

Spring Protection and Onsite Sewage Treatment and Disposal System (OSTDS) Remediation Plans

Bureau of Environmental Health

Division of Disease Control and Health Protection

Florida Department of Health

April 24, 2018

Septic Tank and Drainfield (A Conventional OSTDS)



Septic tank

Drainfield

OSTDS are among the many sources contributing nitrogen to groundwater.

Percolation
Purification

Groundwater



Statutory Mandate

Florida Statute (FS), Section 381.006, mandates the Florida Department of Health (DOH) to conduct an Onsite Sewage Treatment and Disposal Systems (OSTDS) function

Section 381.0065-0067, FS, provides legislative intent and requirements for the proper management of the OSTDS function

Florida Springs and Aquifer Protection Act

(Florida Statute Sections 373.801 – 373.813)

Area residents applying for new construction permits after adoption of BMAP (July 1, 2018) in PFAs on lots less than one acre have the following options:

- Connect to available sewer or,
- Install a non-nitrogen-reducing OSTDS if the property is part of a BMAP-listed septic-to-sewer project or,
- Install a nitrogen-reducing OSTDS using various options identified by the Department.

“New” OSTDS per Florida Administrative Code (FAC) Chapter 64 E-6.

- where none has been
- when the previous system was abandoned
- when the previous DEP-regulated treatment facility is withdrawn
- to serve a house addition rather than modifying an existing
- to serve an additional structure on the property
- to replace a system when a structure expands into the location of the existing, or where the pool placement or other structure impacts the existing
- when domestic flow increases over 20% at a non-residential establishment
- when there is any increase in commercial sewage flow

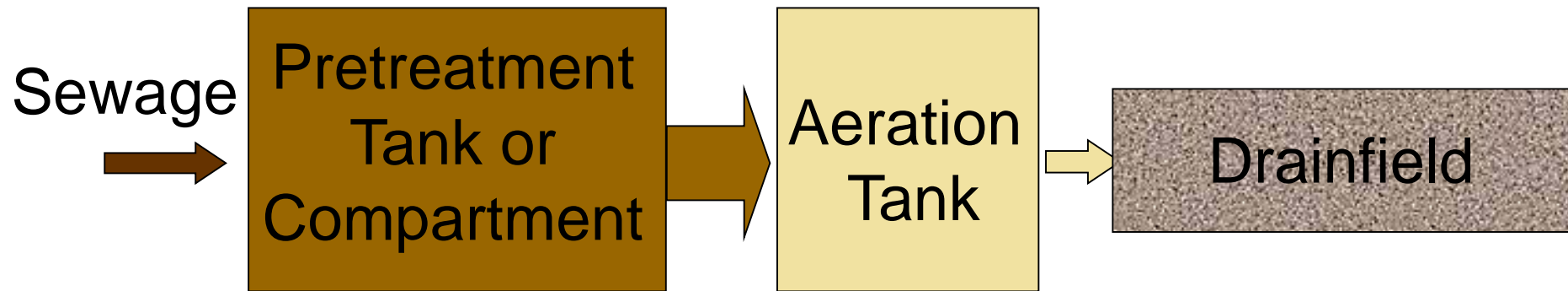
Permitting OSTDS systems in PFAs

- ✓ New permits issued prior to adoption of BMAP (July 1, 2018)
 - Will not be limited to nitrogen-reducing systems
 - As previously required in 381.00655, FS, systems will have to connect to sewer should it become available
- ✓ New permits issued after July 1, 2018 on lots less than an acre in a PFA will require a nitrogen-reducing OSTDS

Nitrogen-Reducing Treatment System Options

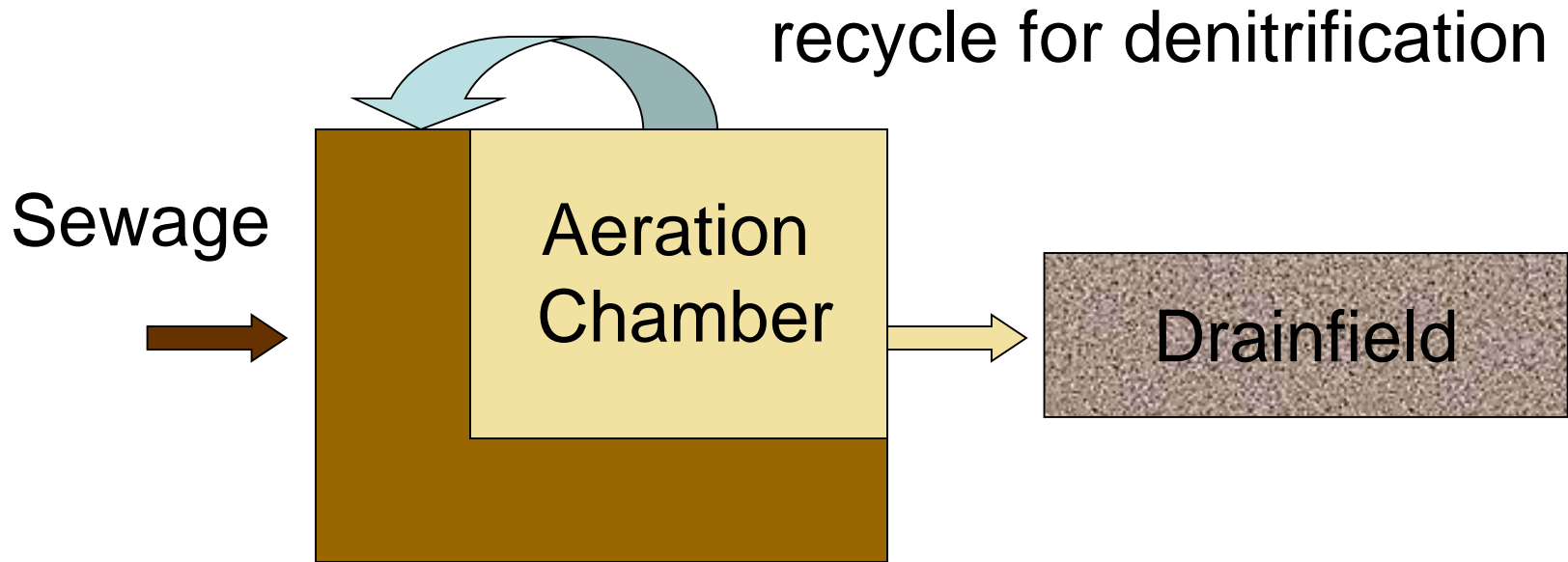
- Nitrogen-Reducing Aerobic Treatment Units
 - Must be certified to meet National Sanitation Foundation Standards 40 and 245
 - Require operating permit (OP), maintenance entity (ME) and maintenance contract agreement (MCA)
- Performance-Based Treatment Systems
 - Must be designed by Florida professional engineer
 - Require OP, ME and MCA
- Once rule changes have occurred, an In-Ground Nitrogen-Reducing Biofilter stacked under the drainfield
 - No design should be needed unless lot conditions require
 - No OP, ME or MCA needed

Aerobic Treatment Unit (ATU)



- About 8,000 NSF 40 units installed in Florida
- Approximately 600 of these are nitrogen-reducing ATUs certified to meet NSF 245 Standard

Nitrogen-Reducing Aerobic Treatment Unit



- Require 24-inch separation from drainfield bottom to wet season water table

Performance-Based Treatment System (PBTS)

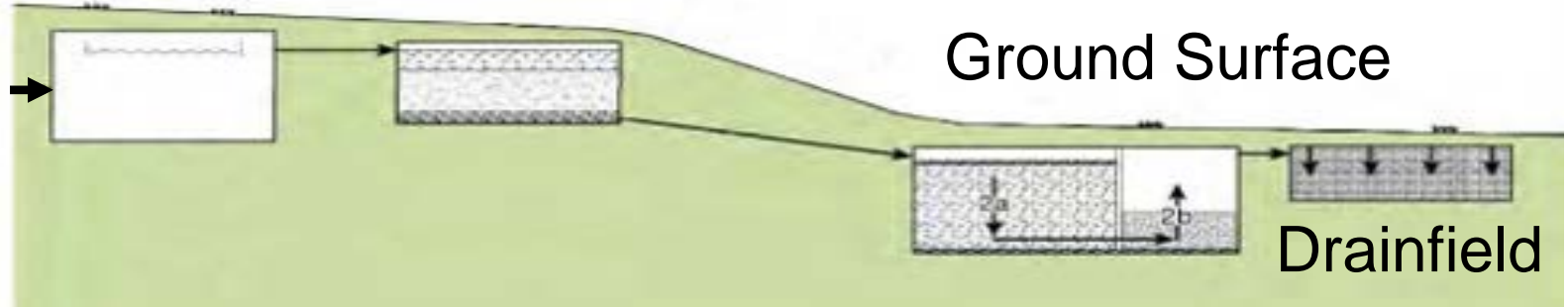
- Specialized onsite sewage treatment and disposal system
- In many cases, includes an ATU
- Designed to achieve specific and measurable established *performance standards* for:
 - ✓ Carbonaceous biochemical oxygen demand (CBOD₅), total suspended solids,
 - ✓ TN (total nitrogen), TP (total phosphorus), and
 - ✓ Fecal coliforms

Two-Stage Nitrogen Reduction Process Example

In-Tank Passive Nitrogen Reduction System

Wastewater

Q



Septic Tank
Pretreatment

Stage 1 Biofilter
Nitrification

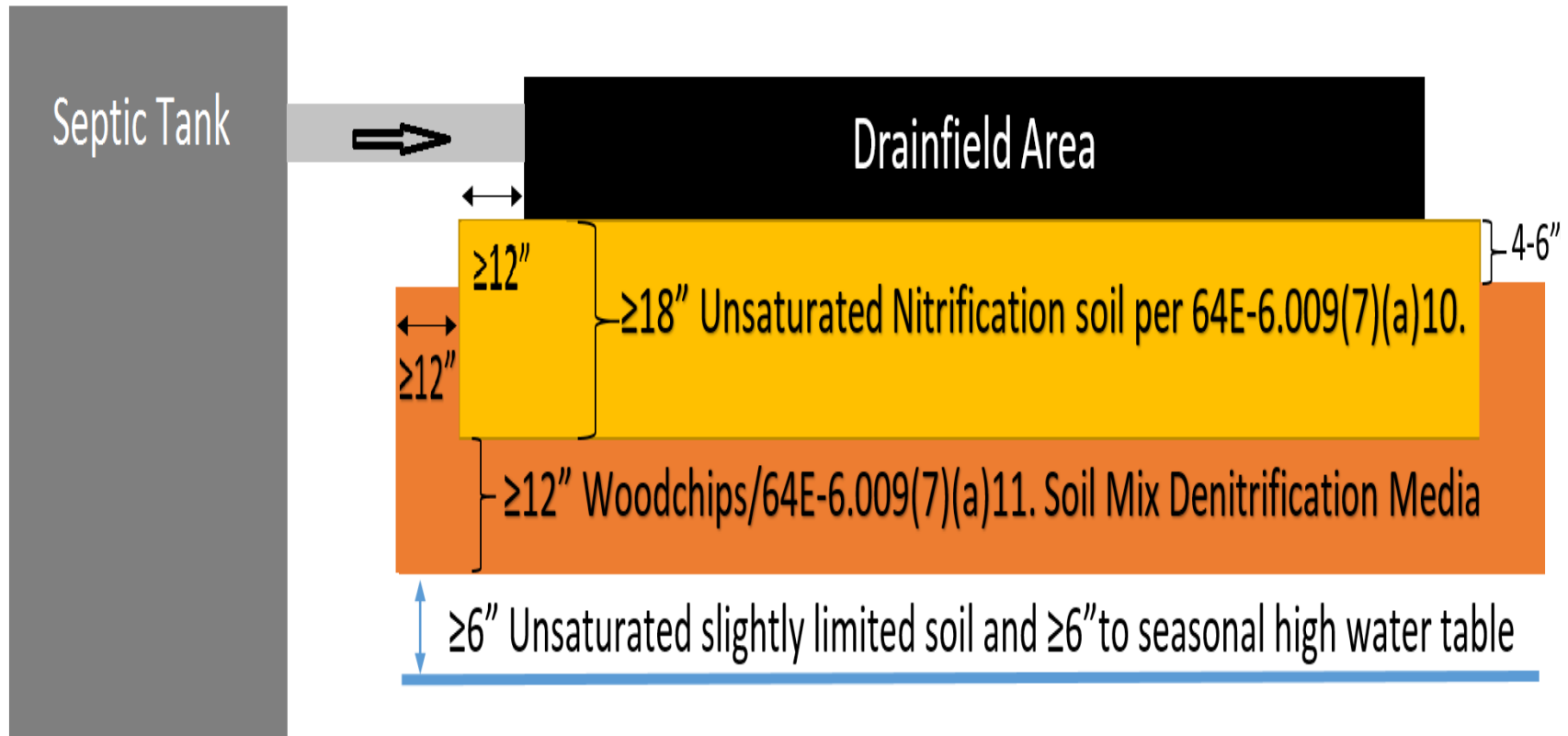
Stage 2 Biofilter
Denitrification

Drainfield

Ground Surface

Note: In flat landscapes may need a single pump.

In-Ground Nitrogen-Reducing Biofilter



- A nitrate-reducing, filter layer below drainfield; material reacts with nitrate
- Rules are under development to allow option

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Onsite Sewage Program

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