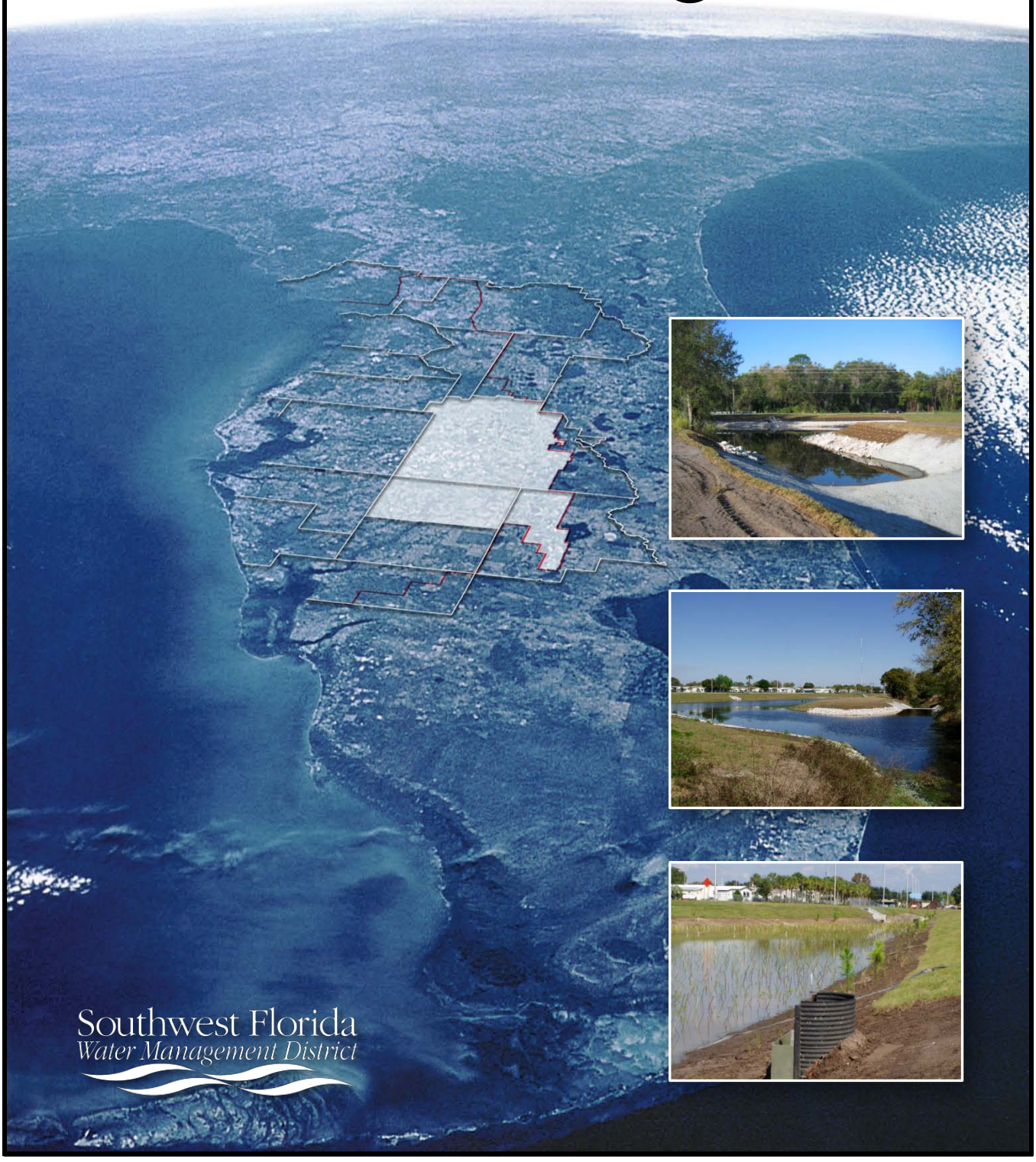
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Fiscal Year 2020

Cooperative Funding Initiative Applications

Heartland Region



Southwest Florida
Water Management District

Coop Funding By Region For FY2020

Heartland Region

Project	Project Name	Project Cost
N856	WMP - Jack Creek Watershed Management Plan	$600,000
N888	Lake Eva Feasibility Study Phase 3	$450,000
N898	Reclaimed Water Tank and Pump Stations	$6,160,000
N899	Polk County Reclaimed Recharge Study	$1,189,000
N940	SW IMP- Water Quality- Lake Hunter BMP Project	$1,053,980
N962	Davenport Watershed Management Plan	$150,000
N973	Winter Haven Consumption and Conservation Programs Data Management Software	$120,000
Q023	Study - Polk Regioal Water Cooperative Water Demand Management Plan	$340,000
Q056	Bridgers Avenue Drainage & Water Quality Project	$1,100,000
Q059	Polk County NWRUSA US 98 North Reclaimed Water Main from Banana Rd to Princeton Manor	$545,310
Q066	Lake Wilson Rd RW Improvements	$525,500
Q067	NERUSA Ernie Caldwell Blvd RW Transmission Phase 2	$3,444,500
Q072	Distribution System Looping to Conserve Potable Water	$2,840,000
Q081	Enhanced Conservation Education kits	$30,000
Q091	WMP - Carter Creek Watershed Management Plan LOS, and BMP Development	$150,000
Q095	Crescent Lake Watershed Water Quality & Flood Protection BMP Analysis	$50,000
Q099	WMP Update – Sebring Watershed Management Plan Update	$350,000
Q118	Implementation of BMP's - Lake Parker Outfall Phase No. 3B (Continuation of N551)	$4,460,000
W772	Winter Haven Ridge Implementation of Stormwater BMPs	$240,000
	Region Total	**$23,798,290**

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	WMP - Jack Creek Watershed Management Plan
Project Number	N856
Cooperator	Highlands County
Department	Natural Resources
Contact Person	Kenya Anderson
Address	505 S. Commerce Avenue
City Sate Zip	Sebring, FL 33870
Phone #	863-402-6877
Email	kanderso@hcbcc.org

Project Type:

☐ Water Supply ☐ Water Quality ☒ Flood Protection ☐ Natural Systems

Strategic Initiatives:

☐ Water Quality Maintenance and Improvement
☐ Water Quality Monitoring
☐ Alternative Water Supply
☐ Conservation
☐ Reclaimed Water
☐ Regional Water Supply Planning
☐ Emergency Flood Response
☒ Floodplain Management
☐ Minimum Flows and Level Establishment and Monitoring
☐ Minimum Flows and Levels Recovery
☐ Natural Systems Conservation and Restoration
☐ Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

☐ Charlotte ☐ Citrus ☐ Desoto ☐ Hardee ☐ Hernando ☒ Highlands ☐ Hillsborough ☐ Lake
☐ Levy ☐ Manatee ☐ Marion ☐ Pasco ☐ Pinellas ☐ Sarasota ☐ Sumter ☐ Polk

Project Description/Benefit/Cost

Description:

Complete a Watershed Management Plan (WMP) for the Jack Creek Josephine Creek watershed in Highlands County, through and including floodplain analysis, Level of Service determination (LOS), and Best Management Practices (BMPs) alternative analysis. FY2020 funding will be used to complete the floodplain analysis and begin the alternative analysis. This will identify the flooding concerns in both the Lake Hill and Jack Creek areas.

Benefit:

The measurable benefit will be to develop better floodplain information and implement floodplain management programs to maintain storage and conveyance and to minimize flood damage.

Cost:

The estimated cost of this project is $600,000.00.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

This project addresses key requirements of the Highlands County Comprehensive Plan (Natural Resources Element, Objective 7). The Highlands County Board of County Commissioners Ordinance 94-13; article five includes land development procedures and standards, design standards and development criteria and resource protection standards. Community Rating System class is 8 and is in the 6 to 9 range.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share	50,000	52,000	48,000		150,000
Peace River	150,000	156,000	144,000		450,000
Total	200,000	208,000	192,000		600,000

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Watershed Evaluation	04/01/2019
Floodplain Analysis	02/01/2020
Level of Service Determination	01/01/2021
BMP Alternatives Analysis	10/01/2021

Data Collection Assessment:

[X] Surface Water Flow (Discharge) measurements [X] Land Survey

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	Lake Eva Feasibility Study Phase 3
Project Number	N888
Cooperator	Haines City
Department	Public Works
Contact Person	Linda Fisher
Address	426 Claude Holmes Sr. Ave.
City Sate Zip	Haines City, FL 33844
Phone #	863-421-3696
Email	lfisher@hainescity.com

Project Type:

[X] Water Supply [ ] Water Quality [ ] Flood Protection [ ] Natural Systems

Strategic Initiatives:

[ ] Water Quality Maintenance and Improvement	[ ] Water Quality Monitoring
[ ] Alternative Water Supply	[ ] Conservation
[X] Reclaimed Water	[ ] Regional Water Supply Planning
[ ] Emergency Flood Response	[ ] Floodplain Management
[ ] Minimum Flows and Level Establishment and Monitoring	[ ] Minimum Flows and Levels Recovery
[ ] Natural Systems Conservation and Restoration	[ ] Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

[ ] Charlotte	[ ] Citrus	[ ] Desoto	[ ] Hardee	[ ] Hernando	[ ] Highlands	[ ] Hillsborough	[ ] Lake
[ ] Levy	[ ] Manatee	[ ] Marion	[ ] Pasco	[ ] Pinellas	[ ] Sarasota	[ ] Sumter	[X] Polk

Project Description/Benefit/Cost

Description:

Phase 3 of the Lake Eva Feasibility Study will more accurately calculate the predicted MFL increases in Lake Eva water levels and predict lateral seepage of nutrients from the proposed rapid infiltration basin(s) (RIB) sites. The proposed RIB(s) should be located a sufficient distance from Lake Eva to prevent mounding near the lake and to reduce (or ideally eliminate) the potential for adding additional nutrient loadings to the lake from the proposed RIB(s). The goal of the Phase 3 Study will be to maximize MFL increase in Lake Eva while providing the least potential for nutrient loading to Lake Eva.

Phase 1 of the Lake Eva Feasibility Study has revealed that recharge efforts are best met when the RIB(s) are located east of Lake Eva, primarily due to the Candler and Apopka soils that are present. The District's DWRM model indicates that the surficial aquifer in the study area flows eastward and the DWRM model does not indicate any westward movement of surficial water from east to west in the area of Lake Eva. The District currently does not have any exploratory wells or monitoring wells in in the vicinity of Lake Eva to validate the District's current DWRM groundwater model.

The modeling results in the Phase 1 Study are less accurate than desired. To accurately locate the RIB(s) in a location that eliminates or greatly minimizes the potential for added nutrient loading to the Lake will require additional geotechnical bores and monitoring wells to observe the surficial aquifer levels. The additional geotechnical bores will be required to determine the soil strata present from surface to the top of the Floridan aquifer. Precise knowledge of the soil strata will provide more reliable calculations of lateral seepage towards Lake Eva. MODFLOW software using the layers of soil strata found on three sites, will better predict lateral seepage towards Lake Eva. This will impact the location of the RIBs to Lake Eva. The DWRM modeling currently being used in Phase 1 Study assumes only one continuous soil strata, and does not have the capabilities to accurately predict lateral seepage to Lake Eva.

Three geotechnical bores extending equal distances east of Lake Eva are proposed. The bores will extend to the top of the Floridan aquifer; estimated to be approximately 200-250 feet below surface. Once the Geotech bores are drilled, they will be converted to wells for purpose of monitoring, and ownership will go to SWFWMD following the completion of the Phase 3 monitoring program. Two additional shallow monitoring wells east of Lake Eva are also proposed. In total the five monitoring wells will be used for monthly monitoring of surficial water levels. The City proposes to also use the monitoring wells to collect samples for chlorides, nitrogen and phosphorous in support of the future design, however the cost for sampling of existing groundwater quality will be bourne by the City.

The wells will be installed along City right of way or within City-owned properties, most likely along Robinson Road. Final location to be determined following Phase 1 study.
There are no known SWFWMD wells or monitoring wells within the Lake Eva Study Area that could be used. An existing well permit with limited soil data is available for a City-owned well, but the permit does not include the detailed soil strata data required to determine lateral seepage to Lake Eva.

Benefit:

Phase 3 of this study will provide field geotechnical data and actual surficial water levels, which will be used to more accurately predict the recharge to Lake Eva and to limit the potential of lateral seepage of nutrients to Lake Eva. Phase 3 will evaluate the benefits of 1.0 MGD (initially) to 2.5 MGD (maximum) of recharge to assist in meeting MFLs on Lake Eva in the "Ridge Lakes" area of the CFWI.

Cost:

Total Project Cost: $450,000.
Phase 3 of the study is estimated to cost $150,000. Estimated cost includes all geotechnical fees, permitting, and reporting, groundwater modeling, draft and final technical memorandum to determine project feasibility. Costs of additional groundwater quality sampling and easement acquisition (if necessary) will be paid for solely by the City. City will provide ownership of any wells to SWFWMD following completion of the study that SWFWMD may use for long-term monitoring of the MFLs in Lake Eva.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share	37,500	37,500	37,500		112,500
Peace River	112,500	112,500	112,500		337,500
Total	150,000	150,000	150,000		450,000

Matching Fund Reduction

[X] Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

2020

Milestone	Projected Date
Final Geotechnical Report	03/31/2020
Draft Memorandum Lake Eva Feasibility Study	08/01/2020
Final Memorandum Lake Eva Feasibility Study	09/30/2020

Data Collection Assessment:

[X] Groundwater or Surface Water Level measurements
[X] Groundwater or Surface Water Quality measurements
[X] Monitor Well Installation
[X] Lithologic/Geophysical data

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	Reclaimed Water Tank and Pump Stations
Project Number	N898
Cooperator	Haines City
Department	Public Works
Contact Person	Linda Fisher
Address	426 Claude Holmes Sr. Ave.
City Sate Zip	Haines City, FL 33844
Phone #	863-421-3696
Email	lfisher@hainescity.com

Project Type:

[X] Water Supply [ ] Water Quality [ ] Flood Protection [ ] Natural Systems

Strategic Initiatives:

[ ] Water Quality Maintenance and Improvement	[ ] Water Quality Monitoring
[ ] Alternative Water Supply	[ ] Conservation
[X] Reclaimed Water	[ ] Regional Water Supply Planning
[ ] Emergency Flood Response	[ ] Floodplain Management
[ ] Minimum Flows and Level Establishment and Monitoring	[ ] Minimum Flows and Levels Recovery
[ ] Natural Systems Conservation and Restoration	[ ] Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

[ ] Charlotte	[ ] Citrus	[ ] Desoto	[ ] Hardee	[ ] Hernando	[ ] Highlands	[ ] Hillsborough	[ ] Lake
[ ] Levy	[ ] Manatee	[ ] Marion	[ ] Pasco	[ ] Pinellas	[ ] Sarasota	[ ] Sumter	[X] Polk

Project Description/Benefit/Cost
Description:

This project includes final design, permitting, and construction of a transfer pump station, a 3.0 million gallon storage tank, a high service pump station, an off-site booster station, associated yard piping, electrical modifications, instrumentation, controls, and other necessary appurtenances. Preliminary design and a Third-party review was completed in FY 2018 with the support of District funding. The District required a third-party review because the conceptual construction estimate is greater than $5 million dollars. The FY 2019 and FY 2020 funding request will be used to support final design and construction of the project.

Benefit:

The contractual Measurable Benefit is the design, permitting, and construction of equipment that will enable the city to store and supply reclaimed water to existing and future customers in the "Ridge Lakes" area of the Central Florida Water Initiative (CFWI). Construction will be done in accordance with the permitted plans.

Cost:

Total project cost: $6,160,000 (Design, Third-Party Review, Permitting and Construction) Haines City share (25% REDI): $1,540,000 District share: $4,620,000 with $225,000 budgeted in previous years, $1,125,000 requested in FY 2019 and $3,270,000 anticipated to be requested in future years.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

The City is currently pursuing additional reclaimed water customers to maximize the offset of groundwater and potable water uses in the City. The City is actively negotiating with the high school, Sofidel, and Modular Pavers. In addition, the City is pursuing additional agricultural connections to the reclaimed system. The City has successfully added City parks (Larry Parish ball field and

8-acre park) to the list of reclaimed customers. The City has provided over 20 years of reclaimed water to Southern Dunes and the installation of an off-site booster station combined with a storage tank will eliminate the algae concern that this reuse customer has experienced periodically.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share	75,000	375,000	1,090,000		1,540,000
Peace River	225,000	1,125,000	3,270,000		4,620,000
Total	300,000	1,500,000	4,360,000		6,160,000

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Bidding

Milestone	Projected Date
Bid Advertisement	05/01/2019
Award and NTP to Low Bidder	08/01/2019

Construction

Milestone	Projected Date
Begin Construction	08/01/2019
Substantial Completion of Construction	06/30/2020
Final Completion of Construction	07/31/2020

Final Design

Milestone	Projected Date
Update Preliminary Design Report to Incorporate 3rd Party Review	12/31/2018
100% Final Design	04/30/2019

Data Collection Assessment:

☒ Mapping/GIS data

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	Polk County Reclaimed Recharge Study
Project Number	N899
Cooperator	Polk County Utilities
Department	Utilities Technical Services
Contact Person	Jason Hopp
Address	1011 Jim Keene Blvd.
City Sate Zip	Winter Haven, FL 33880
Phone #	863-298-4222
Email	jasonhopp@polk-county.net

Project Type:

[X] Water Supply [X] Water Quality [ ] Flood Protection [ ] Natural Systems

Strategic Initiatives:

[ ] Water Quality Maintenance and Improvement	[X] Water Quality Monitoring
[X] Alternative Water Supply	[ ] Conservation
[ ] Reclaimed Water	[ ] Regional Water Supply Planning
[ ] Emergency Flood Response	[ ] Floodplain Management
[ ] Minimum Flows and Level Establishment and Monitoring	[ ] Minimum Flows and Levels Recovery
[ ] Natural Systems Conservation and Restoration	[ ] Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

[ ] Charlotte	[ ] Citrus	[ ] Desoto	[ ] Hardee	[ ] Hernando	[ ] Highlands	[ ] Hillsborough	[ ] Lake
[ ] Levy	[ ] Manatee	[ ] Marion	[ ] Pasco	[ ] Pinellas	[ ] Sarasota	[ ] Sumter	[X] Polk

Project Description/Benefit/Cost

Description:

This project is Phase 2 of a study to determine whether indirect aquifer recharge with reclaimed water or non-traditional reuse solutions are viable options to supplement Polk County's Northwest Regional Utility Service Area (NWRUSA) water supplies. The County initiated and funded Phase 1, in FY2017 at a cost of $98,000, which included a Preliminary Design Report for the NWRUSA Cherry Hill Water Production Facility (WPF) with hydrogeological and water resource modeling support. The support services included a review of the potential water supply options in the NWRUSA and provided an analysis of those options. Included in the analysis, was an initial water quality data analysis and the identified potential benefits obtainable from a reclaimed water pilot study. A Technical Memorandum was prepared and a final recommendation for each source/option was provided. This effort determined that traditional aquifer recharge through Rapid Infiltration Basins was not feasible for the proposed sites (the Cherry Hill WPF and the 50-acre site adjacent to the County's Northwest Regional Wastewater Treatment Facility (NWRWWTF)) due to unfavorable geological conditions. Therefore, the County plans to investigate enhanced recharge and Soil Aquifer Treatment alternative options. Additional activities associated with this effort are anticipated to include groundwater modeling, geotechnical work, lithologic cores collection, and aquifer recharge testing. A demonstration project with pilot testing will be performed in the County's NWRUSA which is within the Hillsborough River Groundwater Basin and the Central Florida Water Initiative area. If successful, this project will provide the County with the information needed to assess alternatives to installing future reclaimed water lines for non-potable irrigation. Upon successful demonstration testing, the County will then determine whether to complete design/permitting and initiate construction in Phase 3 for full scale implementation.

Benefit:

Polk County currently withdrawals groundwater from the Upper Floridan aquifer (UFA) for the NWRUSA and supplies public access quality reclaimed water from the NWRWWTF for non-potable irrigation to residents and businesses with installed reclaimed water system infrastructure. The NWRWWTF was constructed as a 3.0 MGD facility and is currently permitted at 1.515 MGD. Up to 1.5 million gallons per day (MGD) beyond currently permitted quantities of highly treated reclaimed water could be used to protect groundwater supplies within the Floridan aquifer from advancing or increasing saltwater intrusion, as well as to supplement groundwater supplies in the western Polk County/eastern Hillsborough area. This area is adjacent to the Most Impacted Area, the Dover/Plant City Water Use Caution Area and the Southern Water Use Caution Area. The project would enable the County to maximize reclaimed water usage to 100%, supplement water levels in the UFA, potentially obtain additional water supplies from the existing wellfield to delay expensive alternative water supply projects and possibly slow or minimize the movement of saltwater intrusion along the coast. The County will continue to maximize activation of public access reuse along existing transmission lines

and developments to achieve the current commitment as documented in prior Cooperative Funding Agreements and will build upon the results of the “Polk County Northeast Regional Utility Service Indirect Aquifer Recharge Project (N304)”.

Cost:

Total project cost for design and testing: $1,189,000; Polk County share is $594,500. The District’s share was $250,000 in FY2018 and $250,000 in FY2019. The remaining District share of $94,500 is requested in FY2020.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

Polk County has numerous programs and ordinances that address water conservation, flood protection, stormwater management and related water resource issues. Many of these programs are made possible by a Municipal Service Taxing Unit that was adopted in 2013 specifically for water resources activities. Primary among these programs is the County's NPDES Municipal Separate Stormwater System (MS4) permit. Polk County's Comprehensive Plan (Comp Plan), Ord. #92-36, addresses Stormwater Management, Surface Water, Groundwater, Flood Plains, Wetlands and Ecological Communities while the Land Development Code (LDC), Ord. #00-09, addresses Surface Water Protection, Wetlands Protection, Concurrency–Stormwater, Landscaping, including language for Florida Yards and Neighborhoods and Low Impact Development, and Stormwater Management. In 2013, the County adopted a fertilizer management ordinance (#13-005) that provides guidelines for fertilizer application quantities and timing and has implemented a street-sweeping program for monthly sweeping of paved roads, mainly in high priority TMDL watersheds. Active since 1985, our ambient water quality program takes quarterly samples from 134 lake and stream sites to assess nutrients, metals, and bacteria levels. The County has adopted Flood Plain Ord. #00-009 and participates in the National Flood Insurance Program administered through the Federal Emergency Management Act (FEMA). All development is required to receive the proper building and site alteration permits and new structures are required to be placed above the base flood elevation when the base flood elevation is known. We are also a participant in FEMA's Community Rating System and have received a class 8 rating. The Comp Plan requires water-conserving plumbing fixtures and landscape features to be included in the Building Code. The Building Division enforces the guidelines outlined in the 1994 Standard Plumbing Code. Polk County's Year Round Water Conservation Measures and Water Shortage Ord. #04-07 allows for improved enforcement of watering restrictions as set by the District and allows for localized limits on the use of reclaimed water to be the same as irrigation standards for potable water. Polk County Utilities’ (PCU) Division Water Conservation Program Manual provides educational, regulatory, financial and operational measures for encouraging water conservation throughout our service areas. PCU's Reclaimed Water Program continues to be an integral part of the County's conservation efforts. Ord. #03-021 requires all new developments served by a wastewater treatment system that produce public access quality reclaimed water to install internal reuse distribution systems and to tie-in when reclaimed water becomes available. The Ordinance prohibits the use of potable water for irrigation once reclaimed water becomes available at a particular location. Polk County promotes Florida-Friendly landscaping and promotes the use of drought-tolerant native vegetation for landscape planting and buffer matrixes. Polk County remains an active member in both the Tampa Bay and Charlotte Harbor National Estuary Programs. The County is also a major cooperator and funding source to the Lake Action/ Education Drive, a non-profit public education group. We also work closely with the County Extension Service for public education and outreach activities, including funding of the Florida Friendly Yards program through IFAS. Our Circle B Bar Reserve hosts numerous educational events that inform the public about local natural resources. Polk County also organizes the annual 7 Rivers Water Festival, a public education event for all things related to water resources.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share	250,000	250,000	94,500		594,500
Hillsborough River	250,000	250,000	94,500		594,500
Total	500,000	500,000	189,000		1,189,000

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Phase II - Construction

Milestone	Projected Date
Initiate Construction	09/23/2019

Phase II - Design / Testing

Milestone	Projected Date
Initiate Design / Pilot Testing	10/08/2018
Complete Pilot Testing	03/01/2021

Data Collection Assessment:

☒ Groundwater or Surface Water Level measurements ☒ Groundwater or Surface Water Quality measurements

☒ Monitor Well Installation ☒ Lithologic/Geophysical data

☒ Aquifer Testing

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	SW IMP- Water Quality- Lake Hunter BMP Project
Project Number	N940
Cooperator	City of Lakeland
Department	
Contact Person	Laurie Smith
Address	407 Fairway Avenue
City Sate Zip	Lakeland, FL 33801
Phone #	863-834-6276
Email	laurie.smith@lakelandgov.net

Project Type:

☐ Water Supply ☒ Water Quality ☐ Flood Protection ☒ Natural Systems

Strategic Initiatives:

☒ Water Quality Maintenance and Improvement	☐ Water Quality Monitoring
☐ Alternative Water Supply	☐ Conservation
☐ Reclaimed Water	☐ Regional Water Supply Planning
☐ Emergency Flood Response	☐ Floodplain Management
☐ Minimum Flows and Level Establishment and Monitoring	☐ Minimum Flows and Levels Recovery
☒ Natural Systems Conservation and Restoration	☐ Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

☐ Charlotte	☐ Citrus	☐ Desoto	☐ Hardee	☐ Hernando	☐ Highlands	☐ Hillsborough	☐ Lake
☐ Levy	☐ Manatee	☐ Marion	☐ Pasco	☐ Pinellas	☐ Sarasota	☐ Sumter	☒ Polk

Project Description/Benefit/Cost

Description:

This CFI request is for construction of additional project elements of a stormwater BMP treatment train for previously untreated stormwater runoff and baseflow contributing to Lake Hunter (LH) located in Lakeland, FL.CFI funding for the project (project design, permitting, and construction) was approved for FY18 and FY19. This application is a continuation of that effort. This project builds on the previous work efforts by adding a baffle box in-line with the treatment system as the first element of the treatment train. The baffle box will improve the effectiveness of the system by facilitating removal of sediments and gross pollutants. It will also facilitate public education with a viewing top for visitors to see the pollutants captured in the baffle box. LH pollutant load reduction is a priority for the City of Lakeland (COL) because this is the priority water body relative to its MS4 permit. This project was identified as part of the COL's ongoing MS4 permit compliance efforts and is the initial component of their MS4 Supplemental Stormwater Management Plan. The City has thus far invested in monitoring stormwater outfalls into the lake as well as assessing the legacy nutrient pollutant load potential from the lake sediments. Further, the City has increased its street sweeping frequency within the LH basin in an effort to control pollutants at the source. Benefits of this increased street sweeping level of service were indirectly identified during the City’s stormwater monitoring efforts. LH is impaired according to the FDEP and the TMDL requires an 80% reduction for both TN and TP from MS4 discharges (COL and FDOT for this waterbody) as well as from Load Allocation sources inclusive of the surface water discharges from Lake Beulah and Lake Wire. This project aligns with the District’s water quality strategic initiative to support local government efforts in development and implementation of BMPs. The proposed LH BMP was conceptualized to maximize use of available property, improve hydration of existing wetlands, enhance litter capture, obtain the most nutrient load reduction possible using traditional treatment methods, and to locate the facility near the Lakeland Center which provides a potentially significant public education component to the project. The primary concepts for the proposed stormwater management retrofit include: 1. Install a baffle box to facilitate gross pollutant capture and removal 2. Create extended wet detention stormwater management facilities in the upland areas north of the east and west wetlands. 3. Incorporate the existing dry retention ponds into one larger common BMP facility. 4. Excavate the existing manmade rectangular pond to provide additional treatment prior to discharge to the existing outfall to LH.

Benefit:

Restoration of stressed wetlands and decreased stormwater runoff pollutant loading to Lake Hunter through BMP implementation are the objectives for this project. The east BMP wet detention pond (estimated permanent pool volume of 4.65 ac-ft) and westBMP wet detention pond (estimated permanent pool volume of 0.528 ac-ft) were sized based on maximizing detention time within the available land area. These BMP ponds provide treatment for 84.78 acres of previously untreated contribution area (map in documents) as well as baseflow from Lake Wire, which has a drainage area of 205 acres. The drainage basin consists of high

traffic commercial and institutional areas as well as residential areas. Pollutant load reduction is highly dependent on stormwater and baseflow water quality, however the monitoring efforts of the system have provided sufficient baseflow and storm event monitoring data to be statistically sound. Based on observed range in the monitored baseflow and stormwater quality data, the estimated annual TN mass reductions from the wet detention ponds is 272 lbs/yr for TN. Estimated TSS reduction is approximately 5,960 lbs/yr. The pond discharges will hydrate the wetlands. Estimation of load reduction was accomplished through a combination of hydrologic/hydraulic surface water modeling, historic rainfall data and monitored stormwater quality data efforts. Stormwater runoff and routing were performed using the ICPR (Interconnected Pond Routing) model software. Hourly time series rainfall data for Lakeland, FL was generated using 68 years of historic rainfall data from Lakeland airport in Lakeland, FL. This (hourly) rainfall data was broken down into individual storm events when more than 3 hours of no rainfall (<0.1") fell between recorded events. Annual runoff volume was estimated based on the summation of number of events expected (per rainfall class) multiplied by the modeled runoff for each rainfall class. Lake Wire baseflow volume and pollutant load concentrations were estimated based on the monthly baseflow samples described in the report titled "Lake Hunter Implementation Report: Results of Select Monitoring/Data Collection". Stormwater pollutant load concentrations are based on the monitored site specific pollutant concentrations from that same report. Estimated runoff and baseflow multiplied by each respective pollutant load concentration yield the estimated pollutant load (by mass) to the BMP. BMP load reduction are based on the methodology for wet detention systems presented in the document titled "ERP Stormwater Quality Applicant's Handbook, Design Requirements for Stormwater Treatment Systems in Florida" (DEP and WMD 2010), and graphically presented in Figures 13.2 and 13.3 of this document. The conceptual BMP provides a number of potential additional benefits aside from improving water quality including expanded educational opportunities for the adjacent Blake Elementary School, recreational activities associated with a potential boardwalk or bike trail and reduction of litter/sanitation issues from homeless camps. The City recognizes that education of the public on how their activities can impact the area lakes is the most cost- effective means of reducing anthropogenic pollutant loads to Lake Hunter and all the receiving waters in the area. Potential additional funding sources may be available with the inclusion of this recreational and transportation mobility element into the project. Existing drainage, proposed conceptual BMP and conceptual site maps are furnished in the documents section.

Cost:

The engineer's opinion of total project cost was $933,980, which has been increased to $1,053,980. The District approved the FY 2018 CFI funding request at 50% of the design costs. The district approved the FY 2019 construction cost estimated to be $785,731 including a contingency; where the District and Cooperator share of the estimated construction cost would be 50% or $392,865.5 each. An additional $120,000 is required due to addition of a baffle box which is an upgrade over a simple splitter junction box previously proposed. Additionally, jack and bore of the proposed diverter pipe under an existing box culvert is required due to an alignment conflict. An additional $60,000 from the District is requested to balance this increased construction budget. Based on using a 20 year service life, the updated cost data and the associated estimated pollutant load reductions, the estimated cost per pound of pollutant removed is $191.81 for TN based on capital costs only. Annual TSS reduction cost is estimated to be $8.76/ lb TSS removed. Maintenance costs are expected to be low based on the proposed conceptual design which includes the passive wet detention systems and concentrated litter removal locations.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

The City of Lakeland maintains a continued commitment to stormwater management. The City adopted a stormwater utility in December 1999 to provide a dedicated funding source for operation and maintenance of the City's stormwater system, pollution abatement devices and lake improvement projects. The stormwater utility fee is $6.00 per month for single- family residential customers. Mobile homes and attached multi-living residential units are assessed $4.00 and $3.50 per month, respectively. Fees for non-residential customers are based on the amount of impervious (pavement, roofs, sidewalk) area on the property. These customers are assessed a monthly rate of $6.00 per 5,000 square feet of impervious area. The City provides a robust street sweeping program which operates six street sweepers that maintain 551 lane miles of curbed street. In one year these street sweepers have cleaned the equivalent of 18,787 miles of streets and collected 2,555 tons of debris. The street sweeper vehicles are wrapped with eye-catching graphics to help educate the community about pollution prevention. Toby's Water Warriors campaign as well as storm drain markers provide public education for City of Lakeland Lakes and Stormwater program. The City, in cooperation with other Polk County MS4 entities, has a professionally developed stormwater education public service advertisement that plays at most of the area theatres and reaches tens of thousands of movie goers per year. City codes prohibit the placement or deposition of compost, brush, grass, etc. in or on any City street. Fines may cost up to $500.00 per incident.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share	74,125	392,865	60,000		526,990
Hillsborough River	74,125	392,865	60,000		526,990
Total	148,250	785,730	120,000		1,053,980

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Lake Hunter BMP Project

Milestone	Projected Date
Construction Contract Bid Process	10/31/2018
Permitting	10/31/2018
Construction	03/30/2019

Data Collection Assessment:

X No data will be collected for this project

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	Davenport Watershed Management Plan
Project Number	N962
Cooperator	Davenport
Department	Development Services Dept
Contact Person	Darryl Koon
Address	1 South Allapaha Ave
City Sate Zip	Davenport, FL 33836
Phone #	863-419-3300 ext136
Email	dkoon@mydavenport.org

Project Type:

☐ Water Supply ☒ Water Quality ☒ Flood Protection ☐ Natural Systems

Strategic Initiatives:

☒ Water Quality Maintenance and Improvement	☐ Water Quality Monitoring
☐ Alternative Water Supply	☐ Conservation
☐ Reclaimed Water	☐ Regional Water Supply Planning
☒ Emergency Flood Response	☐ Floodplain Management
☐ Minimum Flows and Level Establishment and Monitoring	☐ Minimum Flows and Levels Recovery
☐ Natural Systems Conservation and Restoration	☐ Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

☐ Charlotte	☐ Citrus	☐ Desoto	☐ Hardee	☐ Hernando	☐ Highlands	☐ Hillsborough	☐ Lake
☐ Levy	☐ Manatee	☐ Marion	☐ Pasco	☐ Pinellas	☐ Sarasota	☐ Sumter	☒ Polk

Project Description/Benefit/Cost

Description:

The City of Davenport is planning to develop a Watershed Management Plan and a Best Management Practices AlternativeAnalysis for the 3.50 square mile drainage basin which encompasses not only the newer development area of Davenport, but theolder downtown business area and the older residential area of Davenport areas. Within the utility service area of the City, thereare 11.9 square miles of unincorporated land. Currently the watershed discharges stormwater into 3 wet retention areas, whichinclude Lake Play and Lake Davenport and 3 dry retention areas. The following is a list of what this project includes:• Development of a GIS inventory map of the City's stormwater infrastructure and immediate maintenance evaluations;• Watershed data collection;• Development of a Hydrologic and Hydraulic (H&H) to identify flooding problem areas;• Estimation of Anthropogenic Pollutant Loading (EMC based);• Flood Protection Level of Service (FPLOS); and,• Flood protection and water quality improvement alternative analysis.Further, the City in FY 2019, anticipates funding to initialize the Watershed Management Evaluation part of this project in order tocomplete a geodatabase of model features, model parameterization, floodplain modeling and delineation, Surface Water ResourceAssessment, Level of Service determination and in FY 2020, funding for the Best Management Practices Alternative Analysis.

Benefit:

The City of Davenport is located along the ridge in the northeastern part of Polk County. Davenport is ideally located to helppositively impact a high priority watershed. The proposed Watershed Management Plan and Best Management PracticesAlternative Analysis would not only allow the City to more effectively manage its local water resources, but improvement conceptsthat will result from this Watershed Management Plan and Best Managment Practices Alternative Analysis will provide anoportunity to improve water quality, flood protection, and augment MFLs through retention and infiltration of surface water runoff.This project will allow the City to develop a detailed H & H model as one does not currently exist and the model will be used toidentify flooding problem areas in the watershed. At present, flood analysis models are not available or are over 10 years old, andthe watershed includes regional and or intermediate stormwater systems. This information is critical to better identify risk of flooddamage and cost effective alternatives. Additionally, this project will provide a complete GIS map of the City's stormwaterinfrastructure, identify pollutant loading hot spots, and improvement concepts will be identified and evaluated to address floodingproblem areas and reduce the discharge of pollutants. The project will help to address the Heartland Region Priority.

Cost:

The total budget for the City of Davenport Watershed Managment Plan and Best Management Practices Alternative Analysis is $150,000, to be split between the City and the District in a 50/50 match of $75,000 each. ($75,000 - City and $75,000 - District).The

total contribution will be spread evenly over FY 2019 and FY 2020. The drainage basin includes approximately 3.50 squaremiles of urban and rural areas, as well an additional 11.9 square miles within the utility service area for the City. The City isrequesting that the District manage the project(s) and retain the consultant, with the City's input, to complete the project tasks.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

Flood Protection: Although the City of Davenport does not currently have a FEMA CRS score, the City is committed to protectingits citizens from losses due to flooding by regulating development within the Special Flood Hazard area. Chapter 18 of the City'sLand Development Regulations outlines a series of floodplain management standards intended to protect people and property fromflood damages as well as protect existing flood storage areas. Further, the City in December of 2017, adopted Ordinance No. 806,that updated the City's Code of Ordinances with regard to floodplain management and drainage to ensure compliance with theNational Flood Insurance Program, designation of a floodplain administrator, adopting flood hazard maps, and amendment ofprocedures and criteria for development in flood hazard areas. With this project it will allow the City to more full identify andsubsequently protect flood prone areas throughout the City.Water Quality: The City of Davenport is committed to protecting and improving its highly valued water resource assets. Thiscommitment is accentuated by the enactment of City ordinances, Land Development Regulations, implementation of publicoutreach and education, and the improvement of water resources infrastructure and environmental systems. The City specificallyprovides the following efforts which compliment the water quality improvements of the Program; water quality complaintinvestigations, illicit discharge detection and elimination program, monitoring and implementation of stormwater systems, litterremoval and street sweeping programs, and public education, such as distribution of literature.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share		37,500	37,500		75,000
General Fund-District Wide		37,500	37,500		75,000
Total		75,000	75,000		150,000

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

1 - Project Kickoff

Milestone	Projected Date
Enter into Ageement with SWFWMD	10/15/2018
Consultant Notice to Proceed	11/01/2018

2 - Watershed Evaluation

Milestone	Projected Date
Final Approved Deliverables	01/15/2019
Stormwater Inventory Mapping	05/01/2019
Data Collection	07/02/2019
Initial GIS Processing	09/03/2019
Geodatabase of Model Feature	12/03/2019

3 - Watershed Management Plan

Milestone	Projected Date
Model Parameterization	03/01/2020
Model Development	05/01/2020
Final Approved Deliverables	07/01/2020

4 - Alternative Analysis

Milestone	Projected Date
Level of Service Analysis	08/01/2020
Surface Water Resource Assessment (WQ Only)	08/01/2020
BMP Development/Analysis	09/02/2020
Final Approved Deliverables	10/01/2020

Data Collection Assessment:

☒ Mapping/GIS data

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	Winter Haven Consumption and Conservation Programs Data Management Software
Project Number	N973
Cooperator	Winter Haven
Department	Community Services Natural Resources
Contact Person	Keeli Carlton
Address	401 6th St Sw
City Sate Zip	Winter Haven, FL 33880
Phone #	863-298-5495
Email	kcarlton@mywinterhaven.com

Project Type:

[X] Water Supply [ ] Water Quality [ ] Flood Protection [ ] Natural Systems

Strategic Initiatives:

[ ] Water Quality Maintenance and Improvement	[ ] Water Quality Monitoring
[ ] Alternative Water Supply	[X] Conservation
[ ] Reclaimed Water	[ ] Regional Water Supply Planning
[ ] Emergency Flood Response	[ ] Floodplain Management
[ ] Minimum Flows and Level Establishment and Monitoring	[ ] Minimum Flows and Levels Recovery
[ ] Natural Systems Conservation and Restoration	[ ] Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

[ ] Charlotte	[ ] Citrus	[ ] Desoto	[ ] Hardee	[ ] Hernando	[ ] Highlands	[ ] Hillsborough	[ ] Lake
[ ] Levy	[ ] Manatee	[ ] Marion	[ ] Pasco	[ ] Pinellas	[ ] Sarasota	[ ] Sumter	[X] Polk

Project Description/Benefit/Cost

Description:

Consumption and Conservation Programs Data management Software will deliver personalized water use data to customers and allow for convenient assessment of water use. it will provide insight into AMI water meter data. This data will give a more accurate picture of water use, which will increase the accuracy of communication with customers. Water use reports will be created that compare residential, irrigation, and commercial customers. Customized reports can be created and conservation strategies can be recommended based upon that data. Communication will promote water conservation awareness and participation for other programs. the software created a critical link between the smart meters and water use. The estimated life of the projected savings from the project is 10-20 years, with the goal to save potable water. This project will be implemented over the next 2 years. The goal would be for all 35,000 utility accounts to participate in the program. The City of Winter Haven will have approximately 14,000 customers utilizing AMI meters at the beginning of the project. At the end of the two year program, it is anticipated that 19,000 customers will have AMI meters. In order to communicate the project to the potential participants, the plan is to post information on social media, provide information on the utility bills and mailers to customers. This will e done within the City of Winter Haven Utility service area. The methods the City plans to use to evaluate the projects are: Compare water use to neighbors (social norming), Promote utility conservation incentives and rebates based on a daily or monthly basis, Detect side leaks and inform customers of the issue on a daily or monthly basis, Educate customers about District water restrictions based on actual daily water usage. The current method of meter data collection is AMR, which is a drive by meter collection system. Information is downloaded monthly, and customers are billed once a moth. The average usage per month for commercial businesses is 85,153,000 gallons and residential uses about 146,344,000 gallons of water per month. The estimated water savings based upon the per capita usage of 114 gallons per person per day is between 8.5-14.5 gallons saved per household per day.

Benefit:

The software will help to reduce costs. Being able to automate the communications and be proactive in detecting leaks not only saves the customer money, but saves water. Notifications can be set up to let customers know when their water use will be higher than normal. Customers can receive this information by email, text, or voice. Customers will be able to check their own water use without having to call the utility. Staff will have access to reporting data, which allows for increased customer communication and satisfaction. As the utility makes the transition to AMI data the software will be able to analyze non-AMI customers and the customers who have the AMI meters. All customers will be served by the software. The software will help educate customers on the need for conservation. the goal would be to reduce water use by 3%-5%. Customers would be able to receive messages that specify the goals of the utility. customer will also be able to see how their water use compares to their neighbors. Reports can be

sent to notify customers of possible leaks. Irrigation patterns can be determined and people not abiding by the watering restrictions can be notified.

Cost:

The cost to implement the program will be $120,000 over two years. The funding would be used to create profiles for the 35,000 accounts. Reports will be made and either emailed or mailed to the customers to provide their water usage for the month.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

The City of Winter Haven has an ordinance adopting SWFWMD emergency water restrictions. The City also has a tiered rate structure that discourages the overuse of potable water. The City currently has the capacity to produce 1.7 MGD of public access reuse for irrigation at our WWTP #2. With the completion of stoarage and pumping facilities at WWTP#3, an additional 4.0 MGD of public access reuse will be available. The City has a stringent flood protection code, requiring structures to be at least 2 feet above the 100 year flood elevation. The City require that new developments receive their SWFWMD stormwater permits prior to receiving development approval. The City has a dedicated funding source in the stormwater utility that is allocated to stormwater treatment instead of the traditional drainage maintenance.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share			30,000	30,000	60,000
Peace River			30,000	30,000	60,000
Total			60,000	60,000	120,000

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Begin use of software	12/31/2018
Receive renewing software update	12/31/2019

Data Collection Assessment:

☒ Other data collection: Compare water use to neighbors (social norming), Promote utility conservation incentives and rebates based on property appraiser data and water use data, Detect customer side leaks and inform custoners of the issue on a daily or monthly basis, Educate customers about District watering restrictions based on actual daily water usage

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name Study - Polk Regioal Water Cooperative Water Demand Management Plan
Project Number Q023
Cooperator PRWC
Department
Contact Person Jacqueline Hollister
Address 1011 Jim Keene Blvd.
City Sate Zip Winter Haven, FL 33880
Phone # 863-298-4236
Email Conservation@PRWCWater.org

Project Type:

[X] Water Supply [ ] Water Quality [ ] Flood Protection [ ] Natural Systems

Strategic Initiatives:

[ ] Water Quality Maintenance and Improvement
[ ] Water Quality Monitoring
[ ] Alternative Water Supply
[X] Conservation
[ ] Reclaimed Water
[ ] Regional Water Supply Planning
[ ] Emergency Flood Response
[ ] Floodplain Management
[ ] Minimum Flows and Level Establishment and Monitoring
[ ] Minimum Flows and Levels Recovery
[ ] Natural Systems Conservation and Restoration
[ ] Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

[ ] Charlotte [ ] Citrus [ ] Desoto [ ] Hardee [ ] Hernando [ ] Highlands [ ] Hillsborough [ ] Lake
[ ] Levy [ ] Manatee [ ] Marion [ ] Pasco [ ] Pinellas [ ] Sarasota [ ] Sumter [X] Polk

Project Description/Benefit/Cost

Description:

A Demand Management Plan (DMP) will be developed that explicitly defines demand-side management (DSM) as a beneficial tool for Polk Regional Water Cooperative's (PRWC) long-term supply planning process. The goal of the DMP will be to assess available water efficiency potential and articulate a long-term demand side management (DSM) and planning strategy for PRWC. The DMP will require a series of five work assignments as described below.

Benefit:

Economic justification of DSM alternatives is paramount when considering the potential for avoiding costs. As little as 1 mgd of DSM savings can be translated into a savings of nearly $15 million in capital costs associated with traditional supply development and will also reduce operating costs. At prevailing rates of interest, a one-year delay in borrowing for $100 million capital project can result in more than $2 million in interest costs. A thorough economic assessment of this strategy will provide information on the development and selection of recommended strategies for defining and achieving long-term water conservation goals.

Cost:

$340,000 total, $170,000 for fiscal year 2020

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

Polk Regional Water Cooperative (PRWC) was formed in response to the anticipated limitations of water supplies and is actively searching for methods to meet our area's predicted potable water shortage of 36-46 MGD in 2035 by pursuing numerous high-profile projects for alternative water supply. Three projects have been vetted as the first to begin and are currently in the consultant planning stages, the Peace Creek project, The Southeast LFA wellfield at approximately $11.8M and the West Polk LFA wellfield at approximately $89M. These projects are scheduled to begin adding supply to the PRWC area sometime around 2037. the interim, conservation and education will be the most timely and cost effective alternatives. PRWC received cooperative funding in the amount of $637,350 from FDEP Springs Protection grant in 2016 to implement 3 cooperative county-wide conservation projects: Indoor Incentives, Outdoor Best Management Practices, and Florida Water Star® builders' rebates.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding

Alafia River	11,900	11,900	23,800
Applicant Share	85,000	85,000	170,000
General Fund-District Wide	5,100	5,100	10,200
Hillsborough River	17,000	17,000	34,000
Peace River	51,000	51,000	102,000
Total	170,000	170,000	340,000

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

10/1/19

Milestone	Projected Date
Deferment of AWS	09/30/2020

10/1/19 - 07/31/2020

Milestone	Projected Date
Draft DMP	07/31/2020

10/1/19 - 09/30/2020

Milestone	Projected Date
Implementation Strategy	09/30/2020

11/1/18 - 02/28/2019

Milestone	Projected Date
Data Collection and Analysis of Existing Conservation Programs	02/28/2019

3/1/19 - 06/30/2019

Milestone	Projected Date
Water Usage Baseline Profiles	06/30/2019

7/1/19 - 09/30/2019

Milestone	Projected Date
Passive Conservation Estimate	09/30/2019
Selection of Conservation Measures	09/30/2019
Active Conservation Potential Estimate	09/30/2019

8/1/19 - 09/30/2019

Milestone	Projected Date
Final DMP	09/30/2020

Data Collection Assessment:

☒ No data will be collected for this project

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	Bridgers Avenue Drainage & Water Quality Project
Project Number	Q056
Cooperator	Polk County
Department	Land Development Division
Contact Person	Lawrence Updike
Address	3000 Sheffield Road
City Sate Zip	Bartow, FL 33880
Phone #	863-535-2323 ext216
Email	connerupdike@polk-county.net

Project Type:

☐ Water Supply ☒ Water Quality ☐ Flood Protection ☐ Natural Systems

Strategic Initiatives:

☒ Water Quality Maintenance and Improvement	☐ Water Quality Monitoring
☐ Alternative Water Supply	☐ Conservation
☐ Reclaimed Water	☐ Regional Water Supply Planning
☐ Emergency Flood Response	☐ Floodplain Management
☐ Minimum Flows and Level Establishment and Monitoring	☐ Minimum Flows and Levels Recovery
☐ Natural Systems Conservation and Restoration	☐ Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

☐ Charlotte	☐ Citrus	☐ Desoto	☐ Hardee	☐ Hernando	☐ Highlands	☐ Hillsborough	☐ Lake
☐ Levy	☐ Manatee	☐ Marion	☐ Pasco	☐ Pinellas	☐ Sarasota	☐ Sumter	☒ Polk

Project Description/Benefit/Cost

Description:

This project proposes construction of a series of traditional (retention pond) and linear (exfiltration pipes/treatment swales) stormwater Best Management Practices (BMPs) to provide treatment of runoff, along 4,000 feet of Bridgers Avenue, prior to discharge to Lake Lena.The Bridgers Avenue system currently serves a 77-acre highly developed drainage basin with no treatment of stormwater runoff prior to discharge into Lake Lena (a nutrient impaired waterbody with an adopted TMDL). The project is located in the Lake Hancock basin which discharges to the Upper Peace River Basin.

Benefit:

The project is estimated to reduce Total Nitrogen (TN) loads by 323 lbs/year (65%) and Total Phosphorous (TP) loads by 53 lbs/year (65%) for the 77-acre drainage basin, prior to discharge into Lake Lena (a nutrient impaired waterbody with adopted TMDL). Further, the project will capture and infiltrate additional stormwater runoff which will provide additional recharge volume to the aquifer and improve MFLs for downstream waterbodies. This project helps meet the strategic goal of Water Quality Maintenance and Improvement and helps the Heartland regional priorities of SWCUA Recovery and Improve Waterbodies (Ridge Lakes).

Cost:

This CFI application is for construction of the proposed project and acquisition of a 2-acre parcel. The reimbursable elements of the proposed project are estimated to cost $1,100,000 which equates to $170/lb of TN and $6,875/lb of TP over a 20-year useful life. It is anticipated that based on this estimate the County would be responsible for $550,000 and SWFWMD would contribute $550,000. The County anticipates to solely fund and complete the project design and permitting before October 2019. The following is an estimated breakdown of individual project components:

- Construction $880,000
- Property Acquisition $200,000
- Construction Admin $20,000

Anticipated quarterly expenditures of $275,000 would occur over the 12-month construction timeline.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

The Polk County Building Department enforces the guidelines established for municipalities in the 1994 Standard Plumbing Code (amended by County Ordinance No. 98-02). The Polk County Comprehensive Plan states that water conserving plumbing fixtures and landscape ordinances will be investigated to amend the Building Code, as outlined by F.S. 373.0391. The County promotes Florida-Friendly landscaping, as in F.S. 166.048 and promotes the use of drought-tolerant native vegetation for municipalities and

its residents in its Comprehensive Plan, Conservation Element, and by amendment LDC2003T-11 to the Land Development Code, 10/15/2003. Ordinance 04-09 refined the LDC, specifically, Chapter 7, Section 720, by addressing specific landscape planting requirements primarily for commercial property/development. Section 720 was revised again on 01/03/05 by Ordinance 04-80 to establish specific buffer matrixes including trees. Polk County has adopted a Flood Plain Ordinance (No. 00-009 Land development Code) as required to participate in the National Flood Insurance Program (NFIP) administered through the Federal Emergency Management Act (FEMA). All development is required to receive the proper building and site alteration permits. All new structures are required to be placed above the base flood elevation (when the base flood elevation is known). We are also a participant in FEMA's Community Rating System and have received a class 7 rating. PCU's Reclaimed Water Program continues to be an integral part of the Polk County's conservation efforts. Polk County Ordinance No. 03-021 requires all new developments served by a wastewater treatment system that produces public access quality reclaimed water to install internal reuse distribution systems and to tie in when reclaimed water becomes available. The Ordinance prohibits the use of potable water for irrigation once reclaimed water becomes available at a particular location. Polk County's Year Round Water Conservation Measures and Water Shortage Ordinance (No. 04-07), approved on February 18, 2004, allows for improved enforcement of watering restrictions as set by the District and allows for localized limits on the use of reclaimed water to be the same as irrigation standards for potable water. This ordinance authorizes representatives of any agency from within Polk County to levy fines for violations and Amendment 09-050, effective 8/1/09, established a more progressive fine structure to curb repeat violations and to aggressively address Gross Water Waste. These cases are managed by a Codes Enforcement Officer position funded by Utilities with supplemental enforcement provided by Environmental Deputies from the Polk County Sheriff's Office and are presided over by the Polk County Code Enforcement Special Magistrate. The PCU Water Conservation Program Manual provides educational, regulatory, financial and operational measures for encouraging water conservation throughout our service areas. Any measures unique to a particular regional utility service area in unincorporated Polk County are also addressed.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share			550,000		550,000
Peace River			550,000		550,000
Total			1,100,000		1,100,000

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Construction

Milestone	Projected Date
Commence	10/01/2019
Substantial Completion	09/01/2020
Asbuilt Survey/Record Drawing and Closeout Documents	10/01/2020

Data Collection Assessment:

☒ Land Survey

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	Polk County NWRUSA US 98 North Reclaimed Water Main from Banana Rd to Princeton Manor
Project Number	Q059
Cooperator	Polk County Utilities
Department	Utilities Technical Services
Contact Person	Krystal Azzarella
Address	1011 Jim Keene Blvd
City Sate Zip	Winter Haven, FL 33880
Phone #	863-298-4195
Email	krystalazzarella@polk-county.net

Project Type:

[X] Water Supply [ ] Water Quality [ ] Flood Protection [ ] Natural Systems

Strategic Initiatives:

[ ] Water Quality Maintenance and Improvement	[ ] Water Quality Monitoring
[ ] Alternative Water Supply	[ ] Conservation
[X] Reclaimed Water	[ ] Regional Water Supply Planning
[ ] Emergency Flood Response	[ ] Floodplain Management
[ ] Minimum Flows and Level Establishment and Monitoring	[ ] Minimum Flows and Levels Recovery
[ ] Natural Systems Conservation and Restoration	[ ] Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

[ ] Charlotte	[ ] Citrus	[ ] Desoto	[ ] Hardee	[ ] Hernando	[ ] Highlands	[ ] Hillsborough	[ ] Lake
[ ] Levy	[ ] Manatee	[ ] Marion	[ ] Pasco	[ ] Pinellas	[ ] Sarasota	[ ] Sumter	[X] Polk

Project Description/Benefit/Cost

Description:

Polk County Utilities' update to the Northwest Regional Utility Service Area (NWRUSA) Master Plan, dated March 2016, included capacity-driven recommendations on reclaimed water improvements. The primary objective was to meet future development demands and further reduce per capita demands on potable groundwater. This project consists of permitting and construction of approximately 4,300 feet of 12 inch reclaimed water transmission main and associated appurtenances to supply reclaimed water flows to 193 residential irrigation customers in the Breakwater Cove and Princeton Manor subdivisions in the NWRUSA. In addition, this project will extend the reclaimed water master reuse service area east across US Hwy 98 North, within future access to extend to existing dry-lined subdivisions and potential future customers, including a golf course.

Benefit:

The project will supply 0.031 MGD of reclaimed water to residential customers in the Central Florida Water Initiative Area. At an average usage rate of 295 gallons per connection per day, metered reclaimed water usage from the Northwest Regional Wastewater Treatment Facility (NWRWWTF) is currently 0.882 million gallons per day (MGD) (annual average daily flow) with an estimated offset of at least 60%, resulting in 0.018 MGD replacement of groundwater withdrawal for irrigation. Currently 52 residential subdivision phases and 5 commercial sites are active users of the NWRUSA Reuse System and at least 3 other residential development phases are awaiting immediate connection. New developments along the existing and planned transmission system are required to install internal reclaimed water systems and all single family residential users are individually metered. The number of reclaimed customers in the eastern portion of the service area to be connected is 311.

Cost:

The project will be awarded as a single design and permitting Request for Proposal as established by the NERUSA Master Plan update. The cost/benefit ratio cannot be fully calculated, as the project benefits will also be associated with prior and/or future transmission projects. Total cost for in FY2020 is $545,310 and requested funding from the District in FY2020 is $272,655, Polk County share is $272,655.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

Polk County has numerous programs and ordinances that address water conservation, flood protection, storm water management and related water resource issues. Many of these programs are made possible by a Municipal Service Taxing Unit that was adopted in 2013 specifically for water resources activities. Primary among these programs is the County's NPDES Municipal Separate Storm water System (MS4) permit. Polk County's Comprehensive Plan (Comprehensive Plan), Ord. #92-36, addresses

storm water Management, Surface Water, Groundwater, Flood Plains, Wetlands and Ecological Communities while the Land Development Code (LDC), Ord. #00-09, addresses Surface Water Protection, Wetlands Protection, Concurrency–Storm Water, Landscaping, including language for Florida Yards and Neighborhoods and Low Impact Development, and Storm Water Management. In 2013, the County adopted a fertilizer management ordinance (#13-005) that provides guidelines for fertilizer application quantities and timing and has implemented a street-sweeping program for monthly sweeping of paved roads, mainly in high priority TMDL watersheds. Active since 1985, our ambient water quality program takes quarterly samples from 134 lake and stream sites to assess nutrients, metals, and bacteria levels. The County has adopted Flood Plain Ord. #00-009 and participates in the National Flood Insurance Program administered through the Federal Emergency Management Act (FEMA). All development is required to receive the proper building and site alteration permits and new structures are required to be placed above the base flood elevation when the base flood elevation is known. We are also a participant in FEMA's Community Rating System and have received a class 8 rating. The Comprehensive Plan requires water-conserving plumbing fixtures and landscape features to be included in the Building Code. The Building Division enforces the guidelines outlined in the 1994 Standard Plumbing Code. Polk County's Year Round Water Conservation Measures and Water Shortage Ord. #04-07 allows for improved enforcement of watering restrictions as set by the District and allows for localized limits on the use of reclaimed water to be the same as irrigation standards for potable water. Polk County Utilities' (PCU) Division Water Conservation Program Manual provides educational, regulatory, financial and operational measures for encouraging water conservation throughout our service areas. PCU's Reclaimed Water Program continues to be an integral part of the County's conservation efforts. Ord. #03-021 requires all new developments served by a wastewater treatment system that produce public access quality reclaimed water to install internal reuse distribution systems and to tie-in when reclaimed water becomes available. The Ordinance prohibits the use of potable water for irrigation once reclaimed water becomes available at a particular location. Polk County promotes Florida-Friendly landscaping and promotes the use of drought-tolerant native vegetation for landscape planting and buffer matrixes. Polk County remains an active member in both the Tampa Bay and Charlotte Harbor National Estuary Programs. The County is also a major cooperator and funding source to the Lake Action/ Education Drive, a non-profit public education group. We also work closely with the County Extension Service for public education and outreach activities, including funding of the Florida Friendly Yards program through IFAS. Our Circle B Bar Reserve hosts numerous educational events that inform the public about local natural resources. Polk County also organizes the annual 7 Rivers Water Festival, a public education event for all things related to water resources.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share			272,655		272,655
Hillsborough River			272,655		272,655
Total			545,310		545,310

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

1-Construction Engineering

Milestone	Projected Date
Permitting / Right of Way Access	12/31/2019

2-Construction

Milestone	Projected Date
Mobilization	03/31/2020
Construction and Inspection	07/31/2020
Testing and Restoration	08/31/2020

3-Contract Closeout

Milestone	Projected Date
Record Drawing Submittal	09/30/2020

Data Collection Assessment:

☒ Mapping/GIS data

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	Lake Wilson Rd RW Improvements
Project Number	Q066
Cooperator	Polk County Utilities
Department	Utilities Technical Services
Contact Person	Tania Mcmillan
Address	1011 Jim Keene Blvd
City Sate Zip	Winter Haven, FL 33880
Phone #	863-298-4190
Email	taniamcmillan@polk-county.net

Project Type:

[X] Water Supply [ ] Water Quality [ ] Flood Protection [ ] Natural Systems

Strategic Initiatives:

[ ] Water Quality Maintenance and Improvement
[ ] Water Quality Monitoring
[ ] Alternative Water Supply
[ ] Conservation
[X] Reclaimed Water
[ ] Regional Water Supply Planning
[ ] Emergency Flood Response
[ ] Floodplain Management
[ ] Minimum Flows and Level Establishment and Monitoring
[ ] Minimum Flows and Levels Recovery
[ ] Natural Systems Conservation and Restoration
[ ] Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

[ ] Charlotte [ ] Citrus [ ] Desoto [ ] Hardee [ ] Hernando [ ] Highlands [ ] Hillsborough [ ] Lake
[ ] Levy [ ] Manatee [ ] Marion [ ] Pasco [ ] Pinellas [ ] Sarasota [ ] Sumter [X] Polk

Project Description/Benefit/Cost

Description:

Polk County Utilities' update to the Northeast Regional Utility Service Area (NERUSA) Master Plan in 2016 included capacity-driven recommendations on reclaimed water improvements. The primary objective was to meet future development demands and further reduce per capita demands on potable groundwater. This project consists of design and construction of approximately 5,000 feet of 8-inch reclaimed water transmission mains and other necessary appurtenances to supply contracted reclaimed water flows to residential multi-family complexes along Lake Wilson Road, including Victoria Park and Echelon at Ovation, as well as several future commercial sites at the corner of Lake Wilson Road and CR54 in NERUSA. The project will also extend the reclaimed water master reuse service to existing dry-lined subdivisions, including customers supplied by the county's Ovation Water Production Facility (Water Use Permit No. 20010141).

Benefit:

The project will supply approximately 0.047 mgd of reclaimed water to residential and commercial customers in the "Ridge Area" of the Central Florida Water Initiative (CFWI) area.

Cost:

The total project cost is $525,500. District share FY2020: $262,750. Polk County share: $262,750.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

All development is required to receive the proper building and site alteration permits and new structures are required to be placed above the base flood elevation when the base flood elevation is known. We are also a participant in FEMA's Community Rating System and have received a class 8 rating. The Comp Plan requires water-conserving plumbing fixtures and landscape features to be included in the Building Code. The Building Division enforces the guidelines outlined in the 1994 Standard Plumbing Code. Polk County's Year Round Water Conservation Measures and Water Shortage Ord. #04-07 allows for improved enforcement of watering restrictions as set by the District and allows for localized limits on the use of reclaimed water to be the same as irrigation standards for potable water. Polk County Utilities' (PCU) Division Water Conservation Program Manual provides educational, regulatory, financial and operational measures for encouraging water conservation throughout our service areas. PCU's Reclaimed Water Program continues to be an integral part of the County's conservation efforts. Ord. #03-021 requires all new developments served by a wastewater treatment system that produce public access quality reclaimed water to install internal reuse distribution systems and to tie-in when reclaimed water becomes available. The Ordinance prohibits the use of potable water for irrigation once reclaimed water becomes available at a particular location. Polk County promotes Florida-Friendly landscaping and promotes the

use of drought-tolerant native vegetation for landscape planting and buffer matrixes. Polk County remains an active member in both the Tampa Bay and Charlotte Harbor National Estuary Programs. The County is also a major cooperator and funding source to the Lake Action/ Education Drive, a non-profit public education group. We also work closely with the County Extension Service for public education and outreach activities, including funding of the Florida Friendly Yards program through IFAS. Our Circle B Bar Reserve hosts numerous educational events that inform the public about local natural resources. Polk County also organizes the annual 7 Rivers Water Festival, a public education event for all things related to water resources.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share			262,750		262,750
Peace River			262,750		262,750
Total			525,500		525,500

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Commence Target

Milestone	Projected Date
CEI; Bidding services	01/31/2020
Construction transmission	08/31/2020
GIS data; As-built survey; Record drawings; Completion certification	08/31/2021

Complete Target

Milestone	Projected Date
Construction transmission	08/31/2021
CEI	08/31/2021
GIS data, As-built survey; Record drawings; Completion certification	12/31/2021

Data Collection Assessment:

☒ Mapping/GIS data

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	NERUSA Ernie Caldwell Blvd RW Transmission Phase 2
Project Number	Q067
Cooperator	Polk County Utilities
Department	Utilities Technical Services
Contact Person	Tania Mcmillan
Address	1011 Jim Keene Blvd
City Sate Zip	Winter Haven, FL 33880
Phone #	863-298-4190
Email	taniamcmillan@polk-county.net

Project Type:

[X] Water Supply [ ] Water Quality [ ] Flood Protection [ ] Natural Systems

Strategic Initiatives:

[ ] Water Quality Maintenance and Improvement	[ ] Water Quality Monitoring
[ ] Alternative Water Supply	[ ] Conservation
[X] Reclaimed Water	[ ] Regional Water Supply Planning
[ ] Emergency Flood Response	[ ] Floodplain Management
[ ] Minimum Flows and Level Establishment and Monitoring	[ ] Minimum Flows and Levels Recovery
[ ] Natural Systems Conservation and Restoration	[ ] Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

[ ] Charlotte	[ ] Citrus	[ ] Desoto	[ ] Hardee	[ ] Hernando	[ ] Highlands	[ ] Hillsborough	[ ] Lake
[ ] Levy	[ ] Manatee	[ ] Marion	[ ] Pasco	[ ] Pinellas	[ ] Sarasota	[ ] Sumter	[X] Polk

Project Description/Benefit/Cost

Description:

Polk County Utilities' update to the Northeast Regional Utility Service Area (NERUSA) Master Plan in 2016 included capacity-driven recommendations on reclaimed water improvements. The primary objective was to meet future development demands and further reduce per capita demands on potable groundwater. This project is for the design, permitting, bidding, construction engineering & inspection (CEI), and construction of approximately 16,500 feet of 16-20 inch reclaimed water transmission mains and other necessary appurtenances to provide system looping and to supply reclaimed water flows to future single-family residential irrigation customers along Ernie Caldwell Boulevard and contiguous Development of Regional Impact LUD-R1 and LUD-R2 properties in Polk County's NERUSA.

Benefit:

The project will support the supply of approximately 0.522 mgd (1.023 mgd projected by year 2040) of reclaimed water to residential customers in the "Ridge Area" of the Central Florida Water Initiative (CFWI) area. The specific cost/benefit ratio of this portion of the reclaimed water transmission main cannot be fully calculated at this time. The project contributes to system efficiencies and offset benefits associated with future transmission main and residential development projects.

Cost:

The total project cost is $3,444,500. District share FY2020: $1,722,250. Polk County share: $1,722,250.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

Polk County has numerous programs and ordinances that address water conservation, flood protection, stormwater management and related water resource issues. Many of these programs are made possible by a Municipal Service Taxing Unit that was adopted in 2013 specifically for water resources activities. Primary among these programs is the County's NPDES Municipal Separate Stormwater System (MS4) permit. Polk County's Comprehensive Plan (Comp Plan), Ord. #92-36, addresses Stormwater Management, Surface Water, Groundwater, Flood Plains, Wetlands and Ecological Communities while the Land Development Code (LDC), Ord. #00-09, addresses Surface Water Protection, Wetlands Protection, Concurrency–Stormwater, Landscaping, including language for Florida Yards and Neighborhoods and Low Impact Development, and Stormwater Management. In 2013, the County adopted a fertilizer management ordinance (#13-005) that provides guidelines for fertilizer application quantities and timing and has implemented a street-sweeping program for monthly sweeping of paved roads, mainly in high priority TMDL watersheds. Active since 1985, our ambient water quality program takes quarterly samples from 134 lake and stream sites to assess nutrients, metals, and bacteria levels. The County has adopted Flood Plain Ord. #00-009 and participates in the National Flood Insurance

Program administered through the Federal Emergency Management Act (FEMA). All development is required to receive the proper building and site alteration permits and new structures are required to be placed above the base flood elevation when the base flood elevation is known. We are also a participant in FEMA's Community Rating System and have received a class 8 rating. The Comp Plan requires water-conserving plumbing fixtures and landscape features to be included in the Building Code. The Building Division enforces the guidelines outlined in the 1994 Standard Plumbing Code. Polk County's Year Round Water Conservation Measures and Water Shortage Ord. #04-07 allows for improved enforcement of watering restrictions as set by the District and allows for localized limits on the use of reclaimed water to be the same as irrigation standards for potable water. Polk County Utilities' (PCU) Division Water Conservation Program Manual provides educational, regulatory, financial and operational measures for encouraging water conservation throughout our service areas. PCU's Reclaimed Water Program continues to be an integral part of the County's conservation efforts. Ord. #03-021 requires all new developments served by a wastewater treatment system that produce public access quality reclaimed water to install internal reuse distribution systems and to tie-in when reclaimed water becomes available. The Ordinance prohibits the use of potable water for irrigation once reclaimed water becomes available at a particular location. Polk County promotes Florida-Friendly landscaping and promotes the use of drought-tolerant native vegetation for landscape planting and buffer matrixes. Polk County remains an active member in both the Tampa Bay and Charlotte Harbor National Estuary Programs. The County is also a major cooperator and funding source to the Lake Action/ Education Drive, a non-profit public education group. We also work closely with the County Extension Service for public education and outreach activities, including funding of the Florida Friendly Yards program through IFAS. Our Circle B Bar Reserve hosts numerous educational events that inform the public about local natural resources. Polk County also organizes the annual 7 Rivers Water Festival, a public education event for all things related to water resources.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share			1,722,250		1,722,250
Peace River			1,722,250		1,722,250
Total			3,444,500		3,444,500

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Commence Target

Milestone	Projected Date
Design and Permitting	10/31/2019
CEI	07/31/2021
Construction transmission	10/31/2021
GIS data; As-built survey; Record drawings; Completion Certification	03/31/2023

Complete Target

Milestone	Projected Date
Design and Permitting	07/31/2021
CEI	03/31/2023
Construction transmission	03/31/2023
GIS data; As-built survey; Record drawings; Completion Certification	07/31/2023

Data Collection Assessment:

☒ Mapping/GIS data

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	Distribution System Looping to Conserve Potable Water
Project Number	Q072
Cooperator	Haines City
Department	Public Works
Contact Person	Linda Fisher
Address	426 Claude Holmes Sr. Ave.
City Sate Zip	Haines City, FL 33844
Phone #	863-421-3696
Email	lfisher@hainescity.com

Project Type:

[X] Water Supply [ ] Water Quality [ ] Flood Protection [ ] Natural Systems

Strategic Initiatives:

[ ] Water Quality Maintenance and Improvement	[ ] Water Quality Monitoring
[ ] Alternative Water Supply	[X] Conservation
[ ] Reclaimed Water	[ ] Regional Water Supply Planning
[ ] Emergency Flood Response	[ ] Floodplain Management
[ ] Minimum Flows and Level Establishment and Monitoring	[ ] Minimum Flows and Levels Recovery
[ ] Natural Systems Conservation and Restoration	[ ] Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

[ ] Charlotte	[ ] Citrus	[ ] Desoto	[ ] Hardee	[ ] Hernando	[ ] Highlands	[ ] Hillsborough	[ ] Lake
[ ] Levy	[ ] Manatee	[ ] Marion	[ ] Pasco	[ ] Pinellas	[ ] Sarasota	[ ] Sumter	[X] Polk

Project Description/Benefit/Cost Description:

The City of Haines City flushes approximately 92.3 million gallons per year (MGY) of potable water from their distribution system. Water is flushed primarily to prevent taste and odor concerns due to extended water age. A review of the City's flushing data showed that 66.3% of potable water flushing occurs in two distinct high flushing areas of the City's distribution system. Line looping was investigated to assess if this improvement could eliminate or greatly reduce the need to flush water in the identified areas.

The first high flushing area is centered around the intersection of US Highway 27 (US 27) and Hughes Road in the southwestern part of the City's distribution system. This intersection contains a dead-end to the distribution system and terminates with a 16-inch water main. An automatic flushing box flushes approximately 26.7 MGY at the intersection. In addition, there are two additional flushing devices, one at the intersection and the second along Palmeroy Road, that flush 13.1 MGY each. Supplemental manual flushing is performed at the intersection, adding an additional 4.73 MGY of flushed water. Flushing at these locations pulls water from Lake Marion Road south along Detour Road and then west along Hughes Road, areas where the current amount of development has not yet met anticipated system demand.

The second high flushing area is centered around the intersection of US 27 and State Road 544 (SR 544) which is also located in the southwestern part of the City's distribution system. A 16-inch water main that feeds the area dead-ends just north of the intersection at a Sherwin-Williams paint store. The 16-inch main comes from the east along State Road 544 in an area where the current amount of development has not yet met anticipated system demand. An automatic flushing box accounts for approximately 3.29 MGY of flushing at the intersection. In addition, there is manual flushing at two locations which contributes 0.16 MGY.

The proposed 16-inch line loop originates at the intersection of US 27 and Hughes Road and runs north along US 27. The loop first reconnects to the distribution system at the intersection of SR 544 before continuing north and again reconnecting with the distribution system at the intersection of West Florida Avenue and US 27. The loop in total spans approximately 14,700 feet and would be constructed of ductile iron pipe (DIP). The price of ductile iron is often comparable to the price of PVC when the pipe size is greater than or equal to 16-inches. US Highway 27 (State Road 25) is owned by FDOT, and the right-of-way is not owned by the City. Therefore specifying the use of DIP, a long-lasting material, is recommended.

The loop would allow for the connection of the two dead end lines to high flow areas thereby reducing water age in the two identified areas. In addition, the loop would also allow for the strategic connection of two new subdivisions which could also increase flow through the previously low flow areas further reducing water age.

Hydraulic modeling was used to assess the efficacy of the proposed line loop. Modeling showed that looping of the system would greatly reduce the water age in two identified areas. This is expected to eliminate or greatly reduce flushing in the areas.

Benefit:

The proposed loop is will eliminate two dead end lines in the City's distribution system and is expected to eliminate or greatly reduce the 61.2 MGY of potable water flushing.

Cost:

The estimated cost of the 16-inch ductile iron loop with a total length of 14,700 feet is $2,840,000. This cost includes both materials of construction and installation. By eliminating water flushing in the two identified areas the City is expected to save 168,000 gpd (61.2 MGY) of potable water. This results in a cost benefit ratio of $4.09/kgal for the project and a payback period of 30 years based on a water cost of $1.54/kgal.

The City which is a REDI community and is estimated to contribute $710,000 to the project. The District's estimated contribution is $2,130,000.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

The City of Haines City (City) utilities department is responsible for providing a safe and adequate water supply to City customers while also protecting the City's natural resources. To ensure the City has an adequate water supply in the future, the City makes a concerted effort to conserve water. The City does this by supporting multiple water conservation programs including:

- Providing water conservation kits to customers that include high efficiency shower heads, faucet aerators, and leak detection packets;
- A WaterSense Toilet Rebate Program which helps fund the replacement of low efficiency toilets; and
- Several irrigation programs including Florida Star Builder's Rebate program.

The City is also a part of the Polk Regional Water Conservation Team with consists of several cities and towns which have entered into a cost sharing Water Conservation Program with the Southwest Florida Water Management District (SWFWMD) to impact Water Conservation throughout Polk County.
The City also strives to conserve water through looping of newly constructed water lines. Line looping is specified as a best practice when applicable in the City's Water Distribution Specifications in section 9.7.3.2.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share			710,000		710,000
Peace River			2,130,000		2,130,000
Total			2,840,000		2,840,000

Matching Fund Reduction

[X] Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Final Design and Permitting	08/01/2019
Bidding	10/01/2019
Contract Award	11/01/2019
Construction Complete	10/01/2020

Data Collection Assessment:

[X] No data will be collected for this project

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name Enhanced Conservation Education kits
Project Number Q081
Cooperator PRWC
Department
Contact Person Jacqueline Hollister
Address 1011 Jim Keene Blvd.
City Sate Zip Winter Haven, FL 33880
Phone # 863-298-4236
Email Conservation@PRWCWater.org

Project Type:

[X] Water Supply [ ] Water Quality [ ] Flood Protection [ ] Natural Systems

Strategic Initiatives:

[ ] Water Quality Maintenance and Improvement
[ ] Water Quality Monitoring
[ ] Alternative Water Supply
[X] Conservation
[ ] Reclaimed Water
[ ] Regional Water Supply Planning
[ ] Emergency Flood Response
[ ] Floodplain Management
[ ] Minimum Flows and Level Establishment and Monitoring
[ ] Minimum Flows and Levels Recovery
[ ] Natural Systems Conservation and Restoration
[ ] Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

[ ] Charlotte [ ] Citrus [ ] Desoto [ ] Hardee [ ] Hernando [ ] Highlands [ ] Hillsborough [ ] Lake
[ ] Levy [ ] Manatee [ ] Marion [ ] Pasco [ ] Pinellas [ ] Sarasota [ ] Sumter [X] Polk

Project Description/Benefit/Cost
Description:

This PROJECT will provide approximately 1,250 enhanced educational conservation kits including conservation education and activities, program implementation and reporting to classrooms within Polk County.

Benefit:

The PROJECT will conserve an estimated 23.82 gallons per day per student according to the District cost effectiveness calculator, or 29,770 gallons per day total.

Cost:

The cost is approximately $24 per student, total $30,000

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

Polk Regional Water Cooperative (PRWC) was formed in response to the anticipated limitations of water supplies and is actively searching for methods to meet our area's predicted potable water shortage of 36-46 MGD in 2035 by pursuing numerous high-profile projects for alternative water supply. Three projects have been vetted as the first to begin and are currently in the consultant planning stages, the Peace Creek project, The Southeast LFA wellfield at approximately $11.8M and the West Polk LFA wellfield at approximately $89M. These projects are scheduled to begin adding supply to the PRWC area sometime around 2037. the interim, conservation and education will be the most timely and cost effective alternatives. PRWC received cooperative funding in the amount of $637,350 from FDEP Springs Protection grant in 2016 to implement 3 cooperative county-wide conservation projects: Indoor Incentives, Outdoor Best Management Practices, and Florida Water Star® builders' rebates.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Alafia River			2,100		2,100
Applicant Share			15,000		15,000
General Fund-District Wide			900		900

Hillsborough River	3,000	3,000
Peace River	9,000	9,000
Total	30,000	30,000

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

09/30/2020 - 12/28/2020

Milestone	Projected Date
Draft Final Report	12/28/2020

10/1/19 - 9/30/2020

Milestone	Projected Date
Project implementation and promotion	09/30/2020

12/28/2020 - 01/31/2021

Milestone	Projected Date
Final Report	01/31/2021

Data Collection Assessment:

☒ Other data collection: School, teacher, and number of student participants

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	WMP - Carter Creek Watershed Management Plan LOS, and BMP Development
Project Number	Q091
Cooperator	Highlands County
Department	Natural Resources
Contact Person	Kenya Anderson
Address	505 S. Commerce Avenue
City Sate Zip	Sebring, FL 33870
Phone #	863-402-6877
Email	kanderso@hcbcc.org

Project Type:

☐ Water Supply ☒ Water Quality ☒ Flood Protection ☐ Natural Systems

Strategic Initiatives:

☒ Water Quality Maintenance and Improvement	☒ Water Quality Monitoring
☐ Alternative Water Supply	☐ Conservation
☐ Reclaimed Water	☐ Regional Water Supply Planning
☐ Emergency Flood Response	☒ Floodplain Management
☐ Minimum Flows and Level Establishment and Monitoring	☐ Minimum Flows and Levels Recovery
☐ Natural Systems Conservation and Restoration	☐ Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

☐ Charlotte	☐ Citrus	☐ Desoto	☐ Hardee	☐ Hernando	☒ Highlands	☐ Hillsborough	☐ Lake
☐ Levy	☐ Manatee	☐ Marion	☐ Pasco	☐ Pinellas	☐ Sarasota	☐ Sumter	☐ Polk

Project Description/Benefit/Cost

Description:

Complete the Watershed Management Plan (WMP) for the Carter Creek Watershed in Highlands County. Governing Board approved floodplains were developed in June 2014. FY2020 funds is being requested to complete the alternative analysis tasks including Stormwater Level of Service analysis (LOS), and Best Management Practice (BMP) alternative analysis. This will be used to identify frequent flooding concerns in project area both upstream and downstream, including Lake Lelia, Lake Lotela, Little Lake Bonnet, Lake Letta, Lake Bonnet, and other area subdivisions and agriculture properties. The subject area has been subject to structure and road flooding causing safety concerns and significant property damage, especially along the residential road of Lake Lotela Drive. Stormwater quality improvements are possible as well as floodplain management, especially those areas which discharge directly from Lake Lotela. The project main area can be defined as the residential areas around Lake Lotela and Lake Letta, also as the areas south of E Cornell Street, east of Memorial Drive and the CSX Railroad, and west of State Road 17 S. The Lake Lotela area was platted and constructed prior to 1939 and to date no control water level elevation has been established for this area. The project area is approximately 4558 acres.

Benefit:

The Measurable Benefit will be to develop a management plan for the lakes in the area to prevent structure and roadway flooding damage and effectively manage lake levels.

Cost:

Total Project Costs $150,000; Highlands County (25% REDI): $37,500; District: $112,500

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

Any new development within Highlands County is required by Land Development Regulations to comply with current design standards and applicable Water Management District Environmental Resource Permitting requirements. This includes requiring any development within a flood hazard area to obtain elevation certificates. The areas currently experiencing issues were constructed prior to flood hazard requirements currently in effect.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share			37,500		37,500

General Fund-District Wide	112,500	112,500
Total	150,000	150,000

Matching Fund Reduction

[X] Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Project Development	12/01/2019
Data Collection and Evaluation	03/01/2020
Draft Documents	08/01/2020
Final Documents	10/01/2020
District Verifications	12/31/2020

Data Collection Assessment:

[X] Groundwater or Surface Water Level measurements

[X] Surface Water Flow (Discharge) measurements

[X] Groundwater or Surface Water Quality measurements

[X] Rainfall or Other Meteorological measurements

[X] Lithologic/Geophysical data

[X] LIDAR/Elevation data

[X] Aerial Imagery

[X] Mapping/GIS data

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	Crescent Lake Watershed Water Quality & Flood Protection BMP Analysis
Project Number	Q095
Cooperator	Polk County
Department	Land Development Division
Contact Person	Lawrence Updike
Address	3000 Sheffield Road
City Sate Zip	Bartow, FL 33880
Phone #	863-535-2323 ext216
Email	connerupdike@polk-county.net

Project Type:

☐ Water Supply ☒ Water Quality ☒ Flood Protection ☐ Natural Systems

Strategic Initiatives:

☒ Water Quality Maintenance and Improvement	☐ Water Quality Monitoring
☐ Alternative Water Supply	☐ Conservation
☐ Reclaimed Water	☐ Regional Water Supply Planning
☐ Emergency Flood Response	☒ Floodplain Management
☐ Minimum Flows and Level Establishment and Monitoring	☐ Minimum Flows and Levels Recovery
☐ Natural Systems Conservation and Restoration	☐ Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

☐ Charlotte	☐ Citrus	☐ Desoto	☐ Hardee	☐ Hernando	☐ Highlands	☐ Hillsborough	☐ Lake
☐ Levy	☐ Manatee	☐ Marion	☐ Pasco	☐ Pinellas	☐ Sarasota	☐ Sumter	☒ Polk

Project Description/Benefit/Cost

Description:

The PROJECT includes a feasibility study to evaluate periodic flooding of roadways in the Ashton Oaks/Christina development, especially along Crescent Lake Drive, identify potential solutions to improve the level of service (LOS) and determine the maximum flood protection level of service that can be achieved for the project area.

Rainfall excess from off-site areas located upstream of the Ashton Oaks development is conveyed to the Ashton Oaks stormwater management system via an unnamed creek that enters the Ashton Oaks system via a series of four cross drains located beneath South Carter Road. The Ashton Oaks stormwater management system comprises a series of curb inlets and culverts along with curb and gutter drainage conveyance to three inter-connected stormwater management ponds. The stormwater ponds are designed as dry detention ponds which provide attenuation and treatment of stormwater, and allow for infiltration of detained stormwater by percolation to the static water table. The pond system also includes a discharge structure that conveys flow into a culvert that ultimately discharges into Crescent Lake. The analysis of Best Management Practices (BMPs) to potentially improve the flooding LOS along Crescent Lakes Drive, located down gradient from Ashton Oaks, will include contributing areas to the unnamed creek upstream of Ashton Oaks, the drainage areas within Ashton Oaks and adjacent developments, and the contributing areas upstream of Crescent Lake.

Benefit:

The proposed feasibility study will attempt to identify Best Management Practices (BMP) to address existing flooding issues along Crescent Lakes Drive and identify areas within the Crescent Lakes Drainage Basin for potential stormwater retention. The Crescent Lakes Drainage Basin is a sub-basin within the upper reaches of the Alafia River and has been identified as being impaired for nutrients by FDEP.

Cost:

The total study cost is anticipated to be $50,000 with 50% split between SWFWMD and Polk County.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

The Polk County Building Department enforces the guidelines established for municipalities in the 1994 Standard Plumbing Code (amended by County Ordinance No. 98-02). The Polk County Comprehensive Plan states that water conserving plumbing fixtures

and landscape ordinances will be investigated to amend the Building Code, as outlined by F.S. 373.0391. The County promotes Florida-Friendly landscaping, as in F.S. 166.048 and promotes the use of drought-tolerant native vegetation for municipalities and its residents in its Comprehensive Plan, Conservation Element, and by amendment LDC2003T-11 to the Land Development Code, 10/15/2003. Ordinance 04-09 refined the LDC, specifically, Chapter 7, Section 720, by addressing specific landscape planting requirements primarily for commercial property/development. Section 720 was revised again on 01/03/05 by Ordinance 04-80 to establish specific buffer matrixes including trees. Polk County has adopted a Flood Plain Ordinance (No. 00-009 Land development Code) as required to participate in the National Flood Insurance Program (NFIP) administered through the Federal Emergency Management Act (FEMA). All development is required to receive the proper building and site alteration permits. All new structures are required to be placed above the base flood elevation (when the base flood elevation is known). We are also a participant in FEMA's Community Rating System and have received a class 7 rating. PCU's Reclaimed Water Program continues to be an integral part of the Polk County's conservation efforts. Polk County Ordinance No. 03-021 requires all new developments served by a wastewater treatment system that produces public access quality reclaimed water to install internal reuse distribution systems and to tie in when reclaimed water becomes available. The Ordinance prohibits the use of potable water for irrigation once reclaimed water becomes available at a particular location. Polk County's Year Round Water Conservation Measures and Water Shortage Ordinance (No. 04-07), approved on February 18, 2004, allows for improved enforcement of watering restrictions as set by the District and allows for localized limits on the use of reclaimed water to be the same as irrigation standards for potable water. This ordinance authorizes representatives of any agency from within Polk County to levy fines for violations and Amendment 09-050, effective 8/1/09, established a more progressive fine structure to curb repeat violations and to aggressively address Gross Water Waste. These cases are managed by a Codes Enforcement Officer position funded by Utilities with supplemental enforcement provided by Environmental Deputies from the Polk County Sheriff's Office and are presided over by the Polk County Code Enforcement Special Magistrate. The PCU Water Conservation Program Manual provides educational, regulatory, financial and operational measures for encouraging water conservation throughout our service areas. Any measures unique to a particular regional utility service area in unincorporated Polk County are also addressed.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Alafia River			25,000		25,000
Applicant Share			25,000		25,000
Total			50,000		50,000

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Procurement

Milestone	Projected Date
Retain Consultant	08/01/2019

Project Development

Milestone	Projected Date
Kick-Off Meeting	10/31/2019
Data Collection & Survey	01/01/2020
Alternatives Analyses and Project Ranking	02/01/2020
Conceptual Design	04/01/2020
Meeting with District & County Personnel	04/14/2020
Public Meeting	05/01/2020
Final Report	06/01/2020

Data Collection Assessment:

☒ Land Survey

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	WMP Update – Sebring Watershed Management Plan Update
Project Number	Q099
Cooperator	Highlands County
Department	Natural Resources
Contact Person	Kenya Anderson
Address	505 S. Commerce Avenue
City Sate Zip	Sebring, FL 33870
Phone #	863-402-6877
Email	kanderso@hcbcc.org

Project Type:

☐ Water Supply ☒ Water Quality ☒ Flood Protection ☐ Natural Systems

Strategic Initiatives:

☒ Water Quality Maintenance and Improvement	☒ Water Quality Monitoring
☐ Alternative Water Supply	☐ Conservation
☐ Reclaimed Water	☐ Regional Water Supply Planning
☐ Emergency Flood Response	☒ Floodplain Management
☐ Minimum Flows and Level Establishment and Monitoring	☐ Minimum Flows and Levels Recovery
☐ Natural Systems Conservation and Restoration	☐ Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

☐ Charlotte	☐ Citrus	☐ Desoto	☐ Hardee	☐ Hernando	☒ Highlands	☐ Hillsborough	☐ Lake
☐ Levy	☐ Manatee	☐ Marion	☐ Pasco	☐ Pinellas	☐ Sarasota	☐ Sumter	☐ Polk

Project Description/Benefit/Cost
Description:

This multi-year project is to update the Sebring Watershed Management Plan (WMP) through and including Watershed Evaluation and Floodplain Analysis, Level of Service (LOS) Determination, and Best Management Practice (BMP) Alternative Analysis. FY2020 funding is being requested begin the Watershed Evaluation.

BMPs will be primarily focused on Sebring Country Estates and Sebring Hills, Lake Haven, Orange Blossom, Silver Fox, and Sebring Falls areas. The subject areas has been subject to structure and road flooding (both State and local roads) causing safety concerns and significant property damage. Stormwater quality improvements are possible as well as floodplain management, especially those areas which discharge directly to Lake Jackson. The project area can be defined as the area contributing to Lake Jackson.

Benefit:

The Measurable Benefit will be to update the Sebring Watershed to develop better floodplain information and implement floodplain management programs to maintain storage and conveyance and to minimize flood damage to residential area as well as State and local roadways.

Cost:

Total Project Costs $350,000; Highlands County (25% REDI): $87,500; District: $262,500

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

Any new development within Highlands County is required by Land Development Regulations to comply with current design standards and applicable Water Management District Environmental Resource Permitting requirements. This insures any new development adheres to proper stormwater quality and quantity design requirements. The areas currently experiencing issues were constructed prior to stormwater design requirements currently in effect.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding

Applicant Share	43,750	43,750	87,500
General Fund-District Wide	131,250	131,250	262,500
Total	175,000	175,000	350,000

Matching Fund Reduction

[X] Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Project Development	12/01/2020
Data Collection and Evaluation	03/01/2021
Draft Documents	08/01/2021
Final Documents	10/01/2021
District Verifications	12/31/2021

Data Collection Assessment:

[X] Groundwater or Surface Water Level measurements

[X] Surface Water Flow (Discharge) measurements

[X] Groundwater or Surface Water Quality measurements

[X] Rainfall or Other Meteorological measurements

[X] Lithologic/Geophysical data

[X] LIDAR/Elevation data

[X] Aerial Imagery

[X] Mapping/GIS data

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	Implementation of BMP's - Lake Parker Outfall Phase No. 3B (Continuation of N551)
Project Number	Q118
Cooperator	Polk County
Department	Land Development Division
Contact Person	Lawrence Updike
Address	3000 Sheffield Road
City Sate Zip	Bartow, FL 33880
Phone #	863-535-2323 ext216
Email	connerupdike@polk-county.net

Project Type:

☐ Water Supply ☒ Water Quality ☒ Flood Protection ☐ Natural Systems

Strategic Initiatives:

☒ Water Quality Maintenance and Improvement	☐ Water Quality Monitoring
☐ Alternative Water Supply	☐ Conservation
☐ Reclaimed Water	☐ Regional Water Supply Planning
☐ Emergency Flood Response	☒ Floodplain Management
☐ Minimum Flows and Level Establishment and Monitoring	☐ Minimum Flows and Levels Recovery
☐ Natural Systems Conservation and Restoration	☐ Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

☐ Charlotte	☐ Citrus	☐ Desoto	☐ Hardee	☐ Hernando	☐ Highlands	☐ Hillsborough	☐ Lake
☐ Levy	☐ Manatee	☐ Marion	☐ Pasco	☐ Pinellas	☐ Sarasota	☐ Sumter	☒ Polk

Project Description/Benefit/Cost

Description:

Phase IIIB of the Lake Parker Outfall Bank Stabilization Project will be the final project of the multi-year funded watershed projects identified in the Watershed Management Plan (WMP) for the Saddle Creek Basin. Over the past 10 years with the help of District Cooperative Funding, Polk County has completed several of the maintenance projects identified in the WMP. These projects have mainly concentrated on bank stabilization for the Lake Parker Outfall which starts at the Districts Lake Parker Structure and discharges into Saddle Creek Park. Phase 1 of the project addressed sections of the canal with the most severe erosion and was completed in 2006. In 2008, the County designed, permitted, and constructed Phase II of the project. In 2014, Polk County applied for and received funding to complete the construction of Phase III of the project. Phase III was to be the final phase of the project. However, due to funding constraints, the County was only able to construct three of the four segments of the project. This cooperative funding application is to complete the final segment of Phase III. The design of the project is complete and the project is shovel ready.

Benefit:

This is the final phase of the Lake Parker Outfall Improvements. The previous funded improvements have been highly successful in providing flood protection for the private property owners along the Lake Parker Outfall Canal. The improvements have also been highly successful in eliminating erosion and sediments discharges into Saddle Creek that are a result from high stormwater flows from Lake Parker. A basic BCA analysis was calculated utilizing an average annual cost of canal maintenance within the project area. These cost include tree removal, bank restoration, vegetative maintenance, along with trash and debris removal. The BCA for the project scored a 0.53.

Cost:

Construction is anticipated to cost approximately $660,000 with 50% split between SWFWMD and Polk County.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

The Polk County Building Department enforces the guidelines established for municipalities in the 1994 Standard Plumbing Code (amended by County Ordinance No. 98-02). The Polk County Comprehensive Plan states that water conserving plumbing fixtures and landscape ordinances will be investigated to amend the Building Code, as outlined by F.S. 373.0391. The County promotes Florida-Friendly landscaping, as in F.S. 166.048 and promotes the use of drought-tolerant native vegetation for municipalities and its residents in its Comprehensive Plan, Conservation Element, and by amendment LDC2003T-11 to the Land Development Code, 10/15/2003. Ordinance 04-09 refined the LDC, specifically, Chapter 7, Section 720, by addressing specific landscape planting requirements primarily for commercial property/development. Section 720 was revised again on 01/03/05 by Ordinance 04-80 to establish specific buffer matrixes including trees. Polk County has adopted a Flood Plain Ordinance (No. 00-009 Land development Code) as required to participate in the National Flood Insurance Program (NFIP) administered through the Federal Emergency Management Act (FEMA). All development is required to receive the proper building and site alteration permits. All new structures are required to be placed above the base flood elevation (when the base flood elevation is known). We are also a participant in FEMA's Community Rating System and have received a class 7 rating. PCU's Reclaimed Water Program continues to be an integral part of the Polk County's conservation efforts. Polk County Ordinance No. 03-021 requires all new developments served by a wastewater treatment system that produces public access quality reclaimed water to install internal reuse distribution systems and to tie in when reclaimed water becomes available. The Ordinance prohibits the use of potable water for irrigation once reclaimed water becomes available at a particular location. Polk County's Year Round Water Conservation Measures and Water Shortage Ordinance (No. 04-07), approved on February 18, 2004, allows for improved enforcement of watering restrictions as set by the District and allows for localized limits on the use of reclaimed water to be the same as irrigation standards for potable water. This ordinance authorizes representatives of any agency from within Polk County to levy fines for violations and Amendment 09-050, effective 8/1/09, established a more progressive fine structure to curb repeat violations and to aggressively address Gross Water Waste. These cases are managed by a Codes Enforcement Officer position funded by Utilities with supplemental enforcement provided by Environmental Deputies from the Polk County Sheriff's Office and are presided over by the Polk County Code Enforcement Special Magistrate. The PCU Water Conservation Program Manual provides educational, regulatory, financial and operational measures for encouraging water conservation throughout our service areas. Any measures unique to a particular regional utility service area in unincorporated Polk County are also addressed.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share	1,900,000		330,000		2,230,000
Peace River	1,900,000		330,000		2,230,000
Total	3,800,000		660,000		4,460,000

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

Task 1

Milestone	Projected Date
Project Bidding	11/01/2019

Task 2

Milestone	Projected Date
Start Construction	01/01/2020

Task 3

Milestone	Projected Date
End Construction	06/01/2020

Task 4

Milestone	Projected Date
Finalize Close-out Documents	07/01/2020

Data Collection Assessment:

☒ Land Survey

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

FY2020 Cooperative Funding Initiative Application Form

Project Name	Winter Haven Ridge Implementation of Stormwater BMPs
Project Number	W772
Cooperator	Winter Haven
Department	Community Services Natural Resources
Contact Person	Mary Thornhill
Address	P. O. Box 2277
City Sate Zip	Winter Haven, FL 338832277
Phone #	863-291-5881
Email	mthornhill@mywinterhaven.com

Project Type:

[X] Water Supply [X] Water Quality [X] Flood Protection [X] Natural Systems

Strategic Initiatives:

[X] Water Quality Maintenance and Improvement	[ ] Water Quality Monitoring
[ ] Alternative Water Supply	[X] Conservation
[ ] Reclaimed Water	[X] Regional Water Supply Planning
[ ] Emergency Flood Response	[X] Floodplain Management
[ ] Minimum Flows and Level Establishment and Monitoring	[ ] Minimum Flows and Levels Recovery
[X] Natural Systems Conservation and Restoration	[X] Natural Systems Identification and Monitoring

Indicate All Counties to Benefit From Project:

[X] Charlotte	[ ] Citrus	[X] Desoto	[X] Hardee	[ ] Hernando	[ ] Highlands	[ ] Hillsborough	[ ] Lake
[ ] Levy	[X] Manatee	[ ] Marion	[ ] Pasco	[ ] Pinellas	[X] Sarasota	[ ] Sumter	[X] Polk

Project Description/Benefit/Cost

Description:

The objective of this project is to improve water quality and enhance aquifer recharge in the core area of Winter Haven. Situated in the heart of the Winter Haven Ridge where urban land uses have impacted surface water quality as well as aquifer recharge. The Winter Haven Chain of Lakes (COL) is a SWIM priority waterbody and consists of 24 interconnected lakes divided into a southern and northern chain. This project is consistent with the COL SWIM Plan. It has been shown that covering recharge areas with impervious surfaces increases runoff and limits aquifer recharge. The surficial aquifer supplies water to surrounding lakes during times of low rainfall. This project has been identified as a primary recommendation in the City's COL Water Quality Management Plan to improve stormwater quality and restore recharge to the surficial aquifer as a fundamental component for sustainable water quality and lake elevations. City staff previously prepared a master plan to determine which low impact technology is most suitable in various locations in the Winter Haven Ridge. Technologies such as rain gardens, percolation systems, swales, stormwater drain fields, etc were considered. The master plan estimated drainage areas, available land area for treatment, pond and swale volume and the appropriate LID technology. Approximately 30 of the original projects were put in place under the 2010 Coop Funding Grant with 30 additional projects being worked on under FY2015 funding. The FY2019 and FY2020 funding will be used to design and construct an additional 12 projects. The design, permitting, and construction work will be completed by a mixture of in house staff, consultants, and contractors as has been successful with the earlier projects.

Benefit:

Historically, impacts from stormwater have been limited to the pollutants entering the lakes through discharge pipes or direct runoff. Today, we know that treating stormwater is only one component of managing the system. Increasing recharge to the surficial aquifer not only improves lake hydroperiods, but also improves the water quality of the stormwater entering the lakes. The proposed project will create a number of small percolation projects which will allow stormwater to recharge the surficial aquifer and be treated by natural processes. These small projects will use public right of way and park areas located in and around the Winter Haven Ridge area to percolate stormwater into the ground. In this manner, the water will be cleansed and available to the lakes for water quality improvements and hydroperiod recovery.

Cost:

The project, providing multiple benefits, is identified as a 50/50 cost share. The intent is to use all of the FY2020 funding for construction purposes, with most of the design being completed using approximately 33% of FY2019 funding. The remaining 66% of FY2019 funding will be used for construction as well. Construction will be completed using in house staff wherever possible, other projects will be grouped to benefit from economies of scale, and completed through a competitive bid process.

Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

The City of Winter Haven has an ordinance adopting SWFWMD emergency water restrictions. The City also has a tiered rate structure that discourages the overuse of potable water. The City currently has the capacity to produce 1.7 MGD of public access reuse for irrigation at our WWTP #2. With the completion of storage and pumping facilities at WWTP #3, an additional 4.0 MGD of public access reuse will be available. The City has a stringent flood protection code, requiring structures to be at least 2 feet above the 100 year flood elevation. The City requires that new developments receive their SWFWMD stormwater permits prior to receiving development approval. The City has a dedicated funding source in the stormwater utility that is allocated to stormwater treatment instead of the traditional drainage maintenance.

Funding Source	Prior Funding	FY2019 Budget	FY2020 Budget	Future Funding	Total Funding
Applicant Share		60,000	60,000		120,000
Peace River		60,000	60,000		120,000
Total		120,000	120,000		240,000

Matching Fund Reduction

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

Timelines

2020

Milestone	Projected Date
Construction of Remaining Projects	12/31/2020

Data Collection Assessment:

☒ No data will be collected for this project

The Southwest Florida Water Management District (District) does not discriminate on the basis of disability. This nondiscrimination policy involves every aspect of the District's functions, including access to and participation in the District's programs and activities. Anyone requiring reasonable accommodation as provided for in the Americans with Disabilities Act should contact the District's Human Resources Director, 2379 Broad Street, Brooksville, Florida 34604-6899; 1-352-796-7211 or 1-800-423-1476 (Florida only), extension 4702; TDD (Florida only) 1-800-231-6103; or email to ADACoordinator@swfwmd.state.fl.us