

Update on Miami-Dade County's New Septic Tank Requirements

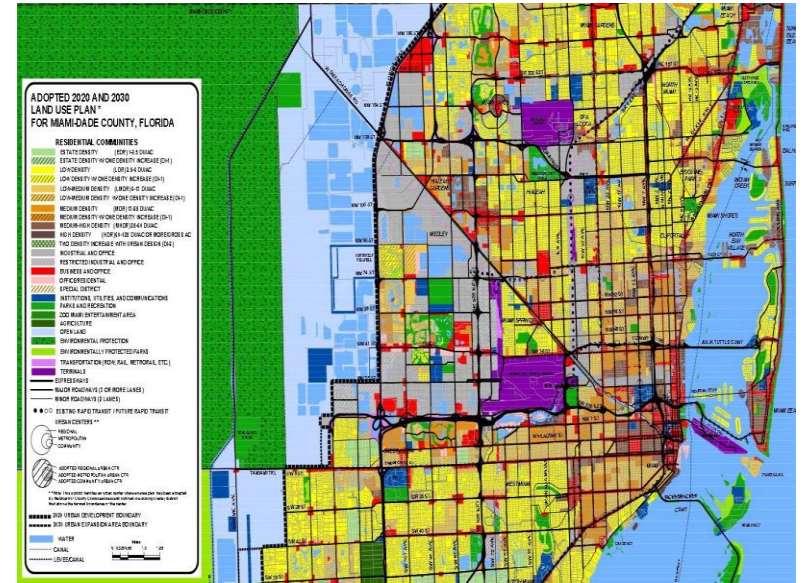
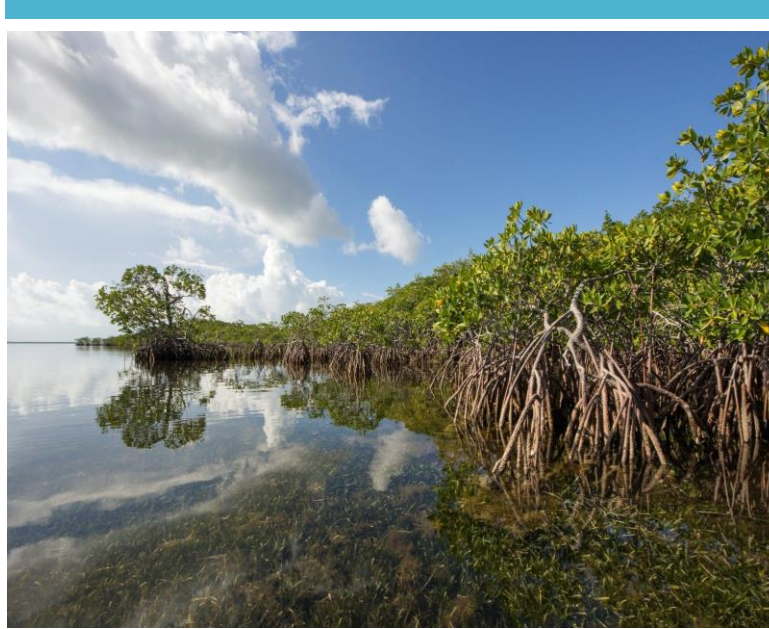


REGULATORY AND
ECONOMIC RESOURCES

ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS (SEPTIC)

July 11, 2023

Carlos L Hernandez, PE, CFM, CEHP, LEED AP
Chief, Water & Wastewater Division



UPDATE ON MIAMI-DADE COUNTY'S NEW SEPTIC TANK REQUIREMENTS

1

Background

2

**What
Changed
Jan 2023?**

3

**Which Type
OSTDS?**

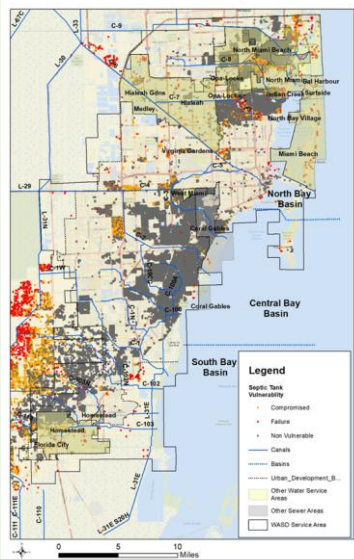
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**How Did
Process
Change?**

1

BACKGROUND

Septic Systems & Vulnerability



SEPTIC SYSTEMS VULNERABLE TO SEA LEVEL RISE

November 2018

Final Report in support of Resolution No. R-911-16

December 2020

Plan of Action Report

A RISK-BASED APPROACH TO SEPTIC SYSTEMS
VULNERABLE TO SEA LEVEL RISE

MIAMI-DADE
COUNTY



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CLERK OF THE BOARD
OF COUNTY COMMISSIONERS
MIAMI-DADE COUNTY, FLORIDA

MEMORANDUM

Agenda Item No. 7(I)

TO: Honorable Chairman Jose "Pepe" Diaz
and Members, Board of County Commissioners

DATE: July 7, 2022

FROM: Geri Bonzon-Keenan
County Attorney

SUBJECT: Ordinance relating to environmental protection; amending section 24-5 of the Code; creating and revising definitions related to an Onsite Sewage Treatment and Disposal System (OSTDS); amending section 24-15; requiring and establishing minimum plan approval standards for OSTDS; amending section 24-28; revising conditions constituting sanitary nuisance; creating section 24-42.7; providing requirements for new and replacement OSTDS; providing effective dates for compliance for new and replacement OSTDS; amending section 24-43.1; revising permit requirements for liquid waste disposal facility to include new OSTDS requirements; amending section 2-114.1; providing for administrative review of takings and vested rights claims for decisions pursuant to chapter 24 and providing for appeals to County Commission; amending section 8CC-10; providing for enforcement by civil penalty; making technical changes; directing the County Mayor to conduct an educational campaign

Ordinance No. 22-83

This item was amended from the original item as stated in the County Mayor's memorandum.

The accompanying ordinance was prepared by the Regulatory and Economic Resources Department and placed on the agenda at the request of Prime Sponsor Commissioner Rebeca Sosa.


Geri Bonzon-Keenan
County Attorney

MIAMI-DADE
COUNTY

- A *Plan of Action Report* developed by multi-department working group was submitted to BCC in December of 2020.
- The report recommended a risk-based approach to yield the most resource-effective and impactful outcomes for the environment and human health.
- Key recommendation included **updating septic tank standards in Chapter 24 of the County Code.**
- **Biscayne Bay Task Force Recommendation**

1

BACKGROUND

Miami - Dade County, Florida - C... / Chapter 24 - ENVIRONMENTA... / ARTICLE III. - WATER AND SOI... / DIVISION 1. - WATER QUALITY... / Sec. 24-42.7. - Onsite Sewage ...

VERSION: JUN 7, 2023 (CURRENT) ▾



WASTEWATER AND SANITARY SEWER
PRETREATMENT STANDARDS

Sec. 24-42. - Prohibitions against water pollution.

Sec. 24-42.1. - Tertiary treatment requirements.

Sec. 24-42.2. - Sanitary sewer collection and transmission systems.

Sec. 24-42.3. - Certification of sanitary sewer system collection, transmission and treatment capacity.

Sec. 24-42.4. - Sanitary sewer discharge limitations and pretreatment standards

Sec. 24-42.5. - Bypassing unlawful.

Sec. 24-42.6. - Fats, Oils and Grease (FOG) Control Program.

Sec. 24-42.7. - Onsite Sewage Treatment and Disposal Systems (including, without limitation, septic tank systems).

Sec. 24-42.7. - Onsite Sewage Treatment and Disposal Systems (including, without limitation, septic tank systems).



- (1) *Purpose and intent.* The purpose and intent of this section is to safeguard public health, safety, and welfare and protect water quality by setting minimum requirements and standards for onsite sewage treatment and disposal systems as defined in this chapter.
- (2) *OSTDS types and standards; definitions.* OSTDSs are classified into the following types and contain the following features for purposes of this chapter:
 - (a) *Type 1 OSTDS* shall mean a standard or conventional onsite sewage treatment and disposal system designed consistent with section 62-6.008, Florida Administrative Code, that is not otherwise defined herein as a Type 2, 3 or 4 OSTDS. A Type 1 OSTDS does not require a remote telemetry unit. No new or replacement of an entire existing OSTDS may be a Type 1 OSTDS.
 - (b) *Type 2 OSTDS* shall mean an onsite sewage treatment and disposal system that produces an effluent that, prior to reaching the drainfield or disposal system, complies with Secondary Treatment Standards established in chapter 62-6, Florida Administrative Code. A Type 2 OSTDS does not require a remote telemetry unit.
 - (c) *Type 3 OSTDS* shall mean an onsite sewage treatment and disposal system that produces an effluent that, prior to reaching the drainfield or disposal system, complies with Advanced Secondary Treatment Standards established in chapter 62-6, Florida Administrative Code.
 - (d) *Type 4 OSTDS* shall mean an onsite sewage treatment and disposal system that produces an effluent that, prior to reaching the drainfield or disposal system, complies with the Florida Keys nutrient reduction treatment standards established in chapter 62-6, Florida Administrative Code.
 - (e) All Type 3 OSTDS and Type 4 OSTDS shall be equipped with a remote telemetry unit, except that for single family residences and duplexes, a remote telemetry unit shall not be required. A remote telemetry unit equipped for a Type 3 or 4 OSTDS shall provide operational status of the system at a frequency of no less than 15 minutes. Operational status shall include, at a minimum, signal and connectivity, back-up battery, power, mechanical equipment, liquid levels, warnings, and alarms.
- (3) *General Requirements.* The following requirements shall apply to all OSTDSs:
 - (a) No person shall cause, let, or permit an OSTDS to violate the water pollution standards set forth in [Section 24-42](#).
 - (b) No person shall install a new OSTDS, or replace an existing OSTDS in whole or in part, if an approved public gravity sanitary sewer or approved sanitary sewer force main is available and operative in a public right-of-way or easement abutting the property in accordance with [Section 24-43.1\(7\)](#).

1

BACKGROUND

VERSION: JUN 7, 2023 (CURRENT) ▾

POTABLE WATER STANDARDS

Sec. 24-43. - Protection of utility potable water supply wells.

Sec. 24-43.1. - Liquid waste disposal and potable water supply systems.

Sec. 24-43.2. - Regulation of on-site domestic well systems and other water supply wells.

Sec. 24-43.3. - Potable water standards.

Sec. 24-43.4. - Feasible distance for public sanitary sewers and water mains.

Secs. 24-43.5—24-43.10. - Reserved.

Sec. 24-43.11. - Utilities required to compile and report information related to non-vacant properties that are not served by a public sanitary sewer and not served by public water.

Sec. 24-43.4. - Feasible distance for public sanitary sewers and water mains.



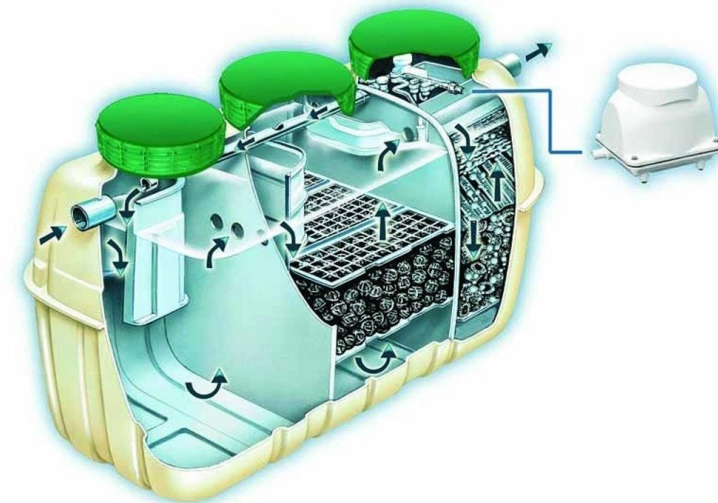
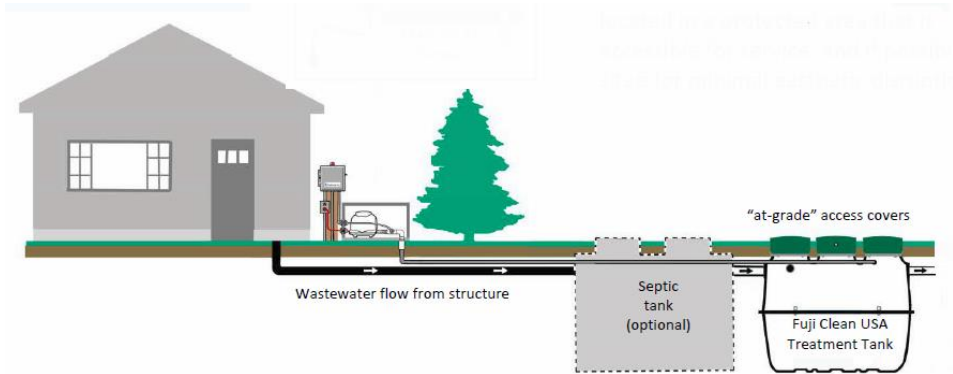
- (1) *Purpose and intent.* The purpose and intent of this section is to safeguard the public health, safety, and welfare by providing specific standards for the determination of feasible distance, which relates to when a property is required to connect to public sanitary sewers and public water mains. Such determinations of feasible distance are required by [Section 24-43.1](#) and [Section 24-43.2](#). Feasible distance is distinct from, and shall not be conflated with, a determination as to whether a public water main or public sanitary sewer system is available and operative, as referenced in Sections [24-43.1\(7\)](#) and [24-43.2\(10\)](#).
- (2) *General requirements.*
 - (a) *Total floor area.* Feasible distance shall be calculated based on total floor area in accordance with this subsection.
 - (i) *Definition.* For purposes of this section, "total floor area" means the sum all square feet of length and depth of a building area that is or is proposed to be covered by a roof, including, without limitation, the length and depth of each floor, covered patio, closet, elevator, and garage, regardless of whether the covered area is habitable space, as defined in [Section 33-1](#), or contains plumbing.
 - (ii) *Multiple buildings.* Where a property contains multiple buildings, total floor area shall include all buildings.
 - (iii) *Exclusions from total floor area.* Notwithstanding any provision to the contrary, total floor area shall not include:
 1. a prefabricated storage shed located on property that is developed with or zoned for single-family or duplex use; or
 2. utility appurtenances, as defined in the County manual of public works construction promulgated pursuant to [Section 2-100](#), that do not contain plumbing.
 - (iv) *Additions to existing development.* The following applies to additions of existing development, whether attached or detached structures:
 1. If the addition is less than 25 percent of the total floor area of the existing development, then feasible distance shall be calculated using the total floor area of the addition, but the minimum feasible distances provided herein in subsections (3) and (4) shall not apply.
 2. If the addition is 25 percent or more of the total floor area of the existing development, then feasible distance shall be calculated using the total floor area of both the existing development and the addition.
 3. Addition shall be as defined in the Florida Building Code.
 - (b) *Feasible distance analysis conducted for each development application.* Feasible distance shall be analyzed for each development order or development permit that is subject to [Section 24-43.1](#) and [24-43.2](#), regardless of whether the property or portion thereof was found to not be within feasible distance when a prior development order or development permit was issued.
 - (i) *Multi-phase developments, lots within a parent tract, or single development plan.* Total floor area shall be based on the development of all phases, the en

2

WHAT CHANGED JAN 1, 2023?

- County Code requires all **new** and **replacement** OSTDS be performance-based treatment systems (PBTs) that achieve specific pollutant reductions before the drainfield.
- Type of system is based on land use and criteria to protect groundwater and surface waters.
- Four (4) Types of OSTDS's:

Type 1	Conventional (NOT APPROVABLE after December 2022)
Type 2	Secondary Treatment Standards
Type 3	Advanced Secondary Treatment Standards
Type 4	Florida Keys nutrient reduction treatment standards



2007
STD 245
Nitrogen
Reduction
Standard

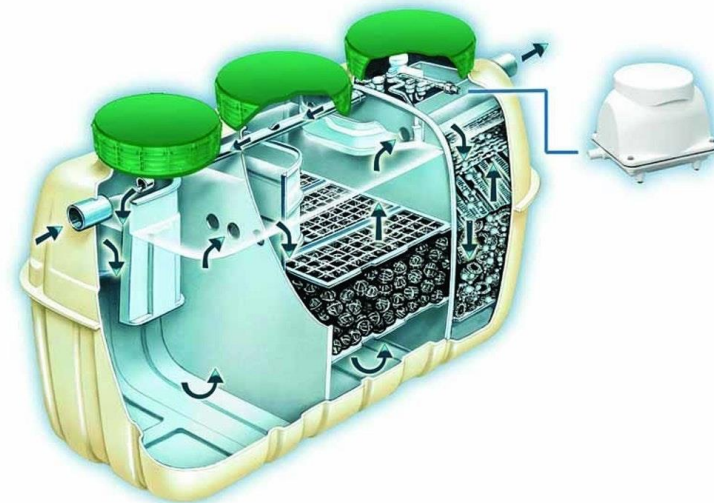
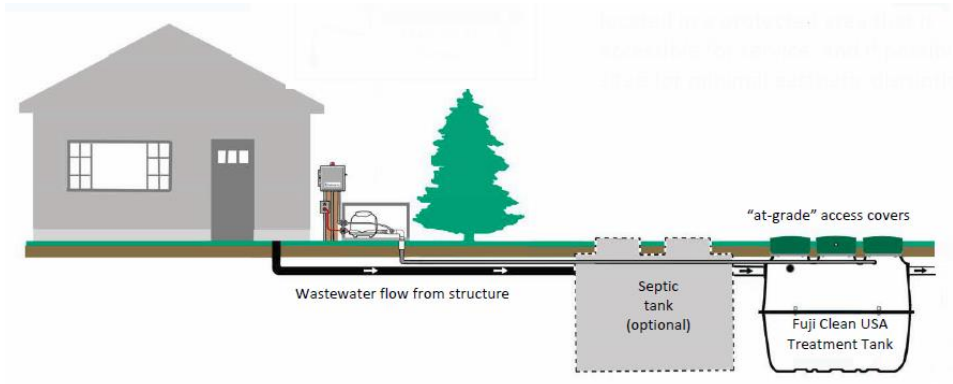
1970
Onsite WW
STD 40

Example of NSF Certified Nitrogen Reducing OSTDS

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WHAT CHANGED JAN 1, 2023?

- Performance Based Treatment Systems (PBTS).
- Have a proven track record.
- Treatment system certification standard established in 2007 (NSF/ANSI 245).
- Industry is familiar with system design, installation, operation, maintenance and monitoring.
- **PBTSs** are Approved by **DOH** and **FDEP**.



2007
STD 245
Nitrogen
Reduction
Standard

1970
Onsite WW
STD 40

Example of NSF Certified Nitrogen Reducing OSTDS

Type 1	Conventional (NOT APPROVABLE after December 2022)
Type 2	Secondary Treatment Standards
Type 3	Advanced Secondary Treatment Standards
Type 4	Florida Keys nutrient reduction treatment standards

2

WHAT CHANGED JAN 1, 2023?

Effluent Water Quality for OSTDS Types

Conventional Type 1 OSTDS

Parameter	Concentration
(a) CBOD5	150 - 300 mg/l
(b) Suspended Solids	100-200 mg/l
(c) Fecal Coliform	2E ⁶ -2E ⁷ /100 ml
(d) Total Nitrogen	100-150 mg/l
(e) Total Phosphorus	18-25 mg/l

Secondary Treatment Type 2 OSTDS

Parameter	Effluent Limit (annual)
(a) CBOD5	20 mg/l
(b) Suspended Solids	20 mg/l
(c) Fecal Coliform	200 cfu/100 ml
(d) Total Nitrogen	-
(e) Total Phosphorus	-

Advanced Secondary Treatment Type 3 OSTDS

Parameter	Effluent Limit (annual)
(a) CBOD5	10 mg/l
(b) Suspended Solids	10 mg/l
(c) Fecal Coliform	200 cfu/100 ml
(d) Total Nitrogen	20 mg/l
(e) Total Phosphorus	10 mg/l

Florida Keys Type 4 OSTDS

Parameter	Effluent Limit (annual)
(a) CBOD5	10 mg/l
(b) Suspended Solids	10 mg/l
(c) Fecal Coliform	200 cfu/100 ml
(d) Total Nitrogen	10 mg/l
(e) Total Phosphorus	1 mg/l

Status Quo 

Improvement 

Better 

Best 



85-90% Reduction of CBOD5
70-90% Reduction in Suspended Solids
98+% Reduction in Bacteria



90-95% Reduction of CBOD5
85-95% Reduction in Suspended Solids
98+% Reduction in Bacteria
50-80% Reduction in Nitrogen

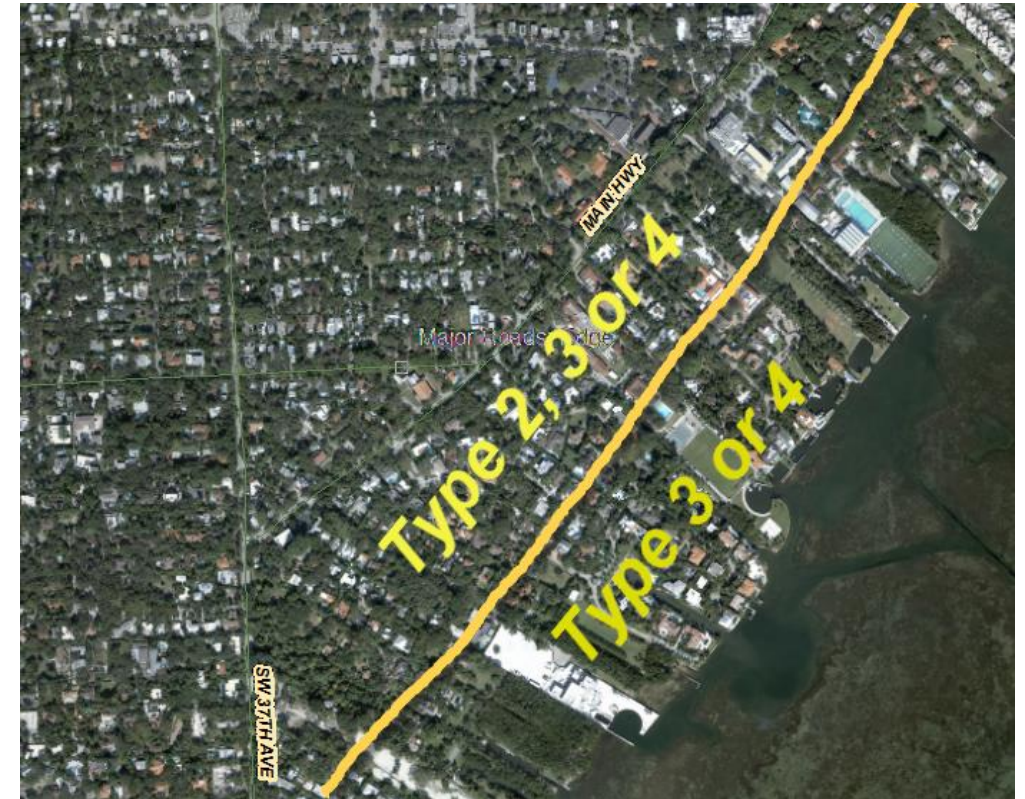


90-95% Reduction of CBOD5
85-90% Reduction in Suspended Solids
98+% Reduction in Bacteria
65-90% Reduction in Nitrogen
80-90% Reduction in Phosphorous

3

WHICH TYPE OSTDS?

- **Type 2 OSTDS criteria:**
 - Single family homes or duplexes generating less than 500 gallons per day of wastewater at a rate of less than 500 gallons per acre.
 - At least 1,000 feet of separation from surface water body
 - Residence is served by public water supply and not within a wellfield protection area.
- **Type 3 OSTDS criteria:**
 - Multifamily and other uses that do not generate more than 1,000 gallons per day of wastewater at a rate of less than 500 gallons per acre.
 - Single family and duplex uses that do not meet type 2 criteria
 - At least 1,000 feet of separation from surface water body
 - Property is served by public potable water supply and not within a wellfield protection area
- **Type 4 OSTDS criteria**
 - All uses that do not meet the Type 2 and Type 3 criteria



Minimum separation to Surface Water Body = 100 ft
Current Separation to Surface Water Body by DOH:
Conventional System = 75 ft
Secondary Treatment = 65 ft
Advanced Secondary = 50 ft

3

WHICH TYPE OSTDS?

Miami - Dade County, Florida - ... / Chapter 24 - ENVIRONMENT... / ARTICLE III. - WATER AND SO... / DIVISION 2. - WELLFIELD PR... / Sec. 24

VERSION: JUN 7, 2023 (CURRENT) ▾

- DIVISION 1. - WATER QUALITY, WASTEWATER AND SANITARY SEWER PRETREATMENT STANDARDS
- ▼ DIVISION 2. - WELLFIELD PROTECTION, DOMESTIC WELL SYSTEMS AND POTABLE WATER STANDARDS

Sec. 24-43. - Protection of utility potable water supply wells.

Sec. 24-43.1. - Liquid waste disposal and potable water supply systems.

Sec. 24-43.2. - Regulation of on-site domestic well systems and other water supply wells.

Sec. 24-43.3. - Potable water standards.

Sec. 24-43.4. - Feasible distance for public sanitary sewers and water mains.

Type of Land Use/Gallons Per Day (GPD)

Residential Land Uses:

Single-Family Residence:

Less than 3001 sq. ft.: 210 gpd/unit

3001—5000 sq. ft.: 310 gpd/unit

More than 5000 sq. ft.: 510 gpd/unit

Townhouse Residence: 165 gpd/unit

Apartment: 135 gpd/unit

Mobile Home Residence/Park: 160 gpd/unit

Duplex or Twin Home Residence: 150 gpd/unit

Residential Facility/Institution:

(a) Congregate Living Facility (CLF): 75 gpd/bed

(b) Apartment Dormitory: 100 gpd/unit

(c) Fire Station: 10 gpd/100 sq. ft.

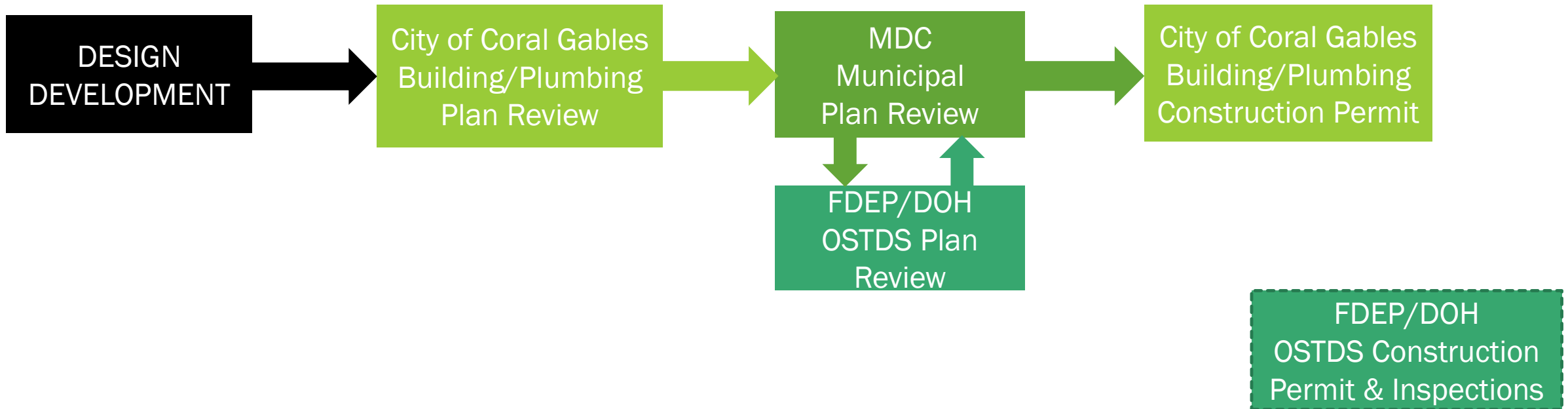
(d) Jail: 150 gpd/person

- **Type 2 OSTDS criteria:**
 - Single family homes or duplexes generating less than 500 gallons per day of wastewater at a rate of less than 500 gallons per acre.
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- **Type 3 OSTDS criteria:**
 - Multifamily and other uses that do not generate more than 1,000 gallons per day of wastewater at a rate of less than 500 gallons per acre.
 - Single family and duplex uses that do not meet type 2 criteria
 - At least 1,000 feet of separation from surface water body
 - Property is served by public potable water supply and not within a wellfield protection area.

Flow Rate GPD	Lot Size		Sewage Loading GPD/Ac
	SqFt	Ac	
210	15,000	0.34	610
210	21,780	0.50	420
210	43,560	1.00	210
310	15,000	0.34	900
310	21,780	0.50	620
310	43,560	1.00	310
510	15,000	0.34	1,481
510	21,780	0.50	1,020
510	43,560	1.00	510

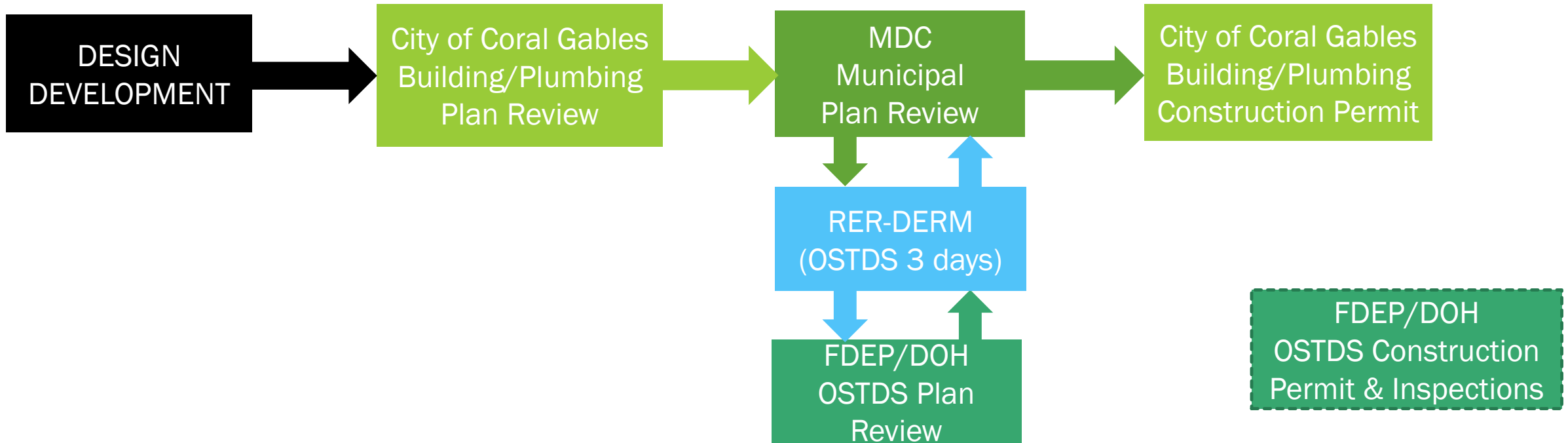
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HOW DID PROCESS CHANGE?



4

HOW DID PROCESS CHANGE?



Q&A

Q&A