

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 Innovation, Industry, and Technology

BILL: CS/SB 1656

INTRODUCER: Innovation, Industry, and Technology Committee and Senator Albritton

SUBJECT: Reclaimed Water

DATE: February 3, 2020

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Wiehle	Imhof	IT	Fav/ CS
2.			AEG	
3.			AP	

Please see Section IX. for Additional Information:

COMMITTEE SUBSTITUTE - Substantial Changes

I. Summary:

CS/SB 1656 prohibits domestic wastewater treatment facilities from disposing of effluent, reclaimed water, or reuse water by surface water discharge beginning January 1, 2026, with stated exceptions.

The bill provides for potable water reuse, deeming reclaimed water to be a water source for public water supply systems, declaring potable reuse to be an alternative water supply, declaring potable reuse projects to be eligible for alternative water supply funding, and prohibiting exclusion of use of potable reuse water from regional water supply planning. It requires the Department of Environmental Protection (DEP) to review existing rules governing reclaimed water and potable reuse for necessary modifications and repeals and to adopt new rules. It requires DEP to initiate rulemaking by December 31, 2020, and submit the adopted rules to the President of the Senate and the Speaker of the House of Representatives by December 12, 2021, for approval and incorporation into ch. 403, F.S. The rules may not be published as administrative rules. The bill also sets out legislative intent on how DEP is to perform these functions.

The bill requires DEP and the water management districts to develop and execute a memorandum of agreement providing for the procedural requirements of a coordinated review of all permits associated with the construction and operation of an indirect potable reuse project.

It set out permitting, tax, and funding benefits to be provided to a potable reuse project developed as a qualifying project.

The bill requires that DEP coordinate with one or more technical working groups to adopt rules for the implementation of the potable reuse statute and sets out requirements for these rules.

It requires each county, municipality, and special district to provide specified benefits and incentives to developers for use of graywater technologies.

Finally, the bill states that the Legislature determines and declares that this act fulfills an important state interest.

II. Present Situation:

Report on Expansion of Beneficial Use of Reclaimed Water, Stormwater and Excess Surface Water

The DEP issued a report in December 2015 on the beneficial use of reclaimed water, stormwater, and excess surface water. The report found that Earth's water supply is finite and is continually recycled and reused through the hydrologic cycle. Florida's groundwater is also recycled water, and it is important to recognize that groundwater comes from the land's surface. This surface water percolating down into the ground brings with it all of the inputs found in surface waters – agricultural runoff, urban stormwater and domestic and industrial wastewater inputs. Most reclaimed water land application projects (rapid infiltration basins, sprayfields, etc.) ultimately return water to groundwater, which may be available to down-gradient users.¹ In Florida, groundwater accounts for about 90% of public and domestic water supply. Approximately 20% of Floridians safely consume groundwater without treatment or disinfection.²

While Florida's freshwater resources are finite, the state faces continuing population growth which is projected to result in an additional 4.8 million Floridians through 2030. Population growth will bring increased demands for water and increased volumes of wastewater, which must be managed to prevent pollution. At the same time, many areas of the state are approaching, or have exceeded, the sustainable limits of traditional groundwater supplies.³

Some areas of Florida are designated as "water resource caution areas," areas having current or future critical water supply problems where traditional water sources may not be adequate to meet expected water needs. Within these areas, water conservation, reuse, and other alternative resources will play critical roles in ensuring adequate water supply.⁴ The map below shows the water resource caution areas.⁵

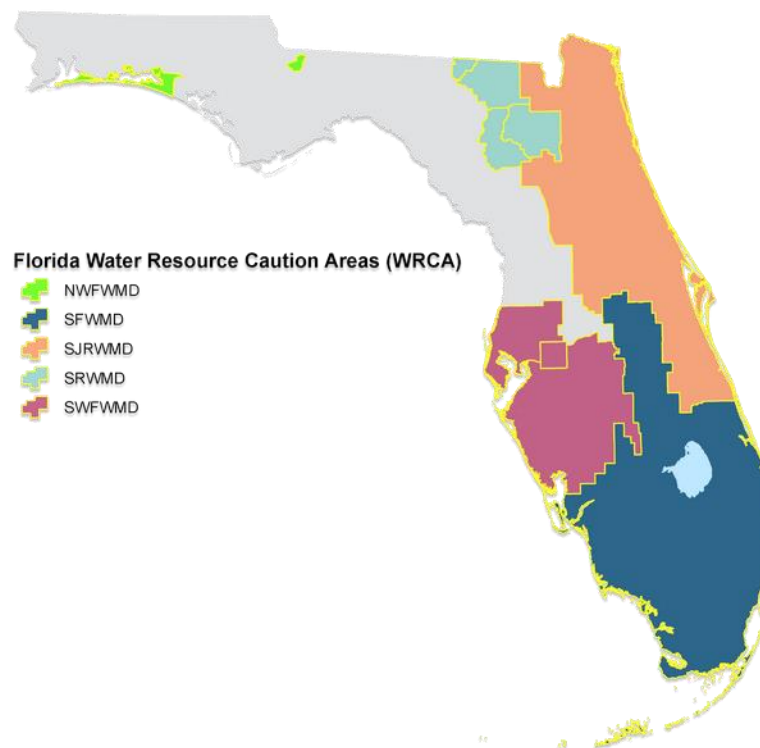
¹ A gradient is a slope or incline. Down-gradient is a position on that slope moving downward. In hydrology, down-gradient refers to water moving downward, or down-gradient, from one location to another. A down-gradient user is a user down the gradient, lower on the slope or incline, along which the water is moving.

² DEP, *Report on Expansion of Beneficial Use of Reclaimed Water, Stormwater and Excess Surface Water*, 14 (December 1, 2015) available at <https://floridadep.gov/sites/default/files/SB536%20Final%20Report.pdf>.

³ *Id.*

⁴ *Id.* at 14-15.

⁵ This map is DEP's In-house graphic map of water resource caution areas, available at <https://floridadep.gov/water/water/media/house-graphic-map-water-resource-caution-areas>.



In Florida, DEP and the WMDs both play a role in the management of water resources. DEP focuses on water quality, and the WMDs on water quantity.⁶ Over the last thirty years, both DEP and the WMDs have been involved in promoting use of reclaimed water.^{7, 8}

DEP's reuse statute is section 403.064, F.S. The statute requires all applicants for permits to construct or operate a domestic wastewater treatment facility that is located within, serves a population within, or discharges within a water resource caution area to prepare a reuse feasibility study as part of their application for the permit. Reuse feasibility studies must include, but are not limited to:

- Evaluation of monetary costs and benefits for several levels and types of reuse;
- Evaluation of water savings if reuse is implemented;
- Evaluation of rates and fees necessary to implement reuse;
- Evaluation of environmental and water resource benefits associated with reuse;
- Evaluation of economic, environmental, and technical constraints; and
- A schedule for implementation of reuse that considers phased implementation.

If the study shows that the reuse is feasible, the applicant must give significant consideration to its implementation.

⁶ DEP, *Report on Expansion of Beneficial Use of Reclaimed Water, Stormwater and Excess Surface Water*, 16 (December 1, 2015) available at <https://floridadep.gov/sites/default/files/SB536%20Final%20Report.pdf>.

⁷ *Id.* at 16.

⁸ "Reclaimed water" is water that has received at least secondary treatment and basic disinfection and is reused after flowing out of a domestic wastewater treatment facility. *Id.* at 11.

A reuse feasibility study conducted under this statute satisfies a WMD requirement to conduct a reuse feasibility study imposed on a local government or utility that has responsibility for wastewater management. The data included in the study and the conclusions of the study must be given significant consideration by the applicant and the appropriate water management district in an analysis of the economic, environmental, and technical feasibility of providing reclaimed water for reuse and must be presumed relevant to the determination of feasibility. A WMD may not require a separate study when a reuse feasibility study has been completed under this statute.

Permits issued by DEP the department for domestic wastewater treatment facilities must be consistent with requirements for reuse included in applicable consumptive use permits issued by the WMD, if such requirements are consistent with department rules governing reuse of reclaimed water. This requirement applies only to domestic wastewater treatment facilities which are located within, or serve a population located within, or discharge within water resource caution areas and are owned, operated, or controlled by a local government or utility which has responsibility for water supply and wastewater management.

After conducting a feasibility study, domestic wastewater treatment facilities that dispose of effluent by surface water discharges or by land application methods must implement reuse to the degree that reuse is feasible, based upon the applicant's reuse feasibility study. This requirement does not apply to surface water discharges or land application systems which are currently categorized as reuse under department rules.

The reuse statute for WMDs is s. 373.250, F.S. In this statute, the Legislature recognizes that the interest of the state to sustain water resources for the future through the use of reclaimed water must be balanced with the need of reuse utilities to operate and manage reclaimed water systems in accordance with a variety and range of circumstances, including regulatory and financial considerations, which influence the development and operation of reclaimed water systems across the state.

The statute declares reclaimed water as an alternative water supply that is eligible for alternative water supply funding, and prohibits exclusion of the use of reclaimed water from regional water supply planning.

Reclaimed water may be presumed available to a consumptive use permit applicant when a utility exists which provides reclaimed water, which has determined that it has uncommitted reclaimed water capacity, and which has distribution facilities, which are initially provided by the utility at its cost, to the site of the affected applicant's proposed use. A water management district may require the use of reclaimed water in lieu of all or a portion of a proposed use of surface water or groundwater by an applicant when the use of reclaimed water is available; is environmentally, economically, and technically feasible; and is of such quality and reliability as is necessary to the user.

A water management district may not adopt any rule that gives preference to users within any class of use who do not use reclaimed water over users within the same class who use reclaimed water.

Reuse utilities and the applicable water management district or districts are encouraged to periodically coordinate and share information concerning the status of reclaimed water distribution system construction, the availability of reclaimed water supplies, and existing consumptive use permits in areas served by the reuse utility.

This statute applies to applications for new consumptive use permits and renewals and modifications of existing consumptive use permits.

Chapter 62-610, Florida Administrative Code (F.A.C.), identifies the most-common types of reuse systems.

- Slow-rate land application; restricted public access – the application of reclaimed water to a vegetated land surface, most often through spray irrigation, where public access is restricted. Treatment requirements for these systems include reclaimed water that has received at least secondary treatment and basic disinfection.
- Slow-rate land application; public access – the irrigation of areas accessible to the public, such as golf courses, parks and similar areas, along with irrigation of residential properties and edible crops. A wide range of other activities also are addressed, including toilet flushing, fire protection, street cleaning, decorative fountains, dust control and vehicle washing. These reuse systems feature reclaimed water that has received at least secondary treatment and high-level disinfection.
- Rapid-rate land application – the deliberate application of reclaimed water at high rates to rapid infiltration basins (RIBs), percolation ponds, or absorption fields to recharge the groundwater. Treatment requirements for these systems include reclaimed water that has received at least secondary treatment and basic disinfection and that meets the nitrate standard of 12 mg/L.
- Aquifer Storage and Recovery (ASR) – the injection of reclaimed water into a subsurface formation for storage and recovery of the stored reclaimed water for beneficial purposes at a later date. The stored reclaimed water is only considered to be “reused” when it is recovered from aquifer storage and used for beneficial purposes. Injected water must meet applicable groundwater requirements before injection. Recovered water must meet the performance standards for fecal coliforms as specified for high-level disinfection.
- Recharge of Class F-I, G-I and G-II groundwaters – these types of systems include:
 - Injection of reclaimed water directly into those groundwaters;
 - Rapid-rate land application systems located over those groundwaters;
 - Use of reclaimed water to create salinity barriers to protect those groundwaters; and
 - Discharges to surface waters which are directly connected to those groundwaters.

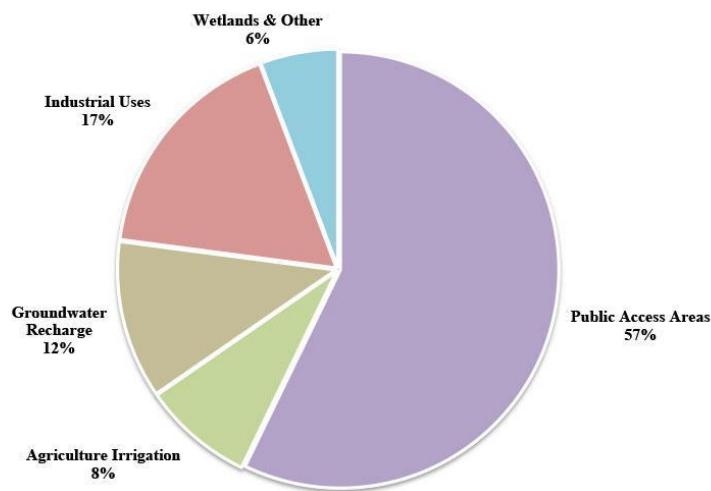
The treatment requirements depend on the type and class of groundwater into which the reclaimed water is injected. Groundwater recharge is also called AquiferRecharge.

- Indirect Potable Reuse (IPR) – This type of reuse system involves the planned use of reclaimed water to augment surface water resources which are used or will be used for public water supplies. IPR systems include discharges to Class I surface waters and discharges to other surface waters which are directly or indirectly connected to Class I surface waters. The treatment requirements depend on the class of surface waters to which the reclaimed water is discharged. While the injection of reclaimed water into a drinking water aquifer is also sometimes referred to as IPR, DEP rules include this as groundwater recharge.

- Wetlands creation, restoration and enhancement – Reclaimed water can be used to create, restore, or enhance man-made wetlands as well as hydrologically altered wetlands. Wastewater wetlands that discharge to Class I waters or contiguous to Class I waters must meet the same requirements as other discharges to surface water.
- Industrial Uses – Industrial uses of reclaimed water involve the use of reclaimed water for cooling water, wash water, or process water at industrial facilities. Reclaimed water cannot be used in food or beverage processing facilities where the reclaimed water would come into contact with food or beverages being prepared for human consumption. For most applications, secondary treatment and basic disinfection are required. Some uses would involve additional site restrictions.⁹

According to the DEP report, over the past 30 years, Florida has made great strides in the expansion of reclaimed water systems and reuse is now an integral part of wastewater management, water resource management, and ecosystem management in Florida. In 2013, Florida reused approximately 719 million gallons per day (MGD) of reclaimed water, which represents approximately 45 percent of the total domestic wastewater flow in the state. Today Florida is recognized as a national leader in water reuse.¹⁰ The chart below shows the percentage of reclaimed water utilization by flow for each reuse type.¹¹

Figure 1: Reclaimed Water Utilization by Flow



Note: Agriculture irrigation includes edible crops (e.g., citrus) as well as feed and fodder crops (e.g., spray fields).

According to the report, despite this level of reuse, Florida disposed of over 960 MGD of wastewater effluent using deep injection wells, ocean outfalls, and surface water discharges. This

⁹ DEP, *Report on Expansion of Beneficial Use of Reclaimed Water, Stormwater and Excess Surface Water*, 18-19 (December 1, 2015) available at <https://floridadep.gov/sites/default/files/SB536%20Final%20Report.pdf>.

¹⁰ *Id.* at 19.

¹¹ This chart is available from DEP’s *Florida’s Reuse Activities*, <https://floridadep.gov/water/domestic-wastewater/content/floridas-reuse-activities>.

represents a waste of a valuable resource. Where technically, environmentally and economically feasible, reclaimed water should be reused for beneficial purposes.¹²

Framework for the Implementation of Potable Reuse in Florida

The Florida Potable Reuse Commission (PRC) is a stakeholder group whose mission was “to develop a framework for potable reuse implementation in Florida to augment future water supplies and to support water quality initiatives as well as to advise elected officials and regulatory agencies on statutory and regulatory challenges, and to present consensus-based solutions.” The members of the PRC include utility representatives from WateReuse Florida, Florida Water Environment Association Utility Council, Florida Section American Water Works Association Water Utility Council, and stakeholders representing agricultural, environmental, public health, associated industries, and the Department of Health. The Florida Department of Environmental Protection and the five water management districts, Northwest Florida, Suwannee River, St. Johns River, Southwest Florida, and South Florida, also participated as ex officio members.¹³

The PRC’s report makes fifteen broad recommendations, set forth below.¹⁴

Regulatory Recommendations

1. Place potable reuse requirements in drinking water regulations

The PRC recommends moving Florida’s existing reclaimed water regulations in DEP rules that apply to potable reuse into the appropriate drinking water rules. The PRC also recommends that new regulations addressing potable reuse also be placed within Florida’s drinking water program regulations. The goal in doing so is to separate nonpotable reuse from potable reuse and place potable reuse requirements under the appropriate drinking water regulations and to have a clear, concise, and enforceable point of regulatory compliance.

2. Revise existing drinking water regulations to specify reclaimed water as a water supply source and employ appropriate treatment technologies to address pathogens and emerging constituents

Existing drinking water regulations address differences in various sources of water. For example, treating surface water versus groundwater requires more disinfection because it is more common to find waterborne pathogens in surface waters like rivers or lakes than in aquifers. Similarly, reclaimed water, which comes from treated wastewater, may have elevated concentrations of pathogens such as bacteria and viruses. It may also have higher concentrations of emerging constituents, such as pharmaceuticals and personal care products. In addition, other chemicals could potentially be present in reclaimed water coming from discharges by industrial and commercial users.

¹² DEP, *Report on Expansion of Beneficial Use of Reclaimed Water, Stormwater and Excess Surface Water*, 15 (December 1, 2015) available at <https://floridadep.gov/sites/default/files/SB536%20Final%20Report.pdf>.

¹³ Potable Reuse Commission, *Framework for the Implementation of Potable Reuse in Florida*, iii-iv (Jan. 2020), available at <http://prc.watereuseflorida.com/wp-content/uploads/Framework-for-Potable-Reuse-in-Florida-FINAL-January-2020-web10495.pdf>.

¹⁴ *Id.* at xxvii-xxxi. See also chapter 10 of the report, beginning at p. 104.

3. Require potable reuse to meet drinking water standards

To protect public health, the PRC recommends revising Florida's drinking water rules to consider reclaimed water as a source water. With this recommendation, drinking water produced from all potable reuse projects would be required to meet existing primary and secondary drinking water standards.

4. Provide pathogen treatment to meet drinking water standards

In addition, the PRC recommends that DEP adopt potable reuse treatment requirements for pathogens within the drinking water regulations. This would be done by having a water utility examine the potential for pathogens in the reclaimed water source, and then apply appropriate treatment technology to reduce, remove or inactivate those pathogens to acceptable water quality standards consistent with current drinking water rules. With this recommendation, pathogens in potable reuse projects would be treated to meet drinking water standards.

5. Require industrial pretreatment and source control

To further support this approach, the PRC also recommends that existing industrial pretreatment requirements in DEP rules apply to potable reuse projects. Industrial pretreatment requirements prevent unacceptable industrial discharges from entering domestic wastewater facilities. To complement this, the PRC recommends domestic wastewater facilities used for potable reuse also implement source control to prevent other unacceptable wastes from entering those facilities.

6. Addressing emerging constituents

Finally, the PRC recommends addressing emerging constituents, such as pharmaceuticals and personal care products, in potable reuse. Currently, there are no established standards for emerging constituents. As such, the PRC recommends DEP adopt a treatment technique approach to address emerging constituents.

The treatment technique the PRC recommends is the use of Appropriate Treatment Technology (ATT). The ATT concept involves using technically and economically feasible treatment technologies to treat emerging constituents. These are proven means for treating water.

The recommended approaches for employing ATT to treat emerging constituents vary slightly between direct potable reuse (DPR) and indirect potable reuse (IPR). For DPR, the PRC recommends including reclaimed water in the source water characterization of the drinking water treatment facility and applying ATT as necessary with the existing drinking water treatment process to meet the required treatment objectives. For IPR, the evaluation must consider the impact of the environment (soil, groundwater or surface water) on the treatment, attenuation and dilution of emerging constituents. Depending on the project, ATT may need to be employed prior to discharge to the environment, after discharge to the environment but before final drinking water treatment, or some combination of both.

Monitoring should also be required when employing ATT. Monitoring would be done before and after use of the ATT to ensure ATT is working effectively. Because it is not practical to monitor emerging constituents directly, a surrogate would be monitored to demonstrate effective treatment. If that monitoring detects inadequate treatment (i.e., “off-spec water”), the water would be retreated or discharged elsewhere and not sent out for public consumption.

For IPR projects environmental monitoring is recommended. Monitoring is currently required for nonpotable reuse projects discharging reclaimed water to groundwater or surface waters. To address the potential risk associated with emerging constituents, the PRC recommends DEP amend these monitoring requirements to also require monitoring for a representative emerging constituent in IPR projects. The utility would select the representative emerging constituent with DEP review and approval. If that monitoring detects an issue, the utility would report the issue to DEP and work with DEP to determine the cause and address the issue. The specific treatment processes used with ATT will vary depending upon the project scenario, emerging constituent(s) concentrations, desired finished water quality, and the capability of the facility. Specific ATTs employed may also evolve over time as new treatment technologies develop, new emerging constituents are identified, and criteria for emerging constituents are further refined.

Other recommendations to improve potable reuse regulation while protecting the public health and environment

The report also delineated other recommendations to improve potable reuse regulation.¹⁵

1. Continue to exempt DPR from needing to obtain a consumptive use permit (CUP) or water use permit (WUP)

Existing Florida Statutes do not require a CUP or WUP for reclaimed water use because no water is withdrawn from the environment. This should continue to apply to DPR as the potable reuse framework is implemented.

2. Clarify that IPR projects must comply with existing spring discharge standards

Currently Florida Administrative Code Rule 62-610.850 provides “reuse and land application projects shall not cause or contribute to violations of water quality standards in surface waters.” Revisions to this rule may be necessary as the other potable reuse recommendations are implemented to clarify that existing surface water quality standards apply to groundwater discharges of reclaimed water migrating into spring flow as a result of an IPR project.

3. Expand existing definition of IPR to include groundwater recharge when used to augment the supply of water available for drinking water

The current rule definition of “indirect potable reuse” is limited only to the discharge of reclaimed water to surface waters. This should be expanded to include groundwater so that all types of IPR projects fit within the definition.

4. Specify point of compliance with drinking water standards

¹⁵ *Id* at xxix.

For potable reuse, confusion could occur as to where in the process drinking water standards must be met. To ensure clarity and protect public safety, the statutes and rules should specify that compliance is determined at the point where finished potable water is finally discharged from the drinking water treatment facility.

5. DEP and the water management districts should enter into a memorandum of agreement to coordinate permitting for IPR projects

A number of permits are required from DEP and the WMDs to authorize IPR projects. Coordination among these agencies on these permits avoids duplication and ensures consistency. Coordination also ensures protection of public health and the environment and reduces the burden upon the permit applicant. This coordination review would only occur at the applicant's request.

6. DEP should review the current groundwater recharge requirements in Chapter 62-610, F.A.C.

DEP should review current groundwater recharge rules in conjunction with the effort to move the IPR requirements in that chapter to the drinking water rules. The goal of this review would be to ensure continued environmental and public health protection.

Next steps

The report states that Florida must have additional sustainable alternative water supplies to meet the future needs of its residents, agriculture, and industry, and to secure a robust economic future. Potable reuse is one such alternative supply. Potable reuse has been implemented in other states and countries and has been proven to be safe and protective of the environment.

This proposed framework is recommended to protect public health and the environment. The proposed recommendations will also provide regulatory and financial surety to water and wastewater utilities, and consistency in permitting and implementation of potable reuse projects. Failure to implement this framework may jeopardize the ability to meet future water supply needs efficiently and cost-effectively, risks inconsistent implementation of potable reuse throughout the State, and increases the potential risk to public health and the environment.¹⁶

As a result, the PRC recommends the following actions to further the implementation of this proposed framework.¹⁷

1. Implement regulatory recommendations collectively and through Technical Advisory Committees

The PRC intends the regulatory recommendations in this framework to be undertaken collectively. Many of the recommendations in this report require action by the Florida Legislature and/or DEP. Where it is recommended that DEP adopt or modify rules, the PRC

¹⁶ *Id* at xxix.

¹⁷ *Id* at xxx.

recommends DEP convene and lead one or more technical advisory committees (TACs) of a broad and diverse group of stakeholders to assist in the development of these regulations. These TACs would include representatives from the wastewater utility industry, the water utility industry, the environmental community, the business community, the health community, the general public, and the agricultural community. By developing these regulations in this manner, DEP can address multiple perspectives and develop rules that will protect the public health and environment.

2. Incentivize and protect public investments in potable reuse

Potable reuse projects require significantly more planning and financial investment than other types of reuse projects. Utilities need certainty that the investment of their ratepayers' funds will be protected. The PRC recommends that it, in coordination with DEP and the water management districts, would facilitate the creation of a working group to examine CUP and WUP statutes and rules in the context of incentivizing and protecting investments in these long-term potable reuse projects. The working group should consist of diverse stakeholders, including but not limited to, PRC members, water management district and DEP representatives, water and wastewater utilities representatives, agricultural organizations representatives, environmental organizations representatives, and other interested parties. One of the goals of the working group will be to develop consensus-based recommendations regarding clarifying existing statutes and rules related to impact offsets derived from the use of reclaimed water and how IPR projects are to be treated as an alternative water supply in determining the duration of the CUP or WUP. The working group would also further explore additional consumptive use permitting incentives that may facilitate the development of potable reuse projects and examine how the water management districts' cost share funding programs can be leveraged to facilitate development of potable reuse projects. The development of a plan by the working group regarding the implementation of any recommendation is also proposed. If there is consensus on recommendations by the working group, then such changes will be recommended to the Florida Legislature or DEP and the water management districts as appropriate.

3. Continue public education and outreach

Public confidence, understanding, acceptance, and support are essential for the successful implementation of potable reuse projects. Achieving this public confidence, understanding and support requires extensive public education and outreach by the water industry, communities considering potable reuse, DEP, and the water management districts.

The PRC will develop and implement a statewide potable reuse education and outreach program contingent upon future funding. The PRC recommends that DEP and the water management districts engage in activities that positively impact public perception of potable reuse. To that end, DEP and the water management district should be prepared to communicate openly and candidly with the public and stakeholders not only about the challenges associated with implementing potable reuse, but also that potable reuse has been and can be done safely. There is no new water on the planet. We must efficiently and effectively optimize every source of water available to ensure our future.

Evaluation of the Impacts of Eliminating Surface Water Discharges from Domestic Wastewater Facilities in Florida

Carollo Engineers, Inc.,¹⁸ at the request of the Florida Water Environment Association Utility Council,¹⁹ evaluated the ramifications and developed planning level costs associated with eliminating the discharge of treated effluent to surface waters from domestic wastewater treatment facilities (DWWTFs).²⁰ The discussion of cost begins with a discussion of limitations on different alternative effluent management practices and methods.

- Public access reclaimed water systems provide a tremendous benefit in offsetting the use of potable water for non-potable uses, but experiences significant fluctuations in demand and requires an alternative effluent management or reuse mechanism during low-demand periods. Additionally, public access reclaimed water systems are most cost effective when used with new development, and extension into existing, densely urbanized areas provides little benefit at a very high cost. Many existing surface water discharges are located in developed areas far from new development.
- In the 1980s, other alternatives were developed in reaction to studies showing that the historical use of surface water discharge was degrading surface water quality. One of these alternatives is rapid infiltrations basins (RIBs). Surface water discharges have been all but eliminated in Central Florida by pairing urban and agricultural irrigation with RIBs. Use of RIBs, however, depends on the existence of hydrogeology which favors ground water recharge, and this is limited to Central Florida. Similarly, another method that was developed, deep well injection, can provide exceptional reliability but is dependent on suitable subsurface conditions and is becoming increasingly limited across the state.
- Active surface discharge permits are located where these methods cannot be used, and where there are large receiving water bodies which can accommodate the discharge without environmental degradation.²¹

Based on limitations on effluent management and reuse alternatives, the evaluation determined that potable reuse provided a strategy for elimination of existing surface water discharges. Potable reuse is relatively expensive related to existing reuse practices, but avoids many of the limitations of other reuse and effluent management practices, and is the most viable option.²²

The report recognized four significant challenges.

- Implementing potable reuse will require revisions to current regulations to allow direct potable reuse and to clarify the requirements for indirect potable reuse. DWWTFs will be unable to begin the facility design and permitting process until the new rules are adopted.

¹⁸ Carollo Engineers is an environmental engineering firm that specializes in the planning, design, and construction of water and wastewater facilities. See <https://www.carollo.com/who-we-are> (last visited January 31, 2020).

¹⁹ According to its website, the “Florida Water Environment Association Utility Council was formed in 1998 to promote sound public policy in the water quality and wastewater industry. The Utility Council consists of wastewater utilities throughout the state who are working together to address legislative and regulatory issues. The Utility Council monitors proposed legislation and regulations and keeps its members informed of the latest developments. The Utility Council also works to educate policy makers about the intricacies of water quality and wastewater management.” See <https://www.fwea.org/history.php> (last visited January 31, 2020).

²⁰ Carollo Engineers, Inc., *Evaluation of the Impacts of Eliminating Surface Water Discharges from Domestic Wastewater Facilities in Florida*, 1 (Jan. 2020).

²¹ *Id.* at 40-41.

²² *Id.* at 41.

- Public acceptance will require education and time.
- Technical challenges will arise in developing new treatments to turn reclaimed water into potable water.
- Costs may be significant.²³

A project schedule for transitioning from surface water discharge to potable reuse must include:

- Time for Florida to adopt new reuse regulations which will allow direct potable reuse and clarify existing regulations for indirect potable reuse. To assure compliance with these new regulations, it will be necessary to defer design and permitting potable reuse projects until the new regulations have been adopted.
- Securing project funding will require an additional twelve to eighteen months. This would include major rate adjustments and related public meetings. The magnitude of debt may affect bond ratings and will require financial analysis to ensure financial solvency.
- Typical project upgrades would include:
 - Preliminary and final design;
 - A twelve-month pilot project currently required for all potable reuse projects;
 - Permitting;
 - Advertising, bidding, and award of the project; and
 - Construction and startup.

The report concludes that the earliest a potable water reuse project could be completed is September 2026, and the latest June 2028.²⁴

Cost projections are based on use of a potable reuse treatment process that, while more expensive, is a proven technology capable of treating almost any waste stream to potable quality. The report also discusses design capacity for projects, planning level cost estimates, and treatment infrastructure components. The report projects that the total statewide cost will be \$28,010,000,000. As mentioned above, the magnitude of debt may affect bond ratings and will require financial analysis to ensure financial solvency. Also, the high cost of these improvements would put a significant burden on the ratepayers of the DWWTFs affected by the discharge elimination requirement.²⁵

Another issue with cost is that a number of DWWTFs have already made expensive improvements to their treatment processes to comply with 1994 changes to section 403.086(7), F.S., that allowed discharges to surface water if advanced wastewater treatment was implemented. These utilities have expended significant funds to comply and there is no acknowledgement of these efforts or credit for the expended funds.²⁶

²³ *Id.* at 41 and 45-48.

²⁴ *Id.* at 48.

²⁵ *Id.* at 46 and 42.

²⁶ *Id.* at 45 and 28.

III. Effect of Proposed Changes:

Prohibition against Surface Water Discharge

Section 1 prohibits domestic wastewater treatment facilities from disposing of effluent, reclaimed water, or reuse water by surface water discharge beginning January 1, 2026, except the prohibition does not apply to:

- Indirect potable reuse projects;
- Domestic wastewater treatment facility discharges during wet weather which occur in accordance with the applicable department permit;
- Discharges into a stormwater management system which are subsequently withdrawn by a user for irrigation purposes;
- Domestic wastewater treatment facilities located in fiscally constrained counties;
- Projects where reclaimed water is recovered from an aquifer recharge system and subsequently discharged into a surface water for potable reuse;
- Wetlands creation, restoration, and enhancement projects;
- Minimum flows and levels recovery or prevention strategy plan projects;
- Domestic wastewater treatment facilities with reuse systems that provide a minimum of 90 percent of a facility's annual average flow for authorized reuse purposes;
- Domestic wastewater treatment facilities located in municipalities that have less than \$10 million in total revenue; or
- Domestic wastewater treatment facilities located in municipalities that are entirely within a rural area of opportunity.

Potable Reuse

Section 2 creates section 403.8531, F.S., to provide for potable water reuse. It creates definitions for use in this context.

- "Advanced treated reclaimed water" means the water produced from an advanced water treatment process for potable reuse applications.
- "Advanced treatment technology" means the treatment technology selected by a utility to address emerging constituents and pathogens in reclaimed water as part of a potable reuse project.
- "Direct potable reuse" means the introduction of advanced treated reclaimed water into a raw water supply immediately upstream from a drinking water treatment facility or directly into a potable water supply distribution system.
- "Emerging constituents" means pharmaceuticals, personal care products, and other chemicals not regulated as part of drinking water quality standards.
- "Indirect potable reuse" means the planned delivery or discharge of reclaimed water to groundwater or surface waters for the development of, or to supplement, the potable water supply.
- "Off-spec reclaimed water" means reclaimed water that does not meet the standards for potable reuse.
- "Potable reuse" means the augmentation of a drinking water supply with advanced treated reclaimed water from a domestic wastewater treatment facility, and consists of direct potable reuse and indirect potable reuse.

- “Reclaimed water” means water that has received at least secondary treatment and basic disinfection and is reused after flowing out of a domestic wastewater treatment facility.

The bill deems reclaimed water to be a water source for public water supply systems, declares potable reuse to be an alternative water supply,²⁷ declares potable reuse projects to be eligible for alternative water supply funding, and prohibits exclusion of use of potable reuse water from regional water supply planning.

The bill sets out legislative intent that the Department of Environmental Protection (DEP) adopt rules for potable reuse which:

- Protect the public health and environment by ensuring that the potable reuse rules meet federal and state drinking water and water quality standards, including, but not limited to, the Clean Water Act, the Safe Drinking Water Act, and water quality standards pursuant to chapter 403, and, when possible, implement such rules through existing regulatory programs.
- Support reclaimed water being used for potable reuse purposes.
- Implement the recommendations set forth in the Potable Reuse Commission’s 2020 report “Advancing Potable Reuse in Florida: Framework for the Implementation of Potable Reuse in Florida.”
- Require that the point of compliance with drinking water standards for potable reuse projects is the final discharge point for finished water from the water treatment facility.
- Protect the aquifer and Florida’s springs and surface waters by ensuring that potable reuse projects do not cause or contribute to violations of water quality standards in surface waters, including groundwater discharges that flow by interflow and affect water quality in surface waters, and that potable reuse projects shall be designed and operated to ensure compliance with groundwater quality standards.

It requires DEP to:

- Adopt rules that authorize potable reuse projects that are consistent with the section’s provisions;
- Review existing rules governing reclaimed water and potable reuse to identify obsolete and inconsistent requirements and adopt rules that revise existing potable reuse rules to eliminate such inconsistencies, while maintaining existing public health and environmental protections;
- Review aquifer recharge rules, and, if revisions are necessary to ensure continued compliance with existing public health and environmental protection rules when reclaimed water is used for aquifer recharge, adopt such rules; and
- Initiate rulemaking by December 31, 2020, and submit the adopted rules to the President of the Senate and the Speaker of the House of Representatives by December 12, 2021, for approval and incorporation into ch. 403, F.S. Such rules may not be published as administrative rules.

²⁷ “Alternative water supplies” means salt water; brackish surface and groundwater; surface water captured predominately during wet-weather flows; sources made available through the addition of new storage capacity for surface or groundwater, water that has been reclaimed after one or more public supply, municipal, industrial, commercial, or agricultural uses; the downstream augmentation of water bodies with reclaimed water; stormwater; and any other water supply source that is designated as nontraditional for a water supply planning region in the applicable regional water supply plan. Section 373.019 (1), F.S.

DEP and the water management districts are required to develop and execute a memorandum of agreement providing for the procedural requirements of a coordinated review of all permits associated with the construction and operation of an indirect potable reuse project. The memorandum of agreement must provide that the coordinated review will occur only if requested by a permittee. The purpose of the coordinated review is to: share information, avoid the redundancy of information requested from the permittee, and ensure consistency in the permit for the protection of the public health and the environment. DEP and the water management districts must develop and execute the memorandum of agreement by December 31, 2022.

A potable reuse project developed as a qualifying project²⁸ is granted the following benefits.

- Beginning January 1, 2025, the project is eligible for expedited permitting using a permit application processing period of 90-days after receipt of a completed application.
- The project owner is granted an annual credit against the corporate income tax in an amount equal to five percent of the eligible capital costs²⁹ generated by a qualifying project for a period not to exceed 20 years after the date that project operations begin. The tax credit applies only to the corporate income tax liability or the premium tax liability generated by or arising out of the qualifying project, and the sum of all tax credits provided pursuant to this section may not exceed 100 percent of eligible capital costs. Any credit granted may not be carried forward or backward.
- The project is granted a three-year extension of applicable deadlines.
- The project is eligible for priority funding in the same manner as other alternative water supply projects from the Drinking Water State Revolving Fund, under the Water Protection and Sustainability Program, and for water management district cooperative funding.

Section 4 requires that, in implementing this new statute, DEP, in coordination with one or more technical working groups, adopt rules for the implementation of potable reuse projects. DEP must:

- Revise the appropriate chapters in the Florida Administrative Code, including chapter 62-610, Florida Administrative Code, to ensure that all rules implementing potable reuse are in the Florida Administrative Code chapter 62 governing drinking water regulation.
- Revise existing drinking water rules to include reclaimed water as a source water for the public water supply and require such treatment of the water as is necessary to meet existing drinking water rules, including rules for pathogens.
- The potable reuse rules must include the implementation of a log reduction credit system using advanced treatment technology to meet pathogen treatment requirements, and must require a public water supplier to provide an approach to meet the required pathogen treatment requirements in an engineering report as part of its public water supply permit application for authorization of potable reuse. To ensure protection of the public health, as part of the public water supply permit application to authorize potable reuse, a public water supplier shall provide a department-specified level of treatment or propose an approach to

²⁸ Section 255.065, F.S., provides for public-private partnerships involving public property and buildings, with the stated intent to encourage private entity investment in the development and operation of qualifying projects. “Qualifying project” is defined to include a variety of specific types of facilities or projects that serve a public purpose, including a water, wastewater, or surface water management facility, or other related infrastructure.

²⁹ Section s. 220.191(1)(c), F.S, defines “eligible capital costs” to mean all expenses incurred by a qualifying business in connection with the acquisition, construction, installation, and equipping of a qualifying project during the period from the beginning of construction of the project to the commencement of operations, including specified types of costs.

achieving the log reduction targets based on source water characterization that is sufficient for a pathogen risk of infection which meets the national drinking water criteria of less than 1×10^{-4} annually.

- Prescribe the means for using appropriate treatment technology to address emerging constituents in potable reuse projects. The advanced treatment technology must be technically and economically feasible and must provide for flexibility in the specific treatment processes employed to recognize different project scenarios, emerging constituent concentrations, desired finished water quality, and the treatment capability of the facility. The advanced treatment technology may also be used for pathogen removal or reduction.
 - The rules must require appropriate monitoring to evaluate advanced treatment technology treatment performance, including the monitoring of surrogate parameters and controls, which monitoring must occur either before or after the advanced treatment technologies treatment process, or both, as appropriate.
 - For direct potable reuse projects, the rules must require reclaimed water to be included in the source water characterization for a drinking water treatment facility and, if that source water characterization indicates the presence of emerging constituents at levels of public health interest, must specify how appropriate treatment technology will be used to address those emerging constituents.
 - For indirect potable reuse projects, the department shall amend the existing monitoring requirements contained within part V of chapter 62-610, Florida Administrative Code, to require monitoring for one or more representative emerging constituents. The utility responsible for the indirect potable reuse project shall develop an emerging constituent monitoring protocol consisting of the selection of one or more representative emerging constituents for monitoring and the identification of action levels associated with such emerging constituents. The monitoring protocol must provide that, if elevated levels of the representative emerging constituent are detected, the utility must report the elevated detection to the department and investigate the source and cause of such elevated emerging constituent. The utility shall submit the monitoring protocol to the department for review and approval and shall implement the monitoring protocol as approved by the department. If the monitoring protocol detects an elevated emerging constituent, and if the utility's investigation indicates that the use of the reclaimed water is the cause of such elevated emerging constituent, the utility must develop a plan to address or remedy that cause. The utility's monitoring results, investigation of any detected elevated emerging constituent levels, determination of cause, and any plan developed to address or remedy the cause must be submitted to the department for review and approval.
 - Specify industrial pretreatment requirements for potable reuse projects. These industrial pretreatment requirements must match the industrial pretreatment requirements contained in chapter 62-625, Florida Administrative Code, as of the effective date of this act. If necessary, the department also must require the utility operating a potable reuse project to implement a source control program, and the utility shall identify the sources that need to be addressed.
 - Provide off-spec reclaimed water requirements for potable reuse projects which include the immediate disposal, temporary storage, alternative nonpotable reuse, or retreatment or disposal of off-spec reclaimed water based on operating protocols established by the public water supplier and approved by the department.

- Revise existing rules to specify the point of compliance with drinking water standards for potable reuse projects as the point where the finished water is finally discharged from the drinking water treatment facility to the water distribution system.
- Ensure that, as rules for potable reuse projects are implemented, chapter 62-610.850, Florida Administrative Code, is applicable.
- Revise the definition of the term “indirect potable reuse” provided in chapter 62-610, Florida Administrative Code, to match the definition created in the bill.

The department must convene and lead one or more technical advisory committees to coordinate the required rulemaking and review of rules. The technical advisory committees, which must assist in the development of such rules, must be composed of knowledgeable representatives of a broad group of interested stakeholders, including, but not limited to, representatives from the water management districts, the wastewater utility industry, the water utility industry, the environmental community, the business community, the public health community, and the agricultural community, and consumers.

Graywater Incentives

Section 3 creates s. 403.892, F.S., to require each county, municipality, and special district to do all of the following:

- Authorize the use of residential graywater technologies in their respective jurisdictions which comply with the Florida Building Code; and
- Provide incentives to developers to fully offset the costs of their beneficial reuse of water contribution through graywater technology, which may include, but are not limited to:
 - Allowing the developer density or intensity bonus incentives or more floor space than allowed under the current or proposed future land use designation or zoning;
 - Reducing or waiving fees, such as impact fees or water and sewer charges; or
 - Granting other incentives.
 - If the local government has already applied one of these incentives to a development, the local government must provide the developer with an additional incentive.

The bill also defines the term “developer.”

Rules for Injection of Reclaimed Water into Groundwater

Section 5 provides that the rules that apply when reclaimed water is injected into a receiving groundwater having 1,000 to 3,000 mg/L total dissolved solids are applicable to reclaimed water aquifer storage and recovery wells injecting into a receiving groundwater of less than 1,000 mg/L total dissolved solids if the applicant demonstrates that there are no public supply wells within 3,500 feet of the aquifer storage and recovery wells and that it has implemented institutional controls to prevent the future construction of public supply wells within 3,500 feet of the aquifer storage and recovery wells.

Declaration of Important State Interest

Section 7 states that the Legislature determines and declares that this act fulfills an important state interest.

Effective Date / Direction to Division of Law Revision

The bill takes effect upon becoming a law, and the Division of Law Revision is directed to replace the phrase “the effective date of this act” wherever it occurs in the act with the date the act becomes a law.

IV. Constitutional Issues:**A. Municipality/County Mandates Restrictions:**

Article VII, s. 18(a) of the State Constitution provides, in pertinent part, that “no county or municipality shall be bound by any general law requiring such county or municipality to spend funds or take an action requiring the expenditure of funds unless the Legislature has determined that such law fulfills an important state interest and the law requiring such expenditure is approved by two-thirds of the membership in each house of the Legislature.”

The bill prohibits domestic wastewater treatment facilities may not dispose of effluent, reclaimed water, or reuse water by surface water discharge, with certain exceptions. It is likely that some of the affected domestic wastewater treatment facilities will be owned and operated by municipal utilities, which will bear the costs of compliance with the prohibition.

Section 7 provides that the Legislature determines and declares that this act fulfills an important state interest. If the Legislature does not authorize adequate funding, a two-thirds vote of the membership of each house also may be required for the provisions in the bill to be binding upon local governments.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

E. Other Constitutional Issues:

The bill states in Section 1 “the Legislature intends for the department [DEP] to adopt rules for potable reuse which” . . . “implement the recommendations set forth in the Potable Reuse Commission’s 2020 report “Advancing Potable Reuse in Florida: Framework for the Implementation of Potable Reuse in Florida.” (Lines 86-87 and lines 95-98) The bill later requires that the department “adopt rules that authorize potable reuse projects that are consistent with this section.” (Lines 154-156)

This raises questions on the nondelegation doctrine and unlawful delegation of legislative authority. A bill should contain all the requirements and provisions the Legislature intends to comprise the statute, not incorporate by reference requirements or provisions developed by another entity as is done here. The bill's approach arguably is not a sufficient exercise of legislative authority, but a delegation of that authority.

The separation of powers doctrine prevents the Legislature from delegating its constitutional duties. *Florida State Bd. of Architecture v. Wasserman*, 377 So.2d 653 (Fla. 1979). Legislative power involves the exercise of policy-related discretion over the content of law. *State ex rel. Taylor v. City of Tallahassee*, 177 So. 719 (Fla. 1937). The Florida Supreme Court, in *Askew v. Cross Key Waterways*, 372 So.2d 913 (Fla. 1978), provided a framework for measuring the constitutionality of legislative power delegations. The court adopted a formal interpretation of the delegation of powers doctrine. It acknowledged that "where the Legislature makes the fundamental policy decision and delegates to some other body the task of implementing that policy under adequate safeguards, there is no violation of the doctrine." *Id.* at 921. However, the court noted, "[w]hen legislation is so lacking in guidelines that neither the agency nor the courts can determine whether the agency is carrying out the intent of the legislature in its conduct, then, in fact, the agency becomes the lawgiver rather than the administrator of the law." *Id.* at 918-19.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

The cost projections in *Evaluation of the Impacts of Eliminating Surface Water Discharges from Domestic Wastewater Facilities in Florida* are that the total statewide cost of compliance with the elimination of surface water discharge will be \$28 billion. The report maintains that these costs will be passed on to the ratepayers of the DWWTFs affected by the discharge elimination requirement.

These cost figures have not been evaluated by other sources.

Neither the Department of Environmental Protection nor the Water Management Districts have supplied cost projections.

C. Government Sector Impact:

It is likely that some of the costs of implementation of the bill will be borne by municipal utilities.

VI. Technical Deficiencies:

None.

VII. Related Issues:

The engineering report, *Evaluation of the Impacts of Eliminating Surface Water Discharges from Domestic Wastewater Facilities in Florida*, points out that it will take a significant amount of time to comply with the elimination of surface water discharge provisions in Section 2. The report concludes that the earliest time a potable water reuse project could be completed is September 2026, and the latest June 2028. Part of the issue is that surface water discharge elimination project activities cannot be begun until all rulemaking activities on potable reuse are completed.

VIII. Statutes Affected:

This bill substantially amends section 403.064 of the Florida Statutes.

This bill creates sections 403.8531 and 403.892 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.)

CS by Innovation, Industry, and Technology on February 3, 2020:

The committee substitute:

- Creates additional exemptions from the prohibition against surface water discharge for wastewater treatment facilities with reuse systems that provide a minimum of 90 ninety percent of a facility's annual average flow and for treatment facilities located in municipalities that have less than \$10 million in total revenue;
- Changes the date by which DEP must submit the required rules to the Legislature from December 12, 2022 to December 12, 2021, and changes the Legislature's treatment of these rules from "ratification" to "approval and incorporation into chapter 403 by the Legislature;"
- Creates graywater incentives; and
- Makes a finding of an important state interest.

B. Amendments:

None.