

HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: HB 755

Water Conservation

SPONSOR(S): Reed

TIED BILLS:

IDEN./SIM. BILLS: CS/SB 494 (c)

	REFERENCE	ACTION	ANALYST	STAFF DIRECTOR
1)	Agriculture & Natural Resources Policy Committee		Kliner	Reese
2)	General Government Policy Council			
3)	Natural Resources Appropriations Committee			
4)	Full Appropriations Council on General Government & Health Care			
5)				

SUMMARY ANALYSIS

The bill modifies water conservation requirements for lawn automatic sprinkler systems, expands the applicability of the requirements and provides penalties for violations of the requirements. The proposed requirements will apply to any person who operates an automatic sprinkler system, regardless of when it was installed. Automatic sprinkler systems must utilize technology that will inhibit or interrupt the automatic irrigation system when adequate moisture is present. Licensed contractors must ensure that such devices or switches are installed and working properly on every automatic irrigation system upon which they work. If such devices or switches are not installed or are not operating properly, the licensed contractor must repair or install new devices or switches and confirm they are operating properly before completing any other service on the system.

To administer the requirements of 373.62, F.S., the Department of Environmental Protection (DEP) is authorized to promulgate rules to provide:

- Penalties to property owners who fail to install the proper device: \$50 for a first offense, \$100 for a second offense, and \$250 for a third or subsequent offense;
- Requirements for contractors to report noncompliant systems to the proper authority;
- Authority to delegate enforcement of this section to the water management districts or a local government; and,
- A model ordinance to be used by local governments.

Funds generated by penalties shall be retained by the receiving entity to further water-conservation activities. Penalties remitted to the DEP shall be deposited into the Water Protection and Sustainability Trust Fund.

The effective date of the bill is July 1, 2009.

The fiscal impact on the state is anticipated to be insignificant. Local governments will only be affected if they accept delegated enforcement authority. The rulemaking process typically costs the DEP approximately \$15,000, not including legal challenges, if any.

This document does not reflect the intent or official position of the bill sponsor or House of Representatives.

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DATE: 3/5/2009

## HOUSE PRINCIPLES

Members are encouraged to evaluate proposed legislation in light of the following guiding principles of the House of Representatives

- Balance the state budget.
- Create a legal and regulatory environment that fosters economic growth and job creation.
- Lower the tax burden on families and businesses.
- Reverse or restrain the growth of government.
- Promote public safety.
- Promote educational accountability, excellence, and choice.
- Foster respect for the family and for innocent human life.
- Protect Florida's natural beauty.

## FULL ANALYSIS

### I. SUBSTANTIVE ANALYSIS

#### A. EFFECT OF PROPOSED CHANGES:

##### Current Situation

According to a 2008 United States Geological Survey report, Florida withdrew 2,541 Mgal/d (million gallons per day) of water for public use, with 2,201 Mgal/d supplied from ground water sources and 340 Mgal/d from surface water sources.<sup>1</sup> According to the DEP, the public supply from ground water sources represents 52 percent of all daily water withdrawn from ground water sources, while only 13 percent of surface water withdrawn on a daily basis went to public supply. Of the publically supplied water resources, approximately 50 percent is used for landscape irrigation.<sup>2</sup>

According to a December, 2008, publication by the University of Florida IFAS Extension (IFAS) entitled "Frequently Asked Questions about Landscape Irrigation for Florida-Friendly Landscaping Ordinances", landscape irrigation should be approached scientifically. Irrigation frequency and amount should be defined by the environmental demand (i.e., evapotranspiration), soil water-holding capacity and plant root zone depth. Irrigation should be applied on plant response to environmental demand, and such that the soil water reservoir is filled and gravity drainage and runoff do not occur.

This approach is detailed in an IFAS Electronic Data Information Source publication entitled, "Basic Irrigation Scheduling in Florida," (Smajstrla et al., 2006), which provides summary information from internationally recognized publications such as "Crop evapotranspiration: Guidelines for computing crop water requirements" (Allen et al., 1998). This scientifically accepted approach aims to result in "well-watered" conditions where no stress is allowed. In addition, an irrigation system must be well-designed and in good repair to apply irrigation efficiently to plants (i.e., without losses due to runoff and deep percolation).

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<sup>1</sup> U.S. Geological Survey. Richard L. Marella. "Fact Sheet 2008-3080: Water Use in Florida, 2005 and Trends 1950–2005." Retrieved 13 Feb. 2009 < <http://pubs.usgs.gov/fs/2008/3080/>.

<sup>2</sup> Florida Department of Environmental Protection. "Learning from the Drought: Annual Status Report on Regional Water Supply Planning." Retrieved 20 Feb. 2009, <http://www.dep.state.fl.us/water/waterpolicy/docs/learning-from-drought-final-report.pdf>.

In agriculture, for instance, by implementing Best Management Practices, soil moisture is measured to help farmers manage their irrigation and fertilizer systems more efficiently. Not only are farmers able to generally use less water to grow a crop, they are able to increase yields and the quality of the crop by better management of soil moisture during critical plant growth stages.

Besides agriculture, there are many other disciplines using soil moisture sensors. Golf courses are now using sensors to increase the efficiencies of their irrigation systems to prevent over watering and leaching of fertilizers and other chemicals offsite.

In urban areas, contractors are using soil moisture sensors in landscapes and residential lawn systems to interface with an irrigation controller. Connecting a soil moisture sensor to a simple irrigation clock will convert it into a "smart" irrigation controller that prevents an irrigation cycle when the soil is wet.

Rain sensors for irrigation systems are available in both wireless and hard-wired versions, most employing hygroscopic disks that swell in the presence of rain and shrink back down again as they dry out - an electrical switch is, in turn, depressed or released by the hygroscopic disk stack. However, some electrical type sensors are also marketed that use tipping bucket or conductance type probes to measure rainfall. Wireless and wired versions both use similar mechanisms to temporarily suspend watering by the irrigation controller – specifically, they are connected to the irrigation controller's sensor terminals, or are installed in series with the solenoid valve common circuit such that they prevent the opening of any valves when rain has been sensed.<sup>3</sup>

Soil moisture sensors measure the water content in soil. A soil moisture probe is made up of multiple soil moisture sensors. One common type of soil moisture sensor in commercial use is the frequency domain sensor such as the capacitance sensor.

Current law requires all automatic lawn sprinkler systems installed after May 1, 1991, to include rain sensing devices or switches, and specifies that any person who purchases and installs an automatic sprinkler system must install, maintain and operate a rain sensor device or switch that will override the irrigation cycle of the system when adequate rainfall has occurred.<sup>4</sup> There are no statutory provisions for alternative technologies of moisture sensing devices or switches. Additionally, there is no requirement for licensed contractors to check or ensure that a rain sensor is installed or is operating properly before they commence work on lawn sprinkler systems. Lastly, there are currently no provisions to assess penalties for violations of this section, and no agency or local government has authority to determine if violations have occurred and to assess penalties for such violations.

### Effect of Proposed Changes

The bill modifies water conservation requirements for lawn automatic sprinkler systems, expands the applicability of the requirements and provides penalties for violations of the requirements. The proposed requirements will apply to any person who operates an automatic sprinkler system, regardless of when it was installed. Automatic sprinkler systems must utilize technology that will inhibit or interrupt the automatic irrigation system when adequate moisture is present. Licensed contractors must ensure that such devices or switches are installed and working properly on every automatic irrigation system upon which they work. If such devices or switches are not installed or are not operating properly, the licensed contractor must repair or install new devices or switches and confirm they are operating properly before completing any other service on the system.

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<sup>3</sup> UF/IFAS research has shown that expanding disk rain sensors can be effective at conserving water. Potential savings of 17 to 34 percent were shown at 1/2-inch and 1/4-inch thresholds under normal rainfall frequencies @ <http://edis.ifas.ufl.edu/WQ142>.

<sup>4</sup> Section 373.62, FS.

To administer the requirements of 373.62, F.S., the Department of Environmental Protection (DEP) is authorized to promulgate rules to provide:

- Penalties to property owners who fail to install the proper device: \$50 for a first offense, \$100 for a second offense, and \$250 for a third or subsequent offense;
- Requirements for contractors to report noncompliant systems to the proper authority;
- Authority to delegate enforcement of this section to the water management districts or a local government; and,
- A model ordinance to be used by local governments.

Funds generated by penalties shall be retained by the receiving entity to further water-conservation activities. Penalties remitted to the DEP shall be deposited into the Water Protection and Sustainability Trust Fund.

**B. SECTION DIRECTORY:**

**Section 1** amends s. 373.62, F.S., requiring anyone who operates an automatic sprinkler system to install, maintain, and operate a rain or soil-moisture sensor device. A licensed irrigation contractor is required to test each system upon which they perform work to determine if the system has the required sensor system and that it is operating properly. If there is no system or if the system is not operating properly, the contractor must repair, replace, or install a system. The DEP is authorized to promulgate rules to: establish penalties for violations; provide guidance for contractors to report systems that are not in compliance; provide authority to delegate enforcement to water management districts or local governments; and a model ordinance to be used by local governments. Finally, this section provides that funds generated by penalties shall be retained by the receiving entity to further water-conservation activities. Funds from penalties remitted to the DEP shall be deposited into the Water Protection and Sustainability Trust Fund.

**Section 2** provides an effective date of July 1, 2009.

## **II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT**

**A. FISCAL IMPACT ON STATE GOVERNMENT:**

1. Revenues: See, Part D. FISCAL COMMENTS
2. Expenditures: See, Part D. FISCAL COMMENTS

**B. FISCAL IMPACT ON LOCAL GOVERNMENTS:**

1. Revenues: See, Part D. FISCAL COMMENTS
2. Expenditures: See, Part D. FISCAL COMMENTS

**C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:**

As drafted, anyone who operates an automatic sprinkler system regardless of when it was installed will be required to install a rain or moisture sensor system to be in compliance with this act or risk civil penalties. Licensed irrigation contractors are likely to experience an increase in the need for their services.

**D. FISCAL COMMENTS:**

Any funds from penalties remitted to the DEP shall be deposited into the Water Protection and Sustainability Trust Fund. The DEP is required to promulgate rules. The rulemaking process has, in the past, cost the agency approximately \$15,000, not including legal challenges.

**III. COMMENTS**

**A. CONSTITUTIONAL ISSUES:**

**1. Applicability of Municipality/County Mandates Provision:**

This bill does not appear to require counties or municipalities to take an action requiring the expenditure of funds, does not appear to reduce the authority that counties or municipalities have to raise revenue in the aggregate, and does not appear to reduce the percentage of state tax shared with counties or municipalities.

**2. Other:**

None noted.

**B. RULE-MAKING AUTHORITY:**

The DEP is authorized, but not required, to adopt rules. Should the DEP adopt rules, the bill states that the rules shall, at a minimum, provide certain penalties, reporting requirements for contractors, delegation authority, and a model ordinance for local governments.

**C. DRAFTING ISSUES OR OTHER COMMENTS:**

Staff is anticipating a strike-all amendment to reflect input from the DEP and the industry.

**IV. AMENDMENTS/COUNCIL OR COMMITTEE SUBSTITUTE CHANGES**