

The Florida Senate
BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Environmental Preservation and Conservation

BILL: SB 1160

INTRODUCER: Senator Evers

SUBJECT: Onsite Sewage Treatment and Disposal Systems

DATE: March 24, 2014

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Gudeman	Uchino	EP	Pre-meeting
2.			HP	
3.			AG	

I. Summary:

SB 1160 extends the effective date of the ban on land application of septage to January 1, 2020.

II. Present Situation:

The Department of Health (DOH) oversees the administration of onsite sewage treatment and disposal systems (OSTDSs, septic systems) in order to detect and prevent disease caused by natural and manmade factors in the environment.¹ The DOH estimates there are approximately 2.6 million septic tanks in use statewide. An “onsite sewage treatment and disposal system” is “a system that contains a standard subsurface, filled, or mound drainfield system; an aerobic treatment unit; a graywater system tank; a laundry wastewater system tank; a septic tank; a grease interceptor; a pump tank; a solids or effluent pump; a waterless, incinerating, or organic waste-composting toilet; or a sanitary pit privy that is installed or proposed to be installed beyond the building sewer on land of the owner or on other land to which the owner has the legal right to install a system. The term includes any item placed within, or intended to be used as a part of, or in conjunction with, the system. The term does not include package sewage treatment facilities and other treatment works regulated under ch. 403, F.S.”²

The systems operate by allowing sewage to flow from a home or business through a pipe into the first chamber, where solids settle out. The liquid then flows into the second chamber where anaerobic bacteria, which do not require oxygen, sewage break down the organic matter, allowing cleaner water to flow out of the second chamber into a drainfield.³

¹ See s. 381.006, F.S.

² Section 381.0065(2)(k), F.S.

³ EPA, *Primer for Municipal Wastewater Treatment Systems*, 2004, p. 22, available at http://water.epa.gov/aboutow/owm/upload/2005_08_19_primer.pdf (last visited Mar. 23, 2014).

The DOH's Onsite Sewage Programs, in the Bureau of Environmental Health (bureau), develops statewide rules and provides training and standardization for county health department employees responsible for permitting the installation and repair of OSTDSs. The bureau also licenses septic system contractors, approves continuing education courses and courses provided for septic system contractors, funds a hands-on training center, and mediates septic system contracting complaints. The bureau also manages a state-funded research program, prepares research grants, and reviews and approves innovative products and OSTDS designs.⁴

The majority of septage is regulated by the DOH. However, the Department of Environmental Protection (DEP) permits OSTDSs when the estimated domestic sewage flow from the establishment is over 10,000 gallons per day or the commercial sewage flow is over 5,000 gallons per day. The DEP also has jurisdiction over OSTDSs where there is a likelihood that the system will receive toxic, hazardous or industrial wastes, where a sewer system is available, or if any system or flow from the establishment is currently regulated by the DEP. Variances can be granted by either agency as needed.⁵

Land Application of Septage

The land application of septage from OSTDSs is an approved method of disposal in Florida, and is common in rural areas.⁶ Septage is defined as a mixture of sludge, fatty materials, human feces, and wastewater removed during the pumping of an OSTDS.⁷ Approximately 100,000 septic tanks are pumped each year, generating 100 million gallons of septage requiring treatment and disposal.⁸ When used for land application, the septage is stabilized by raising the pH to 12 for at least two hours or to a pH of 12.5 for 30 minutes.⁹ The treated septage is then spread over the land at DOH-regulated land application sites.¹⁰ In addition to septage, onsite systems serving restaurants include tanks that separate grease from the sewage stream. The grease is collected, hauled, treated, and land applied similarly to septage. There are 92 land application sites receiving septage from 108 treatment facilities. The land application of septage accounts for approximately 40 percent of disposal in Florida. The rest is either managed at a wastewater treatment facility or a municipal landfill.¹¹

In 2010, the Legislature passed SB 550, which created a five-year OSTDS inspection program to be fully implemented by the DOH by January 2016, and banned the land application of septage

⁴ DOH, Onsite Sewage Programs, *Onsite Sewage*, <http://www.floridahealth.gov/healthy-environments/onsite-sewage/index.html> (last visited Mar. 24, 2014). See also s. 381.006, F.S., and Rule 64E-6, F.A.C.

⁵ DEP, *Septic Systems*, <http://www.dep.state.fl.us/water/wastewater/dom/septic.htm> (last visited Mar. 23, 2014).

⁶ DOH, Bureau of Onsite Sewage Programs, *Report on Alternative Methods for the Treatment and Disposal of Septage*, 1 (Feb. 1, 2011), available at http://pk.b5z.net/i/u/6019781/f/FINAL_REPORT_ON_ALTERNATIVE_METHODS_FOR_THE_TREATMENT_AND_DISPOSAL_OF_SEPTAGE_03282011_2_.pdf (last visited Mar. 23, 2014).

⁷ Section 381.0065(2)(n), F.S.

⁸ *Supra* note 6, at 1.

⁹ Rule 64E-6.010(7)(a), F.A.C.

¹⁰ See Rule 64E-6.010, F.A.C.

¹¹ *Supra* note 6, at 1.

by January 1, 2016.¹² The law required the DOH to adopt rules and begin initial inspections of OSTDSs by January 1, 2011.¹³

During the Special Session in November 2010, the Legislature acted to extend the implementation date of the inspection program to July 1, 2011, so it could take up the issue during the 2011 Regular Session.¹⁴ Several bills were introduced in 2011 to address the inspection program and repeal the ban on land application of septage. Although none passed, provisions were included in the implementing act for the 2011-2012 General Appropriations Act that prohibited the DOH from expending funds to move forward with an inspection program until it submits a plan for approval by the Legislative Budget Committee.¹⁵

In 2012, the statewide inspection program and the DOH's rulemaking authority were repealed. A county or municipality with a first magnitude was required to adopt a local ordinance for an OSTDS evaluation and assessment program, unless the county or municipality opted out. All other counties were given the option to opt in.¹⁶ All counties required to opt out of the inspection program have done so, and no county or municipality has opted in.

Department of Health Requirements

The DOH regulates the land application of septage pursuant to Rule 64E-6.010 of the Florida Administrative Code, which requires land application of septage be applied at least:

- 3000 feet from a Class I water body or Outstanding Florida Waters;
- 300 feet from any surface water bodies, except canals or bodies of water that are used for irrigation;
- 500 feet from any public water supply wells;
- 300 feet from any private drinking water supply well;
- 300 feet from a habitable building; and
- 75 feet from property lines and drainage ditches.

The following provisions are required for the land application site and timing of land application:

- A minimum of 24 inches of unsaturated soil above the ground water table at the time of septage or sludge application;
- If the wet season high ground water table is within 2 feet of the surface or is not determined in the Agricultural Use Plan, then the water table at the time of application must be determined using a monitoring well;
- Land application is prohibited during rain events that are significant enough to cause runoff, or when the soil is saturated;
- The application area must have sufficient buffer areas or stormwater management structures to retain the run-off from a ten-year one-hour storm;
- The topographic grade shall not exceed 8 percent;
- A layer of permeable soil at least 2 feet thick must cover the surface of the land application area; and

¹² Chapter 2010-205, s. 35, Laws of Fla.

¹³ Section 381.0065(5), F.S.

¹⁴ Chapter 2010-283, Laws of Fla.

¹⁵ Chapter 2011-247, s. 13, Laws of Fla.

¹⁶ Chapter 2012-184, Laws of Fla.

- The land application area and an area 200 feet wide adjacent to the site must not contain:
 - Subsurface fractures,
 - Solution cavities;
 - Sink holes;
 - Excavation core holes;
 - Abandoned holes; or
 - Other natural or manmade conduits.

Sufficient storage capacity for the septage or sludge is required during periods of equipment failure. All facilities must be designed, located, and operated to prevent nuisance conditions and runoff.

Groundwater quality criteria for groundwater and surface water cannot be violated as a result of land application of septage or sludge and the DOH may require water quality testing. The site owner must suspend activities if water quality is violated.

Application rates of septage and food establishment sludge are limited by nitrogen content of the waste and not phosphorus content, unless otherwise provided for. For the application rate limited by nitrogen:

- The maximum annual surface application rate is 500 pounds per acre in a 12-month period (equates to six dry tons or 40,000 gallons of typical septage per acre per year);
- Septage must be applied as evenly as possible to ensure maximum uptake of nitrogen;
- The annual application rate of nitrogen (AAR) can be calculated using the following formula: $AAR = N \div 0.0026$, where N is the amount of nitrogen in pounds per acre per 365 day period needed by the crop or vegetation.

Where the application rate is limited by phosphorus:

- The maximum annual surface application rate is 40 pounds per acre in a 12-month period (equates to two dry tons or 12,000 gallons of typical septage per year);
- The formulas to calculate AAR of phosphorus are:
 - $AAR = P \div 0.0076$ (if crop demand is calculated for P_2O_5); and
 - $AAR = P \div 0.0033$ (if crop demand is calculated P).

The rule requires permanent records be kept of the application areas and rates. The records are to be maintained by the site owner, lessee, or the land applicator for five years and must be available for inspection by the DOH. The annual summary of total septage or sludge must be included in the annual update to the Agricultural Use Plan. The records must include the:

- Location of the septage treatment facility where each load of treated septage is obtained;
- Date and time the treated septage was obtained from the treatment facility;
- Dates of septage or sludge land application;
- Weather conditions when applied;
- Location of septage or sludge application site;
- Amounts of septage or sludge applied;
- Specific area of the site where septage or sludge was applied;
- pH of stabilized septage or sludge;
- Soil groundwater table when septage was applied; and

- Vegetational status of application area.¹⁷

Alternatives to Land Application of Septage

There are two current practices in Florida that serve as alternatives to land application of septage. Neither is available in every part of the state. Typically, septage that is not land applied is either treated at wastewater treatment facilities or is dewatered and then disposed of in landfills. There are other alternatives that process small quantities of septage, but they are not yet commercially available in Florida.¹⁸

Wastewater Treatment Facilities

There are approximately 2,100 domestic wastewater treatment facilities in Florida.¹⁹ Only 60 have permitted capacities greater than 10 million gallons per day, resulting in less than 30 percent of counties that have a facility this large. The DOH has determined the capacity of the facility is directly related to its ability to accept septage.²⁰

Disposing septage at a wastewater treatment facility centralizes the waste treatment process, however, the high strength septage from septic tanks leads to increased operational costs. High strength septage is produced from properly functioning OSTDSs, which separate the liquids from the solids, concentrating the solids at the bottom of the tank. The result is high strength septage with a higher concentration of solid to liquid than wastewater treatment plants typically receive.²¹

There are two current methods facilities use to assimilate septage into the waste stream. The less desirable of the two is allowing septage haulers to discharge the entire load in one “slug” into the main lift station or headworks. This method has the potential to upset the process because of the high concentration of solids entering the system quickly. A more desirable method is to discharge the slug load into a holding tank and then slowly release the septage into any of various treatment points in the system as capacity allows.²² The average rate for this disposal method is 6 to 12 cents per gallon.²³

Disposal in Landfills

A second option for septage disposal is at Class I landfills. There are 48 active Class 1 landfills in Florida. This method also has benefits and drawbacks. The main benefits are:

- It increases microbial activity within the landfill resulting in faster decomposition and waste stabilization;
- It requires less acreage than land application sites; and
- Purchasing additional land is not required for disposal at existing Class I landfills.

¹⁷ Rule 64E—6.010, F.A.C.

¹⁸ *Supra* note 6, at 2-4.

¹⁹ DEP, *General Facts and Statistics about Wastewater in Florida*, <http://www.dep.state.fl.us/WATER/wastewater/facts.htm> (last visited Mar 24, 2014).

²⁰ *Supra* note 6, at 2-3.

²¹ *Supra* note 6, at 2-3.

²² *Supra* note 6, at 2-3.

²³ *Supra* note 6, at 3.

However, disposal of dewatered septage can lead to some instability, as well as slick working conditions for compaction equipment. Septage also needs to be covered quickly to avoid health hazards for workers from pathogen exposure and to avoid attracting birds, insects, and rodents.²⁴

Landfills follow state rules based on an EPA Paint Filter test when accepting septage. Typically, septage is two to three percent solids and must be dewatered to achieve 12 percent solids before it passes the paint filter test. The dewatering process releases effluent that must be disposed of properly. Alternatively, some landfill operators add dry solids to septage to meet the paint filter test requirements. In either scenario, septage must be processed before it can be landfilled. The average cost of landfilling septage is 10 cents per gallon.²⁵

III. Effect of Proposed Changes:

The bill amends s. 381.0065, F.S., to extend the effective date of the ban on the land application of septage from January 1, 2016, to January 1, 2020. It also provides an effective date of July 1, 2014.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

None.

C. Government Sector Impact:

None.

²⁴ *Supra* note 6, at 3.

²⁵ *Supra* note 6, at 3-4.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill substantially amends section 381.0065 of the Florida Statutes.

IX. Additional Information:**A. Committee Substitute – Statement of Changes:**

(Summarizing differences between the Committee Substitute and the prior version of the bill.)

None.

B. Amendments:

None.