HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: HB 749 Sewage Treatment and Disposal Systems
SPONSOR(S): Bowen
TIED BILLS: **IDEN./SIM. BILLS:** SB 1874

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR
1) Environmental Regulation Committee		Kliner	Kliner
2) Local Government Council			
3) Agriculture & Environment Appropriations Committee			
4) State Resources Council			
5)			

SUMMARY ANALYSIS

The bill requires counties, municipalities and sewer districts that propose to expand or build new central sewerage facilities to prepare and make public a report comparing the cost to each homeowner of construction and operation of the proposed sewerage facilities versus the cost to each homeowner of construction and operation of "advanced secondary" onsite systems or "decentralized" onsite systems.

In addition, the bill allows local governments to meet growth management concurrency requirements for “sanitary sewers” for new development with any Department of Health-approved onsite systems.

Finally, the bill exempts an owner of an onsite system that is either (1) an advanced secondary system, (2) a decentralized system, or (3) a department-permitted system that is not failing, from mandatory connection to a publicly-owned or investor-owned sewerage system.

Fiscal: Indeterminate, but according to local government representatives (counties, municipalities, special taxing districts), the impact could be significant. The opt-out option for homeowners could jeopardize on-going bond commitments for sewerage projects and affect the local governments’ ability to secure future lending. In addition, because conditions for onsite systems vary tremendously, a local government will be required to conduct a detailed inspection of every single lot within the proposed service area and analyze the various types of onsite systems that could be operated on a given lot.

FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. HOUSE PRINCIPLES ANALYSIS:

Limited government: The bill is likely to increase workload of county, municipality, and sewer districts due to the required feasibility study.

Lower taxes: Indeterminate as to scope, but the provisions herein may affect ongoing bond commitments by local governments for the construction or expansion of sewerage systems if homeowners with onsite systems are permitted to opt out of an available central system.

Personal responsibility: The bill permits homeowners with onsite sewage systems to opt out of connecting to an available central system.

B. EFFECT OF PROPOSED CHANGES:

Present Situation

Background – The Federal Clean Water Act and Wastewater Discharge

The federal Water Pollution Control Act of 1972, commonly referred to as the Clean Water Act (CWA)[1], established the basic framework for pollution control in the nation's water bodies. Its primary goal was to have the nation's water bodies clean and useful. By setting national standards and regulations for the discharge of pollution, the CWA was intended to restore and protect the health of the nation's water bodies.

The CWA established the foundation for wastewater discharge control in the United States. According to the Environmental Protection Agency, (EPA) the CWA's primary objective is to "restore and maintain the chemical, physical and biological integrity of the nation's waters."[2] The CWA established a control program for ensuring that communities have clean water by regulating the release of contaminants into our country's waterways. Permits that limit the amount of pollutants discharged are required of all municipal and industrial wastewater dischargers under the National Pollutant Discharge Elimination System (NPDES) permit program. In addition, a construction grants program was set up to assist publicly owned wastewater treatment works build the improvements required to meet these new limits.

According to the EPA, over 75 percent of the nation's population is served by centralized wastewater collection and treatment systems. The remaining population uses septic or other onsite systems. Approximately 16,000 municipal wastewater treatment facilities are in operation nationwide. The CWA requires that municipal wastewater treatment plant discharges meet a minimum of 'secondary treatment'. Over 30 percent of the wastewater treatment facilities today produce cleaner discharges by providing even greater levels of treatment than secondary.

State Regulation for Sewage Systems

Statutory regulation of infrastructure relating to Florida counties' water and sewerage systems is found in Chapter 153, F.S., which authorizes local governments to:

- Construct water supply systems and sewage disposal systems.
- Operate, manage, control, and make improvements to the systems.
- Issue bonds to pay for the costs associated with the construction of the systems, and
- Levy rates and fees to pay for the management of the systems.

[1] Public Law 92-500

[2] http://www.epa.gov/owm/primer.pdf

Authorization to municipalities to provide similar services is found in Chapter 180, F.S. The construction and expansion of central sewerage systems are typically financed through bonds that are issued based on a guarantee of a given capacity over time. Knowing how many citizens will be hooking into a central system allows local governments to predict revenue which, in turn, assists local governments in securing funding for projects from lending institutions.

Part II of Chapter 153, F.S., provides for the creation of special taxing districts, county water and sewer districts, in order to reach and provide services to unincorporated areas in need of sewer and water services.

Florida's Department of Health regulates the public health of public water systems, and onsite sewage treatment systems in Chapter 381, F.S. Section 381.0065, F.S., provides for onsite sewage treatment permitting for the construction, installation, modification, abandonment, or repair of onsite sewage treatment and disposal systems in areas where publicly-owned or investor-owned sewerage systems are not available. When central systems are made available, local governments have the authority to require connection of onsite systems to central sewerage systems within 365 days of the central system's availability.[3]

To ensure that certain types of public facilities and services (e.g., sewer, water, and roads) needed to serve residents are constructed and made available contemporaneously with the impact of new development, lawmakers directed local governments to incorporate the concept of concurrency in the 1980s.[4]

Growth and Concurrency Obligations

A centerpiece of Florida's 1985 growth management legislation was concurrency.[5] At its core, concurrency is a requirement that development is not to proceed unless infrastructure capacity and specific urban services are in place to service the new development. Concurrency was intended to help address major infrastructure problems facing the state, especially increasing road congestion. As the state added approximately 300,000 residents each year during the 1970s and into the 1980s, a trend that has continued almost unabated for the last forty years, local and state road infrastructure became increasingly plagued by traffic congestion. In addition, other problems were apparent as well, including potable water availability, the need to treat wastewater to meet higher federal standards, and increasing problems relating to inadequate stormwater management.[6] Section 163.3180, F.S., mandates that sanitary sewer, solid waste, drainage, potable water, parks and recreation, schools and transportation facilities, including mass transit, are the only public facilities and services subject to the concurrency requirement on a statewide basis.[7]

Central Wastewater Collection and Treatment[8]

The most common form of pollution control in the United States consists of a system of sewers and wastewater treatment plants. The sewers collect municipal wastewater from homes, businesses, and industries and deliver it to facilities for treatment before it is discharged to water bodies or land, or reused. Conventional wastewater collection systems transport sewage from homes or other sources by gravity flow through buried piping systems to a central treatment facility. These systems are usually reliable and consume no power. However, the slope requirements to maintain adequate flow by gravity may require deep excavations in hilly or flat terrain, as well as the addition of sewage pump stations,

[3] Section 381.00655, F.S
[4] Back to Basics on School Concurrency, David M. Powell, © 1999 Florida State University Law Review
[5] Florida Growth Management Act (Florida Statutes Chapter 163, Part II, 1985)
[6] A Review of Local Government Concurrency Practices in Florida, Dr. Timothy S. Chapin, Department of Urban and Regional Planning, Florida State University, Working Paper prepared for the DeVoe L. Moore Center, August, 2005
[7] Chapter 9J-5.0055, Florida Administrative Code provides more specific guidance to local governments as the state concurrency mandate is translated into local policies and procedures.
[8] EPA primer on municipal systems at http://www.epa.gov/owm/primer.pdf

which can significantly increase the cost of conventional collection systems. Manholes and other sewer appurtenances also add substantial costs to conventional collection systems.

Cities began to install wastewater collection systems in the late nineteenth century because of an increasing awareness of waterborne disease and the popularity of indoor plumbing and flush toilets. In the year 2000 approximately 208 million people in the U.S. were served by centralized collection.

Central wastewater treatment facilities utilize multiple treatment processes in order to address the multifaceted difficulties associated with certain waste types, including:

- The effects of biochemical oxygen demand, or BOD
- Removal of pathogens
- Processing of nutrient matter
- Removal and treatment of detergents, household cleaning aids, heavy metals, pharmaceuticals, synthetic organic pesticides and herbicides, industrial chemicals, and the wastes from their manufacture.

Preliminary Treatment

Preliminary treatment typically involves use of a screen to remove large floating objects, such as rags, cans, bottles and sticks that may clog pumps, small pipes, and down stream processes. The screens vary from coarse to fine and are constructed with parallel steel or iron bars with openings of about half an inch, while others may be made from mesh screens with much smaller openings. Some plants use devices known as comminutors or barminutors which combine the functions of a screen and a grinder. These devices catch and then cut or shred the heavy solid and floating material.

Secondary Treatment

After the wastewater has been through Primary Treatment processes, it flows into the next stage of treatment called secondary. Secondary treatment processes can remove up to 90 percent of the organic matter in wastewater by using biological treatment processes. The “attached growth” process includes using trickling filters units, biotowers, and rotating biological contactors. Attached growth processes are effective at removing biodegradable organic material from the wastewater. In “suspended growth” processes, the microbial growth is suspended in an aerated water mixture where the air is pumped in, or the water is agitated sufficiently to allow oxygen transfer. The use of lagoons and transfers to land are also utilized if appropriate to the system process.

On-site Systems

Generally, septic systems are used to treat and dispose of relatively small volumes of wastewater, usually from houses and businesses that are located relatively close together. Septic systems are also called onsite wastewater treatment systems, decentralized wastewater treatment systems, on-lot systems, individual sewage disposal systems, cluster systems, package plants, and private sewage systems. Systems are considered “decentralized” because they do not involve central wastewater collection and treatment.

According to the EPA, the typical septic treatment system includes a septic tank, which digests organic matter and separates matter that floats (e.g., oils and grease) and settling solids from the wastewater. Soil-based systems discharge the liquid (effluent) from the septic tank into a series of perforated pipes buried in a leach field, leaching chambers, or other special units designed to slowly release the effluent into the soil or surface water, sometimes referred to as a drainage field.

Alternative systems use pumps or gravity to help septic tank effluent trickle through sand, organic matter (e.g., peat, sawdust), constructed wetlands, or other media to remove or neutralize pollutants like disease-causing pathogens, nitrogen, phosphorus, and other contaminants. Some alternative systems are designed to evaporate wastewater or disinfect it before it is discharged to the soil or

surface waters.[9] The EPA developed guidelines to assist communities in establishing comprehensive management programs for onsite/decentralized wastewater systems to improve water quality and protect public health. The voluntary guidelines address the sensitivity of the environment in the community and the complexity of the system used. The five model management programs are:

- System inventory and awareness of maintenance needs.
- Management through maintenance contracts.
- Management through operating permits.
- Utility operation and maintenance.
- Utility ownership and management.[10]

According to the U.S. Census Bureau, approximately 26 million homes (one-fourth of all homes) in America are served by decentralized wastewater treatment systems. The Census Bureau reports that the distribution and density of septic systems vary widely by region and state, from a high of about 55 percent in Vermont to a low of around 10 percent in California. The New England states have the highest proportion of homes served by septic systems: New Hampshire and Maine both report that about one-half of all homes are served by individual systems. More than one-third of the homes in the southeastern states depend on these systems, including approximately 48 percent in North Carolina and about 40 percent in both Kentucky and South Carolina. More than 60 million people in the nation are served by septic systems. About one-third of all new development is served by septic or other decentralized treatment systems.[11] According to the Florida Department of Health, 31 percent of the Florida population is served by an estimated 2.3 million onsite sewage treatment and disposal systems (OSTDS). These systems discharge over 426 million gallons of treated effluent per day into the subsurface soil environment.[12]

In Florida, the effect of waste disposal, whether through an on-site system or a centralized system, will implicate laws relating to the Total Maximum Daily Load Program (TMDL), which describes the amount of each pollutant a water body can receive without violating state water quality standards.

TMDL Program

Section 305(b) of the CWA requires states to submit to Congress a biennial report on the water quality of their lakes, streams, and rivers. A partial list of water bodies that qualify as "impaired" (i.e., do not meet specific pollutant limits for their designated uses) must be submitted to the U.S. Environmental Protection Agency (EPA) under section 303(d) of the CWA. States are required to develop total maximum daily loads (TMDL) for each pollutant that exceeds the legal limits for that water body. Section 303(d) and the development of TMDLs were generally ignored by the states until numerous lawsuits were filed by environmental groups.[13]

Currently, DEP develops and implements TMDLs through a watershed-based management approach that addresses the state's 52 major hydrologic basins into five groups. Each basin group is subject to a five phase TMDL cycle on a rotating basis. Phase 1 is a preliminary evaluation of the quality of a water body, phase two is monitoring and assessing to verify water quality impairments, phase 3 is the development and adoption of TMDLs for waters verified as impaired, phase 4 is the development of basin management action plans to achieve the TMDL, and phase 5 is the implementation of the plan and monitoring of results.

In the 2005 Regular Session, the TMDL program was amended to authorize DEP to develop basin management action plans (BMAP) as part of the development and implementation of a TMDL for a water body. The law requires plans to integrate appropriate management strategies available to the

[9] http://cfpub2.epa.gov/owm/septic/home.cfm - Frequently Asked Questions
[10] http://www.epa.gov/owm/septic/pubs/septic_guidelines_factsheet.pdf
[11] http://cfpub2.epa.gov/owm/septic/faqs.cfm?program_id=70#358
[12] http://www.doh.state.fl.us/environment/ostds/intro.htm
[13] Florida implements the TMDL program in s. 403.067, Florida Statutes.

state through existing water quality protection programs to achieve the TMDL, restore designated uses of the water body, provide for phased implementation of strategies, establish a schedule for implementing strategies, establish a basis for evaluating the plan's effectiveness, identify feasible funding strategies, and equitably allocate pollutant reductions to basins as a whole or to each point or non-point source. The bill provides that plans may provide pollutant load reduction credits to pollution dischargers that have implemented strategies to reduce pollutant loads.[14]

The law creates incentives to participate in the BMAP process and establishes a more direct linkage between the actions specified in the BMAP and activities regulated by DEP. Consistent with the existing provisions in s. 403.067, F. S., non-point sources are still managed through a non-regulatory, incentive-based program. However, in order to promote the same predictable pollution reduction performance among non-regulated entities as exists for permitted entities, the law provides the following:

- Non-regulated activities are not eligible for the incentives associated with the presumption of compliance with state water quality standards and the waiver of liability for pollution if adopted best management practices are not properly and timely implemented.
- Non-regulated activities that choose not to implement adopted best management practices must demonstrate compliance with applicable water quality standards.
- DEP is authorized to take enforcement actions where a party fails to properly implement best management practices or provide data demonstrating compliance with water quality standards.

Effect of Proposed Changes

The bill requires counties, municipalities and sewer districts that propose to expand or build new central sewerage facilities to prepare and make public a report comparing the cost to each homeowner of construction and operation of the proposed sewerage facilities versus the cost to each homeowner of construction and operation of "advanced secondary" onsite systems or "decentralized" onsite systems.

In addition, the bill allows local governments to meet growth management concurrency requirements for "sanitary sewers" for new development with any Department of Health-approved onsite systems.

Finally, the bill exempts an owner of an onsite system that is either (1) an advanced secondary system, (2) a decentralized system, or (3) a department-permitted system that is not failing, from mandatory connection to a publicly-owned or investor-owned sewerage system.

According to the DEP, this pre-emption of local authority combined with the lack of restrictions on when and where these onsite systems can be located does not take into account environmentally sensitive areas, including areas with public health implications, where the cumulative impacts of onsite systems, even advanced technology systems, present a threat: ground water recharge zones, drinking water sources and wellhead protection areas, springs and springs recharge zones, shellfish harvesting areas, swimming beaches, Aquatic Preserves, Outstanding Florida Waters, impaired waters pursuant to s. 403.067, F.S.

C. SECTION DIRECTORY:

Section 1. Adds subsection (5) to s. 153.54, F.S., to require each local government that proposes to expand or build new central sewerage facilities to prepare and make public a report comparing the cost to each homeowner of construction and operation of the proposed sewerage facilities versus the cost to each homeowner of construction and operation of "advanced secondary" onsite systems or "decentralized" onsite systems.

Section 2. Adds paragraph (c) to subsection (2) of section 153.73, F.S., to require each county water and sewer district that proposes to expand or build new central sewerage facilities to prepare and make public a report comparing the cost to each homeowner of construction and operation of the proposed

[14] House of Representatives State Resources Council Staff Analysis for CS/HB 1839, 2005 Regular Session

sewerage facilities versus the cost to each homeowner of construction and operation of "advanced secondary" onsite systems or "decentralized" onsite systems.

Section 3. Amends paragraph (a) of subsection (2) of section 163.3180, F.S., to allow local governments to meet growth management concurrency requirements for “sanitary sewers” for new development with any Department of Health-approved onsite systems.

Section 4. Adds subsection (3) to section 180.03, F.S., to require each municipality that proposes to expand or build new central sewerage facilities to prepare a report comparing the cost to each homeowner of construction and operation of the proposed sewerage facilities versus the cost to each homeowner of construction and operation of "advanced secondary" onsite systems or "decentralized" onsite systems, prior to adopting a resolution or ordinance as required in Subsection (1) of this section. The report shall be made public by including the study in the resolution or ordinance.

Section 5. Adds paragraphs (c), (d), and (e), to subsection (2) of section 381.00655, F.S., to exempt an owner of an onsite system that is either (1) an advanced secondary system, (2) a decentralized system, or (3) a department-permitted system that is not failing, from mandatory connection to a publicly-owned or investor-owned sewerage system.

Section 6. provides an effective date of July 1, 2006.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues: None.

2. Expenditures: None.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

   Indeterminate as to scope, but the bill may affect ongoing bond commitments by local governments for the construction or expansion of sewerage systems if homeowners with onsite systems are permitted to opt out of a central system, as well as affect local governments’ ability to secure funding for future sewerage projects.

2. Expenditures:

   Indeterminate as to scope. The bill is likely to increase workload and costs of county, municipality, and sewer districts due to the required feasibility study.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

D. FISCAL COMMENTS:

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

The bill requires counties and cities to conduct a feasibility study. Such studies will require the expenditure of funds. As such, the bill may constitutive a type A mandate.

2. Other:

Similar feasibility studies are already required under statute, and possibly this requirement could be rolled into local governments' current responsibilities.

B. RULE-MAKING AUTHORITY:

None.

C. DRAFTING ISSUES OR OTHER COMMENTS:

Comments provided by local government representatives and state agencies were extensive, and included the need for clarification of terms, attention to environmental and public health safeguards, fiscal impacts associated with the on-going bond commitments for infrastructure, feasibility studies and the opt-out provision, and growth management issues. The stakeholders have been meeting and are expected to present an amendment to ameliorate as many concerns as are possible.

IV. AMENDMENTS/COMMITTEE SUBSTITUTE & COMBINED BILL CHANGES

N/A