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Fiscal Year 2019 Five-Year
Water Resource Development Work Program

St. Johns River Water Management District
Palatka, Florida October 2018

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I. Introduction

Water management districts are required by Section 373.709, *Florida Statutes* (F.S.), to develop a regional water supply plan (RWSP) if they determine the existing sources of water are 1) inadequate to supply water for all existing and future reasonable-beneficial uses, and/or 2) may not sustain water resources and related natural systems for a 20-year planning period. Regional Water Supply Plans (RWSPs) include analysis of current and future water demands, evaluation of available water sources, and identification of water resource and water supply development projects to meet demands.

The St. Johns River Water Management District (District) is also required to prepare a Five-Year Water Resource Development Work Program (Work Program) as a part of its annual budget reporting process, pursuant to Subsection 373.536(6)(a)4., F.S. The Work Program must describe the District's implementation strategy relating to its water resource development and water supply development (including alternative water supply development) components over the next five years. Further, the Work Program must:

- Address all the elements of the water resource development component in the District's approved RWSPs, as well as the water supply projects proposed for District funding and assistance;
- Identify both anticipated available District funding and additional funding needs for the second through fifth years of the funding plan;
- Identify projects in the Work Program which will provide water;
- Explain how each water resource and water supply project will produce additional water available for consumptive uses;
- Estimate the quantity of water to be produced by each project;
- Provide an assessment of the contribution of the District's RWSPs in supporting the implementation of minimum flows and levels (MFLs) and water reservations; and
- Ensure sufficient water is available to timely meet the water supply needs of existing and future reasonable-beneficial uses for a 1-in-10-year drought event and to avoid the adverse effects of competition for water supplies.

This Work Program covers the period from fiscal year (FY) 2018–19 through FY 2022–23 and is consistent with the planning strategies of the District's RWSPs. Over the last three years, the District has amended the 2005 District Water Supply Plan (DWSP) and developed two RWSPs. A third RWSP is under development. The RWSP's are briefly summarized below in Section II and depicted in Figure 1: Water supply planning regions. For additional information about the District's RWSPs, please see www.sjrwmd.com/watersupply.

II. Regional Water Supply Planning

In accordance with Chapters 163 and 373, F.S., the District is required to update regional water supply plans every five years for at least a 20-year planning horizon to ensure the availability of water to meet all existing and future reasonable-beneficial water needs and to protect natural systems from harm up to and during a 1-in-10-year drought event.

The District is divided into three planning regions and is working with other water management districts on water supply planning in most regions. The three planning regions are Central Florida, Central Springs and East Coast (CSEC), and North Florida.

In the Central Florida planning region, the District has been working in partnership with the South Florida Water Management District (SFWMD), Southwest Florida Water Management District (SWFWMD), Florida Department of Environmental Protection (DEP) and other stakeholders through the Central Florida Water Initiative (CFWI). A joint, regional water supply plan (RWSP) was adopted in 2015 by the three water management districts for the CFWI planning area of Orange, Osceola, Seminole and Polk counties and southern Lake County.

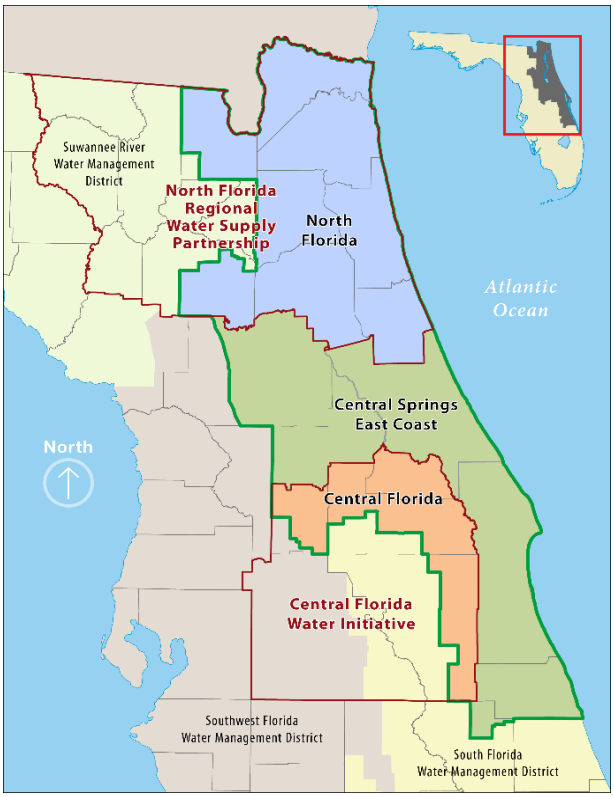

***Figure 1**: Water supply planning regions*

In the CSEC planning region, the District has been coordinating with the SFWMD, SWFWMD and other stakeholders in advance of development of the CSEC RWSP. The planning region encompasses three sub-regions that include Marion and northern Lake counties, Volusia County and Brevard, Indian River and Okeechobee counties. The District anticipates having a draft RWSP by late 2018.

In the North Florida planning region, the District has been working in partnership with the Suwannee River Water Management District, DEP, and other stakeholders through the North Florida Regional Water Supply Partnership (NFRWSP). A joint, RWSP was adopted in January 2017 by the District and SRWMD for the NFRWSP planning area of Alachua, Baker, Bradford, Clay, Columbia, Duval, Flagler, Gilchrist, Hamilton, Nassau, Putnam, St. Johns, Suwannee and Union counties.

Table 1. Regional water supply plan approval and five-year updates.

Planning Region	Current Water Supply Plan	Next Update
North Florida	January 2017	January 2022
Central Florida	November 2015	November 2020
Central Springs and East Coast	2005 DWSP 5th Addendum, 2017	March/April 2019

a. The 2018 Central Springs and East Cost RWSP Update is scheduled for Governing Board approval in early to mid- 2019.

The District updates the following on an annual basis to keep RWSPs for each of the three water supply planning regions current:

- Population and water demand projections through a 20-year planning horizon

- Groundwater modeling to assess environmental constraints
- Water conservation (WC) potential
- Water supply, alternative water supply (AWS), and water resource development (WRD) project options
- MFL prevention and recovery strategies

III. Work Program Summary

The Work Program presented herein identifies sufficient water sources to meet the water supply needs of existing and future reasonable-beneficial uses for a 1-in-10-year drought event and to avoid the adverse effects of competition for water supplies. Over the next five years, this Work Program outlines the District's commitment to identifying projects that provide adequate water supplies for all reasonable-beneficial uses and to maintain the function of natural systems. It additionally illustrates the contributions of the District in support of MFLs and water reservations.

In total, this Work Program outlines projects that, upon completion, will make available approximately 93 million gallons per day (mgd) of water, including reuse and non-reuse water. These benefits are associated with approximately $33 million budgeted for FY 2018–19. The proposed funding for the five-year Work Program is approximately $127 million through FY 2022–23.

In addition, these projects set forth a commitment to develop projects associated with implementation of MFLs, recovery or prevention strategies and water reservations. The projects benefitting MFLs are anticipated to make available nearly 38 mgd of reuse and non-reuse water upon completion. Of that, approximately 27 mgd of reuse and non-reuse water upon completion benefits a water body with an approved recovery or prevention strategy.

IV. Water Resource and Water Supply Development

Water resource development components are those that involve the *"formulation and implementation of regional water resource management strategies, including the collection and evaluation of surface water and groundwater data; structural and nonstructural programs to protect and manage water resources; the development of regional water resource implementation programs; the construction, operation, and maintenance of major public works facilities to provide for flood control, surface and underground water storage, and groundwater recharge augmentation; and related technical assistance to local governments, government-owned and privately owned water utilities, and self-suppliers to the extent assistance to self-suppliers promotes the policies as set forth in s. 373.016."*[1]

Water supply development (WSD) components are those that involve *"planning, design, construction, operation, and maintenance of public or private facilities for water collection, production, treatment, transmission, or distribution for sale, resale, or end use."*[2] The District addresses funding needs and identifies possible sources of funding for WRD, WC and/or AWS projects. Florida water law identifies two types of projects used to help provide the state with

[1] Section 373.019(24), F.S.
[2] Section 373.019(26), F.S.

adequate water supply or those that ensure natural systems are protected. Water resource development projects are generally the responsibility of the District while WSD projects (AWS and WC) are generally the responsibility of the local entities and/or water suppliers. Currently, the District provides funding for both WRD and WSD projects. In addition, the District provides funding for WC projects and strategies. To support the core mission areas, the District currently procures four cost-share programs on an annual basis:

1. The Districtwide program
2. The Rural Economic Development Initiative (REDI) Communities / Innovative Projects program
3. The Districtwide Agricultural program
4. Tri-County Agricultural Water Management Partnership Cost-Share Program

A list of all projects meeting these statutory definitions is provided in the attached spreadsheet. Also listed in the spreadsheet are programmatic efforts such as abandoned artesian well plugging and hydrologic and water quality data collection, monitoring and analysis programs.

Abandoned artesian well plugging program:

- The purpose of this program is to protect groundwater resources by identifying, evaluating and controlling abandoned artesian wells. Uncontrolled or improperly constructed artesian wells reduce groundwater levels and contribute to the potential contamination of both ground and surface waters. Since the program was established in 1983, the District has plugged or repaired approximately 100 abandoned artesian wells per year.

Hydrologic and water quality data collection, monitoring and analysis program:

- Data collection and analysis activities are a critical part of the water resource development component implemented by the District. Northeast and east-central Florida relies on groundwater to meet more than 90 percent of its water supply needs. Accurate water level, water quality, and hydrogeologic data and information are required to characterize and evaluate groundwater resources.

- The District's hydrologic data collection program collects data and information that support the regulatory and scientific programs (including data and information for the RWSPs and Work Program). The District operates and maintains nearly 1,200 hydrologic surface and groundwater monitoring stations, and processes data from more than 350 additional sites collected by other agencies. More than 7.5 million measurements are collected, verified, processed and stored each year. The District also acquires and manages an intensive radar rainfall database, composed of hourly data for more than 21,000 gridded locations every year.

- The District's water quality monitoring network is comprised of more than 350 surface water sampling stations located on rivers, streams and lakes throughout the District's 18-county service area. The accurate and timely processing of monitoring data enables the District to make sound resource protection and enhancement decisions.

- The groundwater resource assessment program identifies and resolves gaps in groundwater knowledge, through well drilling and hydrogeologic investigations. The program provides

hydrogeologic evaluations and data, which enable groundwater modeling, the primary tool for predicting the effects of hydrologic changes on the Floridan aquifer systems.

MFLs under development and included within this Work Program include:

- The District is currently re-evaluating MFLs for Lakes Brooklyn and Geneva scheduled for adoption in early 2019. Water resource development funding has been approved for the Black Creek Water Resource Development Project that is currently in engineering and design. This project will provide additional recharge water to the Upper Floridan aquifer to achieve the MFLs for these two lakes.

A complete list of all MFL and Water Reservation development activities may be found on the District's website at: www.sjrwmd.com/minimumflowsandlevels.

Please refer to the subsequent series of tables for identification of the WRD and WSD (WC and AWS) projects currently underway or anticipated to begin within the five-year planning horizon. For each project, the tables delineate RWSP region supported, primary MFL supported, the quantity of water produced, funding and project descriptions.

Table 2: Project, RWSP Region and MFL Supported, and Quantity of Water Made Available

Project Name	Project Type	RWSP Region Supported	Primary MFL Supported	Quantity of Water Made Available upon Completion (MGD)	Reuse Flow Made Available upon Project Completion (MGD)	Storage Capacity Created (MG)
Alachua County Landscape Irrigation Retrofit Rebate Program	Public Supply (PS) and Commercial, Industrial, Institutional (CII) Conservation	SJR NFRWSP		0.05		
Alachua County Water Star Rebate Program	PS and CII Conservation	SJR NFRWSP	Lower Santa Fe Ichetucknee	0.02		
Andrew Frederick Silver Springs Ag BMP	Agricultural Conservation	SJR Central Springs East Coast	Silver Springs	0.002		
Apopka Cost Share Golden Gem Road (Rd) Reclaimed Water (RCW) Extension	Reclaimed Water (for potable offset)	SJR CFWI	Rock, Wekiwa Springs		5.00	
Baldwin - Brandy Branch Reuse	Reclaimed Water (for potable offset)	SJR NFRWSP			0.25	
Bernard A. Eagan Groves	Agricultural Conservation	SJR Central Springs East Coast		0.248		
Black Creek Water Resource Development Project	Groundwater Recharge	SJR NFRWSP	Lakes Brooklyn and Geneva, Lower Santa Fe Ichetucknee	7.00		
C P & Wesley Smith Inc.	Agricultural Conservation	SJR NFRWSP		0.097		
C-10 Water Management Area	Surface Water Storage	SJR Central Springs East Coast				212
Caldwell Citrus Groves Irrigation Retrofit	Agricultural Conservation	SJR Central Springs East Coast		0.015		
Cherrylake Inc. Pressure Regulation	Agricultural Conservation	SJR CFWI	Cherry Lake	0.275		
Crane Creek M-1 Canal Flow Restoration	Surface Water	SJR Central Springs East Coast		8.80		
Daytona Beach Williamson Blvd. Reuse	Reclaimed Water (for potable offset)	SJR Central Springs East Coast	Blue Springs		0.65	
Deland RCW Main Extension Phase 3 & 3A	Reclaimed Water (for potable offset)	SJR Central Springs East Coast	Blue Springs		0.14	

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Project Name	Project Type	RWSP Region Supported	Primary MFL Supported	Quantity of Water Made Available upon Completion (MGD)	Reuse Flow Made Available upon Project Completion (MGD)	Storage Capacity Created (MG)
Deland St. Johns River Intake and Surface Water Filtration System Upgrades	Surface Water	SJR Central Springs East Coast		1.50		
Deltona - West Volusia Water Suppliers Project 4A Deltona Storage and Treatment System Improvements	Stormwater	SJR Central Springs East Coast	Blue Springs	4.00		3
Deltona Reclaimed Water Retrofits	Reclaimed Water (for potable offset)	SJR Central Springs East Coast	Blue Springs		0.16	
Deltona West Volusia Water Suppliers Aquifer Recharge Phase 1	Reclaimed Water (for groundwater recharge or natural system restoration)	SJR Central Springs East Coast	Blue Springs	0.23		
Dispersed Water Storage Project - Fellsmere	Surface Water Storage	SJR Central Springs East Coast		18.00		1372
Dispersed Water Storage Project - Graves Brothers	Surface Water Storage	SJR Central Springs East Coast		5.00		182
Edgewater Reclaimed Water Quality Reservoir	Reclaimed Water (for potable offset)	SJR Central Springs East Coast			0.20	
Estes Groves Inc. Pump Automation	Agricultural Conservation	SJR Central Springs East Coast		0.028		
Fellsmere Water Management Area	Surface Water Storage	SJR Central Springs East Coast				2139
Flagler County Plantation Bay WWTF Modifications	Reclaimed Water (for potable offset)	SJR NFRWSP			0.50	
GRU Conservation Visualization Tool	PS and CII Conservation	SJR NFRWSP		0.14		
GRU Indoor Plumbing Retrofit Program	PS and CII Conservation	SJR NFRWSP	Lower Santa Fe Ichetucknee	0.03		
Hammond Station Growers Irrigation Retrofit	Agricultural Conservation	SJR Central Springs East Coast		0.012		
IMG Enterprises Irrigation Retrofit	Agricultural Conservation	SJR Central Springs East Coast		0.007		

Table 2: Project, RWSP Region and MFL Supported, and Quantity of Water Made Available

Project Name	Project Type	RWSP Region Supported	Primary MFL Supported	Quantity of Water Made Available upon Completion (MGD)	Reuse Flow Made Available upon Project Completion (MGD)	Storage Capacity Created (MG)
Interlachen Water System Improvements P3	PS and CII Conservation	SJR NFRWSP		0.008		
JEA Gate Pkwy Kernan to T-Line RCW Main	Reclaimed Water (for potable offset)	SJR NFRWSP	Lakes Brooklyn, Geneva		1.02	
JEA RG Skinner Parkway RW Trans	Reclaimed Water (for potable offset)	SJR NFRWSP	Lakes Brooklyn, Geneva		0.47	
JEA William Burgess Road	Reclaimed Water (for potable offset)	SJR NFRWSP	Lakes Brooklyn, Geneva		0.46	
Kenneth MacKay Silver Springs Ag BMP	Agricultural Conservation	SJR Central Springs East Coast	Silver Springs	0.002		
Legacy Farms and Ornamentals	Agricultural Conservation	SJR Central Springs East Coast		0.039		
Little Orange Creek Aquifer Recharge Project	Groundwater Recharge	SJR Central Springs East Coast	Silver Springs	0.50		
Lochloosa Creek Farms Silver Springs Ag BMP	Agricultural Conservation	SJR Central Springs East Coast	Silver Springs	0.002		
Longwood Septic Tank Abatement Program Transmission Main	Reclaimed Water (for potable offset)	SJR CFWI			0.70	
Lucas Fairways Hidden Hills Golf Course RCW Connection	Reclaimed Water (for potable offset)	SJR NFRWSP	Lakes Brooklyn, Geneva		0.36	
Marion County SE108 Water Main Interconnect	Other Project Type	SJR Central Springs East Coast	Silver Springs	0.03		
Mascotte SR50 Water Main Replacement-Ph1	PS and CII Conservation	SJR CFWI		0.05		
Minneola Septic to Sewer	Reclaimed Water (for potable offset)	SJR CFWI	Lakes Minneola, Louisa, Apshawa North and South, Rock and Wekiwa Springs		0.40	
Mount Dora RCW Interconnect with Apopka	Reclaimed Water (for potable offset)	SJR CFWI	Lake Apshawa North		3.00	

Table 2: Project, RWSP Region and MFL Supported, and Quantity of Water Made Available

Project Name	Project Type	RWSP Region Supported	Primary MFL Supported	Quantity of Water Made Available upon Completion (MGD)	Reuse Flow Made Available upon Project Completion (MGD)	Storage Capacity Created (MG)
North Caledonia Farm Silver Springs Ag BMP	Agricultural Conservation	SJR Central Springs East Coast	Silver Springs	0.02		
Ocala LFA Conversion - Ph 1	Other Non-Traditional Source	SJR Central Springs East Coast	Silver Springs	8.90		
Ocala Wetland Recharge - Pine Oaks	Groundwater Recharge	SJR Central Springs East Coast	Silver Springs	5.00		
Ocoee Windermere Groves RCW Retrofit	Reclaimed Water (for potable offset)	SJR CFWI	Wekiwa, Rock		0.02	
Orange County Utilities Waterwise Neighbor Program Year 3	PS and CII Conservation	SJR CFWI	Wekiwa, Rock	0.11		
Ormond Beach Breakaway Trails RCW	Reclaimed Water (for potable offset)	SJR Central Springs East Coast			0.35	2
OUC Irrigation Conservation Phase 2	PS and CII Conservation	SJR CFWI	Wekiwa, Rock	0.06		
Palatka Heights Phase A Potable Water Project	PS and CII Conservation	SJR NFRWSP		0.03		
Palatka RCW Extension	Reclaimed Water (for potable offset)	SJR NFRWSP			1.09	
Sanford RCW Orl-Sanford Airport Phase 2	Reclaimed Water (for potable offset)	SJR CFWI	Lake Sylvan		0.10	
Seminole County Conservation Tool	PS and CII Conservation	SJR CFWI		0.30		
Southern Grace Berries LLC Silver Springs Ag BMP	Agricultural Conservation	SJR Central Springs East Coast	Silver Springs	0.009		
St. Johns County Bannon Lakes RCW Pump Station	Reclaimed Water (for potable offset)	SJR NFRWSP			0.09	3
Tater Farms Palatka Ranch RCW	Reclaimed Water (for potable offset)	SJR NFRWSP			0.07	

Table 2: Project, RWSP Region and MFL Supported, and Quantity of Water Made Available

Project Name	Project Type	RWSP Region Supported	Primary MFL Supported	Quantity of Water Made Available upon Completion (MGD)	Reuse Flow Made Available upon Project Completion (MGD)	Storage Capacity Created (MG)
Taylor Creek Reservoir Improvement Project	Surface Water Storage	SJR CFWI		17.00		
Volusia County Water Conservation	PS and CII Conservation	SJR Central Springs East Coast	Blue Springs	0.22		
Winter Garden Reuse Distribution Retrofit	Reclaimed Water (for potable offset)	SJR CFWI			0.10	
Cost Share Program Placeholder		SJR District-wide				
Abandoned Artesian Well Plugging	Water Resource Management Programs	SJR District-wide				
Hydrologic and Water Quality Data Collection, Monitoring and Analysis	Data Collection and Evaluation	SJR District-wide				

Table 3: Five – Year Work Program / Funding Projections

Project Name	FY2018-2019	FY2019-2020	FY2020-2021	FY2021-2022	FY2022-2023	Subtotal
Alachua County Landscape Irrigation Retrofit Rebate Program	$ 131,215					$ 131,215
Alachua County Water Star Rebate Program	$ 74,725					$ 74,725
Andrew Frederick Silver Springs Ag BMP	$ 19,266					$ 19,266
Apopka Cost Share Golden Gem Road (Rd) Reclaimed Water (RCW) Extension	$ 308,626					$ 308,626
Baldwin - Brandy Branch Reuse	$ 444,675					$ 444,675
Bernard A. Eagan Groves	$ 165,642					$ 165,642
Black Creek Water Resource Development Project	$ 8,133,334	$ 25,000,000	$ 2,700,000			$ 35,833,334
C P & Wesley Smith Inc.	$ 210,573					$ 210,573
C-10 Water Management Area		$ 7,017,333	$ 9,004,000	$ 8,004,000	$ 2,974,667	$ 27,000,000
Caldwell Citrus Groves Irrigation Retrofit	$ 167,866					$ 167,866
Cherrylake Inc. Pressure Regulation	$ 93,584					$ 93,584
Crane Creek M-1 Canal Flow Restoration	$ 1,650,000	$ 3,948,698	$ 3,990,698			$ 9,589,396
Daytona Beach Williamson Blvd. Reuse	$ 516,379					$ 516,379
Deland RCW Main Extension Phase 3 & 3A	$ 150,000					$ 150,000

Table 3: Five – Year Work Program / Funding Projections

Project Name	FY2018-2019	FY2019-2020	FY2020-2021	FY2021-2022	FY2022-2023	Subtotal
Deland St. Johns River Intake and Surface Water Filtration System Upgrades	$ 360,000					$ 360,000
Deltona - West Volusia Water Suppliers Project 4A Deltona Storage and Treatment System Improvements	$ 147,491					$ 147,491
Deltona Reclaimed Water Retrofits	$ 401,737	$ 172,173				$ 573,910
Deltona West Volusia Water Suppliers Aquifer Recharge Phase 1	$ 219,406	$ 146,271				$ 365,677
Dispersed Water Storage Project - Fellsmere	$ 100,000	$ 730,500	$ 730,500	$ 730,500	$ 730,500	$ 3,022,000
Dispersed Water Storage Project - Graves Brothers	$ 100,000	$ 203,000	$ 203,000	$ 203,000	$ 203,000	$ 912,000
Edgewater Reclaimed Water Quality Reservoir	$ 350,000	$ 717,680	$ 350,000			$ 1,417,680
Estes Groves Inc. Pump Automation	$ 103,699					$ 103,699
Fellsmere Water Management Area	$ 2,150,000					$ 2,150,000
Flagler County Plantation Bay WWTF Modifications	$ 416,669					$ 416,669
GRU Conservation Visualization Tool	$ 23,000					$ 23,000
GRU Indoor Plumbing Retrofit Program	$ 120,000					$ 120,000
Hammond Station Growers Irrigation Retrofit	$ 38,574					$ 38,574
IMG Enterprises Irrigation Retrofit	$ 106,484					$ 106,484

Table 3: Five – Year Work Program / Funding Projections

Project Name	FY2018-2019	FY2019-2020	FY2020-2021	FY2021-2022	FY2022-2023	Subtotal
Interlachen Water System Improvements P3	$ 500,000					$ 500,000
JEA Gate Pkwy Kernan to T-Line RCW Main	$ 930,745	$ 569,255				$ 1,500,000
JEA RG Skinner Parkway RW Trans	$ 600,000					$ 600,000
JEA William Burgess Road	$ 339,011					$ 339,011
Kenneth MacKay Silver Springs Ag BMP	$ 37,248					$ 37,248
Legacy Farms and Ornamentals	$ 51,349					$ 51,349
Little Orange Creek Aquifer Recharge Project	$ 250,000	$ 400,000				$ 650,000
Lochloosa Creek Farms Silver Springs Ag BMP	$ 14,880					$ 14,880
Longwood Septic Tank Abatement Program Transmission Main	$ 1,653,706	$ 442,129				$ 2,095,835
Lucas Fairways Hidden Hills Golf Course RCW Connection	$ 32,175					$ 32,175
Marion County SE108 Water Main Interconnect	$ 596,106					$ 596,106
Mascotte SR50 Water Main Replacement-Ph1	$ 320,000					$ 320,000
Minneola Septic to Sewer	$ 389,400					$ 389,400
Mount Dora RCW Interconnect with Apopka	$ 350,000					$ 350,000

Table 3: Five – Year Work Program / Funding Projections

Project Name	FY2018-2019	FY2019-2020	FY2020-2021	FY2021-2022	FY2022-2023	Subtotal
North Caledonia Farm Silver Springs Ag BMP	$ 450,036					$ 450,036
Ocala LFA Conversion - Ph 1	$ 795,713					$ 795,713
Ocala Wetland Recharge - Pine Oaks	$ 3,000,000					$ 3,000,000
Ocoee Windermere Groves RCW Retrofit	$ 136,488					$ 136,488
Orange County Utilities Waterwise Neighbor Program Year 3	$ 150,354					$ 150,354
Ormond Beach Breakaway Trails RCW	$ 198,000	$ 594,000				$ 792,000
OUC Irrigation Conservation Phase 2	$ 177,740					$ 177,740
Palatka Heights Phase A Potable Water Project	$ 500,000					$ 500,000
Palatka RCW Extension	$ 962,820					$ 962,820
Sanford RCW Orl-Sanford Airport Phase 2	$ 28,827					$ 28,827
Seminole County Conservation Tool	$ 20,509	$ 4,491				$ 25,000
Southern Grace Berries LLC Silver Springs Ag BMP	$ 167,728					$ 167,728
St. Johns County Bannon Lakes RCW Pump Station	$ 120,791					$ 120,791
Tater Farms Palatka Ranch RCW	$ 59,400					$ 59,400

Table 3: Five – Year Work Program / Funding Projections

Project Name	FY2018-2019	FY2019-2020	FY2020-2021	FY2021-2022	FY2022-2023	Subtotal
Taylor Creek Reservoir Improvement Project						$ -
Volusia County Water Conservation	$ 478,380					$ 478,380
Winter Garden Reuse Distribution Retrofit	$ 375,000					$ 375,000
Cost Share Program Placeholder		$ 3,500,000	$ 3,500,000	$ 3,500,000	$ 3,500,000	$ 14,000,000
Abandoned Artesian Well Plugging	$ 160,000	$ 160,000	$ 160,000	$ 160,000	$ 160,000	$ 800,000
Hydrologic and Water Quality Data Collection, Monitoring and Analysis	$ 2,310,880	$ 2,310,880	$ 2,310,880	$ 2,310,880	$ 2,310,880	$ 11,554,400
Totals:	**$ 3,324,260**	**$ 5,970,880**	**$ 5,970,880**	**$ 5,970,880**	**$ 5,970,880**	**$ 126,513,146**

Table 4: Project Descriptions

Project Name	Project Description	Project Status	Construction Beginning Date	Construction Completion Date
Alachua County Landscape Irrigation Retrofit Rebate Program	This project is a rebate program to encourage Alachua County residents to retrofit their landscapes with either Florida-Friendly Landscapes (FFL) that require no irrigation or FFL with correctly installed micro-irrigation.	Construction/Underway	01/01/17	01/31/19
Alachua County Water Star Rebate Program	This project contains a financial incentive for builders to apply for Florida Water StarSM certification for new construction.	Construction/Underway	03/01/17	01/31/19
Andrew Frederick Silver Springs Ag BMP	Purchase and installation of items associated with a soil moisture and climate sensor system and upgrades to the existing irrigation system on approximately 20 acres.	Construction/Underway	06/01/18	09/30/19
Apopka Cost Share Golden Gem Road (Rd) Reclaimed Water (RCW) Extension	The project involves the construction of a reclaimed water main (RWM) the length of Golden Gem Road between Ponkan Road and Kelly Park Road, approximately 10,500 linear feet (LF), a pump station, and reservoir.	Construction/Underway	08/24/18	12/31/18
Baldwin - Brandy Branch Reuse	The project consists of the construction of an effluent wet well, transfer pumping system, controls/instrumentation, and 19,000 LF of 8-inch PVC reuse main from the Town of Baldwin WWTF to the JEA Brandy Branch site, where the reclaimed water will discharge at the JEA Cooling Station. JEA will use this water as cooling water, eliminating approximately 0.25 million gallons per day (mgd) of groundwater withdrawal.	Construction/Underway	09/01/18	09/30/19
Bernard A. Eagan Groves	Weather stations with remote sensing.	Design	10/01/18	09/30/19
Black Creek Water Resource Development Project	The project scope includes the design and construction of: an intake structure on the South Fork section of Black Creek to capture water during periods of higher flows; convey the captured water through a 19,000 LF transmission system; and a natural treatment system with discharge into the Keystone aquifer recharge area. The objective of the Black Creek WRD project is to capture up to 10 mgd of excess water from the south fork of Black Creek and convey the water to critical recharge areas located on the southern most portion of the Camp Blanding property.	Design	07/15/19	09/03/21
C P & Wesley Smith Inc.	Convert from seepage irrigation to sub-irrigation drain tile	Construction/Underway	05/23/18	12/30/18
C-10 Water Management Area	The C-10 Reservoir includes a 1,300-acre reservoir with a pump station and outlet structure to the Upper St. Johns River Basin.	On Hold	04/01/20	02/14/23
Caldwell Citrus Groves Irrigation Retrofit	Irrigation conversion	Design	10/01/18	09/30/19

Table 4: Project Descriptions

Project Name	Project Description	Project Status	Construction Beginning Date	Construction Completion Date
Cherrylake Inc. Pressure Regulation	Pressure regulation for irrigation system	Design	10/01/18	09/30/19
Crane Creek M-1 Canal Flow Restoration	This project will reduce nutrient and sediment loading to the Indian River Lagoon (IRL) by treating and restoring diverted baseflows back to the St. Johns River. The project will involve construction of an operable control structure, pump station, force main, and a stormwater treatment area.	Design	10/10/19	09/29/21
Daytona Beach Williamson Blvd. Reuse	The project will construct approximately 2,200 feet of reclaimed water main along Williamson Blvd. between Dunn Ave. and Mason Ave. The project consists of two sections of 24" (HDPE) and 20" (PVC) piping of approximately 1,300 feet and 900 feet respectively.	Design	10/01/18	04/30/19
Deland RCW Main Extension Phase 3 & 3A	The project involves the installation of a 6-inch reclaimed water main through the Crystal Cove subdivision (145 homes) and installation of a 12-inch line along McGregor Road from Woodland Boulevard to Crystal Cove Boulevard. The project also includes installation of reclaimed water mains throughout the Alexandria Pointe subdivision (94 homes).	Construction/Underway	09/01/18	02/28/19
Deland St. Johns River Intake and Surface Water Filtration System Upgrades	The project involves upgrading the existing pump station at the St. Johns River. Additionally, one automatic backwash filter will be upgraded	Construction/Underway	09/04/18	12/30/19
Deltona - West Volusia Water Suppliers Project 4A Deltona Storage and Treatment System Improvements	This project includes construction of a 3 MG stormwater storage tank, 1 MG reclaimed water storage tank, chemical treatment, flocculation, filtration, and chlorination systems. The project will augment reclaimed water for peak irrigation demands.	Construction/Underway	06/01/17	03/31/19
Deltona Reclaimed Water Retrofits	The project includes the retrofit of three existing residential neighborhoods (421 units) and one sports complex to replace potable water for irrigation with reclaimed water distribution mains.	Design	11/01/18	12/31/19
Deltona West Volusia Water Suppliers Aquifer Recharge Phase 1	This project provides aquifer recharge to the UFA through construction of a 20-acre Rapid Infiltration Basin (RIB).	Design	01/01/19	03/31/20

Table 4: Project Descriptions

Project Name	Project Description	Project Status	Construction Beginning Date	Construction Completion Date
Dispersed Water Storage Project - Fellsmere	The District is evaluating environmental benefits from using groves and other private lands for retention of stormwater to reduce excess freshwater and nutrients being released to the Indian River Lagoon. The Fellsmere project will create a ~2000 acre reservoir that should store about 18 MGD on an annual basis. Nutrient reductions should be approximately 24 metric tons (MT) nitrogen and 3 MT phosphorus annually.	Design	10/01/18	09/30/19
Dispersed Water Storage Project - Graves Brothers	The District is evaluating environmental benefits from using groves and other private lands for retention of stormwater to reduce excess freshwater and nutrients being released to the Indian River Lagoon. The Graves Brothers project will create a ~200 acre reservoir that should store about 5 MGD on an annual basis. Nutrient reductions should be approximately 3 MT nitrogen and 1 MT phosphorus annually.	Design	10/01/18	09/30/19
Edgewater Reclaimed Water Quality Reservoir	Construction of reclaimed water main extensions, a new reuse storage reservoir and wetland outfall intended to eliminate effluent discharges into the IRL.	Design	11/01/18	06/30/20
Estes Groves Inc. Pump Automation	Pump automation	Design	10/01/18	09/30/19
Fellsmere Water Management Area	The Fellsmere Water Management Area is a component of the Upper St. Johns River Basin Project and involves construction of a 10,000-acre reservoir to treat agricultural discharges prior to entering the St. Johns Water Management Area. The project provides potential for additional water supply and improved wildlife habitat. This is one of the final components of the Upper St. Johns River Basin Project, collectively restoring more than 160,000 acres of the St. Johns River headwaters.	Construction/Underway	10/01/07	04/16/21
Flagler County Plantation Bay WWTF Modifications	This project includes modifications to the WRF to improve process and effluent reliability to provide additional irrigation.	Construction/Underway	04/30/18	09/30/19
GRU Conservation Visualization Tool	The Consumption and Conservation Programs Visualization Tool will be developed and maintained by the University of Florida. This tool measures the impact of various conservation efforts. The software's reporting facilities allow for consumption data to be evaluated pre- and post-implementation of either individual or multiple conservation programs. The tool's evaluation capabilities will be used to measure the effectiveness of not only existing and future conservation efforts, but also of the software itself.	Construction/Underway	10/01/17	09/30/19

Table 4: Project Descriptions

Project Name	Project Description	Project Status	Construction Beginning Date	Construction Completion Date
GRU Indoor Plumbing Retrofit Program	This program includes rebates for indoor plumbing fixture retrofits. The program will rebate 50 percent of the costs of replacing inefficient water fixtures with high-efficiency fixtures.	Construction/Underway	01/01/17	01/31/19
Hammond Station Growers Irrigation Retrofit	Irrigation retrofit	Design	10/01/18	09/30/19
IMG Enterprises Irrigation Retrofit	Automated irrigation/fertigation system with soil moisture sensors	Construction/Underway	01/29/18	12/30/18
Interlachen Water System Improvements P3	The project consists of upgrades to the town's water distribution system by replacing approximately 5,740 LF of aged, undersized, and leaking water mains, along with new valves, fire hydrants, and water services. The project also includes the construction of 4,800 LF of new water main extension, creating a much-needed looping in the Town's Grassy Lakes WTP service area.	Design	11/01/18	06/28/19
JEA Gate Pkwy Kernan to T-Line RCW Main	This project includes construction of 6,600 LF of 30-inch diameter and 8,700 LF of 16-inch diameter reclaimed water pipe to serve current and future reclaimed water demands with JEA's southeast reclaimed water grid.	Design	11/01/18	04/30/20
JEA RG Skinner Parkway RW Trans	This project is the second phase of a project to expand the reclaimed water system to convey reclaimed water between the Arlington East and Mandarin WWTFs, while also providing reclaimed water in the highest customer demand regions of northern St. Johns County and southern Duval County.	Construction/Underway	01/01/18	03/29/19
JEA William Burgess Road	This project will provide reclaimed water via 13,000 LF of reclaimed water pipe to a major development called the East Nassau Community Planning Area in Nassau County.	Construction/Underway	01/01/18	12/31/18
Kenneth MacKay Silver Springs Ag BMP	Upgrading of an existing less efficient micro-jet irrigation system to include purchase and installation of soil moisture and climate sensor telemetry, and the purchase and installation of precision agriculture equipment on approximately 65 acres.	Construction/Underway	06/05/18	09/30/19
Legacy Farms and Ornamentals	Irrigation conversion	Design	10/01/18	09/30/19
Little Orange Creek Aquifer Recharge Project	This project involves construction of an aquifer recharge well, pump, and intake structure. Surface water from Little Orange Creek will be the source water for recharge into the UFA.	Design	09/30/20	09/30/21

Table 4: Project Descriptions

Project Name	Project Description	Project Status	Construction Beginning Date	Construction Completion Date
Lochloosa Creek Farms Silver Springs Ag BMP	The project involves the purchase and installation of items associated with a soil moisture and climate sensor system and precision agriculture equipment on approximated 20 acres of farm land.	Construction/Underway	06/01/18	09/30/19
Longwood Septic Tank Abatement Program Transmission Main	The project involves the construction of a 4-mile sewer transmission pipe connecting the city of Longwood with the Altamonte Springs Regional Water Reclamation Facility .	Construction/Underway	12/01/17	12/30/19
Lucas Fairways Hidden Hills Golf Course RCW Connection	The project will enable JEA to supply reclaimed water to the club for golf course irrigation. The project consists of meters, valves, piping, and appurtenances required to connect to JEA's reclaimed water line.	Design	12/01/18	06/01/19
Marion County SE108 Water Main Interconnect	This project includes the construction of a water main interconnect for two existing potable water systems. It will relocate the withdrawals approximately 6.5 miles farther from Silver Springs.	Design	10/01/18	06/01/19
Mascotte SR50 Water Main Replacement-Ph1	The project consists of the replacement of 7,800 LF of leakimg water main.	Construction/Underway	08/06/18	03/29/19
Minneola Septic to Sewer	This project is the first phase of a three-phase project to install infrastructure consisting of transmission lines, force mains, and a lift station. This will allow the connection of 22 parcels to the sewer system and abandon 22 septic tanks. The 22 parcels consist of 7 commercial and 15 residential properties. Once all three phases of the project are completed, the WWTF will be able to start providing reclaimed water to offset potable use.	Construction/Underway	06/01/18	09/30/19
Mount Dora RCW Interconnect with Apopka	This project includes the construction of a reclaimed water interconnect between the City of Mt Dora and City of Apopka systems.	Design	11/01/18	03/29/19
North Caledonia Farm Silver Springs Ag BMP	Purchase and installation of items associated with: a fuel tank, a ditch system (approximately 35,574 linear feet), a surface water pumping station, a well to reservoir (PVC), a drain tile system (approximately 92 acres), a mobile sprayer (JACTO ARBUS-Sapphire 2000), and excavating approximately 27,400 cubic yards for a retention pond (including an outflow pipe, road work and a ditch to connect to pond). This project is on approximately 575 acres.	Construction/Underway	06/01/18	09/30/19

Table 4: Project Descriptions

Project Name	Project Description	Project Status	Construction Beginning Date	Construction Completion Date
Ocala LFA Conversion - Ph 1	This project includes the construction of three, 24-inch diameter Lower Floridan aquifer (LFA) production wells, each with a capacity of 5 MGD. This non-traditional LFA water supply source will support flow improvements to Silver Springs by replacing current permitted withdrawals from the Upper Floridan aquifer (UFA) that are now located 4-miles closer to Silver Springs.	Design	03/04/19	09/30/19
Ocala Wetland Recharge - Pine Oaks	The project will construct a 33-acre groundwater recharge wetland that will receive advanced treated wastewater from the City's WRF #2, #3, and stormwater from the Old City Yard Drainage Retention Area.	Construction/Underway	05/28/18	06/30/19
Ocoee Windermere Groves RCW Retrofit	The project includes the extension of reclaimed water lines to the 128-home Windermere Groves neighborhood, replacing the current use of potable water for irrigation.	Design	01/14/19	07/31/19
Orange County Utilities Waterwise Neighbor Program Year 3	The project involves the continuation (year 3) of the County's comprehensive water conservation program to about 300 new construction and 300 existing homes.	Design	10/01/18	12/31/18
Ormond Beach Breakaway Trails RCW	The project includes construction of a 2 MG ground storage tank and a high service pump station with 3 variable frequency drive-controlled high service pumps. This will allow expansion of reclaimed water service to new developments that were required to install dry lines for reclaimed water.	Design	03/15/19	03/15/20
OUC Irrigation Conservation Phase 2	This is the second phase of OUC's Conservation Project with enhancements designed to increase customer participation rates. Customers are informed of reduced prices for other services, including irrigation repairs, evapotranspiration (ET) controllers, soil moisture sensors, and FFL. OUC is also including an ongoing low-flow toilet rebate program for residential and commercial customers as part of the Phase 2 program. In addition, OUC will procure online water survey software to encourage additional water conservation.	Construction/Underway	10/01/17	09/30/19
Palatka Heights Phase A Potable Water Project	The project consists of the replacement of 10,000 LF of leaking cast iron pipes.	Design	10/31/18	08/01/19

Table 4: Project Descriptions

Project Name	Project Description	Project Status	Construction Beginning Date	Construction Completion Date
Palatka Heights Phase A Potable Water Project	The project consists of the replacement of 10,000 LF of leaking cast iron pipes.	Design	10/31/18	08/01/19
Palatka RCW Extension	This project consists of the installation of a rotary vacuum filter and a chemical backwash pump at a reclaimed water holding pond; the addition of a reclaimed water service PVC piping of 20 LF to Tater Farms Turf grass location; the addition of a reclaimed water service of 30 LF to the 250-acre spray field location adjacent to the WWTP; and the extension of the reclaimed water infrastructure by 6,500 LF to the northern end of Riverfront Park (Phase II). This extension will include availability of service connections to the Hampton Inn, Riverfront Park, and the St. Johns River Center. The final step in this project is a holding pond to be located within the city's 250-acre parcel adjacent to the WWTP to be utilized as a reclaimed water holding pond for the irrigation of the spray field and an alternative disposal site during extreme wet weather events.	Construction/Underway	04/01/18	06/28/19
Sanford RCW Orl-Sanford Airport Phase 2	This project will construct a reclaimed water main extension along Lake Mary Boulevard from the Sanford Water Resource Center to the Brisson West Development and Silvestry Development.	Construction/Underway	06/01/18	02/28/19
Seminole County Conservation Tool	The project involves the purchase of the University of Florida's Program for Efficient Communities (UF/PREC) GeoViz tool and integration with the County's existing conservation program. Utilization of this tool will provide information that allows the County to inform higher-water use customers of their conservation potential and conservation programs or educational sessions that could help them reduce water consumption.	Design	10/01/18	09/30/20
Southern Grace Berries LLC Silver Springs Ag BMP	Upgrades to the existing irrigation system on approximately 30 acres.	Design	04/01/19	09/30/19
St. Johns County Bannon Lakes RCW Pump Station	This project will construct a 2.5 MG reclaimed water storage tank and install a 2,500 GPM booster pump, control valve, electrical building, and associated work.	Construction/Underway	06/01/17	12/31/18
Tater Farms Palatka Ranch RCW	This project consists of construction of the infrastructure necessary to receive treated wastewater from the city of Palatka to use for irrigating sod.	Construction/Underway	04/01/18	05/01/19

Table 4: Project Descriptions

Project Name	Project Description	Project Status	Construction Beginning Date	Construction Completion Date
Taylor Creek Reservoir Improvement Project	This project is intended to restore the levee to its original design characteristics and to incorporate two overflow spillways and a levee toe drainage system. The District is pursuing a project to change the current reservoir operating schedule and corresponding water levels, which range from 41 to 43 feet National Geodetic Vertical Datum (NGVD), to an operating schedule that would bring the water level in the reservoir to 46 feet NGVD. Raising the water level would increase the water supply yield from the reservoir without any supplemental diversions from the St. Johns River. The improvements proposed for this project support the increased water level in the reservoir.	On Hold		
Volusia County Water Conservation	This project includes implementation of a water conservation infrastructure for Volusia County Utilities. The Sensus Flexnet system will be installed on production wells and flushing units to assist in the reduction of unaccounted for water use.	Design	11/20/18	06/30/19
Winter Garden Reuse Distribution Retrofit	This is the third and final phase for reclaimed retrofit efforts in the Stoneybrook West community. The project includes 221 properties to be converted from potable water for irrigation to reuse water. Project includes backflow prevention devises, and project construction includes all labor, materials, equipment, and incidentals via both open trench and directional drilling.	Construction/Underway	04/01/18	06/30/19
Cost Share Program Placeholder	Funds are for projects approved during the District's annual application process for the District's general cost share program to include projects that will be listed in the Water Resource Development Work Program and Alternative Water Supply Plan.	Design	10/01/19	09/30/23
Abandoned Artesian Well Plugging	The objective of this program is to properly plug abandoned artesian wells to protect the resources of Florida.	Construction/Underway		09/30/23
Hydrologic and Water Quality Data Collection, Monitoring and Analysis	The District's hydrologic data collection program collects data and information that support the regulatory and scientific programs (including data and information for the RWSPs and WRDWP).	Construction/Underway		09/30/23

Basin Management Action Plan Appendix

Basin Management Action Plans (BMAP) are the "blueprint" for restoring impaired waters by reducing pollutant loadings to meet the allowable loadings established in a Total Maximum Daily Load. In 2016, the Florida Legislature amended Section 373.036, F.S., to require the identification of all specific projects that implement a BMAP or a recovery or prevention strategy in the Work Program. The District's Work Program has historically identified water resource development projects that support MFL recovery and prevention but has not included specific descriptions of projects primarily intended to implement BMAPs. Consistent with section 373.036, F.S., and in a manner that has been coordinated with the Florida Department of Environmental Protection and all five water management districts, the District makes available as part of this Work Program a five-year funding outlook for projects specifically identified in an adopted BMAP.

BMAP Appendix Tables

Project Name	Project Description	Project Type	Project Status	Construction Completion Date
Putnam Non-MS4	Phase 1 - Force main installation from Paradise Point to Yelvington Road Master Lift Station.	Wastewater Service Area Expansion	Underway	3/29/2019
Atlantic Bch MS4 FLS000012	Phasing out existing septic tanks.	Septic Tank Phase Out	Design	9/30/2019
Osprey Acres Flow Way and Nature Preserve	This is a managed aquatic plant system that will remove sediment and suspended solids through settling and filtration by aquatic plant roots. The aquatic plants will be harvested on a regular basis.	Other Structural BMP	Underway	12/27/2018
South Regional Lake	Created wetland flow through system.	BMP Treatment Train	Design	9/30/2019
Stormwater Project - NIRL - Titusville - South St	SOIRLP-20.	Baffle Box - Second generation	Design	9/30/2019
Septic Removal - NIRL -MIRA	SOIRLP-44.	Septic Tank Phase Out	Underway	9/30/2020

BMAP Appendix Tables

Project Name	BMAP	Lead Entity	DEP Project Number	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Location	Acres Treated
Putnam Non-MS4	LSJR Mainstem	Putnam County	PUT-09	270	45	Freshwater	16
Atlantic Bch MS4 FLS000012	LSJR Mainstem	City of Atlantic Beach	AB-11	145	N/A	Marine	N/A
Osprey Acres Flow Way and Nature Preserve	IRL- Central	Indian River County	IRC-15	9000	300	SEB/Estuarine	9784
South Regional Lake	IRL- Central	City of Fellsmere	F-10	479	139	SEB/Estuarine	450
Stormwater Project - NIRL - Titusville - South St	IRL-North	Brevard County	BC-84	720	125	Estuarine	202
Septic Removal - NIRL -MIRA	IRL-North	Brevard County	BC-88	2501	822	Estuarine	unknown/not provided

BMAP Appendix Tables

Project Name	FY2018 - 2019	FY2019 - 2020	FY2020 - 2021	FY2021 - 2022	FY2022 - 2023	Subtotal
Putnam Non-MS4	$ 1,200,000					$ 1,200,000
Atlantic Bch MS4 FLS000012	$ 132,323					$ 132,323
Osprey Acres Flow Way and Nature Preserve	$ 1,200,250					$ 1,200,250
South Regional Lake	$ 500,000					$ 500,000
Stormwater Project - NIRL - Titusville - South St	$ 110,000					$ 110,000
Septic Removal - NIRL -MIRA	$ 306,127	$ 568,695				$ 874,822
Totals	**$ 3,448,700**	**$ 568,695**	**$ -**	**$ -**	**$ -**	**$ 4,017,395**

BMAP Appendix Tables

Project Name	Total State Funding	Total District Funding	Lead Entity Match	Project Total
Putnam Non-MS4		$ 2,000,000	$ 250,000	$ 2,000,250
Atlantic Bch MS4 FLS000012		$ 132,323	$ 268,657	$ 400,980
Osprey Acres Flow Way and Nature Preserve		$ 1,200,250	$ 2,436,873	$ 3,637,123
South Regional Lake		$ 500,000	$ 287,187	$ 787,187
Stormwater Project - NIRL - Titusville - South St		$ 110,000	$ 227,920	$ 337,920
Septic Removal - NIRL -MIRA		$ 912,255	$ 1,852,155	$ 2,764,410