



C – 10:45–11:00  
ATU Construction and Operating Permits

# Aerobic Treatment Units (ATU) and Performance-Based Treatment Systems (PBTS) Construction & Operation

- Wastewater Treatment Standards
- Treatment System Determinations
- ATU Standards and Effluent Characteristics
- PBTS Standards and Effluent Characteristics
- Operating Permit Requirements
- Annual Operating System Inspections
- Maintenance Entities
- System Maintenance Requirements

# ATU and PBTS Standards are outlined in:

▶ Construction, Permitting, Operation, and Maintenance Standards:

- In rule:
  - 64E-6.012 (ATUs)
  - 64E-6.025 through .0295 (Performance-based and Innovative Systems)
- In Florida Statutes:
  - 381.0065(3)(f),
  - 381.0065(4),
  - 381.0655(2)(c),
  - 381.0066(2),

64E-6.012	STANDARDS FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF AEROBIC TREATMENT UNITS .....	32
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The standards outlined in these sections can be summarized as follows:

# Wastewater Treatment Standards:

POLLUTANT	BASELINE SYSTEM STANDARDS <small>Septic tank effluent</small>	BASELINE SYSTEM STANDARDS <small>@ base of 24 inch unsaturated zone</small>	AEROBIC TREATMENT UNIT <small>(effluent)</small>	SECONDARY TREATMENT STANDARDS <small>(effluent)</small>	ADVANCED SECONDARY TREATMENT STANDARDS <small>(effluent)</small>	ADVANCED WASTEWATER TREATMENT STANDARDS <small>(effluent)</small>
CBOD <sub>5</sub> <small>(Carbonaceous Biochemical Oxygen Demand)</small>	120-240 mg/l	< 5 mg/l	=or< 25 mg/l	=or< 20 mg/l	=or< 10 mg/l	=or< 5 mg/l
TSS <small>(Total Suspended Solids)</small>	65-176 mg/l	< 5 mg/l	=or< 30 mg/l	=or< 20 mg/l	=or< 10 mg/l	=or< 5 mg/l
TN <small>(Total Nitrogen)</small>	36-45 mg/l	15-25 mg/l	not applicable	not applicable	=or< 20 mg/l	=or< 3 mg/l
TP <small>(Total Phosphorus)</small>	6-10 mg/l	< 5 mg/l	not applicable	not applicable	=or< 10 mg/l	=or< 1 mg/l
Fecal coliform		undetected	not applicable	=or< 200 fc col/100 ml	=or<200 fc col/100 ml	BDL for 100 ml
DRAINFIELD REDUCTIONS	not applicable	not applicable	25% in slightly limited soil	25%	40%	40%
REDUCE: SETBACKS surface water groundwater drains dry retention & swales SEPARATIONS to SHWT	no change no change no change no change	no change no change no change no change	no change no change no change no change	65 ft no change no change no change	50 ft 10 ft 10 ft no change	25 ft 10 ft 10 ft 12 in
INCREASE AUTHORIZED FLOWS	no change	no change	no change	25%	50%	100%

# Wastewater Treatment Standards

- ▶ Levels of treatment that can currently be achieved by an ATU or PBTS via DOH permitting:
  - When choosing a treatment method aside from a conventional, baseline system, the goal is to achieve a higher treatment standard in order to:
    - Reduce the impact on the environment and public health.
    - Overcome a site condition that would otherwise render the chosen location unsuitable for the proposed structure or use.
  - These main difference between these systems and conventional, baseline treatment is the introduction of oxygen to the treatment chamber:
    - Where conventional systems have anoxic conditions in the septic tank where little treatment occurs, tanks for ATU(s) promote the growth of aerobic bacteria, which are more efficient at digesting the components of domestic wastewater.
    - Performance-based systems are generally based on ATU components.

## Wastewater Treatment Standards & system determinations:

POLLUTANT	BASELINE SYSTEM STANDARDS Septic tank effluent	BASELINE SYSTEM STANDARDS @ base of 24 inch unsaturated zone	AEROBIC TREATMENT UNIT (effluent)  ATU	SECONDARY TREATMENT STANDARDS (effluent)	ADVANCED SECONDARY TREATMENT STANDARDS (effluent)	ADVANCED WASTEWATER TREATMENT STANDARDS (effluent)
				Performance-Based		
CBOD <sub>5</sub> (Carbonaceous Biochemical Oxygen Demand)	120-240 mg/l	< 5 mg/l	=or< 25 mg/l	=or< 20 mg/l	=or< 10 mg/l	=or< 5 mg/l
TSS (Total Suspended Solids)	65-176 mg/l	< 5 mg/l	=or< 30 mg/l	=or< 20 mg/l	=or< 10 mg/l	=or< 5 mg/l
TN (Total Nitrogen)	36-45 mg/l	15-25 mg/l	not applicable	not applicable	=or< 20 mg/l	=or< 3 mg/l
TP (Total Phosphorus)	6-10 mg/l	< 5 mg/l	not applicable	not applicable	=or< 10 mg/l	=or< 1 mg/l
Fecal coliform		undetected	not applicable	=or< 200 fc col/100 ml	=or<200 fc col/100 ml	BDL for 100 ml
DRAINFIELD REDUCTIONS	not applicable	not applicable	25% in slightly limited soil	25%	40%	40%
REDUCE: SETBACKS surface water groundwater drains dry retention & swales SEPARATIONS to SHWT	no change no change no change no change	no change no change no change no change	no change no change no change no change	65 ft no change no change no change	50 ft 10 ft 10 ft no change	25 ft 10 ft 10 ft 12 in
INCREASE AUTHORIZED FLOWS	no change	no change	no change	25%	50%	100%

## Wastewater Treatment Standards & system Operating Requirements:

- All of these concessions are based on the requirement that the systems perform as proposed. As such, they require:
  - Engineer design and review of performance by the department.
    - For ATU(s), this is done by the Bureau, and is based on NSF Standard 40 testing reports submitted by the manufacturer.
    - For PBTS(s), the design, manual, and testing results are first reviewed by the Bureau and a listing of approved components is provided.
      - The individual systems are designed by an engineer using these components.
      - The individual system designs are reviewed by the County Health Department to ensure the proposed Operating Standards can be met by the design.
        - If needed, these designs can be forwarded to the Bureau Office for review by a State Engineer.
    - For designs not based on approved components or using approved components in ways not supported by existing test documentation; there is an Innovative System application process, which is reviewed by a State Engineer at the Bureau of Onsite Sewage Programs.

# Operating Permit Requirements

- ▶ By rule and statute, a Biennial Operating Permit is required prior to use of an ATU or PBTS.
  - The permit application, fee, and maintenance contract must be received by the County Health Department prior to final approval of system construction.
  - The permit must specify the operating conditions, including the sampling and testing requirements that must be provided by the design engineer.
  - The permit is issued in the name of the property owner, but is mailed to the approved maintenance entity.
    - Once issued, the approved maintenance entity must handle all of the required interaction with the DOH and the homeowner (collection and payment of fees, sampling, reporting, etc.) – the homeowner should not need to contact the CHD.
    - The operating permit is non-transferrable. At the time the owner of a residence or business changes, or a tenant of a business changes, a new permit must be applied for.
    - Operating permits are not renewed – they are applied for, reviewed, and issued at the beginning of each permit cycle.

# ATU and PBTS Operating Permits:

- ▶ The permits bear:
  - Permit Type
  - Permit Number
  - Permit Owner and Location
  - Conditions of Operation
  - Expiration Date

ATU and PBTS Operating Permits require multiple inspections throughout the permit cycle.

The image shows two identical copies of an 'OPERATING PERMIT' form side-by-side. Each form is divided into three main sections: 'OPERATING PERMIT', 'CONDITIONS OF OPERATION', and 'RECEIPT'. The left form is issued to 'Bill Horvath' (Permit Number: 35-QT-00341) and the right form is issued to 'The Mason Jar' (Permit Number: 35-QT-00371). Both forms include a 'RECEIPT' section with fields for 'Amount Paid', 'Date Paid', 'Check Number', and 'Receipt Number'. The forms also contain a 'DO NOT DETACH HERE' warning and a 'DISPLAY OPERATING PERMIT AND CONDITIONS OF OPERATION IN A CONSPICUOUS PLACE' instruction.

Regulatory Items

Location on the Permit

# ATU and PBTS Annual Inspections:

- ▶ The minimum inspection and monitoring associated with the Operating Permit:
  - Is dependent on what level of treatment was deemed appropriate through the permitting process.
  - Is specified on the construction application and permit by the design engineer.
  - Must, at minimum, address the required operating parameters.
  - Must appear on the DOH Operating permit.
  - Is in addition to the annual site inspections by the CHD.
  - Must be carried out by an approved maintenance entity.

Minimum standards are summarized in  
memo 08-003.

# Maintenance Entities

- ▶ Before servicing a system, a Maintenance Entity must:
  - Be or employ a Registered Septic Tank Contractor, Licensed Plumber, or Class D Wastewater Plant Operator and:
    - Be trained by the manufacturer of each product they wish to service.
    - Obtain a Maintenance Entity Service Permit from the Health Department in the county where their business is based (Application form DH4066).
    - Sign a maintenance contract with the owner of each system they wish to service.
    - Obtain the Operating Permit for each system they wish to service (form DH4081).
- ▶ While a system is under their care:
  - The Maintenance entity must:
    - Service the system as prescribed by the manufacturer, and submit reports to the County Health Department where the system is located. The number of service reports to be submitted is 2 per year for residential, and 4 per year for commercial systems.
    - Respond to emergency calls within 36 hours, and notify the CHD of any emergency service to the system.
    - Report to the CHD when a property owner refuses to renew a maintenance contract, or when there must be an amendment to the permit.
    - Serve as the primary point of contact for both the property owner and the CHD.

**Besides prescribed visits and monitoring or sampling requirements, the maintenance requirements are based on the manufacturer's training.**

## Memo HSES 08-003 INSPECTION AND MONITORING FOR ATU'S AND PBTS 64E-6 FAC Summary

PERFORMANCE STANDARDS	CONVENTIONAL SEPTIC SYSTEM	AEROBIC TREATMENT UNIT	> 1500 gpd AEROBIC TREATMENT UNIT	SECONDARY TREATMENT STANDARDS	ADVANCED SECONDARY TREATMENT STANDARDS	ADVANCED WASTEWATER TREATMENT STANDARDS	FLOIRDA KEYS TREATMENT STANDARDS	OTHER <sup>6</sup>
INSPECTION/ MAINTENANCE FREQUENCY	Recommended every 3 to 5 years	1 x per year - CHD 2 x per year - ME	1 x per year - CHD 2 x per year -ME (Class D Operator)	1 x per year - CHD 2 x per year - ME	1 x per year - CHD 2 x per year - ME	1 x per year - CHD 2 x per year - ME	1 x per year - CHD 2 x per year - ME <sup>5</sup>	1 x per year - CHD 2 x per year - ME <sup>5</sup>
MONITORING/SAMPLING (This is for all systems designed to meet the specified treatment standards)	not applicable	not applicable	CBOD5 and TSS or Ponding Depth <sup>1</sup> and Fecal Coliforms Semi-annually	Specifications To Be Set By Design Engineer <sup>4</sup>	Specifications To Be Set By Design Engineer <sup>4</sup>	CBOD5 and TSS or Ponding Depth <sup>1</sup> Frequency varies <sup>2</sup>	Specifications To Be Set By Design Engineer <sup>4</sup>	Specifications To Be Set By Design Engineer <sup>4</sup>
For Drainfield Reductions	not applicable	not applicable	not applicable	Ponding Depth <sup>1</sup> Quarterly <sup>3</sup>	Ponding Depth <sup>1</sup> Quarterly <sup>3</sup>	Ponding Depth <sup>1</sup> Quarterly <sup>3</sup>	Ponding Depth <sup>1</sup> Quarterly <sup>3</sup>	Ponding Depth <sup>1</sup> Quarterly <sup>3</sup>
For Reduced Setbacks and/or Increase Authorized Flows	not applicable	not applicable	not applicable	Fecal Coliforms Semi Annually	TN, P and Fecal Coliforms Semi Annually	TN, P and Fecal Coliforms Frequency varies <sup>2</sup>	not applicable	not applicable

Though the Operating Permits are Biennial, the inspection frequency is required on an Annual basis.