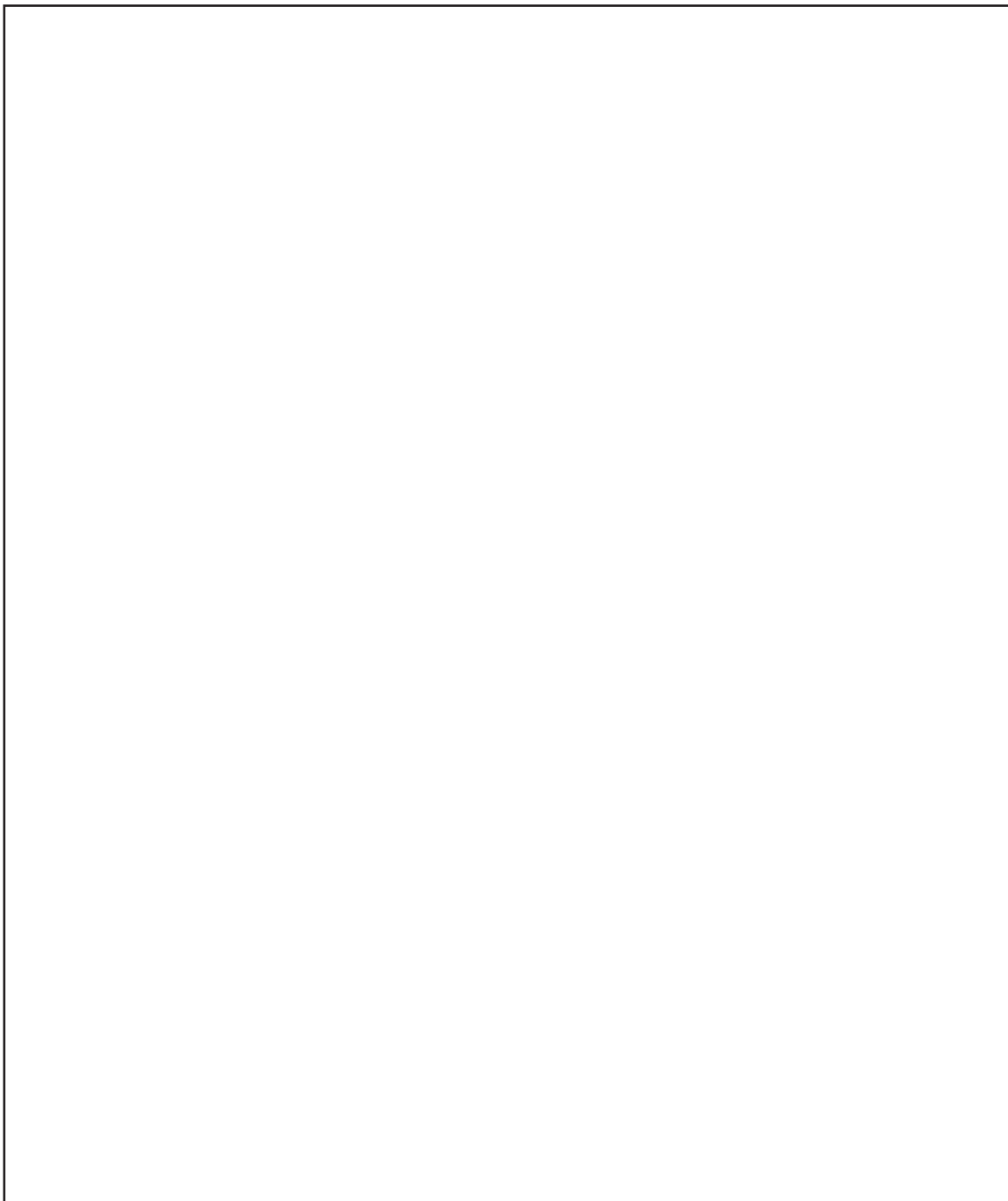


# Geohydrologic Data Section Work Plan 2020



Southwest Florida  
Water Management District

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**Cover Photo:** Core drilling and testing operation at the ROMP 119.5 – Ross Pond well site. Photograph by Jason LaRoche.

# **Geohydrologic Data Section Work Plan 2020**

August 2019

# **Southwest Florida Water Management District**

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# Preface

The 2020 Geohydrologic Data Section Work Plan lists the projects planned by the Geohydrologic Data Section (GEO) for fiscal years 2020 to 2025. The GEO is responsible for the collection of hydrogeologic data and the oversight of monitor well construction activities at the Southwest Florida Water Management District (District). The GEO conducts exploratory core drilling and aquifer testing, and contracts private well drilling firms to construct the monitor wells to support the data collection needs for various District projects.

The Regional Observation and Monitor-well Program (ROMP), administered by the GEO, has historically been the primary source for hydrogeologic data collection. The ROMP was started in 1974 in response to the need for hydrogeologic information by the District. The focus of the ROMP is to characterize the hydrogeology and water quality of the groundwater systems that serve as the primary source of drinking water within southwestern Florida. The original design of the ROMP consisted of an inland 10-mile grid network composed of 122 well sites and a coastal transect network composed of 24 coastal monitor transects of two to three well sites each. The number of wells at a well site varies with specific regional needs; usually two to five permanent monitor wells are constructed at each site. The numbering system for both networks generally increases from south to north with ROMP-labeled wells representing the inland grid network and TR-labeled wells representing the coastal transect network. Currently, 105 inland grid network well sites are complete and 23 coastal transect network well sites have one or more wells in the transect complete. The need for additional ROMP inland and coastal transect well sites will depend on the future priorities of the District.

Recent District initiatives have created the need for data from new well sites outside the original two well networks. These well sites, known as Project Support well sites, facilitate the exploration of target areas within the District such as the Southern Water Use Caution Area, Central Florida Water Initiative, and the Northern District Water Resources Assessment Project. Some well sites provide information for multiple projects, as well as enhancing the original two well networks.

The broad objectives at each well site are to determine the geology, hydrology, groundwater quality, hydraulic properties, and to install wells for long-term monitoring. Site activities include exploratory core drilling, aquifer testing, and well construction. These activities provide data necessary for the hydrogeologic and groundwater quality characterization of the well sites. At the completion of each well site, a summary report is generated and can be found at the District's website at <https://www.swfwmd.state.fl.us/resources/data-maps/geohydrologic-data>. The monitor wells form the backbone of the District's long-term aquifer monitoring networks, which supply critical data for the District's regional models, hydrologic conditions, and water quality reporting.



# Contents

Preface .....	iii
Introduction.....	1
Work Plan Organization.....	1
Core Drilling and Testing Projects .....	1
ROMP 75 – Auburndale .....	2
ROMP 88 – Rock Ridge (Green Swamp West) .....	2
ROMP 88.5 – Northeast Polk.....	3
ROMP 46 – Baird .....	3
Stage Coach Trail .....	3
ROMP 129 – Hibiscus Park .....	3
ROMP 118 – Tidewater .....	3
TR CB-2 – Cockroach Bay.....	9
TR 7-3 – Durante Park .....	9
Coon Wallow .....	9
Project Support Well Construction Projects .....	9
Central Florida Water Initiative .....	11
Minimum Flows and Levels.....	11
Coastal Groundwater Quality Monitoring Network.....	11
Upper Floridan aquifer Nutrient Monitoring Network.....	11
Summary and Conclusions.....	11
Selected References .....	12

## Figures

1. Geohydrologic Data Section core drilling and well construction sites. ....	10
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## Tables

1. Planned core drilling and testing projects for fiscal years 2020 – 2025 .....	2
2. Planned monitor well construction projects for fiscal years 2020 – 2025 .....	4
3. Planned aquifer performance tests for fiscal years 2020 – 2025 .....	9

## Appendices

1. Scope of Work Checklists/FootPrints Work Orders .....	13
2. General Hydrogeology of the Southwest Florida Water Management District .....	28



## Conversion Factors

<b>Multiply</b>	<b>By</b>	<b>To obtain</b>
foot (ft)	0.3048	meter (m)
gallon (gal)	3.785	liter (L)
gallon (gal)	0.003785	cubic meter (m <sup>3</sup> )
gallon (gal)	3.785	cubic decimeter (dm <sup>3</sup> )
million gallons (Mgal)	3,785	cubic meter (m <sup>3</sup> )
mile (mi)	1.609	kilometer (km)
ounce, avoirdupois (oz)	28.35	gram (g)

## Acronyms and Abbreviations

APT	aquifer performance test
bls	below land surface
CFWI	Central Florida Water Initiative
CGWQMN	Coastal Groundwater Quality Monitoring Network
CME	Central Mining Equipment
District	Southwest Florida Water Management District
DMIT	Data, Monitoring, and Investigation Team
DWRM	District Wide Regulation Model
ECFTX	East Central Florida Transient Model
FY	Fiscal Year
GEO	Geohydrologic Data Section
MFL	Minimum Flows and Levels
MIA	Most Impacted Area
MCU	Middle Confining Unit
NDDP	Northern District Drilling Program
NDM	Northern District Groundwater Flow Model
NDWRAP	Northern District Water Resources Assessment Project
ROMP	Regional Observation and Monitor-well Program
SWUCA	Southern Water Use Caution Area
UDR	Universal Drill Rigs
UFANMN	Upper Floridan aquifer Nutrient Monitoring Network
Work Plan	Geohydrologic Data Section Work Plan



# Geohydrologic Data Section Work Plan 2020

## Introduction

As the demand for water resources within the Southwest Florida Water Management District (District) increases, the need to monitor and evaluate the condition of the water resources also increases. The Geohydrologic Data Section (GEO) Work Plan 2020 (Work Plan) identifies current and future core drilling and testing, and well construction sites, details the required work, and prioritizes the well sites to ensure the hydrogeologic data needs of the District are being met for fiscal years (FY)<sup>1</sup> 2020 to 2025. The goal of the data collected from the construction of these well sites is to improve the understanding of the hydrogeologic systems in the District.

The Work Plan is generally updated every two years. The GEO solicits information from the Water Resources, Natural Systems and Restoration, Data Collection, and Water Use Permit Bureaus about future hydrogeologic data collection and well construction requirements of the District. These future project requirements are detailed on GEO scope of work forms or work orders submitted through FootPrints. The scope of work forms and FootPrints work orders received for the listed projects are presented in appendix 1.

Data collected at the well sites identified in this Work Plan will be used for hydrologic conditions reporting, water quality monitoring, groundwater modeling, minimum flows and levels development, long-term water resource availability estimates, well field recovery monitoring and evaluating, and regulatory guidelines evaluating. The data collection objectives for each project will vary depending on the data needs in the particular area. These objectives may include: identifying the potable water thickness, locating the saltwater/freshwater interface, determining the thickness of the Upper Floridan aquifer, determining the presence and groundwater quality of the Lower Floridan aquifers (below middle confining units I, II, and VI), and other similar objectives. A summary of the hydrogeology of the District, and the stratigraphic and hydrologic terms used in this Work Plan are given in appendix 2.

## Work Plan Organization

Projects in the Work Plan are grouped according to the data collection needs. Projects requiring the highest level of data collection are listed as Core Drilling and Testing projects (table 1). Projects requiring well construction and minimal data collection are listed as Project Support Well Construction projects. Table 2 lists all the monitor wells planned for both project types. Projects that require aquifer performance tests (APTs) are presented in table 3. Figure 1 presents the locations of the projects. The core drilling and testing, monitor well construction, and APTs proposed to be completed by the GEO section from FY2020 to FY2025 are what can be reasonably accomplished with the available resources.

## Core Drilling and Testing Projects

Well construction sites selected for core drilling and testing are completed in three phases and require the highest level of data collection. The first phase includes collecting continuous rock core samples from land surface up to 3,000 feet below land surface (bls) to delineate formation boundaries, aquifers, permeable zones, and confining units. In addition, slug tests are conducted, and water quality samples are collected while core drilling to characterize the hydrogeologic units encountered. Core drilling and testing can take twelve months to complete depending on the planned depth of data collection. The District-owned Universal Drill Rigs (UDR) 200D LS and Central Mining Equipment (CME) 85 drill rigs are used for core drilling and data collection. The District also contracts private drilling firms for specific core drilling projects as needed. The current and proposed core drilling projects are detailed below and listed in table 1.

Phase two includes the construction of the permanent and temporary monitor wells, which is performed by private drilling firms contracted by the District. Well construction usually begins after core drilling and testing is complete. The monitor wells proposed for construction for FYs 2020 to 2025 are presented in table 2.

Phase three includes conducting APTs, which are performed after all wells are constructed. The APTs proposed for FYs 2020 to 2025 are presented in table 3.

<sup>1</sup>The fiscal year begins October 1 and ends September 30

## 2 Geohydrologic Data Section Work Plan 2020

**Table 1.** Planned core drilling and testing projects for fiscal years 2020 – 2025

[bls, below land surface; CFWI, Central Florida Water Initiative; CGWQMN, Coastal Groundwater Quality Monitoring Network; FAS, Floridan aquifer system; LFA, Lower Floridan aquifer; MCU I, middle confining unit I; MCU II, middle confining unit II; NDWRAP, Northern District Water Resource Assessment Project; ROMP, Regional Observation and Monitor-well Program; SWUCA, Southern Water Use Caution Area; TE, Temporary Easement; TR, transect]

Site Number	Site Name	Project	County	Starting Fiscal Year (pro-jected)	Easement Status	Starting Depth (feet bls)	Estimated End Depth (feet bls)	Core Drilling Objective
District Core Drilling Rig								
ROMP 88	Rock Ridge	CFWI, ROMP	Polk	2017	No Expiration	0	2,650	Delineate MCU I, and II, base of FAS
ROMP 88.5	Northeast Polk	CFWI, ROMP	Polk	2018	Acquired; Expires at project completion	0	2,500	Delineate MCU I, and II, base of FAS
ROMP 46	Baird	CFWI, ROMP, SWUCA	Polk	2021	TE Expires 1/31/2015	0	2,600	50 feet into LFA below MCU II, or base of FAS
-	Stage Coach Trail	NDWRAP, ROMP	Citrus	2023	Not Acquired	0	1,000	50 feet into MCU II
ROMP 129	Hibiscus Park	MFL, NDWRAP, ROMP	Marion	2024	No Expiration	0	1,000	50 feet into LFA below MCU II
ROMP 118	Tidewater	NDWRAP, ROMP	Marion	2025	Need larger site for coring and wells	0	1,000	50 feet into MCU II
Contracted Core Drilling								
TR CB-2	Cockroach Bay	CGWQMN, SWUCA	Hillsborough	2021	TE Expires 4/18/2063	0	1,000	Locate saltwater interface
TR 7-3	Durante Park	SWUCA, ROMP	Manatee	2023	No Expiration	0	600	Locate saltwater interface
-	Coon Wal-low	CGWQMN	Hernando	2024	District Prop-erty	0	700	Locate saltwater interface

### ROMP 75 – Auburndale

This well site is located in Polk County and supports the Central Florida Water Initiative (CFWI) and the ROMP inland 10-mile grid network. A detailed characterization of the surficial aquifer, Hawthorn (intermediate) aquifer system, Upper Floridan aquifer, and Lower Floridan aquifer was performed during core drilling at the site.

Core drilling and testing was completed to a depth of 2,810 feet bls in the top of the basal confining unit of the Floridan aquifer system in 2013. Monitor wells have been completed in the surficial aquifer, Upper Floridan aquifer, and Lower Floridan aquifer below middle confining unit I. A permanent Lower Floridan aquifer monitor well was completed below middle confining unit II in July 2016, as part of the 2016 CFWI Data, Monitoring, and Investigations Team (DMIT) Hydrogeologic Work Plan Update for FY2016-FY2020. The permanent and temporary Upper Floridan aquifer monitor wells will be modified before conducting APTs.

APTs are planned in the surficial aquifer, Upper Floridan aquifer, and the Lower Floridan aquifer below middle confining unit I during FY2020. This well site will be equipped for long-term monitoring of water levels and water quality.

### ROMP 88 – Rock Ridge (Green Swamp West)

This is an existing ROMP site located in northern Polk County that contains one permanent Upper Floridan aquifer well. Well construction and testing at this location is being performed in accordance with the CFWI DMIT Hydrogeologic Annual Work Plan (FY2019-FY2025). This site will be part of the ROMP inland 10-mile grid network and will improve the calibration of the District Wide Regulation Model (DWRM), Northern District Groundwater Flow Model (NDM), and the East Central Florida Transient (ECFTX) model. Data collection from this site is important for monitoring the Lower

Floridan aquifer as it is tested as an alternative water source in Polk County. Core drilling and testing at this well site will provide a detailed characterization of the Upper and Lower Floridan aquifers, and delineate the extent of middle confining units I and II.

Core drilling and testing started during FY2017 and is at 1,937 feet bls as of July 2019. Coring and testing will extend to the base of the Floridan aquifer system. Monitor wells are required in the Lower Floridan aquifer below middle confining unit I and Lower Floridan aquifer below middle confining unit II. APTs are needed in the Upper Floridan aquifer and Lower Floridan aquifers below confining units I and II. This well site will be equipped for long-term monitoring of water levels and water quality.

## ROMP 88.5 – Northeast Polk

This well site is located in northeastern Polk County. Well construction and testing at this location is being performed in accordance with the CFWI DMIT Hydrogeologic Annual Work Plan (FY2019-FY2025). This site will infill the ROMP inland 10-mile grid network, and will improve the calibration of the DWRM, NDM, and the ECFTX models. Data collection from this site is important for monitoring the Lower Floridan aquifer as it is tested as an alternative water source in Polk County. This site will provide a detailed characterization of the Upper and Lower Floridan aquifers, and delineate the extent of middle confining units I and II.

Core drilling and testing started during FY2018 and is at 725 feet bls as of July 2019. Coring and testing will extend to the base of the Floridan aquifer system. Monitor wells are required in the Upper Floridan aquifer, Lower Floridan aquifer below middle confining unit I, and Lower Floridan aquifer below middle confining unit II. APTs are needed in the Upper Floridan aquifer and Lower Floridan aquifers below confining units I and II. This well site will be equipped for long-term monitoring of water levels and water quality.

## ROMP 46 – Baird

This well site is located in southwestern Polk County. Well construction and testing at this location is being performed in accordance with the CFWI DMIT Hydrogeologic Annual Work Plan (FY2019-FY2025). This site will infill the ROMP inland 10-mile grid network, support SWUCA, and will improve the calibration of the DWRM, NDM, and ECFTX models. Core drilling and testing at this site will provide a detailed characterization of the surficial aquifer, Hawthorn (intermediate) aquifer system, and Upper Floridan aquifer, and will determine the elevation of middle confining unit II.

Core drilling and testing is needed from land surface to 50 feet into the Lower Floridan aquifer below middle confining unit II. Monitor wells are needed in the surficial aquifer, any of the aquifers present within the Hawthorn (intermedi-

ate) aquifer system, and any discrete permeable zones of the Upper Floridan aquifer. APTs are needed for any aquifer or permeable zone containing freshwater. This well site will be equipped for long-term monitoring of water levels and water quality.

## Stage Coach Trail

This well site (previously named Dames Cave) is proposed to be located in south-central Citrus County. This site will support the NDWRAP and improve the calibration of the DWRM and NDM. This site also will infill the ROMP inland 10-mile grid network. Core drilling and testing at the site will provide a detailed characterization of the surficial aquifer and the Upper Floridan aquifer.

Core drilling and testing is needed 50 feet into the middle confining unit II. Monitor wells are required in the surficial and Upper Floridan aquifers. APTs are required for the surficial and Upper Floridan aquifers. This well site will be equipped for long-term monitoring of water levels only.

## ROMP 129 – Hibiscus Park

This well site is located in eastern Marion County. This site will support the NDWRAP, MFLs, and will infill the ROMP inland 10-mile grid network. This site will also improve the calibration of the DWRM and NDM. Core drilling and testing will provide a detailed characterization of the surficial and Upper Floridan aquifers, and will determine the geographical extent of the middle confining units I and II, and the Lower Floridan aquifers below middle confining units I and II. The movement of the deepwater/freshwater (sulfate) interface will also be monitored at this site.

Core drilling and testing is needed from land surface to 50 feet into the Lower Floridan aquifer below middle confining unit II. Monitor wells have been constructed in the surficial aquifer and Upper Floridan aquifer. The construction of a Lower Floridan aquifer below middle confining unit I monitor well and a deepwater/freshwater (sulfate) monitor well is dependent on the data collected during core drilling and testing. This well site will be equipped for long-term monitoring of water levels and water quality.

## ROMP 118 – Tidewater

This well site is proposed to be located in western Marion County. This site will support the Northern District Drilling Plan (NDDP) (Basso, 2007), MFLs, and will infill the ROMP inland 10-mile grid network. Core drilling and testing at the site will provide a detailed characterization of the surficial aquifer and Upper Floridan aquifer, delineate the eastern geographic extent of middle confining I, and determine the existence of a Lower Floridan aquifer below middle confining unit I.

**Table 2.** Planned monitor well construction projects for fiscal years 2020 – 2025

[-, none; CFWI, Central Florida Water Initiative; CGWQMN, Coastal Groundwater Quality Monitoring Network; LFA I, Lower Floridan aquifer below middle confining unit I; LFA II, Lower Florida aquifer below middle confining unit II; MFL, Minimum Flows and Levels; NDWRAP, Northern District Water Resource Assessment Project; Perm, permanent; REG, Regulation Department; ROMP, Regional Observation and Monitor-well Program; SWUCA, Southern Water Use Caution Area; Temp, temporary; TE, temporary easement; UFA, Upper Floridan aquifer; UFANMN, Upper Floridan aquifer Nutrient Monitoring Network]

Site Number	Site Name	Project	County	Easement Status	Monitor Wells									
					Perm Surficial	Temp Surficial	Perm Hawthorn	Temp Hawthorn	Perm UFA	Temp UFA	Perm LFA I	Temp LFA I	Perm LFA II	Temp LFA II
FISCAL YEAR 2020														
ROMP 88	Rock Ridge	ROMP, CFWI	Polk	District Property	-	-	-	-	-	-	1	1	1	1
-	Thornhill Replacement	CFWI	Polk	Acquired	-	-	-	-	-	-	1	-	-	-
ROMP 88.5	Northeast Polk	ROMP, CFWI	Polk	Acquired	-	-	-	-	1	-	-	-	-	-
-	North Lake Wales	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Eagle Lake	CFWI, MFL	Polk	Acquired	1	-	-	-	1	-	-	-	-	-
-	Lake Aurora	CFWI, MFL	Polk	Acquired	1	-	-	-	1	-	-	-	-	-
-	Gator Creek 1	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Gator Creek 2	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Lake Wales Ridge Wildlife and Environmental Area	CFWI, MFL	Polk	Acquired	1	-	-	-	-	-	-	-	-	-
-	Mountain Lake Cutoff 2													
-	Crooked Lake West 1	CFWI, MFL	Polk	District Property	1	-	-	-	-	-	-	-	-	-
-	Crooked Lake West 2	CFWI, MFL	Polk	District Property	1	-	-	-	-	-	-	-	-	-
-	Crooked Lake Prairie	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Lake Marie	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-

**Table 2. (Continued)** Planned monitor well construction projects for fiscal years 2020 – 2025

[-, none; CFWI, Central Florida Water Initiative; CGWQMN, Coastal Groundwater Quality Monitoring Network; LFA I, Lower Floridan aquifer below middle confining unit I; LFA II, Lower Florida aquifer below middle confining unit II; MFL, Minimum Flows and Levels; NDWRAP, Northern District Water Resource Assessment Project; Perm, permanent; REG, Regulation Department; ROMP, Regional Observation and Monitor-well Program; SWUCA, Southern Water Use Caution Area; Temp, temporary; TE, temporary easement; UFA, Upper Floridan aquifer; UFANMN, Upper Floridan aquifer Nutrient Monitoring Network]

Site Number	Site Name	Project	County	Easement Status	Monitor Wells								Perm LFA I	Temp LFA I	Perm LFA II	Temp LFA II
					Perm Surficial	Temp Surficial	Perm Hawthorn	Temp Hawthorn	Perm UFA	Temp UFA						
-	Lake Maude	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-
-	Lake Ned (Street Sanctuary)	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL FOR FISCAL YEAR 2020</b>					<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>			<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>FISCAL YEAR 2021</b>																
ROMP 88.5	Northeast Polk	ROMP, CFWI	Polk	Acquired	-	-	-	-	-	-		1	1		1	1
-	Lake Starr	CFWI, MFL	Polk	Not Acquired	1	-	-	-	1	-		-	-		-	-
-	Lake Eva	CFWI, MFL	Polk	Not Acquired	1	-	-	-	1	-		-	-		-	-
-	Lake Venus	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-		-	-		-	-
ROMP 73	Winter Haven	CFWI	Polk	Not Acquired	1	-	-	-	-	-		-	-		-	-
TR CB-2	Cockroach Bay	CGWQMN, SWUCA	Hillsborough	TE Expires 4/18/2063	1	-	-	-	1	-		-	-		-	-
-	Watermelon Pond 75th St NE	UFANMN	Levy	Acquired	-	-	-	-	1	-		-	-		-	-
-	NE 30th St near Deerpen Pond	UFANMN	Levy	Acquired	-	-	-	-	1	-		-	-		-	-
-	Guest Road at SR 121	UFANMN	Levy	Acquired	-	-	-	-	1	-		-	-		-	-
<b>TOTAL FOR FISCAL YEAR 2021</b>					<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>			<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>FISCAL YEAR 2022</b>																
-	Lake Wales Ridge State Forest Ar-buckle 1	CFWI, MFL	Polk	Acquired	1	-	-	-	-	-		-	-		-	-





**Table 2. (Continued)** Planned monitor well construction projects for fiscal years 2020 – 2025.

[-, none; CFWI, Central Florida Water Initiative; CGWQMN, Coastal Groundwater Quality Monitoring Network; LFA I, Lower Floridan aquifer below middle confining unit I; LFA II, Lower Florida aquifer below middle confining unit II; MFL, Minimum Flows and Levels; NDWRAP, Northern District Water Resource Assessment Project; Perm, permanent; REG, Regulation Department; ROMP, Regional Observation and Monitor-well Program; SWUCA, Southern Water Use Caution Area; Temp, temporary; TE, temporary easement; UFA, Upper Floridan aquifer; UFANMN, Upper Floridan aquifer Nutrient Monitoring Network]

Site Number	Site Name	Project	County	Easement Status	Monitor Wells									
					Perm Surficial	Temp Surficial	Perm Hawthorn	Temp Hawthorn	Perm UFA	Temp UFA	Perm LFA I	Temp LFA I	Perm LFA II	Temp LFA II
-	Lake Alfred Deep at Lake Alfred	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
ROMP 51	Little Manatee River	CGWQMN	Hillsborough	Acquired but need access and TE	-	-	-	-	1	-	-	-	-	-
<b>TOTAL FOR FISCAL YEAR 2022</b>					<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>FISCAL YEAR 2023</b>														
ROMP 46	Baird	CFWI, ROMP, SWUCA	Polk	TE Expires 1/31/2015	1	1	2	2	2	2	-	-	1	-
TR 7-3	Durante Park	SWUCA, ROMP	Manatee	No Expiration	1	-	2	-	1	-	-	-	-	-
-	Lake Mabel	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Hilochee Osprey West	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Bonnet Lake Marsh	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Lakeland Highlands Scrub	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Wetland Well REG	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Wetland Well REG	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Wetland Well REG	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
<b>TOTAL FOR FISCAL YEAR 2023</b>					<b>9</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>
<b>FISCAL YEAR 2024</b>														
-	Peace River at Bartow	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-

**Table 2. (Continued)** Planned monitor well construction projects for fiscal years 2020 – 2025.

[-, none; CFWI, Central Florida Water Initiative; CGWQMN, Coastal Groundwater Quality Monitoring Network; LFA I, Lower Floridan aquifer below middle confining unit I; LFA II, Lower Florida aquifer below middle confining unit II; MFL, Minimum Flows and Levels; NDWRAP, Northern District Water Resource Assessment Project; Perm, permanent; REG, Regulation Department; ROMP, Regional Observation and Monitor-well Program; SWUCA, Southern Water Use Caution Area; Temp, temporary; TE, temporary easement; UFA, Upper Floridan aquifer; UFANMN, Upper Floridan aquifer Nutrient Monitoring Network]

Site Number	Site Name	Project	County	Easement Status	Monitor Wells								Perm LFA II	Temp LFA II
					Perm Surficial	Temp Surficial	Perm Hawthorn	Temp Hawthorn	Perm UFA	Temp UFA	Perm LFA I	Temp LFA I		
-	Peace River at Fort Meade	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Lake Lowery	CFWI, MFL	Polk	Not Acquired	1	-	-	-	1	-	-	-	-	-
-	Homeland DEP 9	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Salon Ranch	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Stagecoach Trail	NDWRAP, ROMP	Citrus	Not Acquired	1	1	-	-	1	1	-	-	-	-
-	Coon Wallow	CGWQMN	Hernando	District Property	-	-	-	-	1	-	-	-	-	-
<b>TOTAL FOR FISCAL YEAR 2024</b>					<b>6</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>FISCAL YEAR 2025</b>														
ROMP 129	Hibiscus Park	MFL, NDWRAP, ROMP	Marion	No Expiration	-	-	-	-	-	-	2	-	-	-
-	Lake Bonnie	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
-	Lake Lee	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-
<b>TOTAL FOR FISCAL YEAR 2025</b>					<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>GRAND TOTAL FISCAL YEARS 2020 – 2025</b>					<b>47</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>17</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>2</b>

**Table 3.** Planned aquifer performance tests for fiscal years 2020 – 2025

[ -, none; ROMP, Regional Observation and Monitor-well Program; TE, temporary easement]

Site Number	Site Name	County	Easement Status	Fiscal Year	Aquifer Performance Tests			
					Surficial	Hawthorn	Upper Floridan	Lower Floridan
-	Thornhill Ranch	Polk	Acquired	2020	-	-	1	-
ROMP 75	Auburndale	Polk	Easement expires 2041	2020	1	-	2	1
ROMP 88	Rock Ridge	Polk	District Property	2020	-	-	1	1
ROMP 88.5	Northeast Polk	Polk	Acquired	2022	-	-	1	2
ROMP 46	Baird	Polk	TE Expired 1/31/2015	2024	1	2	2	-
-	Stage Coach Trail	Citrus	Not acquired	2025	1	-	1	-
<b>TOTAL FOR FISCAL YEARS 2020 – 2025</b>					<b>3</b>	<b>2</b>	<b>8</b>	<b>4</b>

Core drilling and testing is needed from land surface to 50 feet into the Lower Floridan aquifer below middle confining unit II. Monitor wells are required in the surficial aquifer, Upper Floridan aquifer, and Lower Floridan aquifer below middle confining unit I. APTs are required for the Upper Floridan aquifer and Lower Floridan aquifer below middle confining unit I. This well site will be equipped for long-term monitoring of water levels and water quality.

### TR CB-2 – Cockroach Bay

This well site is located in southwestern Hillsborough County. This well site supports the SWUCA and the CGWQMN. Core drilling and testing at this site will provide a detailed characterization of the saltwater interface within the Upper Floridan aquifer.

Core drilling and testing is needed from land surface to the saltwater interface. A private drilling firm likely will be contracted to perform the core drilling and testing at this site. Monitor wells are required in the surficial aquifer and Upper Floridan aquifer. This well site will be equipped for long-term monitoring of water quality.

### TR 7-3 – Durante Park

This well site is located in southwestern Manatee County. This well site is part of the ROMP coastal transect network and will assist in completing a coastal transect of existing wells within the Most Impacted Area (MIA) of the SWUCA to monitor the saltwater interface. Core drilling and testing at this well site will provide a detailed characterization of the surficial aquifer, Hawthorn (intermediate) aquifer system, and Upper Floridan aquifer.

Core drilling and testing is needed from land surface to the saltwater/freshwater interface. Monitor wells are required in the surficial aquifer, any of the aquifers present within the Hawthorn (intermediate) aquifer system, and the Upper Floridan aquifer. This well site will be equipped for long-term monitoring of water levels and water quality.

### Coon Wallow

This well site is located in northwestern Hernando County about 1.5 miles west of the Centralia well site. This site supports the CGWQMN. Core drilling and testing at this site will provide a detailed characterization of the saltwater interface within the Upper Floridan aquifer.

Core drilling and testing is needed from land surface to the saltwater interface. A private drilling firm will be contracted to perform the core drilling and testing at this site. A monitor well is required in the Upper Floridan aquifer to monitor the saltwater interface. The surficial aquifer and shallow Upper Floridan aquifer wells at the Centralia well site will be used in conjunction with this saltwater interface well. This well site will be equipped for long-term monitoring of water levels and water quality.

### Project Support Well Construction Projects

Project support well construction sites require well construction and minimal hydrogeologic data collection. The data collection work is limited to split-spoon sampling, drill cuttings collection, and geophysical logging. These well sites are typically completed in two to three weeks from the start of construction because of the limited data collection activities. Some well sites are included in more than one District project.

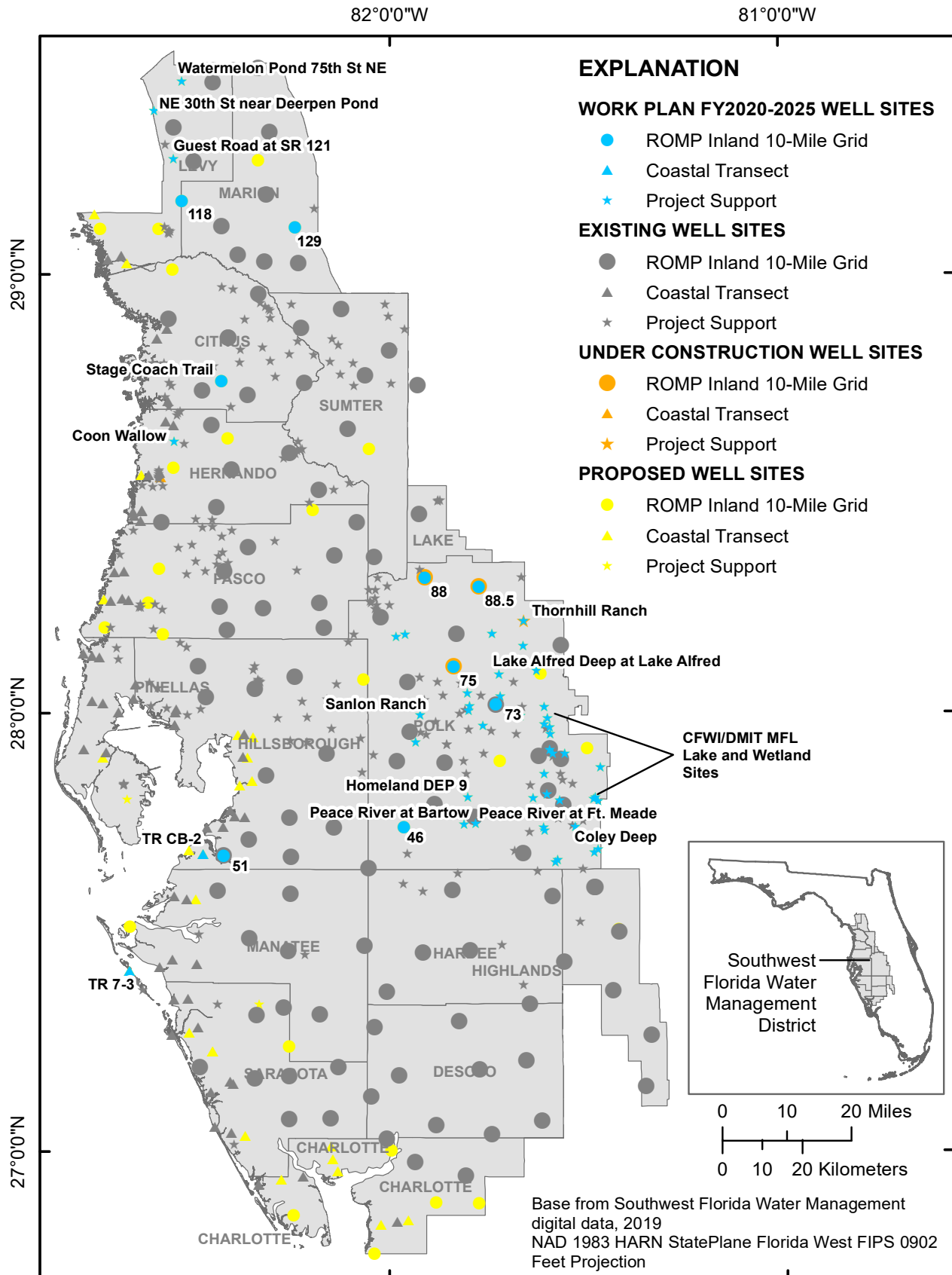


Figure 1. Geohydrologic Data Section core drilling and well construction sites.

The monitor wells planned for each project are presented in table 2.

## Central Florida Water Initiative

The CFWI is a water supply planning effort to review existing and projected water use demands in a five-county region of Central Florida. The boundaries of the St. Johns River Water Management District, the South Florida Water Management District, and the Southwest Florida Water Management District meet in the area of southern Lake, Orange, Osceola, Seminole, and Polk Counties. This project involves the collaborative efforts of the three water management districts to determine the sustainable limits of the Floridan aquifer system and study alternative sources of water to address central Florida's current and long-term water supply needs (Central Florida Water Initiative, 2019).

The DMIT was created to identify existing hydrologic data currently collected within the CFWI boundaries and to make recommendations for future monitoring activities in the CFWI region. The DMIT produced a Hydrogeologic Work Plan which was updated in December 2018, that identifies and lists monitoring requirements for wetlands, the surficial aquifer, the Upper Floridan aquifer, and the Lower Floridan aquifer. Well sites requiring coring and testing, well installation and/or aquifer testing include ROMP 88 – Rock Ridge, ROMP 88.5 – Northeast Polk, and ROMP 46 – Baird, which are discussed in the previous section. Most CFWI sites will also provide data for the MFL project, which is explained in the next section (Data, Monitoring, and Investigations Team, 2019).

## Minimum Flows and Levels

This project involves the establishment of MFLs for lakes, wetlands, rivers, and aquifers to identify the minimum flow and level at which further withdrawals would be significantly harmful to the water resources or ecology of the area (Southwest Florida Water Management District, 2019). Rivers, streams, springs, and estuaries require the establishment of minimum flows; and lakes, wetlands, and aquifers require the establishment of minimum levels. These projects require split-spoon sample collection and the construction of surficial aquifer and/or Upper Floridan aquifer monitor wells adjacent to the water body.

Surficial aquifer monitor wells are required to help establish and/or monitor minimum levels at several lakes and wetlands within the CFWI. Upper Floridan aquifer monitor wells are required for the following Polk County lakes: Lake Annie, Lake Starr, Eagle Lake, Lake Eva, Lake Lowery, and Lake Aurora (Data, Monitoring, and Investigations Team, 2019).

Monitor well construction is required at two locations along the Peace River. Surficial monitor wells are required at Bartow and Fort Meade to quantify the relationship between

the Peace River and the surficial aquifer (Data, Monitoring, and Investigations Team, 2019).

## Coastal Groundwater Quality Monitoring Network

The CGWQMN is a network of monitor wells used to monitor the groundwater quality in areas of the District that are susceptible to saltwater intrusion and/or upwelling of mineralized water (Kraft, 2011). Proposed projects that will be included in this network include: TR CB-2 – Cockroach Bay, TR 7-3 – Durante Park, and Coon Wallow.

In addition, 27 Upper Floridan aquifer well sites were proposed and approved in the FY2020 Business Plan Summary. These well sites will be evaluated in the future to determine if more inland well sites are needed because of saltwater intrusion (Southwest Florida Water Management District, 2018). As of July 2019, the construction of additional wells is on hold until funds are available.

## Upper Floridan aquifer Nutrient Monitoring Network

The Upper Floridan aquifer Nutrient Monitoring Network (UFANMN) is a well network used to monitor nutrients in groundwater basins of major springs in the District. The network is mostly made up of existing monitor wells and private wells volunteered by homeowners for sampling. One hundred and fifty well site replacements were proposed and approved in the FY2020 Business Plan Summary to replace existing private wells and infill gaps in the existing monitor well networks for nutrient assessments and modeling. The number of wells has been reduced to 63 for the proposed FY2021 Business Plan Summary. Water quality from these well sites will support the springs restoration initiatives in the northern portion of the District. Three well sites are proposed to be installed per this work plan in fiscal year 2021: Watermelon Pond 75th St NE, NE 30th St near Deerpen Pond, and Guest Road at SR 121. These three sites will also infill gaps in groundwater level data for potentiometric surface maps of the Upper Floridan aquifer.

## Summary and Conclusions

Groundwater demand continues to increase throughout the District. Because of this increase in demand, the potential to adversely affect the water resources increases. Hydrogeologic data and thorough monitoring are necessary to ensure that sound management decisions can be made.

The GEO Section's data collection programs and monitor well networks serve as the District's primary source for hydrogeologic data. This Work Plan identifies the hydrogeologic data collection and well construction activities planned for

FY2020 to FY2025. Construction of 87 new monitor wells are planned to support District projects during those fiscal years.

Projects requiring extensive data collection are grouped as core drilling and testing projects. Two ongoing core drilling and testing projects will be completed and seven new core drilling and testing projects will be started. The construction of 34 wells and completion of 17 aquifer performance tests are planned. These projects support regional District projects including the CFWI, ROMP, NDWRAP, SWUCA, CGWQMN, and UFANMN.

Projects that require monitor well construction but minimal data collection are grouped as project support well construction projects. The construction of 53 monitor wells are planned for these projects from FY2020 to FY2025. The project support well construction projects support District regional projects including the CFWI, CGWQMN, MFLs, and UFANMN.

## Selected References

Basso, R. J., 2007, Proposed Drilling and Testing Activities in the Northern District (2005-2015), Memorandum.

Central Florida Water Initiative, 2019, What is CFWI: [https://cfiwater.com/what\\_is\\_CFWI.html](https://cfiwater.com/what_is_CFWI.html) (accessed July 25, 2019).

Data, Monitoring, and Investigations Team, 2019, DMIT Hydrogeologic Annual Work Plan for FY2019-2025, 20 p.

Kraft, Carol, 2011. Coastal Groundwater Quality Monitoring Network/Water-Use Permit Network Report Volume VI, 146 p.

Southwest Florida Water Management District, 2018, FY2020 Business Plan Summary. Brooksville, Florida: Southwest Florida Water Management District.

Southwest Florida Water Management District, 2019, Strategic Plan 2019-2023, Updated February 2019. Brooksville, Florida: Southwest Florida Water Management District.

## **Appendix 1. Scope of Work Checklists/FootPrints Work Orders**

## ROMP Site Scope of Work Checklist

### Site Information

Name ROMP 75 - Auburndale

County Polk

Project Regional Observation and Monitor-well Program

STR 29/27/25

Is this an existing District well site? ☒ No ☐ Yes

Lat/Long 28 06 31.7 / 81 50 13.9

### Geologic Sampling ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☐ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☒ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☐ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

### Aquifer Performance Testing ☐ No ☒ Yes

parameters to be tested

- surficial aquifer: ☒ T ☒ S
- Peace River aquifer (PZ1): ☐ T ☐ S ☐ L
- upper Arcadia aquifer (PZ2): ☒ T ☒ S ☒ L
- lower Arcadia aquifer (PZ3): ☐ T ☐ S ☐ L
- Upper Floridan aquifer: ☒ T ☒ S ☒ L
- Lower Floridan aquifer below MCU I: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU II: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU VI: ☐ T ☐ S

*An APT may not be possible if water quality is poor*

### Well Construction ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☒ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☒ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☒ upper Arcadia aquifer (PZ2)
- ☐ lower Arcadia aquifer (PZ3)
- ☒ Upper Floridan aquifer
- ☐ Lower Floridan aquifer below MCU I
- ☒ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

### Other Data Collection ☒ No ☐ Yes

- ☐ Geophysical Logging
- ☐ Video Logging
- ☐ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

### Comments:

Wells and APTs needed for all aquifers present in the HAS. I suspect we should look at the Lower Floridan at this site. But I will defer to M Barcelo on this.

☐ No changes☒ Changes noted above☐ New Site

Initial: MHB



## Well Site Scope of Work Checklist

Is this an existing District well site? ☐ No ☒ Yes

Date \_\_\_\_\_

<b>Site Name</b>	ROMP 46 - Baird	<b>County</b>	Polk
<b>Project</b>		<b>STR</b>	31/31/24
<b>Justification (cost/benefit)</b>	Described on Page 2	<b>Lat/Long</b>	27 44 24.3 / 81 57 02.6
<b>PIMS Project No.</b> (if applicable)			

### Geologic Sampling ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☐ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☒ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☐ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

### Aquifer Performance Testing ☐ No ☒ Yes

**parameters to be tested**

- |                                      |                                       |                                       |                                       |
|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| surficial aquifer:                   | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S |                                       |
| Peace River aquifer (PZ1):           | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| upper Arcadia aquifer (PZ2):         | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| lower Arcadia aquifer (PZ3):         | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Upper Floridan aquifer:              | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU I:  | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Lower Floridan aquifer below MCU II: | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Lower Floridan aquifer below MCU VI: | <input type="checkbox"/> T            | <input type="checkbox"/> S            |                                       |

*An APT may not be possible if water quality is poor*

### Well Construction ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☒ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☒ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☒ upper Arcadia aquifer (PZ2)
- ☒ lower Arcadia aquifer (PZ3)
- ☒ Upper Floridan aquifer
- ☐ Lower Floridan aquifer below MCU I
- ☐ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

### Other Data Collection ☒ No ☐ Yes

- ☐ Geophysical Logging
- ☐ Video Logging
- ☐ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

### Comments:

This site has been acquired.  
Wells and ATPs need for all aquifers present in the HAS.

☐ No changes

☐ Changes noted above

☐ New Site

Initial: \_\_\_\_\_

## Well Site Scope of Work Checklist

Is this an existing District well site? ☐ No ☒ YesDate 7/30/2015

<b>Site Name</b>	ROMP 88	<b>County</b>	Polk
<b>Project</b>	Central Florida Water Initiative/P005	<b>STR</b>	16/25/24
<b>Justification (cost/benefit)</b>	Described on Page 2	<b>Lat/Long</b>	28 18 38.5 / 81 54 40.0
<b>PIMS Project No.</b> (if applicable)			

### Geologic Sampling ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☐ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☐ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☒ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

### Aquifer Performance Testing ☐ No ☒ Yes

parameters to be tested

- |                                      |                                       |                                       |                                       |
|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| surficial aquifer:                   | <input type="checkbox"/> T            | <input type="checkbox"/> S            |                                       |
| Peace River aquifer (PZ1):           | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| upper Arcadia aquifer (PZ2):         | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| lower Arcadia aquifer (PZ3):         | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Upper Floridan aquifer:              | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU I:  | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU II: | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU VI: | <input type="checkbox"/> T            | <input type="checkbox"/> S            |                                       |

*An APT may not be possible if water quality is poor*

### Well Construction ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☒ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☒ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☐ upper Arcadia aquifer (PZ2)
- ☐ lower Arcadia aquifer (PZ3)
- ☐ Upper Floridan aquifer
- ☒ Lower Floridan aquifer below MCU I
- ☒ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

### Other Data Collection ☐ No ☒ Yes

- ☒ Geophysical Logging
- ☒ Video Logging
- ☒ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

### Comments:

Existing ROMP 88 site. Site currently has an Upper Floridan aquifer well. A surficial aquifer well and a minimum of two Lower Floridan aquifer wells below middle confining units I and II are being proposed.

Geologic sampling: Exploratory drilling to determine presence of both middle confining units I and II. Water quality, water level and hydraulic property profiling is necessary to determine presence of both middle confining units I and II.

☐ No changes☐ Changes noted above☐ New SiteInitial: JGP

### Justification for the work required (cost and benefit):

#### Purpose and Scope:

This is an existing ROMP site located in an area that is critical toward establishing the geographic extent of middle confining units I and II and the extent of the Lower Floridan aquifers below these confining units. This site will be improved to a "full ROMP site" with the addition of a surficial aquifer well, a Lower Floridan aquifer well below middle confining unit I and a Lower Floridan aquifer well below middle confining unit II. Exploration will be conducted to the degree necessary to define the boundaries of the middle confining units I and II and the Lower Floridan aquifers. Discrete zone testing for water quality and water level should be conducted to assist in defining these boundaries and to characterize the water supply potential of the aquifers. Exploration will extend to the base of the Floridan aquifer system.

Wells will be constructed in the surficial aquifer and Lower Floridan aquifers below middle confining units I and II. Additional temporary wells in the Lower Floridan aquifers below middle confining units I and II may be constructed in order to conduct multi-well aquifer performance tests. Multi-well aquifer performance tests are essential in this region to determine the sustainability of water quality for the Upper Floridan and the Lower Floridan aquifers below each unit. The multi-well aquifer performance tests will also determine the leakage coefficients between the surficial aquifer and the Upper Floridan, the Upper Floridan and the Lower Floridan below middle confining unit I and between the Lower Floridan aquifers below middle confining units I and II.

#### Justification:

1. This site is located within Polk County which is part of the Central Florida Water Initiative (CFWI) region. The Lower Floridan aquifers have been identified in the CFWI Regional Water Supply Plan as an alternative water supply as a non-traditional groundwater source. Increased withdrawals from the Lower Floridan aquifers are anticipated due to the expectation of meeting water supply demands within the CFWI region through non-traditional water supply sources.
2. This site has been identified in the Data, Monitoring and Investigations Team (DMIT) FY2015-FY2020 Work plan. The DMIT is a subgroup of the CFWI and has identified this location as a key site to collect water levels and water quality data in the Lower Floridan aquifers below middle confining units I and II.
3. This site will refine the hydraulic properties of the Lower Floridan aquifer below middle confining units I and II for use in the District Wide Regulatory Model (DWRM), Northern District Model (NDM), East Central Florida Transient Expanded Model (ECFTX) and future modeling efforts.
4. This site will improve the calibration of the DWRM, NDM, ECFTX and future modeling efforts.
5. This site will be used for collecting long-term water levels for the Lower Floridan aquifers below middle confining units I and II.
6. This site will improve current knowledge of the extent of middle confining units I and II within the region of the WMD jurisdictional boundary.

The unit boundaries, hydraulic test data, and long-term monitoring will be utilized by the District, local water users and the CFWI. Data collection will be key in the determination of the health of the resource in northern Polk County as future water supply demands from the Lower Floridan aquifers within this region grows.

#### Benefits:

Expansion of data collection in this region will help manage and protect the resource. These data will allow the District to forecast limitation in groundwater supply so cost-effective solutions can be properly planned. This will prevent unanticipated impacts that will need to be resolved with water users of the region under a recover strategy. These data will also contribute to the prevention of environmental impacts that may not be able to be recovered or mitigated once experienced.

#### Supported Projects:

Data- Aquifer Exploration & Monitor Well Drilling Program (ROMP) Districtwide Initiatives (C005)  
 CFWI- Data, Monitoring and Investigations Team  
 CFWI- Expansion of East Central Florida Transient Model  
 Hydrogeological Investigation of the Lower Floridan Aquifer in Polk County (P280)  
 District Wide Regulatory Model - (P625)  
 MFL Technical Support- Northern District WRAP (P876)

#### Potentially Supported projects:

WUP- Water Use Permitting Program (M002)  
 Regional Water Supply Plan  
 Water Quality Monitoring Network  
 Hydrologic Conditions Reporting

## Well Site Scope of Work Checklist

Is this an existing District well site? ☒ No ☐ YesDate 7/30/2015

<b>Site Name</b>	ROMP 88.5	<b>County</b>	Polk
<b>Project</b>	Central Florida Water Initiative/P005	<b>STR</b>	To Be Determined 08/25/26
<b>Justification (cost/benefit)</b>	Described on Page 2		
<b>PIMS Project No.</b> (if applicable)		<b>Lat/Long</b>	To Be Determined

### Geologic Sampling ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☐ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☐ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☒ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

### Well Construction ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☒ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☒ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☐ upper Arcadia aquifer (PZ2)
- ☐ lower Arcadia aquifer (PZ3)
- ☒ Upper Floridan aquifer
- ☒ Lower Floridan aquifer below MCU I
- ☒ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

### Aquifer Performance Testing ☐ No ☒ Yes

parameters to be tested

- |                                      |                                       |                                       |                                       |
|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| surficial aquifer:                   | <input type="checkbox"/> T            | <input type="checkbox"/> S            |                                       |
| Peace River aquifer (PZ1):           | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| upper Arcadia aquifer (PZ2):         | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| lower Arcadia aquifer (PZ3):         | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Upper Floridan aquifer:              | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU I:  | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU II: | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU VI: | <input type="checkbox"/> T            | <input type="checkbox"/> S            |                                       |

*An APT may not be possible if water quality is poor*

### Other Data Collection ☐ No ☒ Yes

- ☒ Geophysical Logging
- ☒ Video Logging
- ☒ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

### Comments:

Geologic sampling: Exploratory drilling to determine presence of both middle confining units I and II. Water quality, water level and hydraulic property profiling is necessary to determine presence of both middle confining units I and II.

☐ No changes☐ Changes noted above☒ New SiteInitial: JGP

### Justification for the work required (cost and benefit):

#### Purpose and Scope:

This site is critical toward establishing the geographic extent of middle confining units I and II and the extent of the Lower Floridan aquifers below these confining units. This site will be a "full ROMP site" with exploration to the degree necessary to define the boundaries of the surficial aquifer, Upper Floridan aquifer, middle confining units I and II, and the Lower Floridan aquifers. Discrete zone testing for water quality and water level should be conducted to assist in defining these boundaries and to characterize the water supply potential of the aquifers. Exploration will be through the full thickness of the Floridan aquifer system.

Wells will be constructed in the surficial, Upper Floridan and in the Lower Floridan aquifers below middle confining units I and II. Depending on water quality, temporary wells may be constructed in the Upper Floridan and in the Lower Floridan aquifers below middle confining units I and II in order to conduct multi-well aquifer performance tests. Multi-well aquifer performance tests are essential in this region to determine the sustainability of water quality for the Upper Floridan and the Lower Floridan aquifers below each unit. The multi-well aquifer performance tests will also determine the leakance coefficients between the surficial aquifer and the Upper Floridan, the Upper Floridan and the Lower Floridan below middle confining unit I and between the Lower Floridan aquifers below middle confining units I and II.

#### Justification:

1. This site is located within Polk County which is part of the Central Florida Water Initiative (CFWI). The Lower Floridan aquifers have been identified in the CFWI Regional Water Supply Plan as an alternative water supply as a non-traditional groundwater source. Increased withdrawals from the Lower Floridan aquifers are anticipated due to the expectation of meeting water supply demands within the CFWI region through non-traditional water supply sources.
2. This site will refine the hydraulic properties of the Upper Floridan and Lower Floridan aquifer below middle confining units I and II for use in the District Wide Regulatory Model (DWRM), Northern District Model (NDM), East Central Florida Transient Expanded Model (ECFTX) and future modeling efforts.
3. This site will improve the calibration of the DWRM, NDM, ECFTX and future modeling efforts.
4. This site will be used for collecting long-term surficial, Upper Floridan and the Lower Floridan aquifers below middle confining units I and II water levels.
5. This site will improve current knowledge of the extent of middle confining units I and II within the region of the WMD jurisdictional boundary.

The unit boundaries, hydraulic test data, and long-term monitoring will be utilized by the District, local water users and the CFWI. Data collection will be key in the determination of the health of the resource in northern Polk County as future water supply demands from the Lower Floridan aquifers within this region grows.

#### Benefits:

Expansion of data collection in this region will help manage and protect the resource. These data will allow the District to forecast limitation in groundwater supply so cost-effective solutions can be properly planned. This will prevent unanticipated impacts that will need to be resolved with water users of the region under a recover strategy. These data will also contribute to the prevention of environmental impacts that may not be able to be recovered or mitigated once experienced.

#### Supported Projects:

Data- Aquifer Exploration & Monitor Well Drilling Program (ROMP) Districtwide Initiatives (C005)  
 CFWI- Data, Monitoring and Investigations Team  
 CFWI- Expansion of East Central Florida Transient Model  
 Hydrogeological Investigation of the Lower Floridan Aquifer in Polk County (P280)  
 District Wide Regulatory Model - (P625)  
 MFL Technical Support- Northern District WRAP (P876)

#### Potentially Supported projects:

WUP- Water Use Permitting Program (M002)  
 Regional Water Supply Plan  
 Water Quality Monitoring Network  
 Upper Floridan Aquifer Potentiometric Surface Mapping  
 Hydrologic Conditions Reporting

## Well Site Scope of Work Checklist

Is this an existing District well site? ☒ No ☐ YesDate Jul 30, 2012

<b>Site Name</b>	Stage Coach Trail (formerly Dames Cave)	<b>County</b>	Citrus
<b>Project</b>	MFL Technical Support - Northern District WRAP	<b>STR</b>	16/19/18
<b>Justification (cost/benefit)</b>	Described on Page 2	<b>Lat/Long</b>	28 45 34.43/ 82 25 52.94
<b>PIMS Project No. (if applicable)</b>	P876, C005		

### Geologic Sampling ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☐ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☒ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☐ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

### Well Construction ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☐ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☒ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☐ upper Arcadia aquifer (PZ2)
- ☐ lower Arcadia aquifer (PZ3)
- ☒ Upper Floridan aquifer
- ☐ Lower Floridan aquifer below MCU I
- ☐ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

### Aquifer Performance Testing ☐ No ☒ Yes

parameters to be tested

- |                                      |                                       |                                       |                                       |
|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| surficial aquifer:                   | <input checked="" type="checkbox"/> T | <input type="checkbox"/> S            |                                       |
| Peace River aquifer (PZ1):           | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| upper Arcadia aquifer (PZ2):         | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| lower Arcadia aquifer (PZ3):         | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Upper Floridan aquifer:              | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU I:  | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Lower Floridan aquifer below MCU II: | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Lower Floridan aquifer below MCU VI: | <input type="checkbox"/> T            | <input type="checkbox"/> S            |                                       |

*An APT may not be possible if water quality is poor*

### Other Data Collection ☐ No ☒ Yes

- ☒ Geophysical Logging
- ☐ Video Logging
- ☐ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

### Comments:

Exploratory drilling to define the geology and hydrogeology of the site. This includes water quality profiling, water level profiling, hydraulic property profiling, and geophysical logging. This activity can be exploratory drilling if it is deemed more cost-effective compared to coring.

☐ No changes☒ Changes noted above☐ New SiteInitial: jlm

**Site Name** Stage Coach Trail (formerly Dames Cave)

#### Justification for the work required (cost and benefit):

##### Purpose and Scope:

During the last 10 to 15 years, environmental impacts to lakes and wetlands in the Tampa Bay region along with the threat of saltwater intrusion in the Southern Water Use Caution Area has led District staff to focus data collection and drilling activities in these two areas. Consequently, limited information on the groundwater resource exists in the northern part of the District. The Northern District Water Resources Assessment Project was initiated in 1999 to gain a better understanding of the water resource issues from Pasco County north to Levy County within the Southwest Florida Water Management District. As part of this assessment, a data collection program is currently underway to obtain the necessary level of information needed to improve our conceptual understanding of the groundwater resources, characterize the saline water interface, identify areas of poor groundwater quality, determine the nature of flow to major springs, and provide information for regional flow models. This effort will also assist in the evaluation of future Regional Water Supply Plan assessments and minimum flow and level establishment. This data collection site is one of the sites identified in the data collection program for the Northern District.

The development and maintenance of a groundwater flow model (ND Model) assists in the evaluation of future Regional Water Supply Plan assessments and minimum flow and level establishment. The data collection program, which includes this site, is used to improve the ND Model's conceptual framework and improve calibration. The ND Model is being used for the minimum flow and level establishment for the Homosassa, Chassahowitzka, and Rainbow Spring Systems. This model is also being expanded as part of a cooperative project with Marion County and the St. Johns River Water Management District so it can be used for resource assessments in Marion County and for the Silver Springs minimum flow and level. The ND Model will be used on an ongoing basis to determine compliance with minimum flows and levels of the regions making ongoing model improvement a beneficial activity.

##### Justification:

1. This site is located in south-central Citrus County near a proposed wellfield for the Withlacoochee River Water Supply Authority (WRWSA).
2. This site will establish baseline water levels in this area prior to wellfield development.
3. This site will be the only hydrogeologic data point within the southwest quarter of Citrus County.
4. This site will define the hydraulic properties of the Upper Floridan aquifer for use in the ND Model and the District Wide Regulatory Model.

The unit boundaries, hydraulic test data, and long-term monitoring will be utilized by the District and local water users (e.g., WRWSA). This site will be used for determining potentiometric surfaces, for refinement of the Districtwide Regulatory and Northern District models, and be key in the determination of the health of the resource in south-central Citrus County as this is most certainly an area of future water supply growth. The data collected from this site will also be important to simulate the potential impact of the proposed WRWSA wellfield.

##### Benefits:

Expansion of data collection in this region of future water supply growth will help manage and protect the resource. These data will allow the District to forecast limitation in groundwater supply so cost-effective solutions can be properly planned. This will prevent unanticipated impacts that will need to be resolved with water users of the region under a recover strategy. These data will also contribute to the prevention of environmental impacts that may not be able to be recovered or mitigated once experienced.

##### Supported Projects:

MFL Technical Support - Northern District WRAP (P876)  
Data - Aquifer Exploration & Monitor Well Drilling Program (ROMP) Districtwide Initiative (C005)

##### Potentially Supported Projects:

WUP - Water Use Permitting Program (M002)  
Hydrologic Conditions Reporting  
Upper Floridan Aquifer Potentiometric Surface Mapping  
Regional Water Supply Plan

## Well Site Scope of Work Checklist

Is this an existing District well site? ☐ No ☒ YesDate Jul 12, 2012

<b>Site Name</b>	ROMP 129 - Hibiscus Park	<b>County</b>	Marion
<b>Project</b>	Northern District Drilling Plan	<b>STR</b>	7/16/21
<b>Justification (cost/benefit)</b>	Described on Page 2	<b>Lat/Long</b>	29 06 38 / 82 14 36
<b>PIMS Project No. (if applicable)</b>	C005, P876, B208, B209		

### Geologic Sampling ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☐ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☐ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☐ to the base of the Floridan aquifer system
- ☒ Other (please specify in comments)

### Well Construction ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☒ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☐ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☐ upper Arcadia aquifer (PZ2)
- ☐ lower Arcadia aquifer (PZ3)
- ☐ Upper Floridan aquifer
- ☒ Lower Floridan aquifer below MCU I
- ☐ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☒ Other (please specify in comments)

### Aquifer Performance Testing ☒ No ☐ Yes

parameters to be tested

- |                                      |                            |                            |                            |
|--------------------------------------|----------------------------|----------------------------|----------------------------|
| surficial aquifer:                   | <input type="checkbox"/> T | <input type="checkbox"/> S |                            |
| Peace River aquifer (PZ1):           | <input type="checkbox"/> T | <input type="checkbox"/> S | <input type="checkbox"/> L |
| upper Arcadia aquifer (PZ2):         | <input type="checkbox"/> T | <input type="checkbox"/> S | <input type="checkbox"/> L |
| lower Arcadia aquifer (PZ3):         | <input type="checkbox"/> T | <input type="checkbox"/> S | <input type="checkbox"/> L |
| Upper Floridan aquifer:              | <input type="checkbox"/> T | <input type="checkbox"/> S | <input type="checkbox"/> L |
| Lower Floridan aquifer below MCU I:  | <input type="checkbox"/> T | <input type="checkbox"/> S | <input type="checkbox"/> L |
| Lower Floridan aquifer below MCU II: | <input type="checkbox"/> T | <input type="checkbox"/> S | <input type="checkbox"/> L |
| Lower Floridan aquifer below MCU VI: | <input type="checkbox"/> T | <input type="checkbox"/> S |                            |

*An APT may not be possible if water quality is poor*

### Other Data Collection ☐ No ☒ Yes

- ☒ Geophysical Logging
- ☐ Video Logging
- ☐ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

### Comments:

Exploratory coring objective: 1,500 ft to determine presence of both middle confining units I and II.

Well construction: Need an Upper Floridan aquifer sulfate monitor well if middle confining unit II is present.

☐ No changes☐ Changes noted above☒ New SiteInitial: JLM



**Site Name** ROMP 129 - Hibiscus Park

**Justification for the work required (cost and benefit):**

**Purpose and Scope:**

This site is critical toward establishing the geographic extent of middle confining units I and II and the extent of the Lower Floridan aquifers below these confining units. Exploration will be conducted to the degree necessary to define the boundaries of the surficial aquifer, Upper Floridan aquifer, middle confining units I and II, and the Lower Floridan aquifers. Discrete zone testing for water quality and water level should be conducted to assist in defining these boundaries and to characterize the water supply potential of the aquifers. Exploration will be conducted to a depth of 1,500 ft. If middle confining unit II is present, the District will conduct sulfate monitoring as part of the Water Quality Monitoring Program.

The development and maintenance of a groundwater flow model (ND Model) assists in the evaluation of future Regional Water Supply Plan assessments and minimum flow and level establishment. The data collection program, which includes this site, is used to refine the ND Model's conceptual framework and improve calibration. The ND Model is being used for the minimum flow and level establishment for the Homosassa, Chassahowitzka, Gum Spring, Rainbow Spring, and Silver Spring Systems. The ND model is also being expanded as part of a cooperative project with Marion County and the St. Johns River Water Management District so it can be used for resource assessments for all of Marion County and for the Rainbow and Silver Springs minimum flow and level. The ND Model will be used on an ongoing basis to determine compliance with minimum flows and levels of the regions making ongoing model improvement a beneficial activity.

**Justification:**

1. This site will be used for collecting long-term UFA water levels.
2. This site will assist in the impact analysis and the setting of MFLs for springs, lakes, and the Withlacoochee River.
3. This site will be used to improve the calibration of the Northern District and the District Wide Regulatory models.
4. This site will improve current knowledge of the extent of middle confining units I and II within the region of the WMD jurisdictional boundary.

**Benefits:**

Expansion of data collection in this region will help manage and protect the resource. These data will allow the District to forecast limitation in groundwater supply so cost-effective solutions can be properly planned. This will prevent unanticipated impacts that will need to be resolved with water users of the region under a recover strategy. These data will also contribute to the prevention of environmental impacts that may not be able to be recovered or mitigated once experienced.

**Supported Projects:**

MFL Technical Support - Northern District WRAP (P876)  
 Rainbow River Freshwater System (B208)  
 Chassahowitzka River & Springs System (B209)  
 Homosassa River & Springs System (B222)  
 Upper Withlacoochee River System (B223)  
 Gum Springs Group Freshwater System (B808)  
 Data - Aquifer Exploration & Monitor Well Drilling Program (ROMP) Districtwide Initiative (C005)

**Potentially Supported Projects:**

WUP - Water Use Permitting Program (M002)  
 Hydrologic Conditions Reporting  
 Upper Floridan Aquifer Potentiometric Surface Mapping  
 Regional Water Supply Plan  
 Water Quality Monitoring Network

## Well Site Scope of Work Checklist

Is this an existing District well site? ☒ No ☐ Yes

Date \_\_\_\_\_

<b>Site Name</b>	TR CB-2 Cockroach Bay 2	<b>County</b>	Hillsborough
<b>Project</b>		<b>STR</b>	23/32/18
<b>Justification (cost/benefit)</b>	Described on Page 2	<b>Lat/Long</b>	27 40 13.6/82 28 56.8
<b>PIMS Project No.</b> (if applicable)			

### Geologic Sampling ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☒ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☐ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☐ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

### Aquifer Performance Testing ☐ No ☐ Yes

parameters to be tested

- surficial aquifer: ☐ T ☐ S
- Peace River aquifer (PZ1): ☐ T ☐ S ☐ L
- upper Arcadia aquifer (PZ2): ☐ T ☐ S ☐ L
- lower Arcadia aquifer (PZ3): ☐ T ☐ S ☐ L
- Upper Floridan aquifer: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU I: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU II: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU VI: ☐ T ☐ S

*An APT may not be possible if water quality is poor*

### Well Construction ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☐ Water Level Monitoring
- ☒ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☐ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☐ upper Arcadia aquifer (PZ2)
- ☐ lower Arcadia aquifer (PZ3)
- ☒ Upper Floridan aquifer
- ☐ Lower Floridan aquifer below MCU I
- ☐ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

### Other Data Collection ☐ No ☒ Yes

- ☒ Geophysical Logging
- ☐ Video Logging
- ☐ Flow Logging
- ☐ Sonic Logging
- ☒ Other (please specify in comments)

### Comments:

Packer testing to ensure the well is completed at the saltwater/freshwater interface (1,000 mg/L isochloride limit).

Site acquisition has been started on this site.

☐ No changes☐ Changes noted above☐ New Site

Initial: \_\_\_\_\_

## Geohydrologic Data Request for Well Construction, Modification, Testing

<b>Work Request Number</b>	562	<b>Submitted On</b>	08/14/2019
<b>Priority</b>	Normal	<b>Submitted At</b>	11:55:42
<b>Status</b>	Assigned	<b>Last Edited On</b>	08/14/2019
<b>Submitted By</b>	ddewitt	<b>Last Edited At</b>	11:55:45
<b>Assignees</b>	Manager		
<b>Description</b>			
Entered on 08/14/2019 at 11:55:42 AM EDT (GMT-0400) by Dave Dewitt: [ no Description entered ]			
<b>Well Site Name</b>	Saltwater interface monitor well at Coon Wallow	<b>Name of Project</b>	ROMP
<b>Is this an Existing District Well Site?</b>	NO	<b>Is the Well Site Already Acquired?</b>	YES
<b>County</b>	Hernando		
<b>Description of Work</b>			
Core drilling and testing needed to identify the depth to the saltwater interface inland of the Chassahowitzka Swamp in coastal Hernando County. A single Upper Floridan aquifer monitor well will be constructed following test drilling.			
<b>Is New Well Construction Required?</b>	YES	<b>Select Aquifers that Require Long-Term Monitoring:</b>	Upper Floridan aquifer
<b>Is Exploratory Data Required?</b>	YES	<b>Depth of Exploration for Lithologic</b>	to saltwater/freshwater interface
<b>Is Aquifer Performance Testing Required?</b>	NO	<b>Logging, Other Data Collection Needs</b>	YES
<b>Select All Other that Apply</b>	Geophysical Logging	<b>I have read the TERMS OF REQUEST</b>	Yes
<b>Request Type</b>	Well Construction, Modification, Testing	<b>Priority Explanation</b>	Requested work will be included in the GEO workplan and scheduled accordingly
<b>PIMS Project Number</b>	C005		
<b>Justification (Cost-Benefit)</b>			
Addition of this saltwater interface monitoring site was discussed during the 2019 GEO Workplan meeting with members of the Resource Evaluation section and the WQMP. An apparent gap in groundwater-quality monitoring had been identified between the recently completed TR 19-3 site and the two TR-20 transect sites to the north. This new well site will close that gap in the coastal interface monitoring, and will aid in delineating the subsurface saline water for tracking saltwater intrusion in the coastal margin of Hernando County.			
<b>The Primary Long-Term Use for the Well(s) will be</b>	Water Level and Quality Monitoring	<b>Is Existing Well Modification Required?</b>	No
<b>Lithologic Sampling Required?</b>	Yes	<b>Water Quality Profile Required?</b>	Yes
<b>Depth of Exploration for Water Quality</b>	to saltwater/freshwater interface	<b>Water Level Profile Required?</b>	Yes
<b>Depth of Exploration for Water Level</b>	to saltwater/freshwater interface	<b>Hydrologic Profile (Slug Test) Required?</b>	No
<b>Master Ticket Number</b>	562	<b>Last Name</b>	Dewitt
<b>First Name</b>	Dave	<b>Email Address</b>	dave.dewitt@swfwmd.state.fl.us
<b>User ID</b>	DDEWITT	<b>Call Back Number</b>	4512

## Well Site Scope of Work Checklist

Reset Form

Is this an existing District well site? ☒ No ☐ Yes

Date Jul 12, 2012

<b>Site Name</b>	ROMP TR 7-3 Durante Park	
<b>Project</b>	SWUCA Recovery Strategy	<b>County</b> Manatee
<b>Justification (cost/benefit)</b>	Described on Page 2	<b>STR</b> 25/35/16
<b>PIMS Project No. (if applicable)</b>	P085, C005	<b>Lat/Long</b> 27 24 52.72 / 82 39 30.00

**Geologic Sampling** ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☒ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☐ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☐ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

**Aquifer Performance Testing** ☒ No ☐ Yes

parameters to be tested

- surficial aquifer: ☐ T ☐ S
- Peace River aquifer (PZ1): ☐ T ☐ S ☐ L
- upper Arcadia aquifer (PZ2): ☐ T ☐ S ☐ L
- lower Arcadia aquifer (PZ3): ☐ T ☐ S ☐ L
- Upper Floridan aquifer: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU I: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU II: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU VI: ☐ T ☐ S

An APT may not be possible if water quality is poor

**Well Construction** ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☒ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☒ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☒ upper Arcadia aquifer (PZ2)
- ☒ lower Arcadia aquifer (PZ3)
- ☒ Upper Floridan aquifer
- ☐ Lower Floridan aquifer below MCU I
- ☐ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

**Other Data Collection** ☒ No ☐ Yes

- ☐ Geophysical Logging
- ☐ Video Logging
- ☐ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

**Comments:**

This site is acquired and there is no expiration date for temporary construction easement.

-Wells are needed for any aquifer present in the HAS.  
-Saltwater intrusion well.

☐ No changes☒ Changes noted above☐ New Site

Initial: JGP

**Site Name** ROMP TR 7-3 Durante Park

**Justification for the work required (cost and benefit):**

**Purpose and Scope:**

This site will be a critical part of the the ROMP coastal transect network used to measure the movement of the saltwater/freshwater interface in Manatee County. The site will assist in completing a transect of existing wells within the Most Impacted Area (MIA) of the SWUCA to monitor the saltwater/freshwater interface. In order to provide detailed information about the location of the saltwater/freshwater interface, exploration will be conducted to the degree necessary to define the boundaries of the surficial aquifer, Hawthorn (intermediate) aquifer system, and Upper Floridan aquifer. Coring and testing will be conducted to the saltwater/freshwater interface.

The development and maintenance of this site will assist in the evaluation of the SWUCA Recovery Strategy and future Regional Water Supply Plan assessments. The data collection program, which includes this site, is used to set minimum aquifer levels within the SWUCA and MIA.

**Justification:**

1. This site will be used for collecting long-term Upper Floridan water levels.
2. This site will be used for collecting long-term water quality data.
3. This site will be the only hydrogeologic data point located within the Manatee County barrier islands.
4. This site will be used to determine the rate and rate of change of saltwater/freshwater within the MIA.
5. This site will be key for future modeling efforts in this region.
6. This site can potentially be used as an APT site for refining the hydraulic properties of the Hawthorn (intermediate) aquifer system as well as the Upper Floridan aquifer within the SWUCA/MIA.

**Benefits:**

Expansion of data collection in this region will help manage and protect the resource. These data will allow the District to forecast limitations in groundwater supply and the saltwater/freshwater interface along the coastal regions so cost-effective solutions can be properly planned. This will help prevent additional impacts that need to be resolved with water users of the region under the current recovery strategies (SWUCA and MIA). These data will also contribute to reducing environmental impacts that are not able to be recovered or mitigated.

**Supported Projects:**

SWUCA Recovery Strategy (P085)  
 Data - Aquifer Exploration & Monitor Well Drilling Program (ROMP) District-wide Initiative (C005)  
 Hydrologic Conditions Reporting  
 Upper Floridan Aquifer Potentiometric Surface Mapping  
 Regional Water Supply Plan

## Appendix 2. General Hydrogeology of the Southwest Florida Water Management District

The District is underlain by numerous aquifers of varying productivity and water quality. These aquifers, in general, include, in descending order, the surficial aquifer, the Peace River aquifer (zone 1), the upper Arcadia aquifer (zone 2), the lower Arcadia aquifer (zone 3), the Upper Floridan aquifer, and the Lower Floridan aquifers (fig. 2-1). The surficial aquifer is present, sometimes intermittently, throughout most of the District but does not constitute a major source of water to wells. The Peace River, upper Arcadia, and lower Arcadia aquifers compose the Hawthorn (intermediate) aquifer system. These aquifers are present throughout much of the southern portion of the District (fig. 2-2). The Upper and Lower Floridan aquifers compose the Floridan aquifer system and underlie all of Florida, southern Georgia, and small parts of Alabama and South Carolina (Miller, 1986). Groundwater, mainly in the Upper Floridan aquifer, constitutes approximately 81 percent (Nourani, 2009) of the potable water supply underlying the District. The Lower Floridan aquifers commonly contain saline water, therefore, are not a major source of water within the District at this time. The Lower Floridan aquifer below middle confining unit I contains potable water and is withdrawn in portions of northeastern Sumter County at this time.

There has been a lot of variation in the nomenclature used to describe the District's aquifers. The Geohydrologic Data Section has followed the convention of the US Geological Survey (Laney and Davidson, 1986) to appropriately rank and name the hydrogeologic units underlying the District. A comparison of the nomenclature used by the Geohydrologic Data Section and other well known conventions can be seen in figures 2-3, 2-4, and 2-5.

The surficial aquifer occurs throughout most of the District. It contains water under mainly unconfined conditions. The surficial aquifer is composed of mostly undifferentiated sand, but contains shell, gravel, and clay lenses. The surficial aquifer is typically less than 25 feet thick and discontinuous in the northern regions of the District, including Hillsborough, Pasco, Hernando, Sumter, Citrus, Marion, and Levy Counties. The surficial aquifer, within the District, is thickest along the Lake Wales Ridge area where the aquifer can be up to 300 feet thick (fig. 2-2). The surficial aquifer is frequently, but inappropriately, ranked as an aquifer system. Throughout the District, the surficial aquifer is a single aquifer and does not achieve the rank of an aquifer system.

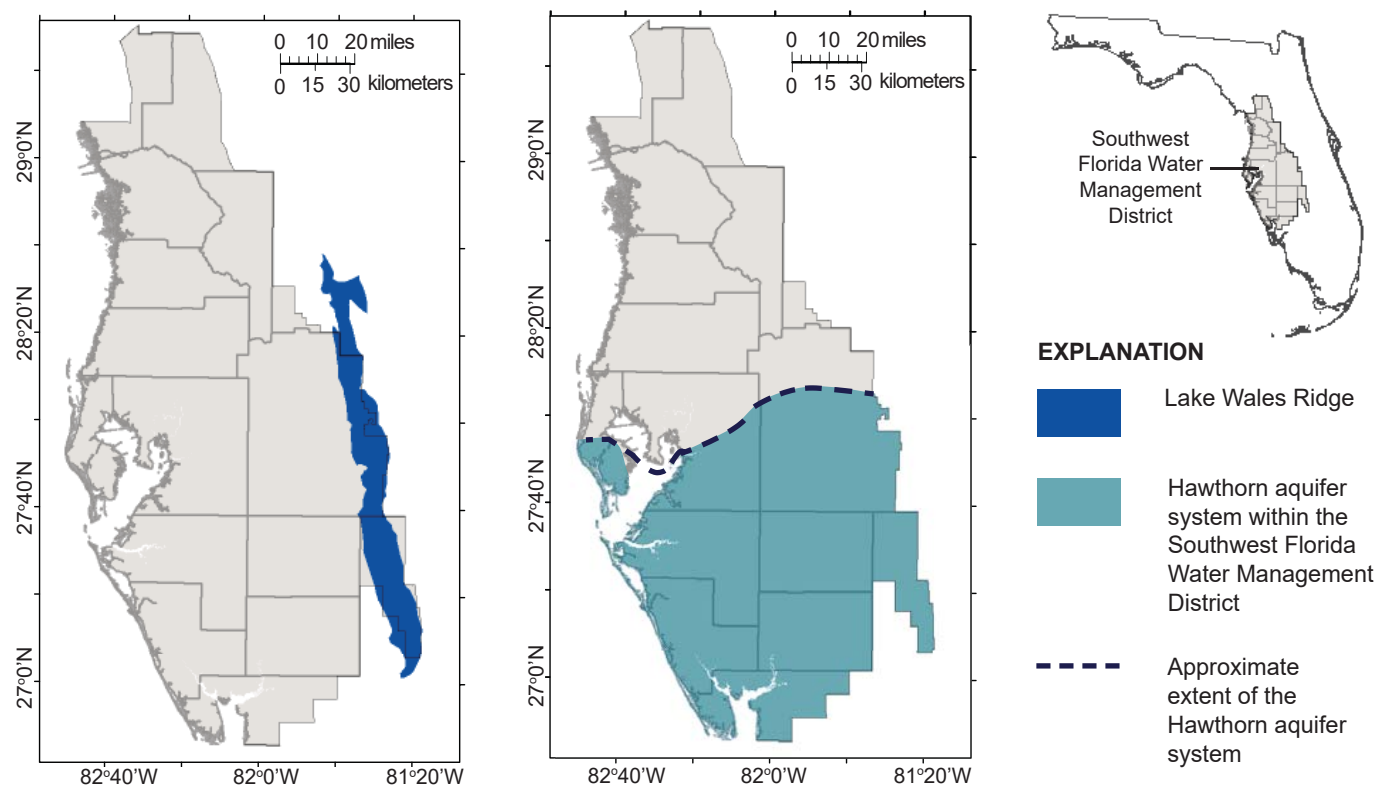
The Hawthorn aquifer system is present in the southern portion of the District (fig. 2-2). This aquifer system has commonly been referred to as the intermediate aquifer system (fig. 2-4). The Hawthorn aquifer system (within the District) contains up to three aquifers; the Peace River aquifer (zone 1), the upper Arcadia aquifer (zone 2), and the lower Arcadia aquifer (zone 3). The Hawthorn aquifer system generally coincides with the Hawthorn Group which is composed of highly variable deposits of siliciclastics, phosphates, a variety of clays,

and carbonates. The groundwater within the Hawthorn aquifer system is under confined conditions. The aquifers within this aquifer system have incorrectly been ranked as zones (1, 2, and 3) in the past; however, the Geohydrologic Data Section has made considerable progress in correcting this ranking error. A correlation table containing the majority of the names used for the Hawthorn aquifer system can be seen in figure 2-4.

The Floridan aquifer system underlies all of Florida, southern Georgia, and small parts of Alabama and South Carolina (Miller, 1986). The Floridan aquifer system within the bounds of the District is composed of the Upper Floridan aquifer, middle confining unit I, middle confining unit II, middle confining unit VI, and the Lower Floridan aquifers that occur below these middle confining units. The Upper

Holocene		undifferentiated sand and clay		surficial aquifer	
Pleistocene					
Pliocene		Cypresshead Fm			
		Caloosahatchee Fm			
		Tamiami Fm			
Miocene	late	Hawthorn Group	Coosawhatchie Formation Peace River Formation	confining unit	
	middle			Bone Valley Member	Peace River aquifer
	early		Arcadia Formation	Tampa Member Nocatee Member	confining unit
Oligocene	late	Hawthorn aquifer system	Arcadia Formation	upper Arcadia aquifer	
	early			confining unit	
	late			lower Arcadia aquifer	
Eocene	late	Floridan aquifer system	Suwannee Limestone	confining unit	
	early			Upper Floridan aquifer	
	late			middle confining unit I, II, or VI	
Paleocene	middle	Floridan aquifer system	Ocala Limestone	Lower Floridan aquifer	
	early			confining unit	
	early			Cedar Keys Formation	

**Figure 2-1.** Formations, aquifers, and confining units commonly found throughout the Southwest Florida Water Management District.



**Figure 2-2.** Location of the Lake Wales Ridge and the extent of the Hawthorn aquifer system within the Southwest Florida Water Management District.

Floridan aquifer contains water under confined condition with the exception of local areas in the northern District. In these areas, the Upper Floridan will still contain groundwater under mostly confined conditions deeper in the aquifer as thin low permeability beds begin to impose confinement.

The Upper Floridan aquifer is the most important source of groundwater in the District. In 2008, 81 percent of the District water supplies came from the Upper Floridan aquifer (Nourani, 2009). Within the southern half of the District two distinct producing zones occur within the Upper Floridan aquifer. In the upper section of the Upper Floridan aquifer the Tampa Formation and Suwannee Limestone form the permeable section of the Upper Floridan aquifer. The development of secondary permeability from dissolution of limestone produces the hydraulic conductivity in the upper section of the Upper Floridan aquifer. The Avon Park high-permeability zone is present within the lower section of the Upper Floridan aquifer and may contain mineralized water. The development of secondary permeability from fractured dolostone produces the high hydraulic conductivity observed in the Avon Park high-permeability zone. These two permeable zones are separated by a lower permeability section of the Upper Floridan aquifer contained within the Ocala Limestone.

WYRICK 1960	LIGHTLER 1960	CLARKE 1964	LEVE 1966	WOLANSKY 1978	MILLER 1980	BOGESS 1986 & ARTHUR AND OTHERS 2008	SWFWMD NOMENCLATURE
nonartesian aquifer	Shallow aquifer	water-table aquifer	shallow aquifer system	unconfined aquifer	surficial aquifer	surficial aquifer system	surficial aquifer
confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit

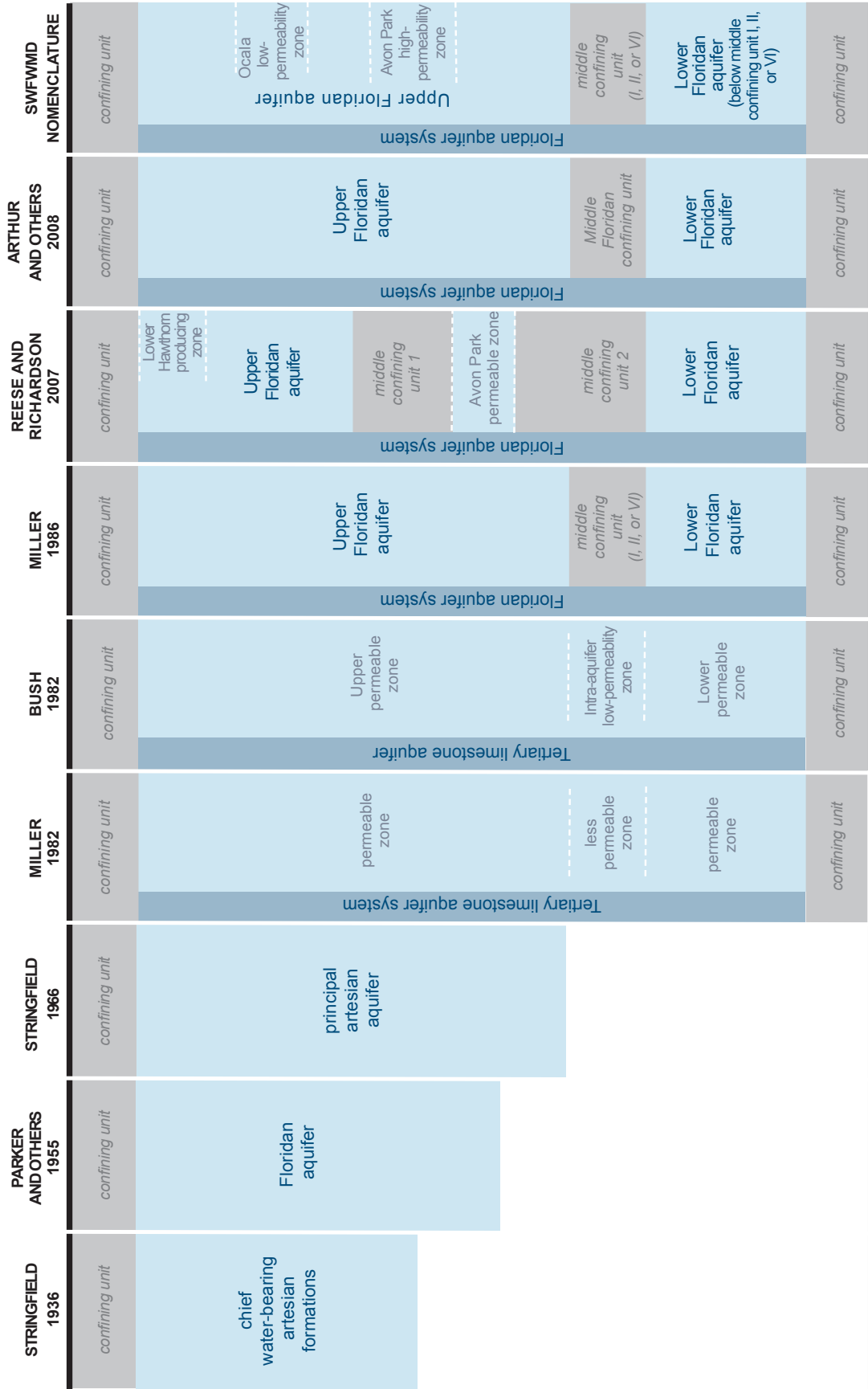
Figure 2-3. Surficial aquifer correlation.

SPROUL AND OTHERS 1972	JOYNER, SUTCLIFFE 1976	WEDDERBURN AND OTHERS 1982	WOLANSKY 1983	BARR 1996	TORRES AND OTHERS 2001	KNOCHENMUS 2006	ARTHUR AND OTHERS 2008	SWFWMD NOMENCLATURE
confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit
sandstone aquifer	Zone 1	Sandstone aquifer	Tamiami - upper Hawthorn aquifer	Permeable Zone 1	Tamiami/ Peace River zone (PZ1)	Zone 1	Intermediate aquifer system / Intermediate aquifer system / Intermediate aquifer system /	Peace River aquifer
confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit
upper Hawthorn aquifer	Zone 2	mid-Hawthorn aquifer	Lower Hawthorn - upper Tampa aquifer	Permeable Zone 2	Upper Arcadia zone (PZ2)	Zone 2	zones/ aquifers were not delineated	upper Arcadia aquifer
confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit
lower Hawthorn aquifer	Zone 3	lower Hawthorn / Tampa producing zone	FAS	Permeable Zone 3	Lower Arcadia zone (PZ3)	Zone 3		lower Arcadia aquifer
confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit	confining unit

[FAS, Floridan aquifer system; PZ, permeable zone]

Figure 2-4. Hawthorn aquifer system correlation.





[Terms shown are for hydrogeologic units present within the Southwest Florida Water Management District]

Figure 2-5. Floridan aquifer system correlation.

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