

# **Appendix M**

## **Water Conservation Project Options**

**North Florida Regional Water Supply Plan  
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County	Water Management District	Project Name	Implementing Entity	Project Description	Project Type	Water Source	Estimated Water Supply Benefit (mgd)	Total Capital (\$M)	Estimated O&M Costs through 2035	Timeframe for Completion
Alachua	SRWMD and SJRWMD	Alachua County Florida Water Star Rebate Program	Alachua County Environmental Protection	This project is to offer rebates to entities that participate in the Florida Water Star program.	Conservation	N/A	0.0190	0.21	\$15,000	2017
Alachua	SJRWMD and SRWMD	Alachua County Landscape Irrigation Retrofit Rebate Program	Alachua County Environmental Protection	This project offers Alachua County residents an opportunity to replace 200-400 ft <sup>2</sup> of irrigated turf with Florida Friendly Landscape.	Conservation	N/A	0.044	0.60	\$10,000	2017
Alachua	SRWMD	Repair/replace leaking infrastructure	City of Alachua	The City of Alachua water conservation project will reduce leakage in a water resource caution area, conserving 0.05 MGD of unaccounted water.	Conservation	N/A	0.05	0.06	OT	2015
Alachua	SRWMD	Repair/replace leaking infrastructure	City of Archer (Holy Hills)	The City of Archer water conservation project involves replacing leaking pipes service connections estimated to reduce water loss by 0.001 MGD	Conservation	N/A	0.001	0.032	OT	2020
Alachua	SJRWMD	Water Main Replacement	City of Hawthorn	Replace old galvanized and cast iron pipes to reduce frequency of breaks and associated water loss.	Conservation	N/A	0.04	0.53	OT	2017
Alachua	SRWMD	Repair/replace leaking infrastructure	City of High Springs	The City of High Springs water conservation project is to replace old leaking water mains in various parts of the City which will conserve 0.10 MGD of potable water.	Conservation	N/A	0.01	0.82	OT	2015
Alachua	SRWMD	Repair/replace leaking infrastructure	City of High Springs	The City of High Springs water conservation project will reduce leakage in a water resource caution area, conserving 0.02 MGD of unaccounted water.	Conservation	N/A	0.02	0.06	OT	2015
Alachua	SRWMD	Repair/replace leaking infrastructure	City of Newberry	The City of Newberry water conservation project will reduce leakage in a water resource caution area, conserving 0.04 MGD of unaccounted water.	Conservation	N/A	0.04	0.06	OT	2015
Alachua	SRWMD	Upgrade infrastructure to reduce losses	City of Waldo	The City of Waldo water conservation project will replace 543 meters. The new meters will be able to keep an accurate account of water usage and potential leakage, reducing 0.01 MGD in lost water.	Conservation	N/A	0.01	0.15	\$8,000	2015
Alachua	SJRWMD and SRWMD	GRU Water Conservation Projects	GRU	Implement cost effective projects that may include but are not limited to public education, advanced metering, indoor plumbing retrofit replacement of high flow toilets, shower heads, and sink aerators with efficient units, commercial water efficiency programs, and outdoor irrigation efficiency programs. Estimated water savings of 0.3 to 0.5 mgd.	Conservation	N/A	0.4	2.00	\$7,000	2035
Alachua	SJRWMD and SRWMD	Indoor Plumbing Retrofit	GRU	Replace existing "high flow" toilets with ultra-low flow toilets. Also replace shower heads and sink aerators with high efficiency units.	Conservation	N/A	0.032	0.30	\$7,000	2017
Alachua	SJRWMD and SRWMD	Large Meter Replacement	GRU	Replace existing large meters with more accurate new meters. Greater accuracy of meter measurement will promote conservation.	Conservation	N/A	0.085	0.40	\$100	2017
Alachua	SJRWMD and SRWMD	Phase 1: Advanced Metering Infrastructure (AMI) and Service Lateral Replacement	GRU	Replace existing meters with smart meters that can help detect leaks on the customers' side of the meter, while also replacing service laterals that are made of polybutylene which are prone to leaking. Estimated water savings of 0.2 to 0.5 mgd.	Conservation	N/A	0.055	1.45	\$15,000	2017
Alachua	SJRWMD and SRWMD	Phase 2-10: Advanced Metering Infrastructure (AMI) and Service Lateral Replacement	GRU	Replace existing meters with smart meters that can help detect leaks on the customers' side of the meter, while also replacing service laterals that are made of polybutylene which are prone to leaking. Estimated water savings of 0.2 to 0.5 mgd.	Conservation	N/A	0.4	13.05	\$15,000	2028
Alachua	SJRWMD and SRWMD	Santa Fe College Plumbing Retrofit	Santa Fe College	Replace existing "high flow" toilets with ultra-low flow toilets. Also replace shower heads and sink aerators with high efficiency units.	Conservation	N/A	0.050	0.03	\$20,000	2017
Alachua	SRWMD	Automated Meter Reading		This project will install existing standard water meters with automated meter readers (AMR).	Conservation	N/A	0.007	0.27	\$60,000	2035
Bradford	SRWMD	Lawley Water Main Replacement	SRWMD	Replacement of the cities water distribution system.	Conservation	N/A	0.012	3.01	OT	2035
Bradford	SRWMD	Upper Santa Fe Basin Cypress Creek Wastewater Reuse System	SRWMD	Installation of an advanced wastewater treatment and reuse system in an existing livestock/aquaculture operation to eliminate a surface water discharge to the Upper Santa Fe Basin and provide nutrient treatment for recirculated water.	Conservation	N/A	0.1	0.42	TBD	2035
Bradford	SRWMD	Upper Santa Fe Basin Freeze Protection Conservation Program	SRWMD	This project will provide cost share funding to implement up to 5 acres of freeze protection high tunnels to significantly reduce freeze protection water demands in fresh blueberry operations. This will significantly reduce groundwater use for freeze protection and runoff potential.	Conservation	N/A	0.1	1.52	TBD	2035
Bradford	SRWMD	Repair/replace leaking infrastructure	Town of Hampton	The Town of Hampton water conservation project is to repair the 64,000 gallon ground storage tank which supplies clean water to its 179 residents. This project is expected to conserve 0.01 MGD through reduced flushing.	Conservation	N/A	0.01	0.03	OT	2015
Bradford	SRWMD	Automated Meter Reading	City of Hampton	This project will install existing standard water meters with automated meter readers (AMR).	Conservation	N/A	0.008	0.095	\$60,000	2035
Bradford	SRWMD	Outdoor Plumbing Retrofit	Santa Fe College Andrews Center Main Campus	This project will provide a new irrigation system with a smart irrigation controller and drought tolerant landscape materials.	Conservation	N/A	0.001	0.005	OT	2035
Bradford	SRWMD	Automated Meter Reading	City of Starke	This project will install existing standard water meters with automated meter readers (AMR).	Conservation	N/A	0.08	0.5	\$15,333	2035
Clay	SJRWMD	CCUA AMI	CCUA	Leak Detection program to reduce water loss; Avg 2015 savings was approximately 74,460 gpd.	Conservation	N/A	0.074	0.04	OT	2015
Clay	SJRWMD	Meter Reader Replacement	Penny Farms	Replacing existing meters with smart meters.	Conservation	N/A	0.015	0.01	\$10,000	2016
Columbia	SRWMD	Lake City Indoor Plumbing Retrofit	City of Lake City	Replace existing "high flow" toilets with ultra-low flow toilets and faucets with high efficiency units in the cities parks and government buildings.	Conservation	N/A	0.019	0.10	\$1,000	2017
Columbia	SRWMD	Upgrade infrastructure to reduce losses	Columbia County	The Columbia County water conservation project is to construct a water main extension which will reduce the flushing required at the Ellisville water treatment plant by 0.03 MGD.	Conservation	N/A	0.03	0.45	OT	2015
Columbia	SRWMD	Florida Gateway College Cooling Tower Retrofit	Florida Gateway College	This project will replace the college's aging cooling towers with recirculating cooling towers that will use surface water from a local pond instead of potable water from the city.	Conservation	N/A	0.090	1.08	\$3,000	2017
Columbia	SRWMD	Columbia County Jail Indoor Retrofit	SRWMD	Replace existing "high flow" toilets with ultra-low flow toilets. Also replace shower heads and sink aerators with high efficiency units.	Conservation	N/A	0.019	0.56	\$317,870	2016

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Columbia	SRWMD	Columbia County Water Initiative	SRWMD	Replace existing "high flow" toilets with ultra-low flow toilets. Also replace shower heads and sink aerators with high efficiency units.	Conservation	N/A	0.058	0.25	OT	2017
Columbia	SRWMD	Decentralization of Boilers	Florida Gateway College	This project will replace the existing steam system with a campus-wide decentralized system utilizing high efficiency boilers producing no steam and condensation eliminating water use.	Conservation	N/A	0.0006	0.94	\$50,000	2035
Duval	SJRWMD	AMI Implementation	City of Atlantic Beach	Implementation of a pilot project for AMI meter and software installation. 650 meters	Conservation	N/A	0.02	0.21	\$9,750	2017
Duval	SJRWMD	Jacksonville Beach Advanced Metering Infrastructure	City of Jacksonville Beach	The project objective is to reduce water leaks by: 1) replacing old manually read, moving parts water meters with industry state of the art automatically read, static (no moving parts) water meters to detect leaks on the customer side of the meter and 2) installing leak detection infrastructure on water mains to improve detection of leaks in the water distribution system. Project area is within the city limits of Jacksonville Beach, Florida. It is anticipated that automatically read, more accurate metering of consumed water will promote quicker leak repairs and conservation. Project capacity based on the Jax Beach Water/Sewer Utility withdrawing 911.9 million gallons of total raw water from the Floridan Aquifer in CY2015. Water supply benefit is based on goal of reducing unaccounted water from the CY2015 estimated amount of 15.5% to the estimated target amount of 7.5%.	Conservation	N/A	0.20	4.50	\$15/meter	2018
Hamilton	SRWMD	Repair/replace leaking infrastructure	City of Jasper	The City of Jasper water conservation project is to replace 26 leaking fire hydrants in a water resource caution area. This project is expected to conserve approximately 0.04 MGD.	Conservation	N/A	0.04	0.11	OT	2015
Hamilton	SRWMD	Upgrade infrastructure to reduce losses	Hamilton County	The Hamilton County water conservation project is to install variable frequency drive controllers at the water treatment plant which will reduce the flushing required by 0.04 MGD.	Conservation	N/A	0.04	0.05	OT	2015
Levy	SRWMD	Repair/replace leaking infrastructure	Levy County (University Oaks Water System)	Levy County water conservation project involves replacing leaking pipes and service connections estimated to reduce water loss by 0.003 MGD	Conservation	N/A	0.003	0.16	OT	2020
Madison	SRWMD	Repair/replace leaking infrastructure	City of Madison (Barrsfield)	The City of Madison (Barrsfield) water conservation project is to replace a 12-inch check valve which will reduce Madison's water loss by 0.03 MGD.	Conservation	N/A	0.03	0.01	OT	2015
Madison	SRWMD	Repair/replace leaking infrastructure	City of Madison (Solenoid)	The City of Madison (Solenoid) water conservation project is to install two solenoid valves which will reduce Madison's water loss by 0.01 MGD.	Conservation	N/A	0.01	0.00	OT	2015
St. Johns	SJRWMD	Conservation Rate Implementation	City of St. Augustine	The City of St. Augustine is conducting a comprehensive conservation program to include a rate study, education program, block rate implementation, AMR pilot installation and results analysis.	Conservation	N/A	0.58	0.26	\$15/meter	2016
St. Johns	SJRWMD	AMR - Ponta Vedra System	SJCUD	Replaced all water meters in SJCUD Ponta Vedra System (approximately 10,000) and added a Fixed Base reading system. Pre-existing meters were old and inaccurate. Project to more accurately meter accounts and will allow for AMR monitoring for leak detection etc.	Conservation	N/A	0.386	4.30	\$150,000	2015
St. Johns	SJRWMD	NW Automated Metering Infrastructure System Expansion	SJCUD	Installation of 2 new tower gateway base stations to effectively maintain signal for AMR meters in the fastest growing SJCUD service area.	Conservation	N/A	0.144	0.22	\$2,000	2017
St. Johns	SJRWMD	Promote Cost-Effective Conservation Programs	SJCUD	Reducing demands from existing water uses through investments in conservation is possible. Previous studies have determined that the most cost-effective and practical conservation best management practices can include retrofits to indoor and outdoor fixtures, improved customer education, irrigation efficiency programs, and utilizing soil moisture sensing devices to reduce irrigation demands.	Conservation	N/A	1.14	3.80	OT	2020
St. Johns	SJRWMD	Web Based Customer Portal	SJCUD	Develop web-based, interactive application for customers to access usage information and water conservation information.	Conservation	N/A	0.368	0.10	\$6,250	2017
St. Johns	SJRWMD	Outdoor BMP Retrofit	SJCUD/ SJRWMD	Cost share pilot project to retrofit 30 existing homes with predetermined BMPs for outdoor irrigation systems.	Conservation	N/A	0.002	0.09	\$3,000	2015
St. Johns	SJRWMD	Soil Moisture Sensor Pilot Project	SJCUD/ SJRWMD	Three year cost share pilot project that retrofitted 88 existing homes with smart irrigation controllers. Project monitored and compared the water use 2 years prior to the installation and 2 years after the installation to evaluate system performance. Average result was 38% reduction in water use. SJCUD now requiring new non-reuse developments to utilize similar technology.	Conservation	N/A	0.038	0.28	OT	2015
St. Johns	SJRWMD	Florida Friendly Landscaping	SJCUD	This project is to prepare a landscape plan for the St Johns County Administration Building with Florida Friendly Landscape	Conservation	N/A	0.001	0.047	OT	2035
Various	SJRWMD	Agriculture Water Conservation	SJRWMD/Cooperators	Assess and implement water conservation BMPs as part of the agricultural cost-share program (does not include TCAA projects administered by FDACS). The cost and savings are the total for the following counties: Nassau, Putnam and St. Johns.	Conservation	N/A	0.233	1.39	\$1,553,672	2015
Various	SJRWMD	Agriculture Water Conservation	SJRWMD/Cooperators	Assess and implement water conservation BMPs as part of the agricultural cost-share program (does not include TCAA projects administered by FDACS). The cost and savings are the total for the following counties: Alachua, Duval, Flagler and St. Johns.	Conservation	N/A	0.333	2.30	\$1,151,080	2016
Various	SRWMD	Agriculture Water Conservation	SRWMD/Cooperators	Assess and implement water conservation BMPs as part of agricultural cost-share program. The cost and savings are the total for the following counties: Alachua, Columbia, Gilchrist, Hamilton, and Suwannee.	Conservation	N/A	2.008	1.33	\$115,000	2013
Various	SRWMD	Agriculture Water Conservation	SRWMD/Cooperators	Assess and implement water conservation BMPs as part of agricultural cost-share program. The cost and savings are the total for the following counties: Alachua, Gilchrist, Hamilton, and Suwannee.	Conservation	N/A	0.462	0.24	\$21,000	2014

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Various	SRWMD	Agriculture Water Conservation	SRWMD/Cooperators	Assess and implement water conservation BMPs as part of agricultural cost-share program. The cost and savings are the total for the following counties: Gilchrist and Suwannee.	Conservation	N/A	1.13	0.28	\$23,000	2015
Various	SRWMD	Agriculture Water Conservation	SRWMD/Cooperators	Assess and implement water conservation BMPs as part of agricultural cost-share program. The cost and savings are the total for the following counties: Gilchrist and Suwannee.	Conservation	N/A	0.79	0.91	\$8,000	2016

**Totals: 9.83 \$ 49.59**

**O and M Notes**

OT=One Time Cost

\* 6 assumes 182 applicants changing rain sensor.

d \$100 in replacement for either showers or faucet aerators or rain sensors

Row 14 assumes 50% of fixtures replaced