
0 to less than 10	1.2
10 to less than 30	0.8
30 to less than 45	0.72
45 to 60	0.4

For SI: 1 minute per inch = min/25.4 mm, 1 gallon per square foot = 40.7 L/m<sup>2</sup>.

## P3009.10.2 Seepage trench excavations:

Seepage trench excavations shall be not less than 1 foot (304 mm) in width and not greater than 5 feet (1524 mm) in width. Trench excavations shall be spaced not less than 2 feet (610 mm) apart. The soil absorption area of a seepage trench shall be computed by using the bottom of the trench area (width) multiplied by the length of pipe. Individual seepage trenches shall be not greater than 100 feet (30 480 mm) in developed length.

## P3009.10.3 Seepage bed excavations:



~~Seepage bed excavations shall be not less than 5 feet (1524 mm) in width and have more than one distribution pipe. The absorption area of a seepage bed shall be computed by using the bottom of the trench area. Distribution piping in a seepage bed shall be uniformly spaced not greater than 5 feet (1524mm) and not less than 3 feet (914 mm) apart, and greater than 3 feet (914 mm) and not less than 1 foot (305 mm) from the sidewall or headwall.~~

~~P3009.10.4Excavation and construction.~~

~~The bottom of a trench or bed excavation shall be level. Seepage trenches or beds shall not be excavated where the soil is so wet that such material rolled between the hands forms a soil wire. Smearing or compacted soil surfaces in the sidewalls or bottom of seepage trench or bed excavations shall be scarified to the depth of smearing or compaction and the loose material removed. Where rain falls on an open excavation, the soil shall be left until sufficiently dry so a soil wire will not form when soil from the excavation bottom is rolled between the hands. The bottom area shall then be scarified and loose material removed.~~

~~P3009.10.5Aggregate and backfill.~~

~~Not less than 6 inches (150 mm) in depth of aggregate ranging in size from  $\frac{1}{2}$  to  $2\frac{1}{2}$  inches (12.7 mm to 64 mm) shall be laid into the trench below the distribution piping elevation. The aggregate shall be evenly distributed not less than 2 inches (51 mm) in depth over the top of the distribution pipe. The aggregate shall be covered with *approved* synthetic materials or 9 inches (229 mm) of uncompacted marsh hay or straw. Building paper shall not be used to cover the aggregate. Not less than 9 inches (229 mm) of soil backfill shall be provided above the covering.~~

~~P3009.11Distribution piping.~~

~~Distribution piping shall be not less than 3 inches (76 mm) in diameter. Materials shall comply with Table P3009.11. The top of the distribution pipe shall be not less than 8 inches (203 mm) below the original surface. The slope of the distribution pipes shall be not less than 2 inches (51 mm) and not greater than 4 inches (102 mm) per 100 feet (30 480 mm).~~

~~TABLE P3009.11~~

~~DISTRIBUTION PIPE~~

MATERIAL

STANDARD

Polyethylene (PE) plastic pipe

ASTM F405

Polyvinyl chloride (PVC) plastic pipe

ASTM D2729

Polyvinyl chloride (PVC) plastic pipe with a 3.5-inch O.D. and solid cellular core or composite wall

ASTM F1488

For SI: 1 inch = 25.4 mm.

P3009.11.1 Joints.

Joints in distribution pipe shall be made in accordance with Section P3003 of this code.

## P3009.1 Scope.

The provisions of this section shall govern the materials, design, construction and installation of subsurface landscape irrigation systems connected to nonpotable water from on-site water reuse systems except onsite sewage treatment and disposal systems regulated by Chapter 64E-6, Florida Administrative Code, Standards for Onsite Sewage Treatment and Disposal Systems.

## P3009.7 Sizing.

The system shall be sized in accordance with the sum of the output of all water sources connected to the subsurface irrigation system. ~~Where gray water collection piping is connected to subsurface landscape irrigation systems, gray water output shall be calculated according to the gallons per day per occupant (liters per day per occupant) number based on the type of fixtures connected. The gray water discharge shall be calculated by the following equation:~~

-  
-  
-  
-

~~where:~~

-  
-

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P3009.10.1 Absorption area.

The total absorption area required shall be computed from the estimated daily ~~gray-water~~ discharge and the design-loading rate based on the percolation rate for the site. The required absorption area equals the estimated ~~gray-water~~ discharge divided by the design loading rate from Table P3009.10.1.

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## P3009.10.1 Absorption area.

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