



OSTDS Guidance Manual

Version 1.0

OSTDS Program

Miami-Dade County

Department of Regulatory and Economic Resources (RER)

Division of Environmental Resources Management

Water & Wastewater Division

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OSTDS Guidance Manual

1.0 Introduction

The Onsite Sewage Treatment and Disposal System (OSTDS) Guidance Manual is intended to serve as a design guide for Professional engineers, designing OSTDS for residential and commercial properties in Miami-Dade County.

It is not intended to replace engineering judgment or replace the engineering design process. It is NOT a “recipe” book; instead, it provides “minimum” requirements. The professional Engineer shall use sound engineering judgment and consider in addition to the requirements of Chapter 24-42.7, the requirements of Chapter 62-6 of the Florida Administrative Code (F.A.C.) for drainfield configuration, system sizing, and other important design parameters. The engineer shall keep in mind that the reduction in drainfield size and some setbacks, allowed by the use of a PBTS in Chapter 62-2 (F.A.C.), are not permitted under Chapter 24 of the Miami-Dade County Code (the Code).

The engineer shall also keep in mind that in accordance with Section 61G15-19.001, Florida Administrative Code, “a professional engineer shall not be negligent in the practice of engineering.” Negligence is defined as “the failure by a professional engineer to utilize due care in performing in an engineering capacity or failing to have due regard for acceptable standards of engineering principles.” Furthermore, “Professional engineers shall approve and seal only those documents that conform to acceptable engineering standards and safeguard the life, health, property and welfare of the public.” Failure to address outstanding disapproval comments may be regarded as “negligence.”

2.0 OSTDS Terms, Definitions, and Acronyms

To establish a consistent basis for reviewing and approving plans and confirming compliance, the following terms are to be used.

Department - Shall mean the Division of Environmental Resources Management of the Miami-Dade County Department of Regulatory and Economic Resources or successor department responsible for administration of this chapter.

- Director -** Shall mean the primary official that has been delegated responsibility to administer the Department with duties created pursuant to this chapter. Except where expressly provided or where context dictates otherwise, the term “Director” includes the Director’s designee.
- Domestic Sewage -** Human body waste and wastewater from toilets, showers, sinks, baths, laundry, equipment, kitchen equipment and other fixtures or equipment designed and used for human sanitation, as determined by the Director, whether located within residential or non-residential land uses.
- Drainfield or disposal system -** A system designed to distribute domestic sewage effluent for treatment and disposal onsite. This system is deemed to be a component of an OSTDS.
- Feasible distance -** Shall mean the criteria and distance calculated by the DERM, in accordance with Section 24-43.4, to determine when connection to a public water main, public sanitary sewer, or both is required, as referenced in section 24-43.4.
- Liquid Waste -** Liquid or sludge waste materials resulting from domestic, commercial, industrial, mining, institutional, agricultural, or governmental operations, including such materials to be recycled or otherwise beneficially reused, that would cause a nuisance or would otherwise cause a violation of this chapter if discharged to the ground or waters of Miami-Dade County. Liquid waste includes, but is not limited to, solvents, sewage, industrial waste, hazardous waste, semisolid waste, and potentially infectious waste, as well as the materials resulting from or contained in any of the following: waste treatment works, air pollution control facility, onsite sewage treatment and disposal system; FOG control device, sediment trap, portable toilet or oil, water separator
- Onsite Sewage Treatment and Disposal System or OSTDS -** a system, and components thereof, to treat and dispose of domestic sewage that is decentralized and is located either on the site from which the domestic sewage is generated or on an adjacent or nearby site.

- Reserved Area -** The area on a property reserved for the installation or replacement of a drainfield or disposal system.
- Seasonal High Water Table -** is the highest level to a zone of saturation in the soil in most years. Normally persists for several weeks and normally occurs during the time of the year when the most rain falls (June-September in FL)
- Septic Tank -** Receptacle constructed to promote separation of solid and liquid components of wastewater, to provide limited digestion of organic matter, to store solids, and to allow clarified liquid to discharge for further treatment and disposal. For purposes of this chapter, a septic tank is classified as an OSTDS.
- Site Plan -** A drawing having a scale sufficient to provide the following information: property lines, relevant rights-of-way, and location of all proposed or existing buildings, OSTDSs, utility easements, fences, walls, parking areas, driveways, access roads, setbacks, and any other site development.

List of Acronyms

ANSI	American National Standards Institute
DERM	Department of Environmental Resources Management
FDEP	Florida Department of Environmental Protection
FDOH	Florida Department of Health
EQCB	Environmental Quality Control Board
FAC	Florida Administrative Code
FOG	Fats, Oil, and Grease
NSF	National Sanitary Foundation
OSTDS	Onsite Sewage Treatment and Disposal Systems
PBTS	Performance Based Treatment System
SHWT	Seasonal High Water Table
WPA	Wellfield Protection Area

3.0 Rules & Regulations

On July 7th, 2022, the Board of County Commissioners passed and adopted Ordinance 22-83 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). This ordinance also added a new section in the Code, 24-42.7, which requires the Water and Wastewater Division of DERM to review new and total replacement OSTDS or septic systems effective January 1st, 2023. This applies to all residential, commercial, and industrial developments that comply with section 24-43.1 and are served by an OSTDS.

Applicable [Chapter 24](#) code sections are provided below:

- 24-5 Definitions
- 24-15 Plan approval required
- 24-28 Nuisances injurious to health (sanitary nuisances)
- 24-42.7 Onsite Sewage Treatment and Disposal System (including without limitation, septic tank systems)
 - 24-42.7(1) Purpose and intent
 - 24-42.7(2) OSTDS types and standards
 - 24-42.7(3) General requirements
 - 24-42.7(4) Registration required
 - 24-42.7(5) Standards and procedures governing installation of an OSTDS
 - 24.42.7(6) Administrative adjustments authorized
 - 24.42.7(7) Conflicts with other regulations
- 24-43.2 Regulation of on-site domestic well systems and other water supply wells
- 24-43.4 Feasible distance for public sanitary sewers and water mains
- 24-43.1 Liquid waste disposal and potable water supply systems

Other applicable codes and regulations:

- Code of Miami-Dade County

2-114.1 Administrative review of takings and vested right claims
Section 8CC-10 Schedule of civil penalties

- Florida Administrative Code

[Chapter 62-6](#) - Standards for onsite sewage treatment and disposal

- [Florida Statutes related to OSTDS](#)

Chapter 381 – Public Health: General Provisions

Chapter 386 – Part I: Sanitary Nuisances

Chapter 489 – Part III: Septic Tank Contracting

4.0 OSTDS Review Process

4.1 When can OSTDS be used?

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).

Residential, commercial and industrial properties that comply with section 24-43.1 can be served by an OSTDS when public sanitary sewers are not available or when the extension of public sanitary sewers to serve the property from the nearest available point of connection to an available public sanitary sewer is not within a “feasible distance”.

Feasible distance shall apply when there is development and shall be calculated based on the TOTAL BUILDING AREA (not only the area under AC), according to section 24-43.4. Note that only for additions that are less than 25 percent of the total existing building area, feasible distance shall be calculated using the total floor area of the addition, not the total building area.

DO NOT SUBMIT PLANS INCLUDING AN OSTDS IF A PUBLIC SANITARY SEWER MAIN IS AVAILABLE AND OPERATIONAL OR IF A PUBLIC SANITARY SEWER MAIN IS WITHIN FEASIBLE DISTANCE.

4.2 Where to submit plans

Note that the first step for any construction project subject to this guidance manual is to “submit” construction drawings to the Building Department having jurisdiction. Once a process number or construction permit number is provided by the Building Department, plans must be submitted for DERM approval.

Revisions to drawings after a DERM approval is obtained, along with the previously DERM-OSTDS approved sheets as reference, are also required to be submitted to DERM-OSTDS for review and approval.

New plans requiring DERM-OSTDS Review will exclusively be reviewed electronically by DERM Water and Wastewater Division engineers currently located at the Overtown Transit Village (OTV).

Plans shall be submitted electronically for DERM review by the applicant using the link to the web portal, shown below, and following the instructions under “Building Permit-Related Applications & Plans Submissions”. All instructions are to be carefully read and followed to ensure a faster review process.

<https://wwwx.miamidade.gov/Apps/RER/EPSPortal>

For facilities located within a municipal Building Department utilizing the e-Municipal system, plans will be sent to DERM Plan Review using their electronic transfer protocols. Prior to uploading any plans to the web portal, the applicant should verify if the facility is located within a municipality whose Building Department uses the e-Municipal system.

4.3 When is DERM-OSTDS Review Required?

DERM-OSTDS review is required for construction of residential, commercial, and industrial establishments on properties that are not within feasible distance, do not have access to centralized sewage systems, and comply with section 24-43.1. The DERM-OSTDS review is also required for all existing OSTDS that need to be replaced in its entirety, meaning replacing the septic tank and drainfield. Existing systems, system modifications, and repairs that do not required complete replacement of the OSTDS do not require DERM-OSTDS review or approval.

4.3.1 Plan Review Process

Plan review is required for the following type of work:

- New construction residential, commercial, or industrial (subject to section 24-43.1)

- Installation of a new OSTDS or complete replacement of existing OSTDS
 - Repairs that start with one component of the OSTDS broken but end up needing complete replacement
 - Addition of bedrooms for single family residences that required complete replacement of the OSTDS.
 - Any addition of building area for residential and commercial establishments that requires a new OSTDS or complete replacement of the existing OSTDS.
 - Any other modification to the property or change in use that requires a new OSTDS or complete replacement of the existing OSTDS.

Be aware that as per the Florida Board of Professional Engineers, PEs whose practice is to submit incomplete documents to an Authority Having Jurisdiction (AHJ) and using the review process as a method of Quality Assurance/ Quality Control run the risk of having their work considered to be negligently prepared and subject to discipline. Submit complete and properly dated, signed and sealed plans, engineering reports and permit application forms to this office for review and approval.

4.3.2 Required Documents for DERM Plan Review

The following information is required for the review of a new OSTDS or a complete replacement of the system.

- A site plan drawn to scale, labeled and with dimensions; that is signed, sealed, and dated by a Professional Engineer registered in the State of Florida (only documents that are digitally or electronically signed and sealed will be accepted) and contains the following:
 - The proposed OSTDS that has all its components clearly depicted and labeled, including the type of system, flow (per 62-6 FAC), and drainfield configuration and size.
 - Calculations of sewage flow and sewage loading based on the lot gross area and flows calculated per Chapter 24-43.1(5).
 - Calculations of sewage flow and OSTDS sizing based on the net lot size, flows and other requirements per Chapter 62-6 of the FAC.
 - Determination of the type of system based the proposed use and design requirements in Section 5 of this guidance.
 - Effluent parameters required for the type of systems to be installed and effluent parameters for the proposed system based on FDEP performance data or third-party testing (ANSI/NSF) performance parameters for the proposed system.
 - A cross section of the drainfield indicating a separation of at least 36" between the bottom of the drainfield and the seasonal high water table. Elevations for the grade, SHWT, and bottom of the drainfield must be included.
 - Location of water meter and water line from meter to building if connected to public water.

- Location of potable water well and water line from well to building if served by a potable water well.
 - 100 ft radius sanitary survey circles around potable well(s) and OSTDS(s), on the property and neighboring properties, if property is served by a potable water well.
 - Setbacks with property lines, potable water lines, potable water wells, irrigation wells, surface water bodies, buildings, etc.
 - Telemetry unit information (if required).
- The summary boxes in Figure 1 and Figure 2, shown below, shall be included in the site plans. Refer to Attachments 4 and 5 respectively for guidance for completing those summary boxes.
 - A floor plan drawn to scale, labeled and with dimensions that shows the following:
 - The room distribution properly labeled.
 - Building(s) total gross area calculation including garage, storage, terrace, etc. For sewage loading and feasible distance calculations (Based on Ch. 24 requirements).
 - Building(s) total net area calculation for septic system flow calculations (Based on Ch. 62-6 requirements).
 - A topographical and boundary survey including the centerline of the right of way and elevations. For new developments, elevations of adjacent properties shall be provided to demonstrate that stormwater shall not runoff into adjacent properties.
 - Stormwater drainage plan. When drainage facilities are required to prevent stormwater runoff into an adjacent property, a drainage plan shall be required that complies with Chapter 24.
 - Page 1 and page 3 of the Application for Construction (FDEP form 4015) (for verification purposes only)
 - Isometric drawings (when a split system is proposed).
 - All fixture units and flow calculations for each system being proposed.
 - The sizing of each system based on the flow calculations.
 - Supporting documentation
 - Complete third-party testing reports (e.g., from NSF) or FDEP performance data.
 - Documentation on the performance of any additional component (e.g., disinfection, phosphorus removal, filtration, etc.).
 - Drip irrigation calculations
 - Documentation on the telemetry unit (if required).

In Attachment 3 you can find the checklist used by DERM engineers for their review.

DETERMINATION OF OSTDS TYPE AND STANDARDS PER SECTION 24-42.7

GROSS LOT SIZE = FT² = ACRES
 LAND USE:
 GROSS BUILDING AREA = FT²
 SEWAGE FLOW = GPD
 SEWAGE LOADING = GPD / ACRES = GPD/ACRE

Y	N	CRITERIA FOR OSTDS TYPE SELECTION
		PROPERTY WILL BE SERVED BY PUBLIC WATER
		PROPERTY COMPLETELY OUTSIDE WELLFIELD PROTECTION AREA
		SURFACE WATER BODIES BEYOND 1000 FEET
		SEWAGE FLOW IS LESS THAN 500 GPD FOR SFR /DUPLEX
		SEWAGE FLOW IS LESS THAN 1000 GPD FOR MULTI-FAMILY/OTHER USES
		SEWAGE LOADING LESS THAN 500 GPD/ACRE

Y	N	OTHER CONSIDERATIONS FOR OSTDS APPROVAL
		SANITARY SEWERS NOT AVAILABLE, ABUTTING, OR OPERATIVE
		SYSTEM WILL SERVE ONLY ONE LOT
		PROPERTY LINES OVER 50 FEET FROM OSTDS FOR PROPERTIES SERVED BY A POTABLE WATER WELL

TYPE OF SYSTEM REQUIRED :
 TOTAL NITROGEN TREATED BY:
 TOTAL PHOSPHORUS TREATED BY:
 FECAL COLIFORM TREATED BY:
 SOURCE OF TREATMENT STANDARDS:

TREATMENT STANDARDS		
POLLUTANT	REQUIRED (mg/L) (ANNUAL AVERAGE)	PROPOSED (mg/L) (ANNUAL AVERAGE)
CBOD ₅		
TSS		
TN		
TP		
FECAL COLIFORM (cfu/100ml)		

Figure 1. Determination of system type per Chapter 24

OSTDS CALCULATIONS PER CHAPTER 62-6 F.A.C.			
NET LOT SIZE =	FT ² =	ACRES	
LAND USE:			
BUILDING AREA =	FT ²		
<u>SEWAGE FLOW</u>			
MAXIMUM SEWAGE LOADING ALLOWANCE =	GPD/ACRE	(1,500 GPD/ACRE OR 2,500 GPD/ACRE)	
AUTHORIZED SEWAGE FLOW =	GPD/ACRE x	ACRES =	GPD
UNIT FLOW CRITERIA (PER TABLE 1):			
SEWAGE FLOW PER UNIT FLOW =			
TOTAL SEWAGE FLOW =	GPD		
<u>TREATMENT TANK AND DRAINFIELD</u>			
PROPOSED SYSTEM:			
MINIMUM REQUIRED TREATMENT CAPACITY =	GPD		
DRAINFIELD CONFIGURATION:			
DRAINFIELD TYPE =			
DRAINFIELD MATERIAL:			
MAXIMUM SEWAGE LOADING RATE FOR THE PROPOSED DRAINFIELD =	GAL/FT ² DAY		
DRAINFIELD SIZE =	GPD x	GAL/FT ² DAY =	FT ²
<u>SEPARATION BETWEEN THE SHWT AND BOTTOM OF THE DRAINFIELD (ELEVATIONS IN NAVD 88)</u>			
GRADE ELEVATION =	FT		
SEASONAL HIGH WATER TABLE ELEVATION =	FT		
ELEVATION AT THE BOTTOM OF THE DRAINFIELD =	FT		
SEPARATION BETWEEN SHWT AND BOTTOM OF DRAINFIELD =	INCHES		

Figure 2. Calculations based on Chapter 62-6 FAC

5.0 OSTDS Design Requirements

Several factors must be considered when designing an OSTDS: the type of system (Type 2, Type 3 or Type 4), available space to install the OSTDS, sewage loading, distance from surface water bodies, location of property in reference to a wellfield protection area, site drainage, among others (Note that a Type 1 system, which corresponds to a standard or conventional septic system is no longer allowed in Miami-Dade County for new developments or complete replacement). All designs shall be prepared by a Florida Professional Engineer [Section 24.42.6(8)(a) of the Code]. See requirements below:

Each OSTDS shall comply with sections 24-42.7, 24-43, 24-43.1, 24-43.3 and 24-43.4.

- Treatment units shall be approved by FDEP and be certified by NSF International Standard/American National Standard (NSF/ANSI) as 40-2013, 245-2013, or 350-2013, latest edition, or shall have an equivalent certification by a third party approved by the Director.
- Each OSTDS, including the reserved area, shall be located no less than 100 feet from any surface water body. This minimum distance shall not apply to replacement of systems installed prior to January 1, 2023, when site conditions and physical constraints prohibit compliance with the minimum distance, provided that the existing distance from any surface water body shall not be reduced.
- Where public water is not available, each OSTDS, including the reserved area, shall be located no less than 50 feet from all property lines. This minimum distance shall not apply to replacement of systems installed prior to January 1, 2023, when site conditions and physical constraints prohibit compliance with the minimum distance, provided that the existing distance from all property lines shall not be reduced.
- Each OSTDS shall serve only one lot.
- Sharing of OSTDSs by buildings or other users on separate lots is prohibited. DERM considers that lots that are joined by a unity of title, in a form acceptable to the Director and recorded in the public records of Miami-Dade County at the property owner's expense, shall be treated as a single lot, but lots joined by a declaration of restrictive covenants in lieu of unity of title shall be treated as separate lots.
- An OSTDS that was installed prior to January 1, 2023, and that serves two or more lots may remain, but if the entire existing OSTDS is replaced, then each parcel shall be required to be individually served by an OSTDS that complies with this section.
- The bottom of the drainfield or other disposal system shall be designed and installed no less than 36 inches above the wet season high water table as of the date of approval pursuant to this section. For purposes of this paragraph, the wet season high water table shall be the highest water level determined by either site-specific seasonal high water table soil indicators or the latest wet season high water table maps, which shall be maintained on file with the Department.
- Allowances by Chapter 62-6 F.A.C., for example, reduction of drainfield size and setbacks, are not allowed under Chapter 24, unless the engineer demonstrates by factual competent data and information

that it is not technically possible to install a full size drainfield and that the overall pollutant reduction is equal to or greater than the pollutant reduction of an OSTDS without the requested allowance.

5.1 OSTDS Types

For purposes of DERM review, the OSTDSs are classified into the following types:

- (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 OSTDS 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.

Table 1, below, provides the treatment standards as defined by Chapter 62-6 FAC.

Attachments 1 and 2 contain flowcharts that can be used to determine the OSTDS type required.

Examples of type 2, 3 and 4 systems are included in Attachment 6.

Table 1. Performance-Based Treatment System Standards

POLLUTANT	Design Influent Value	Aerobic Treatment Unit Standards NSF40	Aerobic Treatment Unit Standards NSF245	Secondary Treatment Standards	Secondary Treatment Standards with Soil Treatment	Advanced Secondary Treatment Standards	Advanced Secondary Treatment Standards with Soil Treatment	Florida Keys Nutrient Reduction Standards	Advanced Wastewater Treatment Standards
CBOD₅ (mg/L)									
-annual average	200	20	20	20	2	10	1	10	5
-individual sample		60	60	60	6	30	3	30	10
-removal		90%	90%	90%	99%	95%	99.50%	95%	97%
TSS (mg/L)									
-annual average	200	20	20	20	2	10	1	10	5
-individual sample		60	60	60	6	30	3	30	10
-removal		90%	90%	90%	99%	95%	99.50%	95%	97%
TN (mg/L)									
-annual average	60	NR**	30	NR		30	21	10	3
-individual sample			50			50	35	40	6
-removal			50%			50%	65%	70%	95%
TP (mg/L)									
-annual average	10	NR	NR	NR		10	7	1	1
-individual sample						20	14	4	2
-removal						0	30%	80%	90%
Fecal coliform (cfu or MPN/100ml)									
-annual average	2.00E+06	NR	NR	200	2	200	2	NR (Footnote 3)	1
-individual sample				800	8	800	8		25
-percent reduction				99.99%	100.00%	99.99%	100.00%		100.00%

* NA = Not applicable

** NR = No requirement

Footnote 1. Where chlorine is used for disinfection in a system designed to meet advanced wastewater treatment standard for fecal coliform the design must include provisions for rapid and uniform mixing; and the total chlorine residual of at least 1.0 mg/l must be maintained at all times. The minimum acceptable contact time must be 15 minutes at the peak hourly flow. No individual sample must exceed 5 mg/L TSS after the last treatment step before application of the disinfectant.

Footnote 2. Where chlorine is used for disinfection in a system designed to meet either the secondary treatment standard or the advanced secondary treatment standard for fecal coliform, the design must include provisions for rapid and uniform mixing and a total chlorine residual of at least 0.5 mg/l must be maintained after at least 15 minutes contact time at the peak hourly flow.

Footnote 3. Where discharge is to an injection well, disinfection must meet the requirements for advanced secondary treatment standards.

Footnote 4. Performance-based treatment systems (PBTs) designed to meet Aerobic Treatment Unit (ATU) standards may be permitted where ATUs are required, for example by county or city ordinance. An ATU not permitted as a component of a PBTs must comply with Rule 62-6.012, F.A.C.

5.2 Calculations per Chapter 24

Flow

For purposes to determine sewage flows for sanitary sewers and the maximum allowable septic tank sewage loading requirements DERM utilizes the flows under [Section 24-43.1\(5\)](#) of the Miami-Dade County Code.

These flows shall not replace the flows in [Table I of Chapter 62-6 FAC](#) for sizing and design of OSTDS.

Lot Size and Sewage Loading for Properties Served by an OSTDS

A minimum lot size is required for the development of a single-family residence or duplex. This minimum lot size varies based on the source of potable water. For other residential and non-residential properties, the limiting development criteria is sewage loading.

Sewage loading is the total sewage flow generated by the existing or proposed uses on a property, using the flow rates in [Section 24-43.1\(5\)](#), divided by the unsubmerged gross area (in acres) of the property.

(a) Where public water is used:

- (i) The minimum lot size for a single-family residence shall be fifteen thousand (15,000) square feet of unsubmerged land
- (ii) The minimum lot size for a duplex residence shall be twenty thousand (20,000) square feet of unsubmerged land
- (iii) The maximum sewage loading for all other residential and nonresidential uses shall be one thousand five hundred (1,500) gallons per day per unsubmerged acre

(b) Where public water is not used:

- (i) The minimum lot size for a single-family residence shall be twenty thousand three hundred twenty-eight (20,328) square feet of unsubmerged land
- (ii) The minimum lot size for a duplex residence shall be twenty-nine thousand forty (29,040) square feet of unsubmerged land
- (iii) The maximum sewage loading for all other residential and nonresidential uses shall be seven hundred fifty (750) gallons per day per unsubmerged acre

Note: Properties within wellfield protection areas (WPA) may have more stringent sewage loading requirements, depending on location of the property within the WPA.

6.0 Setbacks

6.1 Setbacks under Chapter 24

There are only three setbacks listed under Chapter 24:

SETBACK	DISTANCE [ft]
Minimum distance from a surface water body	100
Minimum distance from a potable water well	100
Minimum distance from any part of the OSTDS to the property lines when the property is served by a potable water well	50

6.2 Setbacks under Chapter 62-6 FAC

There are several setbacks listed under Chapter 62-6 FAC that are also enforced by DERM. Some of which are listed below:

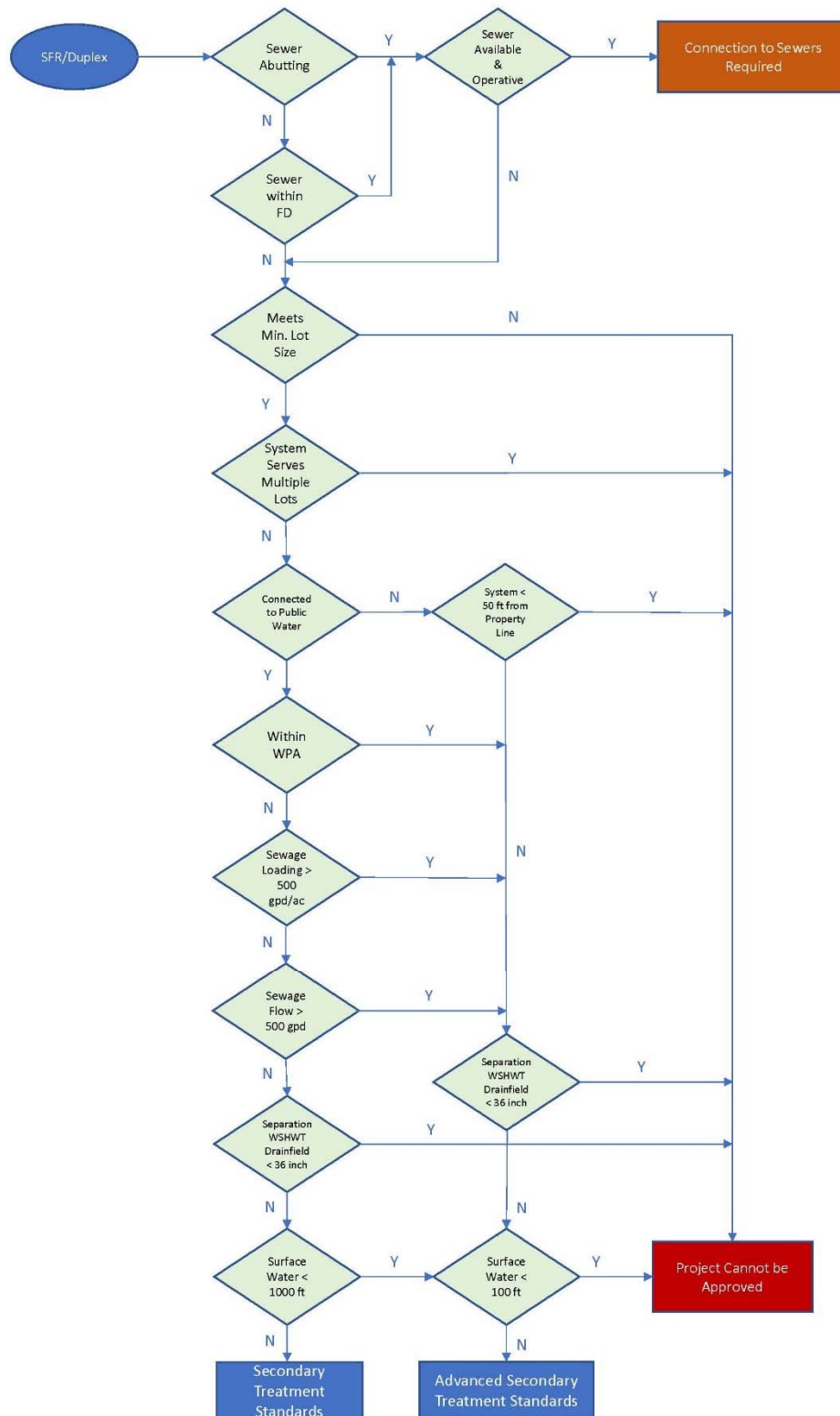
SETBACK	DISTANCE [ft]
Minimum distance from the property line	5
Minimum distance from building foundations	5
Minimum distance from swimming pool walls	5
Minimum distance from a potable water line	10
Minimum distance from a public water well as defined in 62-6.002(44)(d) FAC	200
Minimum distance from a non-potable water well	50
Minimum distance from groundwater interceptor drains	15
Minimum distance from the design high water line of a swale	15

7.0 Attachments

Attachment 1	Review Flow Chart for SFR and Duplex
Attachment 2	Review Flow Chart for Multi-Family Residences and Other Uses
Attachment 3	OSTDS Plan Review Checklist
Attachment 4	Example - OSTDS Box System Type Determination Based on Chapter 24 Requirements
Attachment 5	Example - OSTDS Box for Calculations Based on Chapter 62-6 FAC
Attachment 6	Examples (as a separate document)

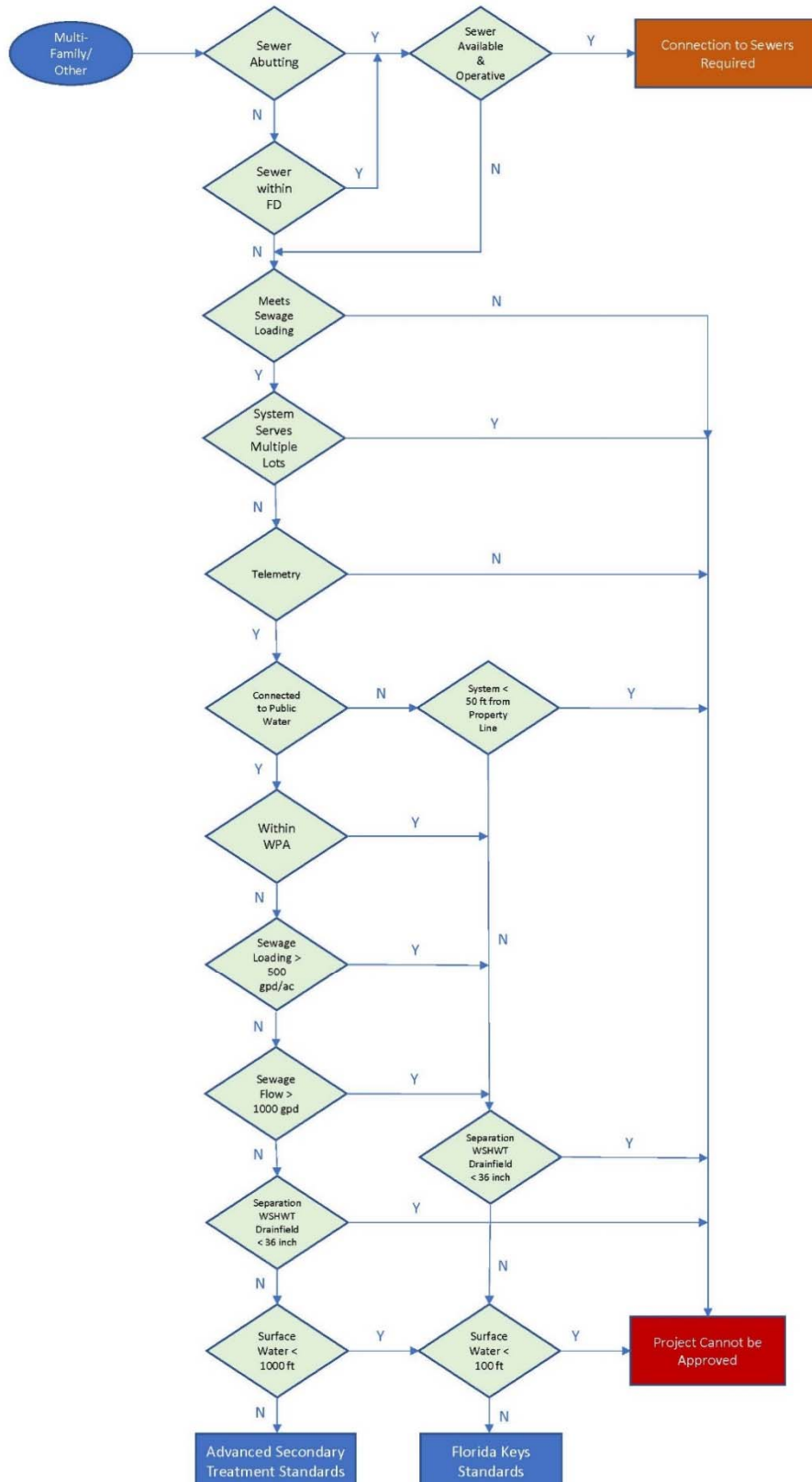
ATTACHMENT 1

OSTDS FOR SINGLE A FAMILY RESIDENCE OR DUPLEX



ATTACHMENT 2

OSTDS FOR MULTI-FAMILY RESIDENCE AND OTHER USES



ATTACHMENT 3

DERM-OSTDS PLAN REVIEW CHECKLIST

Process # _____

Accepted	Not Accepted	N/A	REVIEW ITEM/PARAMETER
1. General			
			Electronic plans being submitted are legible and include Facility name, address (include unit/bay).
			Architectural, Civil, and Plumbing drawings match (where applicable)
			Drawings indicate Type of Establishment, i.e. full service restaurant, cafeteria, office, multi-family residence, single family residence, duplex, etc.
			Drawings indicate all the parameters to estimate the sewage flow according to Chapter 24 and Chapter 62-2 of the F.A.C., i.e. area, number of seats, number of bathrooms, number of students, practitioners, etc.
			Drawings clearly show existing areas and proposed modifications where applicable.
			Sewer line abutting.
			Sewer line within feasible distance.
			Property located within a wellfield protection area.
			Seasonal high water table elevation using the North American Vertical Datum of 1988 (NAVD 88).
2. Site Plan			
			Signed/sealed/dated by a Professional Engineer registered in the State of Florida.
			Drawn to scale, properly labeled, and with dimensions.
			Summary boxes as per guidelines.
			Gross and net lot areas, in square feet and acres.
			Location of meter and water line from meter to building if connected to public water.
			Location of potable water well and water line from well to building if served by a potable water well.
			Proposed system clearly depicted, including the type of system, flow, drainfield configuration and size (including reserve).
			FDEP or third party certification for the proposed system (ANSI/NSF).
			Characteristics of the system effluent based on third party annual average testing results and level of treatment design.
			Grade elevation (based on survey) at proposed location of the drainfield using the North American Vertical Datum of 1988 (NAVD 88).
			Profile of the drainfield indicating a separation of at least 36" between bottom of the drainfield and wet season high water table.
			Flow calculations based on Chapter 24 of the Miami-Dade County Code.
			Flow calculations based on Chapter 62-6 Florida Administrative Code.
			Sewage flow (per Ch 24) < 500 gpd for SFR/Duplex or < 1000 gpd for Commercial.
			Sewage loading (per Ch 24) < 500 gpd/acre.
			50 ft setback with property lines if property served by a potable water well.
			Meets minimum 100 ft setback with private potable water wells or 200 ft with public water systems (PWS).
			Meets minimum setback of 100 ft with surface water bodies.
			No surface water bodies located within 1,000 ft from closest property line.
			Drainfield calculations based on Chapter 62-6 flows.
3. Floor Plan			
			Drawn to scale, properly labeled, and with dimensions.
			Building(s) total gross area calculation including garage, storage, terrace, etc. For sewage loading and feasible distance calculations.
			Building(s) total net area calculation for septic system flow calculations (Based on Ch. 62-6).

Accepted	Not Accepted	N/A	REVIEW ITEM/PARAMETER
			4. Telemetry for multi-family residences (other than SFR or duplex) and other uses
			Provides operational status of system at a frequency of no less than 15 minutes. At a minimum, it shall include:
			a) Power
			b) Signal and connectivity
			c) Back-up battery
			d) Mechanical equipment
			e) Liquid levels
			f) Warnings
			g) Alarms
			5. Additional/Supporting documentation
			Boundary survey with elevations
			FDEP data or third party testing results
			FDEP application (FDEP form 4015)
			Specifications for level of treatment
			Documentation for each treatment component of the proposed system (e.g. disinfection, phosphorus removal, etc.

ATTACHMENT 4

DETERMINATION OF OSTDS TYPE AND STANDARDS PER SECTION 24-42.7

GROSS LOT SIZE = _____ FT² = _____ ACRES
 LAND USE: _____
 GROSS BUILDING AREA = _____ FT²
 SEWAGE FLOW = _____ GPD
 SEWAGE LOADING = _____ GPD / _____ ACRES = _____ GPD/ACRE

Y	N	CRITERIA FOR OSTDS TYPE SELECTION
		PROPERTY WILL BE SERVED BY PUBLIC WATER
		PROPERTY COMPLETELY OUTSIDE WELLFIELD PROTECTION AREA
		SURFACE WATER BODIES BEYOND 1000 FEET
		SEWAGE FLOW IS LESS THAN 500 GPD FOR SFR /DUPLEX
		SEWAGE FLOW IS LESS THAN 1000 GPD FOR MULTI-FAMILY/OTHER USES
		SEWAGE LOADING LESS THAN 500 GPD/ACRE

Y	N	OTHER CONSIDERATIONS FOR OSTDS APPROVAL
		SANITARY SEWERS NOT AVAILABLE, ABUTTING, OR OPERATIVE
		SYSTEM WILL SERVE ONLY ONE LOT
		PROPERTY LINES OVER 50 FEET FROM OSTDS FOR PROPERTIES SERVED BY A POTABLE WATER WELL

TYPE OF SYSTEM REQUIRED : _____
 TOTAL NITROGEN TREATED BY : _____
 TOTAL PHOSPHORUS TREATED BY : _____
 FECAL COLIFORM TREATED BY : _____
 SOURCE OF TREATMENT STANDARDS : _____

TREATMENT STANDARDS		
POLLUTANT	REQUIRED (mg/L) (ANNUAL AVERAGE)	PROPOSED (mg/L) (ANNUAL AVERAGE)
CBOD ₅		
TSS		
TN		
TP		
FECAL COLIFORM (cfu/100ml)		

- Gross lot size – Is the total unsubmerged area. Shall be calculated to include the right-of-way up to the center line of the road. The gross lot size shall be calculated in square feet and in acres.
- Land use – This is the proposed use of the property: single family residence, duplex, multifamily residence, non-residential, etc.
- Gross building area – This should include all covered areas, not only areas under AC. Garages, terraces, etc., should be included.
- Sewage flow – The sewage flow shall be calculated based on the unit flow rate in Section 24-43.1(5) of the Miami-Dade County Code.
- Sewage loading – Is the sewage flow in (GPD) divided by the gross area in (acres).
- Criteria for OSTDS type selection and other considerations – A series of Yes/No questions, regarding the characteristics of the project, that will help determine the type of system needed (see section 5.1 above for the system types). For most of the projects, any answer of “N” will trigger the next level of treatment, or in some cases will make the project not approvable.
- Type of system required – The proposed type of system, based on the project characteristics (Type 2, 3 or 4).
- Total Nitrogen Treated by – For most cases, total nitrogen will be treated by the selected system: e.g., Norweco TNT, Fuji clean CEN, Bio-Microbics MicroFast, etc. If additional treatment is required, that method of treatment should also be listed in this field.
- Total Phosphorus Treated by – Type 2 and standard type 3 systems do not require treatment for total phosphorus; however, for type 3 systems where the parameters need adjustment, treatment for total phosphorus will be required and the level of treatment shall be adjusted as with the other parameters. Type 4 systems require a higher level of treatment for total phosphorus to meet Florida Keys Nutrient Reduction Standards. The treatment method shall be selected from the FDEP list of approved systems.
- Fecal coliform treated by – In this field the disinfection method by which fecal coliform will be treated must be listed. Currently the only method accepted by the State is chlorination/dechlorination.
- Source of treatment standards – In this field the source of the proposed level of treatment must be listed. For the most projects this will be “The Testing Performance Data for Components of Performance Based Treatment Systems” or NSF reports. Please note that if NSF reports are used, the full report must be uploaded with your submittal.
- Treatment Standards – Under the “Required” column, list the minimum level of treatment required for your project. Under the “Proposed” column, provide the level of treatment for the system being proposed. This information needs to be backed up by FDEP testing reports, or NSF third party testing reports.

ATTACHMENT 5

OSTDS CALCULATIONS PER CHAPTER 62-6 F.A.C.

NET LOT SIZE = _____ FT² = _____ ACRES

LAND USE: _____

BUILDING AREA = _____ FT²

SEWAGE FLOW

MAXIMUM SEWAGE LOADING ALLOWANCE = _____ GPD/ACRE (1,500 GPD/ACRE OR 2,500 GPD/ACRE)

AUTHORIZED SEWAGE FLOW = _____ GPD/ACRE x _____ ACRES = _____ GPD

UNIT FLOW CRITERIA (PER TABLE 1) : _____

SEWAGE FLOW PER UNIT FLOW = _____

TOTAL SEWAGE FLOW = _____ GPD

TREATMENT TANK AND DRAINFIELD

PROPOSED SYSTEM : _____

MINIMUM REQUIRED TREATMENT CAPACITY = _____ GPD

DRAINFIELD CONFIGURATION : _____

DRAINFIELD TYPE = _____

DRAINFIELD MATERIAL : _____

MAXIMUM SEWAGE LOADING RATE FOR THE PROPOSED DRAINFIELD = _____ GAL/FT²DAY

DRAINFIELD SIZE = _____ GPD / _____ GAL/FT²DAY = _____ FT²

SEPARATION BETWEEN THE SHWT AND BOTTOM OF THE DRAINFIELD (ELEVATIONS IN NAVD 88)

GRADE ELEVATION = _____ FT

SEASONAL HIGH WATER TABLE ELEVATION = _____ FT

ELEVATION AT THE BOTTOM OF THE DRAINFIELD = _____ FT

SEPARATION BETWEEN SHWT AND BOTTOM OF DRAINFIELD = _____ INCHES

- Net lot size – Shall be calculated as the area within the property lines. In some cases the area as defined by 62-6 FAC can be used. The net lot size shall be calculated in square feet and in acres.
- Land use – This is the proposed use. This will be used for the determination of sewage flow using Table I of Chapter 62-6 FAC.
- Building area – this area should be the building area as defined by 62-6 FAC.
- Maximum sewage loading allowance – this would be, as stated in 62-6 FAC, 2,500 gpd/acre if the property is served by public water and 1,500 gpd/acre if the property is served by a potable water well.
- Authorized sewage flow – this is the maximum sewage flow that can be allowed for the proposed use. It is calculated as the lot size (in acres) times the maximum sewage loading allowance.
- Unit flow criteria (table I) – this is the base flow criteria in table I, in 62-6 FAC, that will be used to calculate the sewage flow: building area, number of bedrooms, number of students, practitioners, etc.
- Total sewage flow – This is the sewage flow calculated based on the unit flows in table I, in 62-6 FAC.
- Proposed system – This is the treatment system that is being proposed, for example, Norweco TNT 500 with chlorination/dichlorination.
- Minimum required treatment capacity – This is the proposed system minimum capacity. For most cases, this value will be the same as the total sewage flow.
- Drainfield configuration – Proposed drainfield configuration, bed or trench.
- Drainfield type – Proposed drainfield type, standard, filled, or mound.
- Drainfield material – Proposed material, cambers, drip irrigation, etc.
- Maximum sewage loading rate for the proposed drainfield – Values tabulated for bed and trench configuration on table III, 62-6 FAC.
- Drainfield size – Calculated as the total sewage flow divided by the maximum sewage loading rate.
- Grade elevation – Elevation as per survey and measurements at soil boring locations.
- Seasonal high water table elevation – Estimated based on soil indicators, USDA soil survey, or contour map. If multiple methods area used, the one that provides the highest value shall be used.
- Elevation at the bottom of the drainfield – Proposed bottom of drainfield elevation.
- Separation between SHWT and bottom of the drainfield – The difference in elevation between the bottom of the drainfield and the SHWT, converted to inches. As per new code requirements this separation must be at a minimum 36 inches.