SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Governing Board Meeting

Agenda and Meeting Information

May 19, 2026

9:00 a.m.

Tampa Office

7601 US 301 North • Tampa, Florida

(813) 985-7481 • 1-800-423-1476

Southwest Florida Water Management District

WATERMATTERS.ORG • 1-800-423-1476

Southwest Florida Water Management District

2379 Broad Street, Brooksville, Florida 34604
(352) 796-7211 or 1-800-423-1476 (FL only)
WaterMatters.org

An Equal Opportunity Employer

The Southwest Florida Water Management District (District) does not discriminate on the basis of disability. This nondiscrimination policy involves every aspect of the District's functions, including access to and participation in the District's programs, services and activities. Anyone requiring reasonable accommodation, or who would like information as to the existence and location of accessible services, activities, and facilities, as provided for in the Americans with Disabilities Act, should contact the Human Resources Office Chief, at 2379 Broad St., Brooksville, FL 34604-6899; telephone (352) 796-7211 or 1-800-423-1476 (FL only); or email ADACoordinator@WaterMatters.org. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1-800-955-8771 (TDD) or 1-800-955-8770 (Voice). If requested, appropriate auxiliary aids and services will be provided at any public meeting, forum, or event of the District. In the event of a complaint, please follow the grievance procedure located at WaterMatters.org/ADA.

MEETING NOTICE

Final Agenda
GOVERNING BOARD MEETING

MAY 19, 2026
9:00 AM

7601 US 301 North, Tampa, FL 33637
(813) 985-7481

All meetings are open to the public

- Viewing of the Board meeting will be available through the District's website at *WaterMatters.org*.
- Public input will be taken only at the meeting location.
- Public input for issues not listed on the published agenda will be heard shortly after the meeting begins.

Pursuant to Section 373.079(7), Florida Statutes, all or part of this meeting may be conducted by means of communications media technology in order to permit maximum participation of Governing Board members.

The Governing Board may take official action at this meeting on any item appearing on this agenda and on any item that is added to this agenda as a result of a change to the agenda approved by the presiding officer of the meeting pursuant to Section 120.525, Florida Statutes.

The order of items appearing on the agenda is subject to change during the meeting and is at the discretion of the presiding officer.

Public Comment will be taken after each presentation and before any Governing Board action(s) except for Governing Board hearings that involve the issuance of final orders based on recommended Orders received from the Florida Division of Administrative Hearings.

Unless specifically stated, scheduled items will not be heard at a time certain.

The current Governing Board agenda and minutes of previous meetings are available at *WaterMatters.org*.

1. CONVENE PUBLIC MEETING

1.1 Call to Order

1.2 Invocation and Pledge of Allegiance

1.3 Election of Governing Board Officers

1.4 Employee Recognition

1.5 Additions/Deletions to Agenda

1.6 Public Input for Issues Not Listed on the Published Agenda

2. CONSENT AGENDA

2.1 **Finance/Outreach & Planning Committee:** Water Reuse Week

2.2 **Resource Management Committee:** FARMS – Four Mile Grade LLC – H847 (DeSoto County)

2.3 **Resource Management Committee:** FARMS – Mathis Farms, Inc. – Palm Lake – H849 (Hillsborough County)

2.4 **Operations, Lands & Resource Monitoring Committee:** Amendment to Cattle Lease Agreement – Cypress Creek SWF No. 13-500-402X (Pasco County)

2.5 **Operations, Lands & Resource Monitoring Committee:** Amendment One to Easement Agreement – Inverness DOT Replacement Well Site – SWF Parcel No. 19-020-129 (Citrus County)

2.6 **General Counsel's Report:** Approval of Amended Well Construction Permitting Delegation Agreement between the Southwest Florida Water Management District and Sarasota County

2.7 **Executive Director's Report:** Approve Governing Board Minutes – April 28, 2026

3. FINANCE/OUTREACH & PLANNING COMMITTEE

3.1 **Discussion:** Consent Item(s) Moved to Discussion

3.2 **Discussion:** Action Item: Fiscal Year 2024-25 Annual Comprehensive Financial Report

3.3 **Discussion:** Information Item: Office of Inspector General Audit Activity – Quality Assurance Review

3.4 **Submit & File:** Information Item: Budget Transfer Report

4. OPERATIONS, LANDS & RESOURCE MONITORING COMMITTEE

4.1 **Discussion:** Consent Item(s) Moved to Discussion

4.2 **Discussion:** Action Item: Surplus Lands 2026 Biennial Assessment

4.3 **Discussion:** Information Item: Hydrologic Conditions Report

5. RESOURCE MANAGEMENT COMMITTEE

5.1 **Discussion:** Consent Item(s) Moved to Discussion

6. REGULATION COMMITTEE

6.1 **Discussion**: Consent Item(s) Moved to Discussion

7. GENERAL COUNSEL'S REPORT

7.1 **Discussion:** Consent Item(s) Moved to Discussion

7.2 **Discussion:** Action Item: Consideration of Final Order – Polk Regional Water Cooperative v. Tampa Bay Water and Southwest Florida Water Management District (and Mosaic Fertilizer, LLC (Intervenor) – Water Use Permit No. 20011794.003 – Division of Administrative Hearings Case No. 25-5480

7.3 **Discussion:** Action Item: Affirm Governing Board Committee Actions

8. COMMITTEE/LIAISON REPORTS

8.1 **Discussion:** Information Item: Environmental Advisory Committee

9. EXECUTIVE DIRECTOR'S REPORT

9.1 **Discussion:** Information Item: Executive Director's Report

10. CHAIR'S REPORT

10.1 **Discussion:** Information Item: Chair's Report

10.2 **Discussion:** Information Item: Employee Milestones

ADJOURNMENT

Southwest Florida Water Management District

2379 Broad Street, Brooksville, Florida 34604-6899
(352) 796-7211 or 1-800-423-1476 (FL only)
WaterMatters.org

An Equal Opportunity Employer

Bartow Office
170 Century Boulevard
Bartow, Florida 33830-7700
(863) 534-1448 or
1-800-492-7862 (FL only)

Sarasota Office
78 Sarasota Center Boulevard
Sarasota, Florida 34240-9770
(941) 377-3722 or
1-800-320-3503 (FL only)

Tampa Office
7601 U.S. 301 North
Tampa, Florida 33637-6759
(813) 985-7481 or
1-800-836-0797 (FL only)

Governing Board Officers, Committees and Liaisons

Approved June 2025

Officers	
Chair	John Mitten
Vice Chair	Jack Bispham
Secretary	Ashley Bell Barnett
Treasurer	John E. Hall

Operations, Lands and Resource Monitoring Committee
Chair Robert Stern

Resource Management Committee
Chair Dustin Rowland

Regulation Committee
Chair James Holton

Finance/Outreach and Planning Committee
Chair John E. Hall*

All Governing Board members are a member of each committee.
** Board policy requires the Governing Board Treasurer to chair the Finance/Outreach and Planning Committee.*

Standing Committee Liaisons	
Agricultural and Green Industry Advisory Committee	Dustin Rowland
Environmental Advisory Committee	Josh Gamblin
Industrial, Commercial & Institutional Advisory Committee	James Holton
Public Supply Advisory Committee	Robert Stern

Other Liaisons	
Central Florida Water Initiative	Ashley Bell Barnett
Springs Coast Steering Committee	Kelly Rice
Coastal & Heartland National Estuary Partnership Policy Committee	John E. Hall
Sarasota Bay Estuary Program Policy Board	Jack Bispham
Tampa Bay Estuary Program Policy Board	Nancy Watkins
Tampa Bay Regional Planning Council	Vacant

Southwest Florida Water Management District Schedule of Meetings
Fiscal Year 2026

Governing Board Meeting

October 28, 2025 – 9:00 a.m., Brooksville Office
November 18, 2025 – 9:00 a.m., Tampa Office
December 16, 2025 – 9:00 a.m., Brooksville Office
January 27, 2026 – 9:00 a.m., Tampa Office
February 24, 2026 – 9:00 a.m., Brooksville Office
March 24, 2026 – 9:00 a.m., Tampa Office
April 28, 2026 – 9:00 a.m., Brooksville Office
May 19, 2026 – 9:00 a.m., Tampa Office
June 23, 2026 – 9:00 a.m., Brooksville Office
July 28, 2026 – 9:00 a.m., Tampa Office
August 25, 2026 – 9:00 a.m., Brooksville Office
September 22, 2026 – 3:00 p.m., Tampa Office

Governing Board Workshop

December 16, 2025 – 9:30 a.m., Brooksville Office

Governing Board Budget Hearing – 5:01 p.m., Tampa Office

2026 – September 8 & 22

Agricultural and Green Industry Advisory Committee – 10 a.m.

2025 – December 2
2026 – March 10 (replaced with March 27 tour), June 9, September 8

Environmental Advisory Committee – 10 a.m.

2025 – October 14
2026 – January 13, April 14, July 14

Industrial, Commercial, Institutional Advisory Committee – 10 a.m.

2025 – November 4
2026 – February 10 (replaced with Feb. 20 tour), May 5, August 11

Public Supply Advisory Committee – 1 p.m.

2025 – November 4
2026 – February 10 (replaced with Feb. 20 tour), May 5, August 11

Springs Coast Management Committee – 1:30 p.m.

2026 – February 18, July 8

Springs Coast Steering Committee – 2 p.m.

2026 – March 4, July 29

Meeting Locations

Brooksville Office – 2379 Broad St., Brooksville, FL 34604
Tampa Office – 7601 US Highway 301 North, Tampa, FL 33637

Governing Board Meeting
May 19, 2026

1. CONVENE PUBLIC MEETING

CONVENE PUBLIC MEETING

May 19, 2026

Call to Order

The Board Chair calls the meeting to order. The Board Secretary confirms that a quorum is present. The Board Chair then opens the public meeting. Anyone wishing to address the Governing Board concerning any item listed on the agenda or any item that does not appear on the agenda should fill out and submit a speaker's card. Comments will be limited to three minutes per speaker, and, when appropriate, exceptions to the three-minute limit may be granted by the Chair. Several individuals wishing to speak on the same issue/topic should designate a spokesperson.

Presenter:
John Mitten, Chair

CONVENE PUBLIC MEETING

May 19, 2026

Invocation and Pledge of Allegiance

An invocation is offered. The Board Chair conducts the Pledge of Allegiance to the Flag of the United States of America.

Presenter:
John Mitten, Chair

Item 1.3

CONVENE PUBLIC MEETING

May 19, 2026

Election of Governing Board Officers

According to the Election of Governing Board Officers Policy, elections shall occur annually in May. Elections will take place during the beginning of the District Business portion of the May Governing Board meeting. New officers will assume offices 24 hours prior to the June Governing Board meeting.

Presenter:
John Mitten, Chair

CONVENE PUBLIC MEETING

May 19, 2026

Employee Recognition

Staff that have reached 20 or more years of service at the District will be recognized.

Presenter:
John Mitten, Chair

CONVENE PUBLIC MEETING

May 19, 2026

Additions/Deletions to Agenda

According to Section 120.525(2), Florida Statutes, additions to the published agenda will only be made for "good cause" as determined by the "person designated to preside." Based upon that authority, the Chair has determined that good cause exists to make certain changes to the agenda. These changes are being made in order to permit the Governing Board to efficiently accomplish necessary public business at this meeting and to reflect the items on the agenda that have been requested or suggested to be deleted, revised, supplemented or postponed.

ADDITIONS: The items that have been added to the agenda were received by the District after publication of the regular agenda. The Board was provided with the information filed and the District staff's analyses of these matters. Staff has determined that action must be taken on these items prior to the next Board meeting. Therefore, it is the District staff's recommendation that good cause has been demonstrated and should be considered during the Governing Board's meeting.

Staff Recommendation:
Approve the recommended additions and deletions to the published agenda if necessary.

Presenter:
Brian J. Armstrong, P.G., Executive Director

CONVENE PUBLIC MEETING

May 19, 2026

Public Input for Issues Not Listed on the Published Agenda

At this time, the Board will hear public input for issues not listed on the published agenda.

Presenter:
John Mitten, Chair

Governing Board Meeting

May 19, 2026

2. CONSENT AGENDA

All matters listed under the Consent Agenda are considered routine and action will be taken by one motion, second of the motion and approval by the Board. If discussion is requested by a Board member, that item(s) will be deleted from the Consent Agenda and moved to the appropriate Committee or Report for consideration.

CONSENT AGENDA

May 19, 2026

Finance/Outreach & Planning Committee: Water Reuse Week

Purpose
To request that the Governing Board sign a resolution declaring May 17-23, 2026, as "Water Reuse Week" to focus the public on the benefits of expanding this important water resource.

Background/History
Since 2007, the State of Florida, the Florida Department of Environmental Protection (DEP), water management districts, water utilities, local governments, and water-related organizations such as WateReuse Florida have declared the third week in May as "Water Reuse Week" to promote and encourage efficient use of reclaimed water.

The largest use for reclaimed water is irrigation, and May is typically the month when irrigation demands peak due to hot and dry conditions. Reclaimed water provides a means for conserving and augmenting Florida's precious water resources and is key to meeting future demands.

More than three decades of Governing Board support ($425 million in District cooperative funding for 390 projects, resulting in nearly $1 billion in infrastructure investment) has enabled utilities within the District to progressively increase beneficial reclaimed water use to 207 million gallons per day. This represents a 54 percent beneficial utilization of all wastewater treatment plant flows within the District and is well on the way to achieving the District's 2040 goal of 75 percent utilization.

Water Reuse Week will also highlight potable reuse as an identified priority of the Governing Board in achieving the District's long-term strategic goals. The District is also a partner in DEP's One Water Florida initiative to educate the public and stakeholders on potable reuse as a safe, future water supply in Florida.

Approval of this resolution demonstrates the District's continued support of the use and expansion of reclaimed water.

The resolution for the Governing Board's consideration is attached.

Strategic Plan
Strategic Initiatives: Alternative Water Supplies and Reclaimed Water

Exhibit
Resolution No. 26-02

Staff Recommendation:
Approve and execute Resolution No. 26-02 declaring May 17-23, 2026, as "Water Reuse Week."

Presenter:
Cara Martin, Office Chief, Office of Government and Community Affairs

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
RESOLUTION NO. 26-02

PROCLAIMING MAY 17-23, 2026, as “WATER REUSE WEEK” in FLORIDA

WHEREAS, safe, clean, and sustainable water resources are essential to Florida’s environment, economy, citizens and visitors; and

WHEREAS, although Florida’s water supplies are finite, the state’s population and need for water resources continues to increase; and

WHEREAS, water reuse provides a means for conserving and augmenting Florida’s precious water resources; and

WHEREAS, May, typically a dry month when water demands are high, is a good time to educate residents about how they can help save Florida’s precious water resources through water reuse; and

WHEREAS, Florida has established the encouragement and promotion of water reuse as state objectives in Chapters 373 and 403, Florida Statutes; and

WHEREAS, Florida has risen to be a national leader in water reuse, reusing approximately 958 million gallons of reclaimed water per day, more than 56% of the wastewater treated, to conserve freshwater supplies and recharge our freshwater resources; and

WHEREAS, Florida’s permitted reuse capacity is more than 1.6 billion gallons per day (approximately 62 percent of Florida’s total permitted capacity for all domestic wastewater treatment facilities); and

WHEREAS, Through a two-year consensus driven partnership producing the report “Advancing Potable Reuse in Florida: Framework for the Implementation of Potable Reuse in Florida” in which reuse was declared as a source water for potable supply and was signed into law by Governor DeSantis in 2020; and

WHEREAS, the District has invested more than $425 million in 390 reclaimed water projects since 1987, which has resulted in nearly $1 billion in reclaimed water infrastructure for partnering entities, and

WHEREAS, the District’s Governing Board identified potable reuse as a priority for the District to achieve its goal of 75 percent reuse utilization by 2040; and

THEREFORE, BE IT RESOLVED that the Southwest Florida Water Management District hereby proclaims May 17- 23 as “WATER REUSE WEEK” in Florida.

BE IT FURTHER RESOLVED the Southwest Florida Water Management District urges every citizen and visitor to become more aware of the need to save our precious water supply and take appropriate steps to conserve and protect this vital resource.

BE IT FURTHER RESOLVED the Chair and Secretary of the Governing Board are hereby authorized to affix their signatures to the Resolution on behalf of the Board.

PASSED AND ADOPTED in Hillsborough County, Florida, on the 19 day of May 2026.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

By: _____
John Mitten, Chair

Attest: _____
Ashley Bell Barnett, Secretary

CONSENT AGENDA

May 19, 2026

Resource Management Committee: FARMS – Four Mile Grade LLC – H847 (DeSoto County)

Purpose

To request approval for a Facilitating Agricultural Resource Management Systems (FARMS) project with Four Mile Grade LLC, and approval to reimburse FARMS eligible costs up to a not-to-exceed limit of $689,392 (60 percent of total project costs). The District funding is requested from the Governing Board FARMS Fund. Total project costs are estimated at $1,148,260.

Project Proposal

The District received a project proposal from Four Mile Grade LLC for their 163-acre property located 13 miles east of Arcadia in eastern DeSoto County, within the Shell, Prairie, and Joshua Creek Priority Area (SPJC), and Southern Water Use Caution Area (SWUCA). The proposal is for an alternative water supply project and will involve the development of a new three-acre reservoir to collect tailwater and surface water from the property and surrounding watershed to offset Upper Floridan aquifer groundwater used for the supplemental irrigation of 140-acres of sod. The Water Use Permit authorizes an average annual groundwater withdrawal of 341,500 gallons per day (gpd) for supplemental irrigation. FARMS project components consist of a weather station with soil moisture probes, a surface water irrigation pump station, pump automation, valve automation, fertigation, control structures, two center pivots irrigation systems, and mainline piping necessary to tie the center pivots to the surface water pump station. These center pivot irrigation systems will convert the site from seepage irrigation, improve irrigation efficiency, and reduce surface water runoff.

Benefits/Costs

The proposed project involves water quantity and water quality best management practices (BMPs) for supplemental irrigation and will improve water quality in the SPJC by reducing the use of mineralized groundwater. The combination of these BMPs qualifies for a 75 percent cost-share reimbursement rate under the FARMS Program within the SPJC. The project is expected to reduce groundwater use by about 44 percent, or 151,000 gpd for supplemental irrigation, and reduce nitrogen applications by 288 pounds of nitrogen per year. The conservation components are integrated with the nutrient reduction components to maximize nutrient reduction. Based on the estimated groundwater offset, a proposed six-year contract term, the cost per thousand gallons of water saved at $3.84 and the cost per pound of nitrogen reduced per year is $26.39 (based on the fertigation components). This value is within the guidelines for the generally accepted average cost savings per thousand gallons for the implementation of alternative supplies, improved irrigation techniques, and nutrient reduction BMPs for sod operations. Reimbursement will be from the Governing Board FARMS Fund. Upon approval of the projects presented at this meeting, the Governing Board will have $1,522,097 remaining in its FARMS Program budget.

Strategic Plan

This project supports the District's Strategic Plan Water Supply Alternative Water Supplies Strategic Initiative, SPJC Priority Area, and the Southern Planning Region – SWUCA Recovery Regional Priorities and Objectives.

Exhibit

Location Map

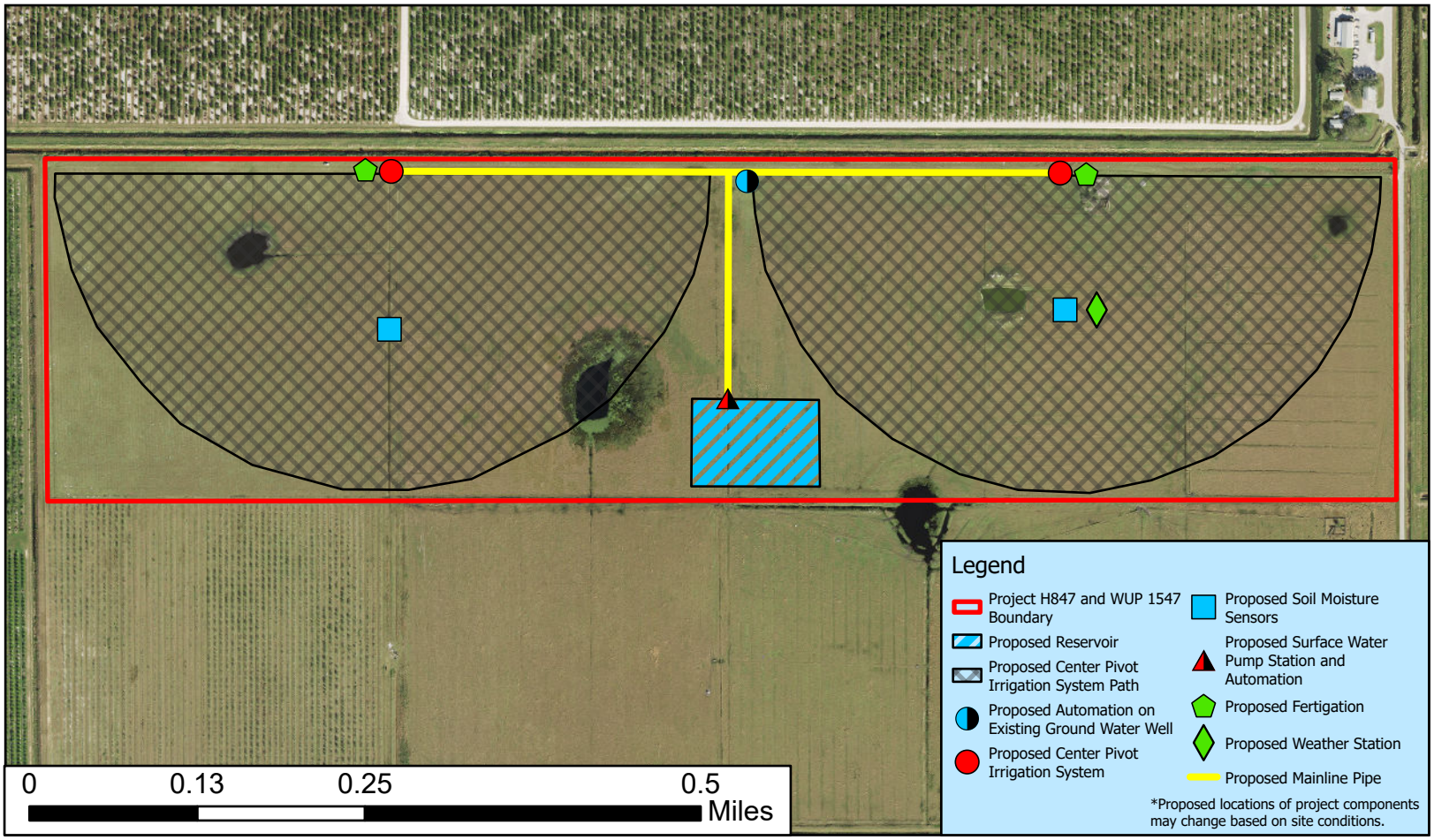
Staff Recommendation:

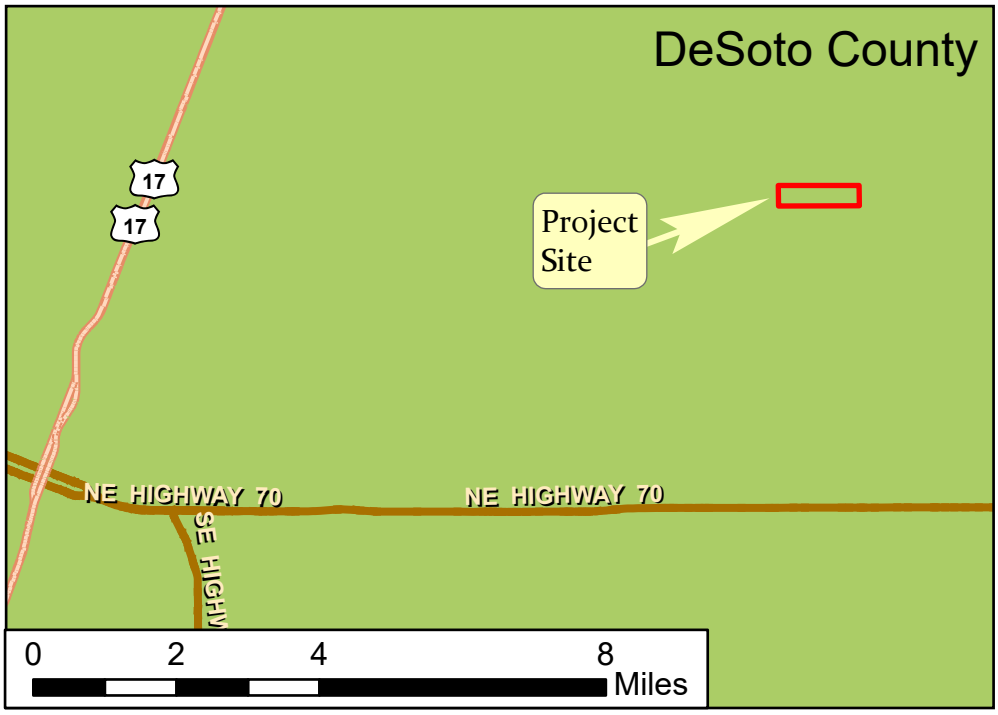
1. Approve the Four Mile Grade LLC project for a not-to-exceed project reimbursement of $689,392 provided by the Governing Board;
2. Authorize the transfer of $689,392 from fund 010 H017 Governing Board FARMS Fund to the H847 Four Mile Grade LLC project fund;
3. Authorize the Assistant Executive Director to sign the agreement.

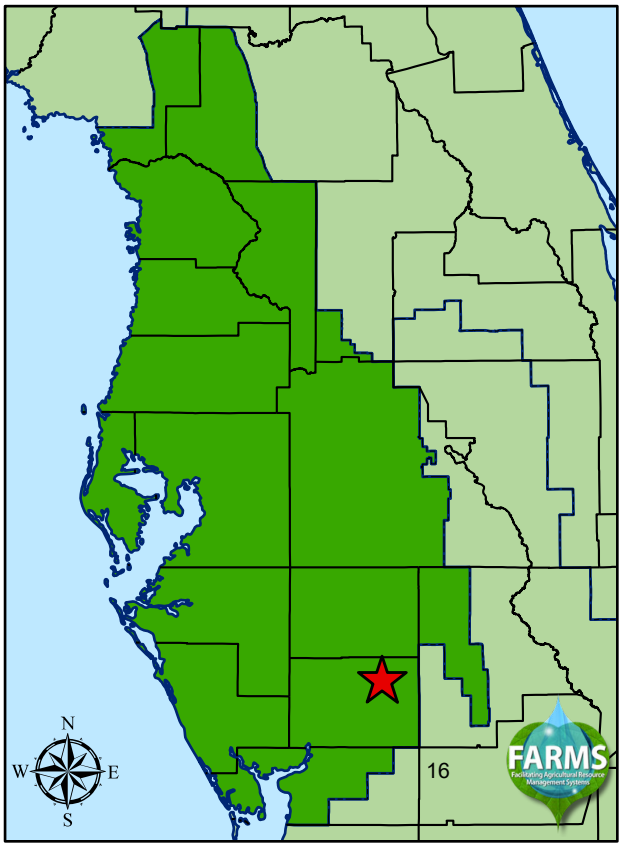
Presenter:

Carole Estes, P.G., FARMS Program Manager, Water Resources Bureau

Location Map
Four Mile Grade LLC
FARMS Project H847







Southwest Florida Water Management District

RWP 4/2/2026
2023 Aerial
2012 NAVTEQ

CONSENT AGENDA

May 19, 2026

Resource Management Committee: FARMS – Mathis Farms, Inc. – Palm Lake – H849 (Hillsborough County)

Purpose

To request approval for a Facilitating Agricultural Resource Management Systems (FARMS) project with Mathis Farms, Inc. – Palm Lake and approval to reimburse FARMS eligible costs up to a not-to-exceed limit of $495,927 (75 percent of total project costs). The District funding is requested from the Governing Board FARMS Fund. Total project costs are estimated at $661,236.

Project Proposal

The District received a project proposal from Mathis Farms, Inc. for their 172.8-acre property located six miles south of Plant City in eastern Hillsborough County, within the Dover Plant City Water Use Caution Area (DPCWUCA), and the Southern Water Use Caution Area (SWUCA). The proposal is for an alternative water supply project and will involve the utilization of a 21-acre reservoir and a three-acre reservoir to collect tailwater and surface water from the property and surrounding watershed to offset Upper Floridan aquifer groundwater used for the irrigation of 109 acres of strawberries and melons. The Water Use Permit (WUP) authorizes an annual average groundwater withdrawal of 389,500 gpd for supplemental irrigation. FARMS project components consist of three surface water pump stations, pump automation, fertigation, five soil moisture probes, and mainline piping and valves necessary to connect the surface water pump stations to the existing irrigation system.

Benefits/Costs

The proposed project involves water quantity and water quality best management practices for bed preparation, crop establishment, and supplemental irrigation and qualifies for 75 percent cost-share reimbursement under the FARMS Program. The project is expected to reduce groundwater use by approximately 30 percent, or 117,000 gpd, and is expected to reduce nitrogen applications by 196 pounds per year. The conservation components are integrated with the nutrient reduction components to maximize nutrient reduction. Based on the estimated groundwater offset, a reduction of nitrogen application, and a proposed five-year contract term, the cost per thousand gallons of water saved is $3.37, and the cost per pound of nitrogen reduced per year is $17.53 (based on the fertigation components). This value is within the guidelines for the generally accepted average cost savings per thousand gallons for the implementation of alternative supplies, improved irrigation techniques, and nutrient reduction BMPs for strawberry operations. Reimbursement will be from the Governing Board FARMS Fund. Upon approval of the projects presented at this meeting, the Governing Board will have $1,522,097 remaining in its FARMS Program budget.

Strategic Plan

This project supports the District's Strategic Plan Water Supply Alternative Water Supplies Strategic Initiative and the Tampa Bay Planning Region – SWUCA Recovery Regional Priorities and Objectives.

Exhibit

Location Map

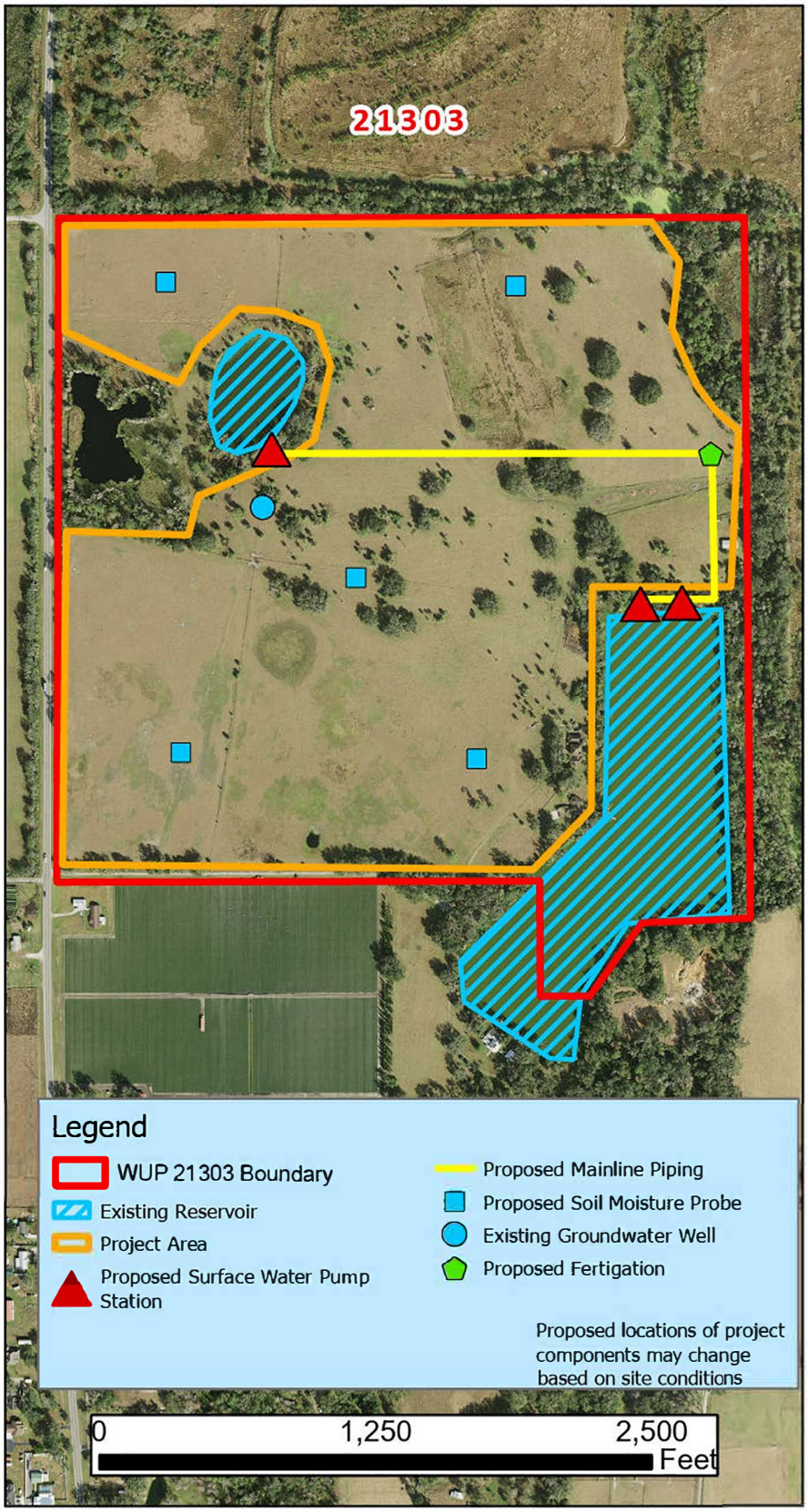
Staff Recommendation:

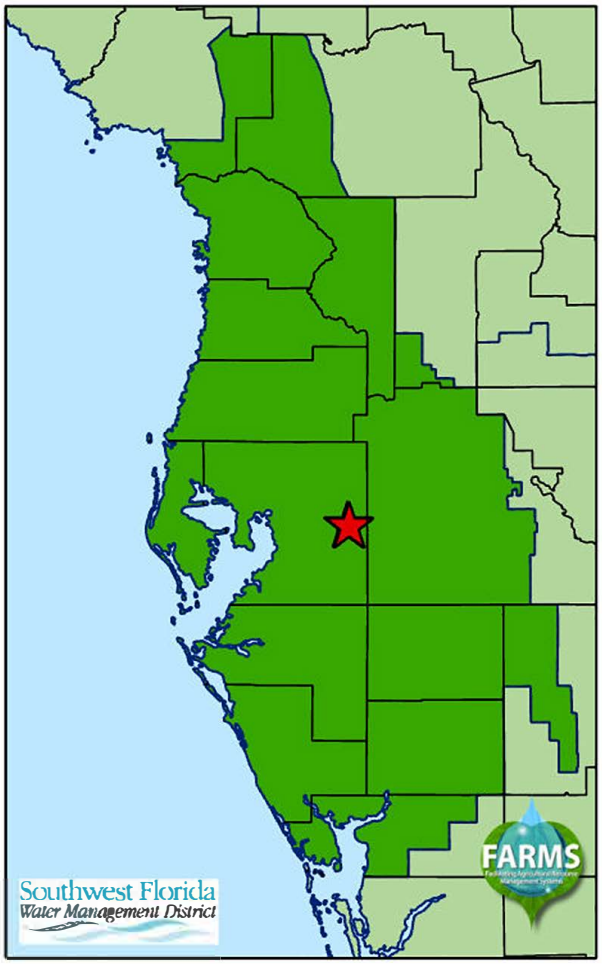
1. Approve the Mathis Farms, Inc. – Palm Lake project for a not-to-exceed project reimbursement of $495,927 provided by the Governing Board;
2. Authorize the transfer of $495,927 from fund 010 H017 Governing Board FARMS Fund to the H849 Mathis Farms, Inc. – Palm Lake project fund;
3. Authorize the Assistant Executive Director to sign the agreement.

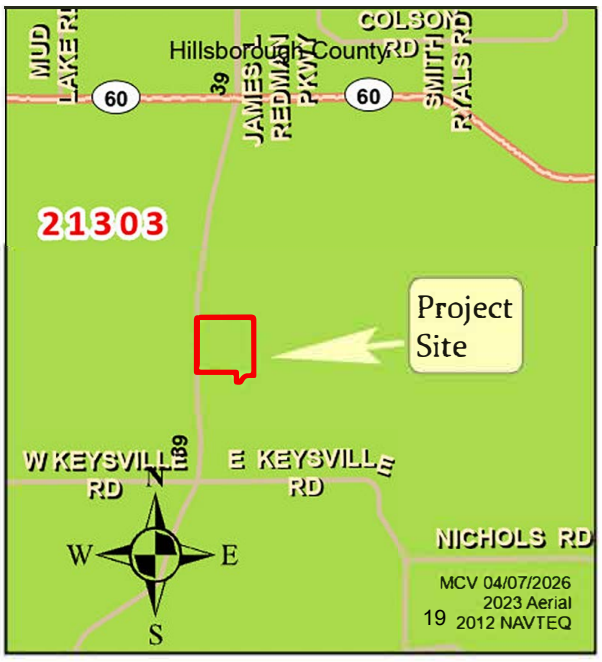
Presenter:

Carole Estes, P.G., FARMS Program Manager, Water Resources Bureau

Location Map
Mathis Farms, Inc. - Palm Lake
FARMS Project H849







CONSENT AGENDA

May 19, 2026

Operations, Lands & Resource Monitoring Committee: Amendment to Cattle Lease Agreement – Cypress Creek SWF No. 13-500-402X (Pasco County)

Purpose

The purpose of this item is to request Governing Board approval of the First Amendment (Amendment) to the Cypress Creek Cattle Lease in Pasco County, Florida. A Location Map, Site Map, and the Amendment are attached hereto as Exhibit 1, Exhibit 2, and Exhibit 3 respectively.

Background/History

The District (Lessor) and Karli Properties, LLC (Lessee) entered into a Cattle Grazing Lease Agreement (Lease) on June 1, 2021, for cattle grazing and haying for an initial term of five (5) years, attached as Exhibit 4. The first term of the Lease expires on June 1, 2026, and the Lease may be renewed for one (1) additional five (5) year term as set forth in Paragraph 21. Both the Lessee and Lessor have met their obligations set forth in the Lease and both parties wish to amend Paragraph 2 of the Lease, renewing the term. All other terms of the Lease are not modified and will remain in full force and effect.

Benefits/Costs

There are no costs to the District other than management of the Lease Agreement. The District receives annual revenue pursuant to Paragraph 1 of the lease. Management activities are the responsibility of the Lessee.

Strategic Plan

This item supports the District's Strategic Initiative regarding Natural Systems; Conservation, Restoration, and Management.

Exhibits

Exhibit 1 – Location Map
Exhibit 2 – Site Map
Exhibit 3 – Amendment
Exhibit 4 – Lease

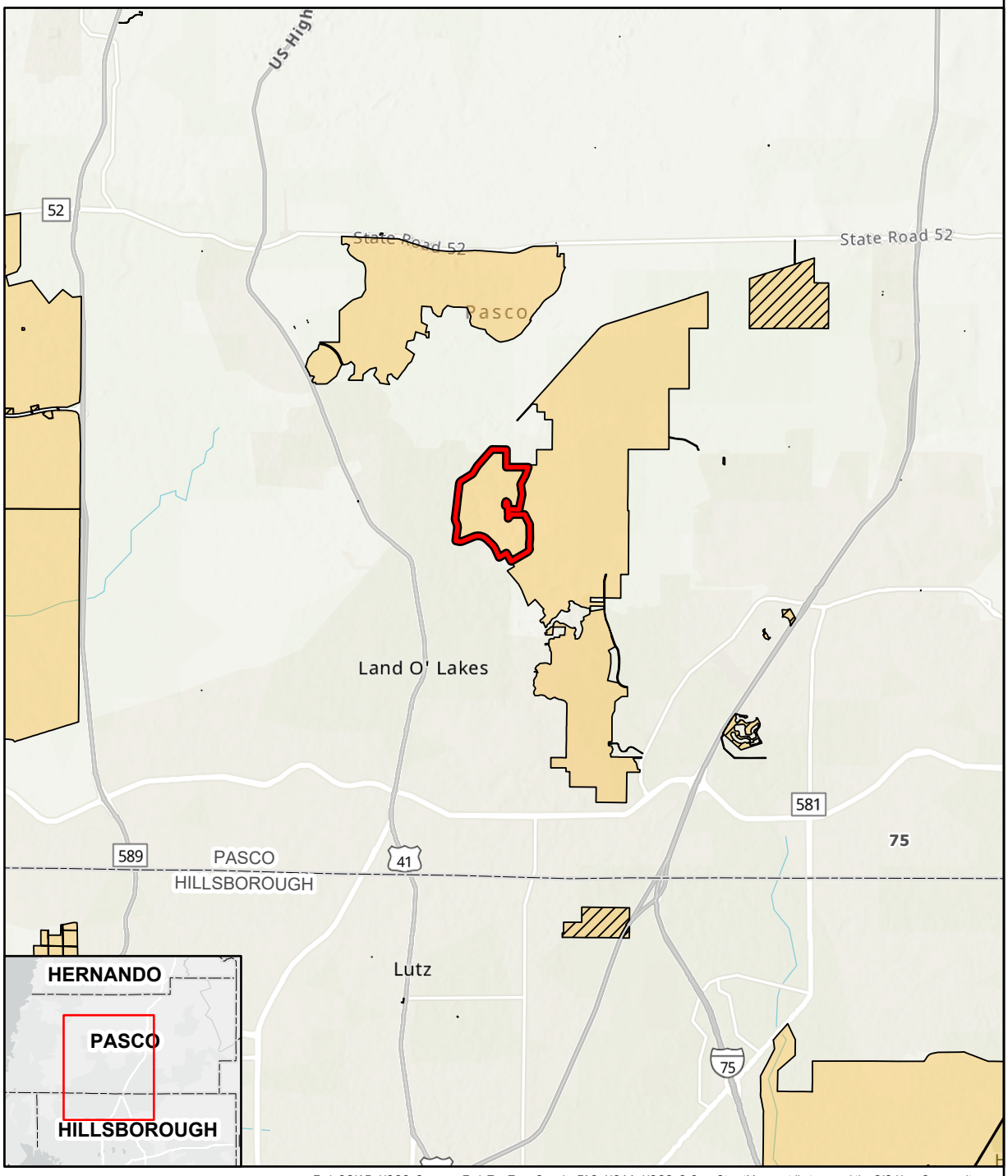
Staff Recommendation:

- Approve the Amendment to the Lease between the District and Karli Properties, LLC; and
- Authorize the Governing Board Chair to execute the Amendment on behalf of the District; and
- Authorize staff to make minor changes or corrections to conform documents or correct scrivener's errors; any substantive changes will be subject to Governing Board review and approval; and
- Authorize staff to execute any other documents necessary to complete the transaction in accordance with the approved terms.

Presenter:

Ellen Morrison, Bureau Chief, Land Resources Bureau

Exhibit 1
Amendment to Cattle Lease Agreement - Cypress Creek SWF No. 13-500-402X
Location Map



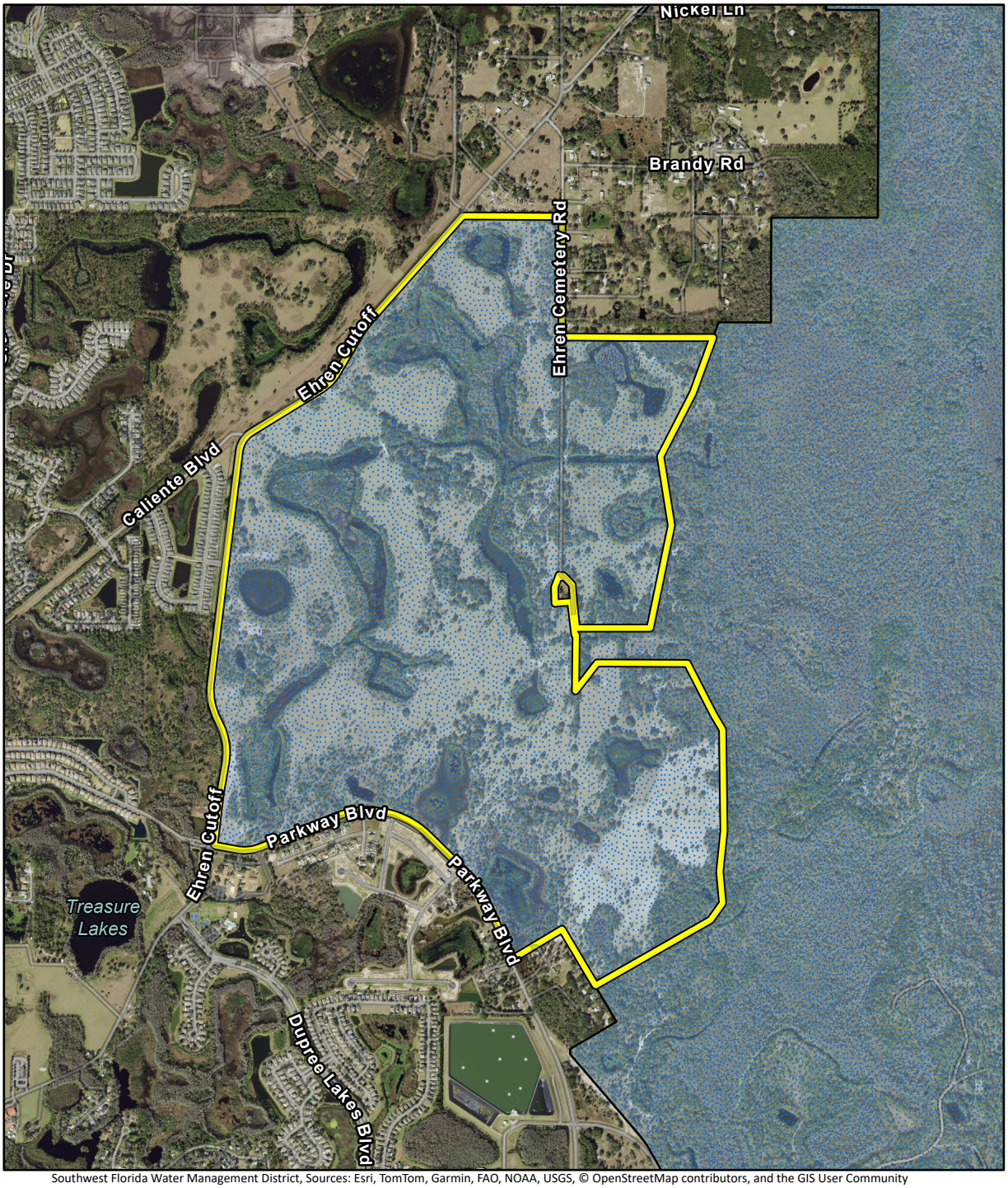
Cattle Lease (SWF No. 13-500-402X)
District Owned Lands Fee Simple
District Owned Land Easements

0 1 2
Miles

N

Southwest Florida Water Management District

Exhibit 2
Amendment to Cattle Lease Agreement - Cypress Creek SWF No. 13-500-402X
Site Map



Southwest Florida Water Management District, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Cattle Lease (SWF# 13-500-402X)
Cypress Creek Preserve

0 1,000 2,000
Feet

N

Southwest Florida Water Management District

Cypress Creek Preserve Cattle Lease
SWF Parcel No. 13-500-402X
Approved by Attorney: *CT*

FIRST AMENDMENT TO LEASE AGREEMENT

THIS FIRST AMENDMENT TO LEASE AGREEMENT is made and entered into this 1st day of June, 2026, by and between the Southwest Florida Water Management District, a public corporation, having an address of 2379 Broad Street, Brooksville, Florida 34604-6899, (LESSOR), and Karli Properties, LLC, a Florida limited liability company, having an address of 21212 Ski Way, Land O' Lakes, Florida, 34638 (LESSEE), collectively referred to as the "Parties".

WHEREAS, the LESSOR owns certain property located in Pasco County Florida, known as Cypress Creek Preserve (Property); and

WHEREAS, the LESSOR and the LESSEE entered into a Lease Agreement (Lease) dated June 1, 2021, that authorized the LESSEE to use the Property for cattle grazing and hay production for a term of five (5) years; and

WHEREAS, the Lease provides that it may be renewed for one (1) additional five (5) year term in accordance with the provisions of Paragraph 21. LESSOR'S OPTION TO RENEW: and

WHEREAS, Parties hereto wish to amend the Lease to extend the term of the Lease..

NOW THEREFORE, in consideration of the mutual terms, covenants and conditions set forth herein, the LESSOR and the LESSEE hereby wish to amend the Lease under the same terms and conditions, except as modified below:

1. Pursuant to Paragraph 2 titled TERM, the Lease is renewed for one (1) additional five (5) years as set forth in Paragraph 21 titled LESSOR'S OPTION TO RENEW. The new and final term will commence on June 1, 2026.

2. The LESSOR and the LESSEE acknowledge and agree that all other terms of the Lease not modified herein will remain in full force and effect.

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IN WITNESS WHEREOF, the parties hereto, or their authorized representatives, have executed this License Agreement on the day and year set forth next to their signatures below.

Southwest Florida Water Management District,
LESSOR

BY:_____
John R. Mitten, Chair

Attest:_____
Ashley Bell Barnett, Secretary

Karli Properties, LLC
LESSEE

By:_____

Title:_____

Attest:_____

_____
(Print Name of Witness)

Attest:_____

_____
(Print Name of Witness)

Exhibit 4

CATTLE GRAZING LEASE AGREEMENT

THIS LEASE, made this 1st day of June, 2021, by and between the SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT, having an address of 2379 Broad Street, Brooksville, Florida 34604-6899, hereinafter called the "LESSOR", and **Karli Properties, LLC, a Florida limited liability company,** having an address of **21212 Ski Way, Land O' Lakes**, **Florida, 34638**, hereinafter called the "LESSEE."

WITNESSETH:

The LESSOR, for and in consideration of the rents, covenants and agreements hereinafter contained, does hereby lease to the LESSEE, all that certain property located in Pasco County Florida, hereinafter referred to as the "PROPERTY", depicted in Exhibit "A", and described in Exhibit "B" attached hereto, subject to the following terms and conditions:

1. RENT: The LESSEE agrees to pay the LESSOR an annual rental amount of **Twenty-six thousand eight hundred and five dollars and twenty-four cents** (**$26,805.24**) for 967 acres per year, or at the rate of **$27.72** per acre per year. The first payment is due upon execution of this Lease and subsequent payments will be due annually on the anniversary of the execution date of this Lease (Anniversary Date).

2. TERM: This Lease will be for a term of five (5) years commencing on the date of execution of this Lease, unless otherwise renewed by the LESSOR pursuant to the terms and conditions set forth in Paragraph 21. If this Lease is renewed, then the term will commence on the date of execution of the renewal by the LESSOR.

3. USE: The LESSEE may use the PROPERTY for cattle grazing and haying purposes only.

4. STOCKING RATE: An Animal Unit is one (1) bull or one (1) cow with or without one (1) un-weaned calf. The maximum Stocking Rate for the PROPERTY is 100 Animal Units. The LESSEE may stock any number of Animal Units at or below the maximum stocking rate stated without an adjustment to the annual rent payment. Upon written request from the LESSEE, the stocking rate may be increased upon a favorable evaluation and written approval by the LESSOR. The LESSOR reserves the right to inspect the condition of the PROPERTY at any time during this Lease and adjust the Stocking Rate due to the PROPERTY being overgrazed based on this inspection and/or forage production analysis. The amount of rent due will be increased or decreased by an amount equal to the percentage change in the number of Animal Units approved by the LESSOR. The change in the Stocking Rate will be effective on the next date rent is due to the LESSOR.

5. ASSIGNMENT: The LESSEE may not assign this Lease, or any interest herein, without the prior written approval of the LESSOR. Neither this Lease nor any interest of the LESSEE herein is assignable or transferable in proceedings by or against the LESSEE in execution, bankruptcy, or insolvency, or in any other manner by operation of law. Any assignment or change of control made either in whole or in part without the prior written approval of the LESSOR shall be void and without legal effect. Any purported assignment or change of control in violation of this Paragraph will constitute a material breach of this Lease for which the LESSOR may immediately terminate this Lease.

6. SUBLEASES: The LESSEE will not sublease the PROPERTY, unless the LESSEE obtains prior written approval of the terms and conditions of the sublease from the LESSOR. Any sublease not approved in writing by the LESSOR will be void and without legal effect. Any purported sublease in violation of this Paragraph will constitute a material breach of this Lease for which the LESSOR may immediately terminate this Lease. The LESSOR'S approval of a particular sublease does not constitute a waiver of the right to withhold approval of subsequent subleases.

7. PRESCRIBED BURNS:

(a) The LESSEE may be responsible for planning and conducting prescribed burns on the PROPERTY. All burning on the PROPERTY must be conducted in accordance with Section 590.125, Florida Statutes (F.S.). As required by subsection 590.125(3)(b), F.S., a certified prescribed burn manager must be on site with a copy of the prescription from the time of ignition until the burn is completed. Prescribed burns conducted on the PROPERTY by the LESSEE that are not in compliance with the conditions described herein, will be considered a material breach of this Lease for which the LESSOR may immediately terminate this Lease.

(b) The LESSEE may not conduct a prescribed burn on the PROPERTY or any part thereof without first submitting a written burn plan to the LESSOR that contains all pertinent information, i.e., area to be burned, season of burn, frequency of burns, etc., in a format approved by the LESSOR, for review and approval by October 1 of each year of this Lease. The LESSEE must obtain authorization from the Florida Forest Service of the Department of Agriculture and Consumer Services and the County, if applicable, prior to conducting a prescribed burn on the PROPERTY. The LESSEE'S responsibility to conduct prescribed burns on the PROPERTY will not prevent the LESSOR from conducting prescribed burns on the PROPERTY when necessary for other land management purposes.

(c) The LESSEE agrees to indemnify, defend, and hold harmless the LESSOR, its officers, agents, and employees from any and all damage or injury that may be caused by fire or smoke resulting from burning conducted on the PROPERTY by the LESSEE. Pursuant to subsection 590.125(3)(c), F.S., no property owner or his or her agent is liable pursuant to Section 590.13, F.S., for damage or injury caused by the fire or resulting smoke for burns conducted in accordance with subsection 590.125(3)(b), F.S., unless gross negligence is proven. Any and all damages to the PROPERTY or improvements to the PROPERTY caused by fire or smoke resulting from burning conducted on the PROPERTY by the LESSEE must be repaired by the LESSEE at its sole expense. This Paragraph shall survive the expiration or termination of this Lease.

(d) The LESSEE will disc the existing fire lanes identified on Exhibit "C," at least annually and more frequently if necessary, to protect the PROPERTY from damage or destruction by wildfires and to ensure that prescribed burns are conducted safely. Discing must be completed between December and March of each year of this Lease. Fire lanes will be maintained at a maximum width of twelve (12) feet. The LESSEE may not create any new fire lanes without the prior written approval of the LESSOR.

8. FENCING AND IMPROVEMENTS:

(a) Unless another type of fencing is approved by the District, new fences will be constructed of four (4) strands of barbed wire, attached to pressure treated or iron fence posts. Post spacing will not exceed twenty (20) feet. All fences remain the property of the LESSOR.

(b) The LESSEE will maintain all fences and gates in good condition during the term of this Lease. If an existing fence on the PROPERTY is damaged or inadequate, the LESSEE will take immediate action to repair it. Fences that must be repaired or replaced will be constructed in the same manner as new fences.

(c) The LESSEE must obtain prior written approval from the LESSOR before constructing any additional interior fences upon the PROPERTY. The LESSEE will maintain in good repair, any existing improvements upon the PROPERTY, e.g., troughs, sheds, and other structures, or any improvements that may be placed upon the PROPERTY during the term of this Lease. The LESSEE may not make improvements to the PROPERTY without the prior written approval of the LESSOR. All permanent improvements will remain the property of the LESSOR, e.g., well(s) for cattle watering purposes.

(d) The LESSEE must maintain the existing cattle pens in good condition during the term of this lease. The LESSEE is solely responsible for expenses incurred for use, maintenance, or construction of cattle pens.

(e) The LESSEE will be responsible for establishing a dependable water source on the PROPERTY if needed by the LESSEE. The LESSEE must obtain all necessary permits and authorizations prior to establishing any water source on the PROPERTY. The LESSEE is solely responsible for expenses incurred for establishing water sources.

9. IDENTIFICATION: All cattle must bear identification, e.g., ear tags, tattoos, brands, etc., readily traceable to the LESSEE before their release on the PROPERTY.

10. HUNTING: With the exception of the activities allowed pursuant to paragraph 12 (c), hunting on the leased property is prohibited.

11. PUBLIC USE: The LESSOR reserves the right to use the PROPERTY, in whole or part, for activities, including but not limited to passive recreation.

12. GENERAL OPERATION AND MANAGEMENT: The LESSEE will take appropriate measures to prevent overgrazing, pasture degradation and other environmental impacts to the PROPERTY. Such measures will include but are not limited to the following:

(a) The LESSEE will conduct all activities in accordance with all applicable rules and regulations. The LESSEE further agrees, when practicable, to conduct all activities in accordance with the most recent Water Quality Best Management Practices (BMPs), including the Nutrient Application Record form, established by the Florida Department of Agriculture and Consumer Services, Office of Agricultural Water Policy (FDACS-OAWP).

The FDACS-QAWP Water Quality/Quantity Best Management Practices Manual is available from the FDACS-OWAP at:

https://www.fdacs.gov/ezs3download/download/25408/516287/Bmp_FloridaCowCalf2008.pdf

or:

FDACS-OAWP
1203 Governor's Sq. Blvd.
Suite 200
Tallahassee. FL 32301

Prior to conducting activities on the PROPERTY, the LESSEE will demonstrate its intent to implement practicable BMPs by signing the following FDACS-QAWP Notice of Intent to Implement Water Quality BMPs for Florida Cow/Calf Operations form, found within the FDACS-QAWP Water Quality/Quantity Best Management Practices Manual, and submitting them to FDACS-OAWP, with copies to the LESSOR.

(b) The LESSOR is required to manage invasive plant species on the PROPERTY consistent with Florida Statutes. The LESSEE shall not impede the LESSOR'S efforts to control invasive species on the PROPERTY. The LESSEE will be solely responsible for maintaining effective control of tropical soda apple (TSA) using the Best Management Practices described in the University of Florida, Institute of Food and Agricultural Sciences Publication Number SS-AGR-77, and updates thereto at:

http://edis.ifas.ufl.edu/uw097

The LESSOR will ensure that there is less than 5% coverage of TSA on the PROPERTY at the time this Lease is executed. The LESSOR and the LESSEE will conduct an inspection of the PROPERTY following execution of this Lease, to document that TSA is under satisfactory control. The LESSEE'S failure to maintain acceptable control of TSA will constitute a material breach of this Lease for which the LESSOR may either immediately terminate this Lease or treat the PROPERTY. If the LESSOR chooses to treat the PROPERTY, the LESSEE is solely responsible for the cost of such treatment by the LESSOR and agrees to reimburse the LESSOR the full amount of the cost upon the LESSOR'S written request. The LESSEE'S failure to reimburse the LESSOR within 5 days of receipt of LESSOR'S written request will constitute a material breach of this Lease for which the LESSOR may immediately terminate this Lease. If the LESSEE uses fertilizer, hay, seed, or other planting materials on the PROPERTY that originated off-site, the LESSEE must make every practicable effort to ensure that such materials are free of invasive plant seeds and other propagules before using.

(c) The LESSEE will trap or shoot feral hogs on the PROPERTY and maintain a record of all feral hog control activities conducted by the LESSEE. All hogs trapped on the PROPERTY must be euthanized in a humane manner and may not be relocated

or released. The LESSEE will submit the record of all feral hog control activities to the LESSOR by October 1 of each year of this lease.

13. PASTURE CONDITIONS: The LESSEE will take appropriate measures to prevent overgrazing and pasture degradation that include, but are not limited to the following:

(a) The maintenance of existing improved pastures by rotating, fertilizing, mowing, discing, dragging, and removing invasive plant species.

(b) Fertilizing and liming the improved pastures when practicable, in accordance with the recommendations of the Natural Resource Conservation Service (NRCS).

(c) The indirect rotation of cattle through the strategic placement and periodic movement of feed troughs, mineral blocks, water troughs, and molasses tanks. The LESSEE must use a rotational grazing system that will prevent overgrazing of any one pasture.

(d) To ensure that the quality of the improved pasture is maintained or enhanced, the LESSEE agrees to mow, disc, or drag the pastures at least once a year, or more frequently if required.

14. HAYING: Haying is allowed on the PROPERTY. The LESSEE will conduct haying activities in a manner that will not damage or strip the pasture(s) of desirable grasses. During haying operations, the LESSEE will maintain a two-inch stubble height. If the LESSEE purchases hay, seed, or other planting materials off-site, the LESSEE agrees to make every practicable effort to ensure that such materials are free of invasive plant species.

15. QUARANTINE: The LESSEE must quarantine all cattle for seven (7) days prior to releasing them on the PROPERTY. The LESSEE must ensure that all cattle are free of exotic seed prior to releasing them on the PROPERTY.

16. WORKS OF THE DISTRICT: The LESSOR reserves the right to enter upon the PROPERTY, at such times and places as the LESSOR may deem necessary, for the purposes of inspecting the PROPERTY, or constructing roads, canals or ditches, infrastructure and amenities related to public recreation, or other projects, and for any matter pertaining to water management or land management activities.

17. SALE OF PROPERTY: If the LESSOR sells the PROPERTY during the term of this Lease, the LESSOR, in its sole discretion, may either assign this Lease in whole to the new owner without the LESSEE'S consent, or terminate this Lease upon six (6) months prior written notice to the LESSEE.

18. PERSONNEL AND VEHICLES: Only personnel and vehicles utilized or authorized by the LESSEE for use in its cattle grazing and haying operations are allowed on the PROPERTY.

19. PROTECTION: The LESSEE will regularly inspect the PROPERTY to detect and prevent wildfires, trespasses, and vandalism on the PROPERTY. Additionally, the LESSEE will regularly inspect the PROPERTY for downed or damaged fence, open gates and cattle that may have strayed from the PROPERTY. The LESSEE must immediately notify the appropriate

governmental agencies and the LESSOR upon the discovery of any wildfire, trespass, or vandalism. The LESSEE is responsible for repairing damaged fences and taking appropriate measures to immediately return stray cattle to the PROPERTY.

20. INDEMNIFICATION: The LESSEE agrees to indemnify and hold harmless the LESSOR and all the LESSOR'S agents, employees and officers from and against all liabilities, claims, damages, expenses or actions, either at law or in equity, including attorneys' fees and costs and attorneys' fees and costs on appeal, caused or incurred, in whole or in part, as a result of any act or omission by the LESSEE, its agents, employees, subcontractors, assigns, heirs or anyone for whose acts or omissions any of these persons or entities may be liable during the LESSEE'S use of the PROPERTY and performance under this Lease. This Paragraph will survive the expiration or termination of this Lease.

21. LESSOR'S OPTION TO RENEW:

(a) The LESSOR, at its sole discretion, may offer to renew this Lease for one additional five-year term under such terms and conditions as may be established by the LESSOR. The LESSOR will notify the LESSEE if it intends to offer to renew this Lease in accordance with this Paragraph prior to soliciting offers on the PROPERTY. If the LESSOR does not notify the LESSEE of its intent to offer to renew this Lease, then this Lease will expire at the end of the term.

(b) Approximately six months prior to the expiration of this Lease, the LESSOR may request competitive offers on the PROPERTY. If the LESSOR proceeds to request offers under this subparagraph, this Lease may be renewed for one additional five-year term under such terms and conditions as may be established by the LESSOR, if the LESSEE meets the following conditions:

- The LESSEE submits a responsive offer.
- If the LESSEE'S offer is not the highest offer received, the LESSEE agrees to exceed the highest offer received during the offer process by five percent (5%).
- The LESSEE has successfully performed under this Lease.
- The LESSEE agrees to any modifications to the lease terms and conditions as determined by the LESSOR.
- The LESSEE accepts the renewal terms and conditions within ten (10) business days from receipt of the LESSOR'S offer to renew by delivering notice of the LESSEE'S acceptance to the LESSOR by hand delivery or certified mail. If by certified mail, date of delivery will be the date the notice is placed in mail.
- The LESSEE'S failure to deliver written acceptance of the LESSOR'S offer to renew within the time specified will be deemed a rejection of the terms by the LESSEE.

Upon receipt of the LESSEE'S timely written acceptance of the LESSOR'S offer to renew, the LESSOR and the LESSEE will execute a written amendment to this Lease to record the renewal and conditions thereto, if any.

22. INSURANCE: The LESSEE must maintain during the full term of this Lease, and at its sole expense, insurance in the following kinds and amounts or limits with a company or companies authorized to do business in the State of Florida. This Lease will not be effective until the LESSOR has received an acceptable certificate of insurance showing evidence of such coverage. Certificates of insurance must reference this Lease.

(a) Liability insurance on forms no more restrictive than the latest edition of the Commercial General Liability Policy (GC 00 01) of the Insurance Services Office without restrictive endorsements, or equivalent, with the following minimum limits and coverage:

Minimum Limits $1,000,000 per occurrence

(b) Vehicle liability insurance, including owner, non-owned and hired autos with the following minimum limits and coverage:

Bodily Injury Liability Per Person $100,000
Bodily Injury Liability Per Occurrence $300,000
Property Damage Liability $100,000
-or-
Combined Single Limit $500,000

(c) The LESSOR and its employees, agents, and officers must be named as additional insured on the general liability policy to the extent of the LESSOR'S interests arising from this Lease.

(d) The LESSEE must obtain certificates of insurance from any subcontractor in the same or greater amounts, otherwise the LESSEE must provide evidence satisfactory to the LESSOR that coverage is afforded to the subcontractor by the LESSEE'S insurance policies.

(e) The LESSEE must notify the LESSOR in writing of the cancellation or material change to any insurance coverage required by this Paragraph. Such notification must be provided to the LESSOR within five (5) business days of the LESSEE'S notice of such cancellation or change from its insurance carrier.

23. TAXES: If any ad valorem taxes, intangible property taxes, personal property taxes, or other liens or taxes of any kind are assessed or levied lawfully on the PROPERTY, based on the LESSEE'S use of the PROPERTY during the term of this Lease, the LESSEE agrees to pay all such taxes, assessments, or liens, within thirty (30) days after receiving written notice from the LESSOR. In the event the LESSEE fails to pay all such taxes assessed or levied on the PROPERTY within thirty (30) days after receiving written notice, the LESSOR may, at its sole option, pay such taxes, liens, or assessments, subject to immediate reimbursement thereof together with any interest, calculated at the maximum rate allowed by law, and any administrative costs incurred by the LESSOR. Failure of the LESSEE to pay any taxes or assessments pursuant to this paragraph will constitute a material breach of this Lease for which the LESSOR may immediately terminate this Lease.

24. MATERIAL BREACH: Each of the following events will constitute a material breach of this Lease by the LESSEE for which the LESSOR may immediately terminate this Lease:

(a) If the LESSEE transfers this Lease or any of its rights or obligations under this Lease to any other person or entity, except as may be specifically authorized by the terms of this Lease.

(b) If the LESSEE vacates or abandons the PROPERTY.

(c) If the LESSEE fails to obtain and carry the required amount of general liability or vehicle insurance or if such insurance should lapse during the term of this Lease.

(d) If the LESSEE fails to pay the rent.

(e) If the LESSEE fails to pay any ad valorem taxes, intangible property taxes, personal property taxes, or other liens or taxes of any kind which are assessed or levied lawfully on the PROPERTY within thirty (30) days after receiving written notice.

(f) If the LESSEE fails to reimburse the LESSOR for costs associated with the LESSOR'S treatment of the PROPERTY for TSA pursuant to subparagraph 12. (b).

(g) If the LESSEE is in noncompliance with any other condition of this Lease and LESSEE fails to remedy such non-compliance within (5) days after actual notice by the LESSOR, or within ten (10) days of written notice mailed to the LESSEE at the address stated in the introductory paragraph of this Lease.

25. UTILITIES: The LESSEE agrees to pay all deposits and monthly charges for all utility services supplied to the PROPERTY for the benefit of the LESSEE and all costs to repair, replace, clean, and maintain connections and service to the PROPERTY.

26. WAIVER: Waiver by the LESSOR of any breach of any term, covenant or condition herein contained will not be deemed to be a future waiver of such term, covenant, or condition, or of any subsequent breach of the same or any other term, covenant, or condition contained herein.

27. TERMINATION: Upon the expiration or termination of this Lease, the LESSEE will vacate the PROPERTY and leave the PROPERTY in the same or better condition as when the LESSEE took possession. Any fencing or other improvements constructed on the PROPERTY by the LESSEE will remain on the PROPERTY become the property of the LESSOR.

28. NOTICES: All notices which might be given to the LESSOR or the LESSEE under this Lease will be in writing and by certified mail, to the respective addresses as stated in the introductory Paragraph of this Lease, unless specifically provided otherwise herein.

29. MODIFICATION: This Lease may not be amended except by a formal written amendment signed by the parties.

IN WITNESS WHEREOF, the parties hereto have executed this Lease on the day and year first above written.

Southwest Florida Water Management District,
LESSOR

Southwest Florida Water Management District,
a public corporation of the State of Florida

BY: _____
Kelly Rice, Chairman

Attest: _____
Rebecca Smith, Secretary

Karli Properties, LLC
LESSEE

By: _____

Title: Manager

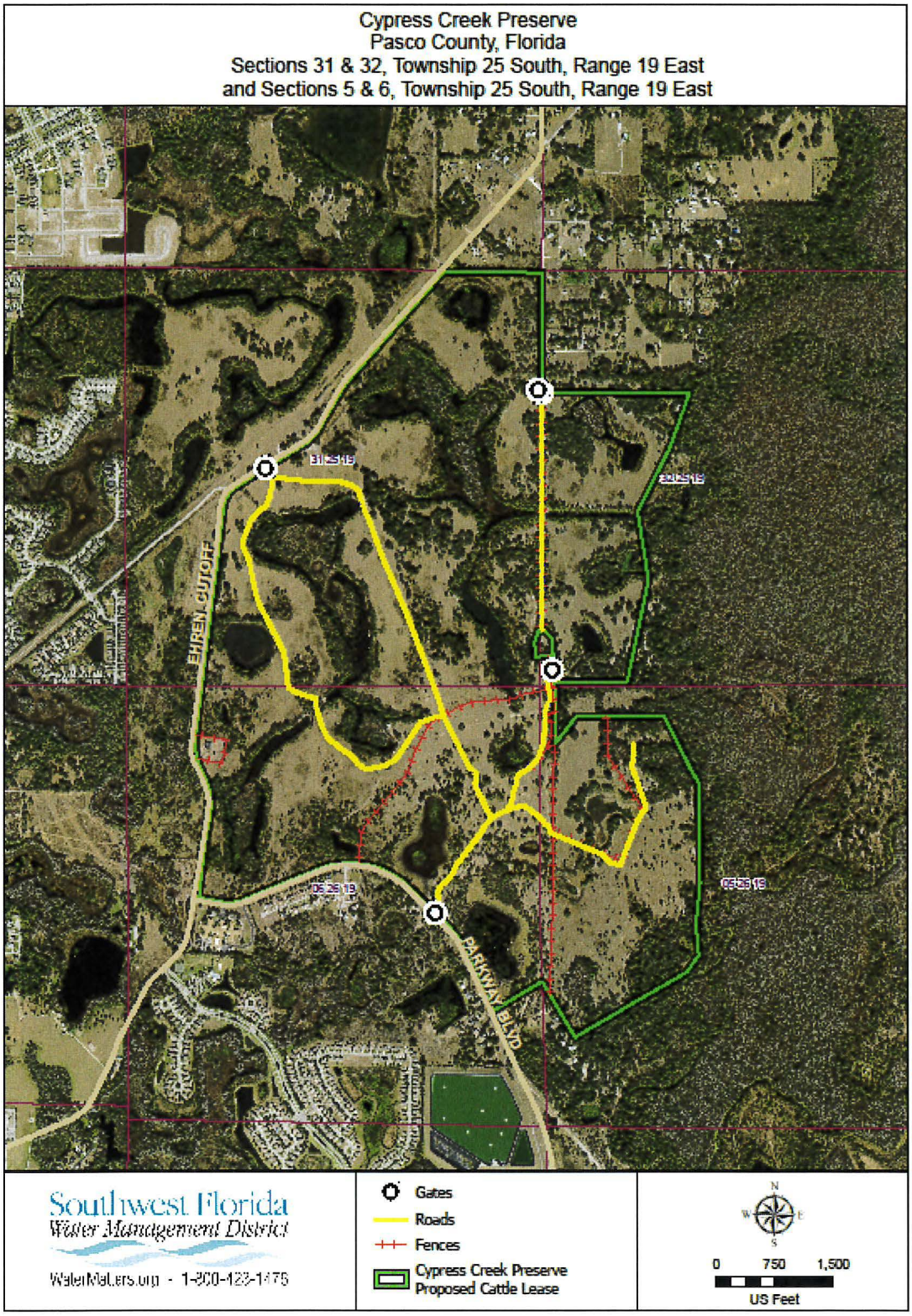
Attest: _____
Kirby Crockett
(Print Name of Witness)

Attest: _____
Chris Reed
(Print Name of Witness)

EXHIBIT "C"

SWF Parcel No. 13-500-402X
Cattle Grazing Lease Agreement with Karli Properties

EXHIBIT "A"



SWF Parcel No. 13-500-402X
Cattle Grazing Lease Agreement with Karli Properties

EXHIBIT "B"

Legal Description Parcel 13-500-402X (Cypress Creek Parcel 2-1)

A portion of Sections 31 and 32, Township 25 South, Range 19 East AND a portion of Sections 5 and 6, Township 26 South, Range 19 East, Pasco County, Florida, ALL being more particularly described as follows:

BEGIN at the Northeast corner of said Section 31, said point also being the Northwest corner of said Section 32; thence S.00°05'46"W., 1523.60 feet along the Easterly boundary line of said Section 31 and the Westerly boundary line of said Section 32 to the Southwest corner of the property described in Official Records Book 9655, Page 2294 of the Public Records of Pasco County, Florida; thence along the Southerly boundary line of said property described in Official Records Book 9655, Page 2294, the following three courses: S.89°38'43"E., 1099.47 feet; thence S.89°52'13"E., 444.44 feet; thence N.89°59'35"E., 371.18 feet to the Westerly boundary line of the properties described in Official Records Book 1981, Page 212, Official Records Book 1998, Page 865, and Official Records Book 2002, Page 641, of the Public Records of Pasco County, Florida; thence along said Westerly boundary lines the following twenty-one courses: S.20°06'27"W., 744.38 feet; thence S.27°06'41"W., 903.77 feet; thence S.09°00'52"E., 882.46 feet; thence S.11°39'55"W., 1324.28 feet; thence N.89°57'55"W., 934.24 feet; thence N.06°17'22"W., 337.52 feet; thence N.04°20'53"W., 212.18 feet; thence N.44°33'20"W., 163.90 feet; thence S.45°26'40"W., 31.89 feet to the boundary line of the Ehren Cemetery property described in Official Records Book 9127, Page 1330, of the Public Records of Pasco County, Florida; thence along said boundary line of Ehren Cemetery the following five courses: N.45°17'03"W., 38.65 feet; thence S.20°41'28"W., 163.90 feet; thence S.02°07'10"E., 201.76 feet; thence N.83°43'43"E., 76.89 feet; thence N.85°58'25"E., 122.65 feet to the Westerly boundary lines of properties described in Official Records Book 1981, Page 212, Official Records Book 1998, Page 865, and Official Records Book 2002, Page 641; thence S.06°44'10"E., 418.85 feet; thence S.89°50'52"E., 17.86 feet; thence S.00°45'12"W., 710.00 feet along the Easterly boundary line of said Section 6; thence N.37°48'29"E., 445.47 feet; thence S.89°48'12"E., 1144.76 feet; thence S.27°01'49"E., 720.34 feet; thence S.30°35'59"E., 229.45 feet; thence S.00°44'41"E., 1283.14 feet; thence S.05°54'22"W., 513.77 feet; thence S.05°00'53"E., 400.52 feet; thence S.35°48'23"W., 261.14 feet; thence S.60°17'10"W., 1672.92 feet to the boundary line of the property described in said Official Records Book 9127, Page 1330; thence along said boundary line of the property described in Official Records Book 9127, Page 1330, the following two courses: N.30°51'58"W., 827.47 feet; thence S.59°08'21"W., 724.53 feet to the Northeasterly right-of-way line of PARKWAY BOULEVARD; thence along the North and Northeasterly right-of-way line of said PARKWAY BOULEVARD, the following four courses and four curves: N.24°40'07"W., 843.80 feet to the beginning of a non-tangent curve concave to the Southwest having a radius of 1000.00 feet; thence Northwesterly, 361.43 feet along said curve through a central angle of 20°42'31" (chord bears N.35°01'51"W., 359.47 feet); thence N.45°22'47"W., 707.46 feet to the beginning of a non-tangent curve concave to the Southwest having a radius of 1100.25 feet; thence Northwesterly, 1281.89 feet along said curve through a central angle of 66°45'18" (chord bears N.78°46'09"W., 1210.61 feet); thence S.67°50'54"W., 1013.19 feet to the beginning of a curve concave to the Northwest having a radius of 550.00 feet; thence Southwesterly, 315.87 feet along said curve through a central angle of 32°54'19" (chord bears S.84°18'03"W., 311.54 feet); thence N.79°14'47"W., 259.71 feet to the beginning of a non-tangent curve concave to the Northeast having a radius of 41.50 feet; thence Northwesterly, 30.87 feet along said curve through a central angle of 42°37'26" (chord bears N.57°40'14"W., 30.17 feet) to

the Easterly right-of-way line of COUNTY ROAD 583 (EHREN CUTOFF); thence along said right-of-way line the following six courses and three curves: N.09°26'27"E., 30.39 feet; thence N.06°32'22"E., 594.84 feet; thence N.09°51'09"E., 419.78 feet to the beginning of a non-tangent curve concave to the Southwest having a radius of 791.35 feet; thence Northwesterly, 496.27 feet along said curve through a central angle of 35°55'53" (chord bears N.08°21'17"W., 488.18 feet); thence N.26°18'51"W., 82.42 feet to the beginning of a non-tangent curve concave to the Northeast having a radius of 818.65 feet; thence Northwesterly, 476.62 feet along said curve through a central angle of 33°21'28" (chord bears N.09°38'50"W., 469.92 feet); thence N.07°01'54"E., 612.99 feet; thence N.07°01'54"E., 2318.45 feet to the beginning of a curve concave to the Southeast having a radius of 349.44 feet; thence Northeasterly, 295.64 feet along said curve through a central angle of 48°28'30" (chord bears N.31°16'09"E., 286.90 feet) to the Southeasterly abandoned railroad right-of-way line as described in Official Records Book 9127, Page 1330, of the Public Records of Pasco County, Florida; thence along said Southeasterly right-of-way line the following three courses and two curves: N.58°27'57"E., 1040.62 feet to the beginning of a non-tangent curve concave to the Northwest having a radius of 593.57 feet; thence Northeasterly, 294.33 feet along said curve through a central angle of 28°24'39" (chord bears N.44°17'54"E., 291.32 feet); thence N.30°05'35"E., 513.04 feet to the beginning of a curve concave to the Southeast having a radius of 1414.43 feet; thence Northeasterly, 285.42 feet along said curve through a central angle of 11°33'43" (chord bears N.35°52'26"E., 284.94 feet); thence N.41°39'18"E., 1752.02 feet to the Northerly boundary line of said Section 31; thence S.89°41'27"E., 1256.00 feet along said Northerly boundary line to the POINT OF BEGINNING.

Containing 966.99 Acres, more or less.

Approved for use by the Survey Section 02-10-2021, W.O. 20-066.

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CONSENT AGENDA

May 19, 2026

Operations, Lands & Resource Monitoring Committee: Amendment One to Easement Agreement – Inverness DOT Replacement Well Site – SWF Parcel No. 19-020-129 (Citrus County)

Purpose

Recommend the Governing Board approve Amendment One to Easement Number 33643 (Amendment) between the District and the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (BOT).

Background/History

Data collection began at the existing Inverness DOT well site in 1961. A project to widen US Highway 41, planned for 2026, will directly impact the well site, necessitating a replacement well site nearby. A suitable location was identified at the southeast corner of the Whispering Pines Park (Park). The Park is owned by the BOT and managed by the Florida Department of Agriculture and Consumer Services (FDACS). FDACS determined this request aligns with their land management plan and supports the project. The City of Inverness, which has a lease agreement with FDACS for the use of the Park, also supports the project.

On June 24, 2025, the District's Governing Board approved Easement Agreements 33642 & Easement 33643 between the District and BOT. Easement 33642 is the perpetual well monitoring easement and Easement 33643 is for the temporary construction area associated for the Inverness DOT Replacement well site. This Amendment extends the term of Easement 33643 by two years, ensuring continued access to the temporary construction area at the Inverness DOT Replacement well site.

This time extension is necessary to complete the installation of one upper Floridan aquifer well and one surficial aquifer well. Data from the wells are critical for the Central Springs Groundwater Flow Model, water use permitting, and aquifer resource inventory. Additionally, these data will help determine the hydraulic gradients of the surficial and upper Floridan aquifers within the area.

Benefits/Costs

The BOT is granting this Amendment to the District at no cost.

Strategic Plan

This Amendment supports the District's Strategic Plan Water Resources Planning and Monitoring Core Business Process.

Exhibits

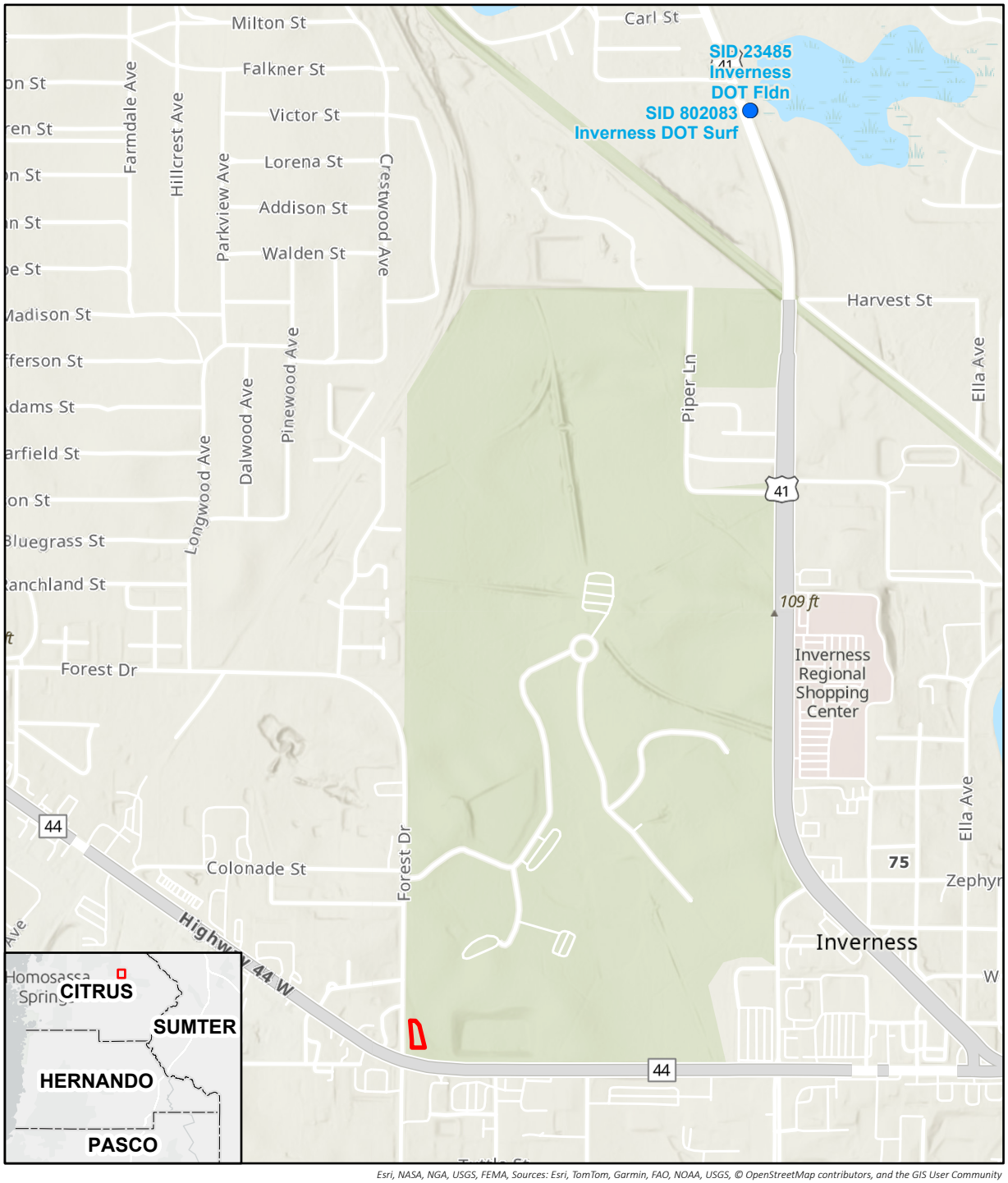
Exhibit 1 – Location Map
Exhibit 2 – Site Map
Exhibit 3 – Easement Number 33643
Exhibit 4 – Amendment One to Easement Number 33643

Staff Recommendation:

- Approve Amendment One to Easement Number 33643 and authorize the Chair and Secretary to sign on behalf of the District.
- Authorize staff to execute any other documents necessary to complete the transaction in accordance with the approved terms.

Presenter:
Ellen Morrison, Bureau Chief, Land Resources Bureau

Exhibit 1
Inverness DOT Replacement Well Site Easement - SWF Parcel Number 19-020-129
Location Map



Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Current Location Inverness DOT Well Site
Temporary Construction Easement

0 500 1,000
US Feet

N

Southwest Florida Water Management District

Exhibit 2
Inverness DOT Replacement Well Site Easement - SWF Parcel Number 19-020-129
Site Map

Southwest Florida Water Management District, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Temporary Construction Easement

0 50 100
Feet

N

Southwest Florida Water Management District

Official Records Citrus County FL, Traci Perry, Clerk of the Circuit Court & Comptroller
#2025039470 BK: 3579 PG: 2231 6/30/2025 10:41 AM 1 Receipt: 2025034301
RECORDING $69.50

Exhibit 3

This Easement was prepared by:
Karen Lee Reecy
Bureau of Public Land Administration
Division of State Lands
Department of Environmental Protection, MS 130
3800 Commonwealth Boulevard,
Tallahassee, Florida 32399-300
Action No. 50641

WME1
[+/- 0.296 acres]

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

EASEMENT AGREEMENT
Well Monitoring Site

Easement Number 33643

THIS EASEMENT AGREEMENT is hereby made and entered into this 27th day of June, 2025, by the **BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA**, hereinafter referred to as "GRANTOR", and the **SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT**, a public body existing under Chapter 373, Florida Statutes, its successors and assigns, hereinafter referred to as "GRANTEE."

WITNESSETH:

WHEREAS, GRANTOR is the fee simple owner of certain real property located in **Citrus** County, Florida, as more particularly described in Exhibit "A", attached hereto and by reference made a part hereof, which is managed by **FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES** ("Managing Agency") under GRANTOR's Lease number **3316**; and

WHEREAS, GRANTEE desires to utilize GRANTOR's property only for the purpose of a temporary construction site for the installation, operation and maintainance of a well monitoring well; and

WHEREAS, the Managing Agency has agreed to the proposed use of the land subject to this easement; and

WHEREAS, GRANTOR is desirous of granting to GRANTEE an easement for the aforementioned purpose.

NOW THEREFORE, for and in consideration of the terms, conditions, and mutual covenants hereinafter contained, GRANTOR and GRANTEE, both intending to be legally bound, hereby agree as follows:

1. GRANTOR hereby grants to GRANTEE, its agents, representatives and employees the non-exclusive right, privilege and permission to utilize the property described in Exhibit "A", hereinafter referred to as "Easement Area", as further described and limited herein.

2. GRANTOR does hereby grant to GRANTEE a temporary construction easement for a period of one (1) year commencing on June 27th 2025 and ending on June 26th 2026, unless sooner terminated pursuant to the provisions of this easement.

3. GRANTOR and Managing Agency retain the right to use the Easement Area in any manner not inconsistent with the rights granted to GRANTEE.

4. GRANTEE shall assist in the investigation of injury or damage claims either for or against GRANTOR or the State of Florida pertaining to GRANTEE'S respective areas of responsibility under this easement or arising out of GRANTEE'S respective management programs or activities and shall contact GRANTOR regarding the legal action deemed appropriate to remedy such damage or claims. GRANTEE is responsible for, and to the extent allowed by law, shall indemnify, protect, defend, save and hold harmless GRANTOR and the State of Florida, its officers, agents and employees from any and all damages, claims, costs, expense, including attorney's fees, demands, lawsuits, causes of action or liability of any kind or nature arising out of all personal injury and property damage attributable to the negligent acts or omissions of GRANTEE, and its officers, employees, and agents. Nothing herein shall be construed as a waiver of sovereign immunity enjoyed by any party hereto, as provided in Section 768.28, Florida Statutes, as amended from time to time, or any other law providing limitations on claims.

5. Prior to initial use of the Easement Area by GRANTEE, GRANTEE shall give Managing Agency, at least forty-eight hours notification.

6. GRANTEE shall contact the Florida Geological Survey prior to drilling and shall submit well cuttings for the state repository if requested.

7. GRANTEE will provide copies of the monitoring results, as they become available, to the Managing Agency.

8. GRANTEE shall not allow the general public to access, utilize or go upon the Easement Area.

9. Clearing vegetation during installation or removal of the monitoring equipment without the consent and supervision of the Managing Agency is prohibited.

10. Upon termination of this Easement Agreement, GRANTEE shall, at GRANTEE'S sole cost and expense, remove all equipment, accessories, and material owned by GRANTEE from the Easement Area. Upon abandonment, each well will

become a fixture on the well site which the GRANTEE will plug pursuant to Section 40D-3.531. F.A.C., and GRANTEE will restore said Easement Area to as good a condition as it was before GRANTEE entered upon it. GRANTEE will complete said removal, plugging, and restoration within sixty days of the date upon which GRANTEE ceases its operations on the Easement Area.

11. Should GRANTOR elect to maintain one or more wells for its own use upon abandonment of any well by GRANTEE, the well(s) will remain unplugged and GRANTOR thereafter agrees to assume full responsibility for same.

12. The installation and removal of the monitoring well materials as well as restoration of the sites will be done under the supervision of the Managing Agency. Prior to installation of the well(s), GRANTEE shall obtain the written consent of the State of Florida Department of State, Division of Historical Resources.

13. The Easement Agreement herein granted is subject to revocation by the GRANTOR if the Easement Area is not utilized for the purposes outlined in this Easement Agreement.

14. This Easement Agreement may not be assigned or transferred without prior written approval of GRANTOR.

15. This Easement Agreement embodies the entire understanding of the parties and there are no further agreements or understandings, written or oral, in effect between the parties relating to the subject matter hereof. This instrument may be amended or modified by an instrument of equal formality signed by the respective parties.

16. For purposes of this Easement Agreement, all notification shall be provided as follows:

GRANTOR:	GRANTEE:	MANAGING AGENCY:
Department of Environmental Protection Division of State Lands Bureau of Public Land Administration 3900 Commonwealth Blvd, MS130 Tallahassee, FL 32399-3000	Southwest Florida Water Management District 2379 Broad Street Brooksville, FL 34604	Department of Agriculture and Consumer Services c/o Alan Davis 3125 Conner Boulevard Tallahassee, FL 32399

17. The following special conditions shall apply to this Easement Agreement:

a. If fencing is needed, GRANTEE shall install and maintain fencing at GRANTEE'S sole cost and expense. Fencing shall not exceed eight feet in height. GRANTEE shall provide to GRANTOR and Managing Agency a set of keys to all fence gates.

b. Prior to entering the Easement Area, GRANTEE shall contact the Managing Agency.

c. GRANTEE'S use of the Easement Area shall not interfere with the operations of the Managing Agency.

Official Records Citrus County FL, Traci Perry, Clerk of the Circuit Court & Comptroller
#2025039470 BK: 3579 PG: 2234 6/30/2025 10:41 AM 4 Receipt: 2025034301
RECORDING $69.50

IN WITNESS WHEREOF, the parties have caused this easement to be executed on the day and year first above written.

WITNESSES:

Signature: Michele Stevens

Printed Name: Michele Stevens

Address: 3800 Commonwealth Blvd

Tallahassee, FL 32399

Signature: Karen Lee Reesy

Printed Name: Karen Lee Reesy

Address: 3800 Commonwealth Blvd

Tallahassee, FL 32399

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

BY: _____ (SEAL)

Brad Richardson, Chief, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida

"GRANTOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me, by ✓ physical presence or ___ online notarization this 27th day of June, 2025 by Brad Richardson, Chief, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. He is personally known to me.

Approved Subject to Proper Execution:

BY: _____ 05-07-2025
DEP Attorney Date

Audrey Michele Stevens
Notary Public, State of Florida

Printed, Typed or Stamped Name

My Commission Expires: _____

Commission/Serial No. _____

AUDREY MICHELE STEVENS
Commission # HH 673344
Expires June 13, 2029

Official Records Citrus County FL, Traci Perry, Clerk of the Circuit Court & Comptroller
#2025039470 BK: 3579 PG: 2235 6/30/2025 10:41 AM 5 Receipt: 2025034301
RECORDING $69.50

WITNESSES:

Signature: Virginie Singer

Printed Name: Virginie Singer

Address: 2379 Broad St.
Brooksville, FL 34604

Signature: Lori Manuel

Printed Name: Lori Manuel

Address: 2379 Broad St
Brooksville FL 34604

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
By its Governing Board (SEAL)

BY: _____
John R. Mitten, Chair

"GRANTEE"

STATE OF Floride
COUNTY OF Hernando

The foregoing instrument was acknowledged before me by means of ✓ physical presence or __ online notarization this 24 day of June, 2025, by John R. Mitten, as Chair, for and on behalf of the Southwest Florida Water Management District. He is personally known to me or who has produced _____, as identification.

Virginie Singer
Notary Public, State of Florida

Virginie Singer
Printed, Typed or Stamped Name

My Commission Expires: June 28, 2028

Commission/Serial No. HH 498138

Approved Subject to Proper Execution:

By: _____
SWFWMD Attorney Date

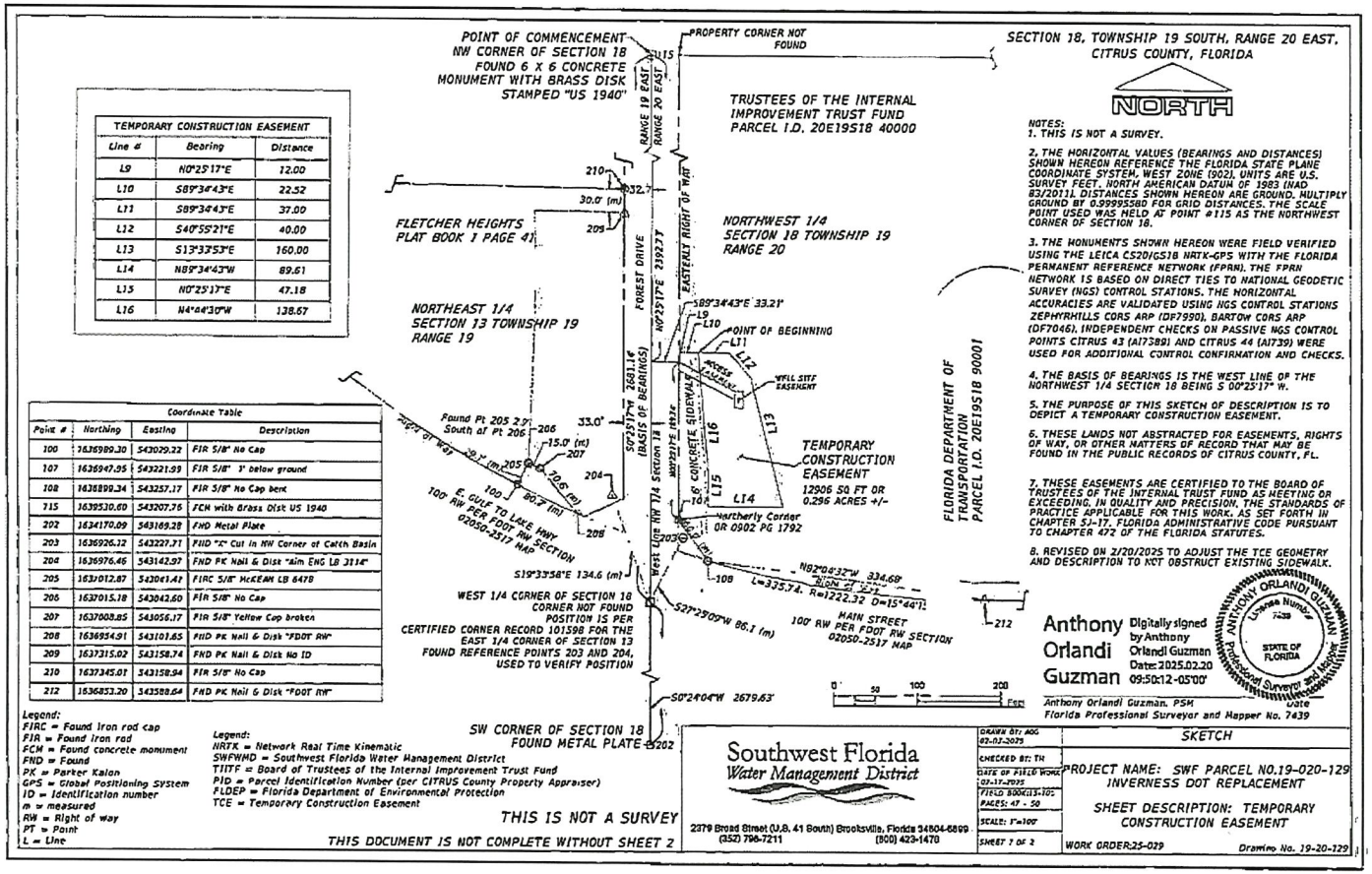
Approved By:

_____
John E. Hall, Treasurer Date

VIRGINIA SINGER
MY COMMISSION # HH 498138
EXPIRES: June 28, 2028

Official Records Citrus County FL, Traci Perry, Clerk of the Circuit Court & Comptroller
#2025039470 BK: 3579 PG: 2236 6/30/2025 10:41 AM 6 Receipt: 2025034301
RECORDING $69.50

EXHIBIT "A"



TEMPORARY CONSTRUCTION EASEMENT		
Line #	Bearing	Distance
L9	N0°25'17"E	12.00
L10	S89°34'43"E	22.52
L11	S89°34'43"E	37.00
L12	S40°55'21"E	40.00
L13	S13°33'53"E	160.00
L14	N89°34'43"W	89.61
L15	N0°25'17"E	47.18
L16	N4°44'30"W	138.67

Coordinate Table			
Point #	Northing	Easting	Description
100	1636989.30	543029.22	FIR 5/8" No Cap
107	1636947.95	543221.99	FIR 5/8" 3' below ground
108	1636899.34	543257.17	FIR 5/8" No Cap bent
115	1639530.60	543207.76	FCM with Brass Disk US 1940
202	1634170.09	543169.28	FND Metal Plate
203	1636926.12	543227.71	FIID "X" Cut in NW Corner of Catch Basin
204	1636976.46	543142.97	FND PK Nail & Disk "Jim ENG LB 3114"
205	1637012.87	543041.47	FIRC 5/8" McKEAM LB 6478
206	1637015.38	543042.60	FIR 5/8" No Cap
207	1637008.85	543056.17	FIR 5/8" Yellow Cap broken
208	1636954.91	543101.65	FND PK Nail & Disk "FDOT RW"
209	1637315.02	543158.74	FND PK Nail & Disk No ID
210	1637345.01	543158.94	FIR 5/8" No Cap
212	1636853.20	543588.64	FND PK Nail & Disk "FDOT RW"

Legend:
FIRC = Found iron rod cap
FIR = Found iron rod
FCM = Found concrete monument
FND = Found
PK = Parker Kalon
GPS = Global Positioning System
ID = Identification number
m = measured
RW = Right of way
PT = Point
L = Line

Legend:
NRTK = Network Real Time Kinematic
SWFWMD = Southwest Florida Water Management District
TIITF = Board of Trustees of the Internal Improvement Trust Fund
PID = Parcel Identification Number (per CITRUS County Property Appraiser)
FLDEP = Florida Department of Environmental Protection
TCE = Temporary Construction Easement

Official Records Citrus County FL, Traci Perry, Clerk of the Circuit Court & Comptroller
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RECORDING $69.50

SECTION 18, TOWNSHIP 19 SOUTH, RANGE 20 EAST.
CITRUS COUNTY, FLORIDA

LEGAL DESCRIPTION: PARCEL NO 19-20-129 (TEMPORARY CONSTRUCTION EASEMENT)

A PARCEL OF LAND LYING AND BEING IN THE NORTHWEST 1/4 OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 20 EAST, CITRUS COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHWEST CORNER OF SAID NORTHWEST 1/4 OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 20 EAST; THENCE ALONG AND COINCIDENT WITH THE WEST LINE OF SAID NORTHWEST 1/4 OF SECTION 18, SOUTH 00°25'17" WEST, A DISTANCE OF 2392.73 FEET; THENCE LEAVING SAID WEST LINE, SOUTH 89°34'43" EAST, A DISTANCE OF 33.21 FEET TO A POINT OF INTERSECTION WITH THE EASTERLY RIGHT OF WAY LINE OF FOREST DRIVE AND NORTH 00°25'17" EAST, A DISTANCE OF 189.74 FEET FROM THE MOST NORTHERLY CORNER OF THAT PARCEL DESCRIBED AS "PART 1" IN OFFICIAL RECORD BOOK 0902 PAGE 1792, OF THE PUBLIC RECORDS OF CITRUS COUNTY, FLORIDA; THENCE ALONG AND COINCIDENT WITH SAID EASTERLY RIGHT OF WAY LINE, NORTH 00°25'17" EAST, A DISTANCE OF 12.00 FEET; THENCE LEAVING SAID EASTERLY RIGHT OF WAY LINE, SOUTH 89° 34'43" EAST, A DISTANCE OF 22.52 FEET FOR A POINT OF BEGINNING; THENCE CONTINUE SOUTH 89°34'43" EAST, A DISTANCE OF 37.00 FEET; THENCE SOUTH 40°55'21" EAST, A DISTANCE OF 40.00 FEET; THENCE SOUTH 13°33'53" EAST, A DISTANCE OF 160.00 FEET; THENCE NORTH 89°34'43" WEST, A DISTANCE OF 89.61 FEET; THENCE NORTH 00°25'17" EAST, A DISTANCE OF 47.18 FEET; THENCE NORTH 04°44'30" WEST, A DISTANCE OF 138.67 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL CONTAINING 12906 SQUARE FEET OR 0.296 ACRES, MORE OR LESS

FDEP
BSM ... Viewed Rev.
By: SEW
Date: 3/17/25

THE BEARINGS AS SHOWN HEREIN ARE BASED ON THE WEST LINE OF THE NORTHWEST 1/4 OF SECTION 18, SOUTH 00°25'17" WEST

See sheet 1 for sketch, notes and signature.

THIS IS NOT A SURVEY
THIS DOCUMENT IS NOT COMPLETE WITHOUT SHEET 2

Southwest Florida Water Management District
2379 Broad Street (U.S. 41 South) Brooksville, Florida 34604-6899
(352) 796-7211 (800) 423-1476

DRAWN BY: ADG 02-03-2025
CHECKED BY: TH
DATE OF FIELD WORK 02-17-2025
FIELD BOOK:13-103
PAGES: 47 - 50
NOT TO SCALE
SHEET 2 OF 2

LEGAL DESCRIPTION
PROJECT NAME: SWF PARCEL NO.19-020-129 INVERNESS DOT REPLACEMENT
SHEET DESCRIPTION: TEMPORARY CONSTRUCTION EASEMENT
WORK ORDER:25-029 Drawing No. 19-20-129

Official Records Citrus County FL, Traci Perry, Clerk of the Circuit Court & Comptroller
#2025039470 BK: 3579 PG: 2238 6/30/2025 10:41 AM 8 Receipt: 2025034301
RECORDING $69.50

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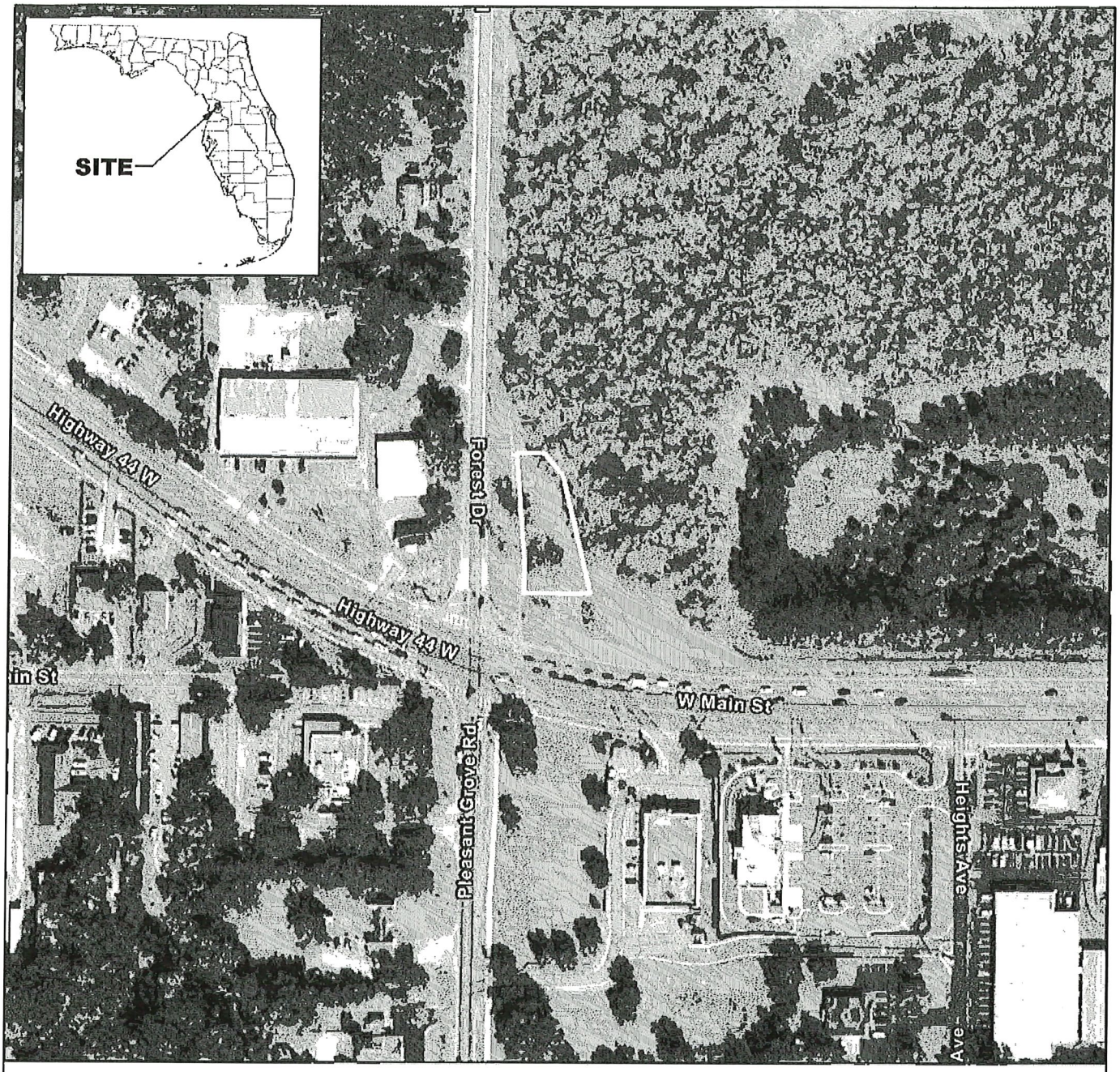


Temporary Construction Easement No. 33643

Citrus County, Florida

File Location: \\FLDEP1\X:\Counties_GIS\Citrus\Easements\Easement_No_33643
Date Saved: 3/14/2025 5:42 PM
Map Created By: B. Smith

Exhibit 4

This Amendment was prepared by:
Karen Lee Reecy
Bureau of Public Land Administration
Division of State Lands
Department of Environmental Protection
3800 Commonwealth Boulevard, MS 125
Tallahassee, Florida 32399-3000
Action No. 52402

ATE2
[0.296 +/- acres]

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

AMENDMENT ONE TO EASEMENT NUMBER 33643

THIS EASEMENT AMENDMENT is entered into this _____ day of _____, 20____, by and between the **BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA**, hereinafter referred to as "GRANTOR" and **SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT**, a public body existing under Chapter 373, Florida Statutes, its successors and assigns, hereinafter referred to as "GRANTEE".

WITNESSETH

WHEREAS, GRANTOR, by virtue of Section 253.03, Florida Statutes, holds title to certain lands and property for the use and benefit of the State of Florida; and

WHEREAS, on June 27, 2025, GRANTOR granted Easement Number **33643**, recorded in Official Records Book 3579, Page 2231, Public Records of Citrus County, Florida, to GRANTEE for a temporary construction site for the installation, operation and maintenance of a well monitoring well; and

WHEREAS, GRANTOR and GRANTEE desire to amend Easement Number **33643** to extend the term of the easement.

NOW THEREFORE, in consideration of the mutual covenants and agreements contained herein, the parties hereto agree as follows:

1. Paragraph 2 of Easement Number 33643 is hereby revised, replaced and superseded in its entirety, by the following:

2. **TERM**: The term of this easement shall commence on June 27, 2025, and end on June 26, 2028, unless sooner terminated pursuant to the provisions of this easement.

2. GRANTEE, at its own expense, shall record this fully executed Amendment to Easement in its entirety in the public records of the county within which the easement site is located within fourteen days after receipt, and shall provide to the GRANTOR within ten days following the recordation a copy of the recorded Amendment to Easement in its entirety which contains the O.R. Book and Pages at which the Amendment to Easement is recorded. Failure to comply with this paragraph shall constitute grounds for immediate termination of the easement agreement at the option of the GRANTOR.

3. The terms of this Amendment One to Easement Number **33643** shall be binding upon and inure to the benefit of the parties and their respective successors and assigns.

4. It is understood and agreed by GRANTOR and GRANTEE that in each and every respect the terms and conditions of Easement Number **33643**, except as amended, shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by GRANTOR and GRANTEE as of the effective date of this Amendment One to Easement Number **33643**.

[Remainder of page intentionally left blank; Signature page follows]

IN WITNESS WHEREOF, the parties have caused this easement to be executed on the day and year first above written.

WITNESSES:

Signature:_____

Printed Name:_____

Address: 3800 Commonwealth Blvd

Tallahassee, FL 32399

Signature:_____

Printed Name:_____

Address: 3800 Commonwealth Blvd

Tallahassee, FL 32399

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

(SEAL)

BY: _____

Brad Richardson, Chief, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida

"GRANTOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me, by ___ physical presence or ___ online notarization this _____ day of _____, 20___, by Brad Richardson, Chief, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. He is personally known to me.

Approved Subject to Proper Execution:

BY: _____ 04-15-2026

DEP Attorney Date

_____

Notary Public, State of Florida

_____

Printed, Typed or Stamped Name

My Commission Expires:_____

Commission/Serial No._____

WITNESSES:

Signature:_____

Printed Name:_____

Address: _____

_____

Signature:_____

Printed Name:_____

Address:_____

_____

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

(SEAL)

BY: _____
John Mitten, Chair

"GRANTEE"

STATE OF_____
COUNTY OF_____

The foregoing instrument was acknowledged before me by means of __ physical presence or __ online notarization this _____ day of _____, 20____, by John Mitten, as Chair, for and on behalf of the Southwest Florida Water Management District. He is personally known to me or who has produced _____, as identification.

_____
Notary Public, State of Florida

_____
Printed, Typed or Stamped Name

My Commission Expires:_____

Commission/Serial No._____

Approved Subject to Proper Execution:

By:_____
SWFWMD Attorney Date

Approved By:

_____
Ashley Bell Barnett, Secretary Date

CONSENT AGENDA

May 19, 2026

General Counsel's Report: Approval of Amended Well Construction Permitting Delegation Agreement between the Southwest Florida Water Management District and Sarasota County

The District has a long-standing relationship with Sarasota County concerning the regulation of water well construction. Since 1978, the District has delegated its authority to Sarasota County to administer the District's well construction permitting program, which is administered by the Florida Department of Health's Sarasota County office. The current Well Construction Permitting Agreement between the District and Sarasota County expires on May 31, 2026, and must be renewed prior to its expiration for the delegated program to continue.

This Delegation Agreement is an amended version of the agreement approved by this Board at the February 24, 2026, Governing Board Meeting. At the request of Sarasota County, District staff have incorporated additional language into the Delegation Agreement, as shown in the attached redline version. This proposed Delegation Agreement is implemented at no cost to the District while allowing the District to continue collecting data related to well construction permitting.

Strategic Plan
This delegation agreement supports the District's Strategic Plan for regulation support and engagement.

Exhibits
Exhibit 1 – Well Construction Delegation Agreement between the District and Sarasota County
Exhibit 2 – Redlined Well Construction Delegation Agreement between the District and Sarasota County

Staff Recommendation:
Approve the Amended Well Construction Permitting Agreement between the District and Sarasota County, Florida which shall be in effect from June 1, 2026 until May 31, 2031.

Presenter:
Destin J. Dawsy, Staff Attorney, Office of General Counsel

WELL CONSTRUCTION PERMITTING AGREEMENT BETWEEN THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT AND SARASOTA COUNTY

THIS AGREEMENT is made by and between the SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT, hereinafter referred to as the "DISTRICT," and SARASOTA COUNTY, hereinafter referred to as "SARASOTA," effective June 1, 2026.

INTRODUCTION AND INTENT

WHEREAS, the DISTRICT has the authority and responsibility, within its jurisdiction, for the administration and enforcement of rules and regulations governing water wells and water well contractors as set forth in Part III, Chapter 373, Florida Statutes (F.S.), and applicable portions of Chapters 40D-3, 62-524, 62-528, 62-531, 62-532, and 62-555, Florida Administrative Code (F.A.C.); and

WHEREAS, SARASOTA has the authority and responsibility, within its jurisdiction, to protect public health and prevent disease caused by natural and manmade factors in the environment, as set forth in Chapter 381, F.S.; and

WHEREAS, Sarasota County is within the geographical jurisdiction of the DISTRICT, as described in Section 373.069, F.S., and is therefore subject to the rules, regulations, authority, and orders of the DISTRICT, pursuant to Part III, Chapter 373, F.S.; and

WHEREAS, pursuant to Sections 373.308 and 373.309, F.S., the District is authorized to delegate to SARASOTA by interagency agreement the authority to regulate the permitting and construction of water wells within Sarasota County; and

WHEREAS, the DISTRICT and SARASOTA have entered into agreements, effective since April 5, 1978, which have delegated to SARASOTA the authority to administer and enforce rules and regulations governing water wells and water well contractors as set forth in Part III, Chapter 373, F.S., and applicable portions of Chapters 40D-3, 62-528, 62-531, 62-532 and 62-555, F.A.C.; and

WHEREAS, the parties desire to continue the regulation of water wells and water well contractors in Sarasota County through delegation to SARASOTA of the DISTRICT'S authority to implement Part III of Chapter 373, F.S., and applicable portions of Chapters 40D-3, 62-528, 62-531, 62-532, and 62-555, F.A.C., in a manner that ensures regulatory consistency throughout Sarasota County and protects public health, safety and welfare; and

WHEREAS, SARASOTA has and desires to continue to designate the Florida Department of Health in Sarasota County (FDOH-S) as the department within the county to perform the functions delegated to SARASOTA under this Agreement;

THEREFORE, based upon the mutual consideration contained in this Agreement, the parties hereby agree as follows:

1. This Agreement shall take effect on June 1, 2026. SARASOTA will continue to review and evaluate well construction permit applications and issue or deny permits for the construction, repair, modification, or abandonment of water wells in Sarasota County, with the following exceptions:

   a. permits issued in accordance with Chapter 62-524, F.A.C.; and

   b. permits for wells located within any areas subject to the Memorandum of Agreement Between the U.S. Environmental Protection Agency, Region IV, Superfund Division and the DISTRICT.

2. SARASOTA will review and evaluate applications and issue or deny permits for the construction, repair, modification, or abandonment of water wells for Class V, Group 1 injection wells, which include wells associated with thermal energy exchange, specifically air conditioning return flow wells and cooling water return flow wells. Class V, Group I wells serving multifamily residential units or business establishments, require prior permission from the Florida Department of Environmental Protection (FDEP), and FDEP Form 62-528.900(4) must be completed and attached to the permit application. Class V, Group 1 injection wells serving single-family air-conditioning return flow well systems do not need prior FDEP permission; however, FDEP Form 62-528.900(9) needs to be attached to the permit.

3. SARASOTA will review and evaluate permit applications as described in paragraphs 1 and 2 herein based solely upon the applicable provisions of Chapter 373, F.S., and applicable portions of Chapters 40D-3, 62-528, 62-531, 62-532, and 62-555, F.A.C.

4. The DISTRICT will review and evaluate applications and issue or deny permits for wells constructed, repaired, modified, or abandoned in accordance with the provisions of Chapter 62-524, F.A.C., and for any wells located within any areas subject to the Memorandum of Agreement Between the U.S. Environmental Protection Agency, Region IV, Superfund Division and the DISTRICT. The DISTRICT will provide SARASOTA with a copy of permits issued by the DISTRICT for informational purposes, if requested.

5. SARASOTA will administer water well contractor and water well construction regulation and require all wells be constructed, repaired, modified, or abandoned in accordance with the requirements of Part III, Chapter 373, F.S., and applicable portions of Chapters 40D-3, 62-528, 62-531, 62-532, and 62-555, F.A.C.

6. SARASOTA will use the forms adopted by the DISTRICT in Chapter 40D-1, F.A.C., which includes the most recent versions of the State of Florida Permit Application to Construct, Repair, Modify or Abandon a Well, Well Completion Report, Well Grouting/Abandonment Form, Well Construction Inspection Checklist, and Public

Supply Well Information and Classification Form. SARASOTA will use any revised or additional well construction-related forms that hereafter may be adopted by the DISTRICT.

7. SARASOTA shall be responsible for providing any permit data, guidance, or well construction information related to the construction, repair, modification, and abandonment of water wells, for which SARASOTA has delegated authority under this Agreement, when requested by the public, state, of local agencies.

8. SARASOTA will continue to participate in the on-line permitting program implemented through the DISTRICT's Water Management Information System (WMIS) or subsequent permitting program upon written notification by the DISTRICT. SARASOTA will use the DISTRICT's fee payment vendor unless otherwise approved by the DISTRICT in writing, and SARASOTA will comply with the twelve (12) requirements of the Payment Card Industry Data Security Standard (PCI-DSS) as set forth in Appendix 1: District Procedures for Payment Card Industry (PCI) Compliance, attached hereto and incorporated herein. In accordance with DISTRICT PCI Compliance procedures:

a. SARASOTA will notify the DISTRICT in writing within thirty (30) days regarding any change in SARASOTA'S Payment Card procedures affecting compliance with the PCI-DSS, after which the DISTRICT reserves the right to terminate this Agreement; and

b. SARASOTA will be responsible for maintaining compliance with federal, state, and local laws, rules, regulations, and ordinances pertaining to card payments and processing. To the extent allowable by law, SARASOTA will indemnify the DISTRICT and its officers, directors, employees, and representatives against, and hold them harmless from: (1) any claims or allegations made or that arise from or relate to any such obligations, and (2) any litigation, arbitration, judgments, awards, settlements, damages, expenses, losses, attorneys' fees, and costs arising from or relating to any such claims or allegations. Notwithstanding the foregoing, nothing herein shall be construed as either party waiving its rights to sovereign immunity as set forth in Section 768.28, F.S., or be construed as allowing any third party beneficiaries.

In the event SARASOTA desires to cease participating in WMIS or subsequent on-line permitting program, SARASOTA will provide the DISTRICT with ninety (90) days prior written notice, after which this Agreement will terminate.

9. Prior to issuing well construction permits, SARASOTA will determine whether water well contractors possess a valid State of Florida water well contractor license and are in compliance with the requirements of Chapter 62-531, F.A.C., and that all conditions for permit issuance set forth in Section 40D-3.301, F.A.C., are met. The DISTRICT will provide SARASOTA with access to an appropriate computer database containing contractor licensing information.

10. SARASOTA will require permit applicants to submit the permit application form described in Paragraph 6 herein, or use the on-line WMIS or subsequent permitting application process. For applications submitted on the permit application form, SARASOTA will enter the data into WMIS, or subsequent permitting program, on a daily basis and scan the application and any related permit documents into WMIS, or subsequent permitting program, within five business days. All document scanning required pursuant to this Agreement will be in accordance with Paragraph 17 of this Agreement and will comply with the document standards established by the DISTRICT.

11. For Well Completion Reports submitted on paper, SARASOTA will enter the data and scan the document into WMIS, or subsequent permitting program, within five business days.

12. SARASOTA will witness the grouting operations on all wells that are abandoned in accordance with Section 40D-3.531, F.A.C. SARASOTA may waive this requirement if the conditions of Rule 40D-3.531(4), F.A.C., have been satisfied. SARASOTA will fully complete for each such well a Well Grouting/Abandonment Form (see Paragraph 6 herein). SARASOTA will scan the completed forms into WMIS, or subsequent permitting program, within five business days.

13. In accordance with Chapters 40D-3, 62-555, and 64E-8, F.A.C., SARASOTA will issue permits, conduct well site inspections and witness the grouting operations for public supply wells. SARASOTA may waive this witnessing requirement if the conditions specified in Rule 40D-3.461(6), F.A.C., are met. SARASOTA will fully complete for each such well a Well Grouting/Abandonment Form (see Paragraph 6 herein). SARASOTA will scan the forms into WMIS, or subsequent permitting program, within five business days.

14. SARASOTA will conduct random well construction inspections for a minimum of twenty percent (20%) of all permitted wells, calculated on an annual average basis (running 12-month average). The inspectors will utilize the Well Construction Inspection Checklist referenced in Paragraph 6 herein, and will complete the form for each inspection. SARASOTA will scan the form into WMIS, or subsequent permitting program, within five business days. SARASOTA must address any deficiencies noted during the inspections.

15. SARASOTA will implement and maintain an effective compliance program, in cooperation with the DISTRICT, to ensure compliance with applicable portions of Chapters 40D-3, 62-528, 62-531, 62-532, and 62-555, F.A.C. The compliance program will include but is not limited to the investigation of all unpermitted and unlicensed activities, and monitoring of compliance with well construction standards and permit conditions. As part of the compliance program:

a. SARASOTA will carry out an inspection program, as described in more detail in Paragraphs 12, 13, and 14 herein;

b. SARASOTA will report all unlicensed activities to the DISTRICT and will

take appropriate enforcement action against the unlicensed individual or company;

c. SARASOTA will take enforcement action against licensed water well contractors as set forth in Chapter 62-531, F.A.C, and implemented by the Water Well Construction Disciplinary Guidelines and Citations Dictionary, June 2014 (or later version adopted by the District). Where appropriate, as described in the guidance documents, SARASOTA will comply with the due process requirements of Chapter 120, F.S.;

d. SARASOTA will report enforcement actions to the DISTRICT within thirty (30) days of commencement of an enforcement action. The DISTRICT will report the appropriate information to the Statewide Clearinghouse, if applicable;

e. The DISTRICT may conduct audits of SARASOTA'S compliance and enforcement programs, as the DISTRICT deems appropriate. The DISTRICT may direct SARASOTA to take specified enforcement actions if the DISTRICT finds SARASOTA has failed to do so where appropriate; and

f. The DISTRICT will, upon request, provide technical support and assist with the resolution of significant technical and policy disputes that cannot otherwise be resolved despite good faith efforts by SARASOTA and the contractor.

Nothing in this Agreement will limit the independent enforcement authority of either party.

16. SARASOTA will maintain a sufficient staff level to efficiently administer the delegated program. Staff levels will consist of, at a minimum, the following type of positions:

a. Supervisor – at least one person possessing the requisite level of knowledge and experience of well construction to direct the program and be responsible for the submittal of the required reports to the DISTRICT;

b. Technicians – a sufficient number of persons responsible for field inspections and witnessing of grouting and abandonment of wells, issuance of permits, well contractor compliance, well contractors' license investigation and coordination with the DISTRICT on related water use permit conditions;

c. Clerical – at least one person responsible for coordinating the submittal of documents and reports to the DISTRICT, document scanning and records management.

17. SARASOTA will implement records management procedures that comply

with the applicable provisions of Chapters 119, 257, 286, F.S., and the standards and requirements for records management set forth in Chapters 1B-24 and 1B-26, F.A.C. SARASOTA will produce documents in ISO-compliant format into WMIS, or subsequent permitting program, on a daily basis:

a. Well Completion Reports;

b. Well Construction, Repair, Modification or Abandonment Permit applications, permits issued and any permit applications that are denied;

c. Well Grouting/Abandonment forms;

d. Public Supply Well Information and Classification forms;

e. Well Construction Inspection Checklist forms; and

f. Documents Relevant to the Review of Well Construction Permit Applications.

18. Nothing in this Agreement will be construed to limit or delegate the DISTRICT's exclusive authority to review, evaluate, and issue Water Use Permits pursuant to Chapter 373, F.S., and applicable rules. If the withdrawal from the proposed or affected well will require a Water Use Permit, SARASOTA will withhold issuance of any Well Construction, Repair, Modification or Abandonment Permit until after the Water Use Permit has been issued by the DISTRICT, or until the DISTRICT has otherwise concurred in the issuance of the Well Construction Permit in writing.

19. The DISTRICT will maintain responsibility to administer examinations and issue licenses for water well contractors pursuant to Chapter 373, F.S., and applicable rules.

20. SARASOTA will have the authority to charge and retain well construction permit fees, in accordance with Sections 373.109 and 373.309, F.S, and at a minimum in accordance with Rule 40D-1.607, F.A.C. It is the intention of the parties that SARASOTA will operate the program in an efficient and cost-effective manner. In the event any fees proposed to be assessed by SARASOTA will exceed the fees currently charged by SARASOTA as set forth in Appendix 2: Fee Schedule, attached hereto and incorporated herein, SARASOTA must obtain the DISTRICT's concurrence. At the written request of the DISTRICT, SARASOTA will prepare and provide to the District a program financial audit justifying the proposed fee or increase. Any new or increased fee must be adopted by the Sarasota County Board of County Commissioners.

21. SARASOTA will permit the DISTRICT, upon request, to examine all project records relating to the subject matter of this Agreement, including the right to audit such related books, documents and papers during the Agreement period or following termination of this Agreement. SARASOTA will maintain public records associated with this Agreement for at least three years from their receipt or creation. This period will continue after the termination of this Agreement. SARASOTA recognizes and agrees

that it is subject to the Public Records provisions of Chapter 119, F.S., and that all public records, as defined by Chapter 119, F.S., made or received by SARASOTA in conjunction with this Agreement are subject to said provisions.

22. SARASOTA will submit to the DISTRICT an Annual Report summarizing activities occurring in conjunction with this Agreement, to include the following at a minimum:

a. a comparison of well construction permits issued versus well completion reports received during the previous year;

b. a comparison of well permits issued for abandonment versus abandonment inspection reports received during the previous year;

c. a comparison of well permits issued for public supply wells versus well grouting inspection reports for public supply wells received during the previous year;

d. the number of random inspections conducted during the previous year; and

e. reports of any enforcement proceedings, including the status of any ongoing enforcement cases and copies of all Warning Letters, Notices of Violation, Consent Orders and Final Orders relating thereto.

This report will be submitted to the DISTRICT by March 15 of each year.

23. The timing and content of the reports required under this Agreement may be revised upon the mutual agreement of the project managers for each party.

24. DISTRICT staff and SARASOTA staff will meet at least semi-annually, and more frequently if deemed appropriate by the parties, to review water well activities and clarify procedures.

25. The DISTRICT will provide SARASOTA with appropriate training on water well regulation, and will provide technical assistance as necessary to enable proper review of permit applications or to resolve compliance problems with existing wells. The DISTRICT will provide SARASOTA with appropriate training on WMIS or subsequent permitting program, scanning and document management procedures as needed.

26. The DISTRICT will provide SARASOTA with information concerning proposed changes to relevant rules, and current technical and administrative procedures.

27. SARASOTA may not further delegate its authority under this Agreement.

28. Unless terminated by either the DISTRICT or SARASOTA upon ninety (90) days prior written notice, this Agreement will continue in effect until May 31, 2031, and may be extended upon terms mutually acceptable to both parties.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year as indicated below.

Approved as to Legal Form and Content

_____
Attorney

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

By: _____
John Mitten, Chair

Attest: _____
Ashley Bell Barnett, Secretary

Filed this _____ of

_____, 2026.

_____
Deputy Agency Clerk

(Seal)

Approved as to Legal Form and Content

J. Mayo
Attorney
CAS

SARASOTA COUNTY, a political subdivision of the State of Florida
By: Board of County Commissioners

By: [signature]

Title: BCC CHAIR

Date: 4/21/2026

ATTEST:

By: [signature]
Deputy Clerk

(Seal)

Appendix 1

EXECUTIVE DIRECTOR PROCEDURE

Southwest Florida Water Management District

Title: Payment Card Industry (PCI) Compliance

Document Owner: Finance Bureau Chief
Approved By: Executive Director
Effective Date: 09/14/2021
Supersedes: 10/22/2018

CONTENTS

PURPOSE

This procedure outlines the requirements for compliance to the Payment Card Industry Data Security Standards (*PCI-DSS*). It is designed to protect cardholder information of patrons that utilize a *Payment Card* to transact business with the Southwest Florida Water Management District's (District) or its delegated partners. Compliance with this procedure is a condition of the District, or its delegated partners, acceptance of *Payment Cards* from citizens and businesses in exchange for District Services.

The contents of this procedure are derived from the standards in the *PCI-DSS*, as established and revised by the *PCI Security Standards Council*. When appropriate, this procedure will be updated to reflect any changes in the *PCI-DSS* standards, as defined by the *PCI Security Standards Council*.

SCOPE

This procedure applies to all District employees, applicable IT service providers, contractors, vendors, delegated counties, and other individuals that accept or have access to *Payment Card* transactions while performing District business.

This procedure also applies to all credit card data created, owned, stored, managed or under the control of the District, regardless of the media which contains the information, including but not limited to paper, microfilm, microfiche or any analog or digital format.

AUTHORITY

The promulgation of this procedure is authorized by Governing Board Policy Technology Assets and Executive Director Procedure Data Security and Privacy.

DEFINITIONS

District's IT Service Provider(s). The individuals/organizations that are responsible for providing, operating, and maintaining systems or processes relating to the District accepting credit card payments.

Merchant Account. A type of bank account that accepts payments by *Payment Cards*. A *Merchant Account* is coordinated through and established by the Finance Bureau in consultation with the District's bank.

Payment Card. A debit or credit card that is accepted as payment for goods, services, or other obligations owed.

Payment Card Data. Full magnetic strip or the Primary Account Number, Chip and/or Pin, including any of the following: (1) Cardholder Name, (2) Expiration Date, (3) card verification value (CVV) and (4) Service Code.

Payment Card Industry (PCI) Compliance. Adherence to a set of security and reporting standards developed to protect cardholder information during and after the processing of a *Payment Card* transaction.

Payment Card Industry Data Security Standard (PCI-DSS). A set of twelve (12) broad security requirements established by the PCI Security Standards Council. The District Bureaus that accept *Payment Card* transactions are required to meet *PCI-DSS* standards or risk losing the capability to accept *Payment Cards* for services.

Payment Card Industry (PCI) Security Standards Council. A consortium of major *Payment Card* providers that have established data security standards for merchants. The *PCI Security Standards Council* also defines credentials and qualifications for assessor. The PCI requirements set by the *PCI Security Standards Council* do not allow for exceptions. Questions about *PCI Compliance* implementation should be forwarded to the Finance Bureau.

Primary Account Number (PAN) or Account Number. The *Payment Card* number (credit or debit) that identifies the issuer and individual cardholder account.

Self-Assessment Questionnaire (SAQ). The PCI *Self-Assessment Questionnaire* is a validation tool primarily used by merchants to demonstrate compliance with the *PCI-DSS.*

Payment Service Provider. A PCI compliant third party that is used to process all *Payment Card* and E-Check payments on behalf of the District.

Delegated County. A political subdivision, agency, municipality, or other local government of the State of Florida, to whom the District has delegated specific authorities outlined in its respective delegation agreements.

STANDARDS

Payment Card Industry Data Security Standard (PCI-DSS). A set of twelve (12) broad security requirements established by the *PCI Security Standards Council*.

Control Objectives	PCI-DSS Requirements
Build and Maintain a Secure Network	1. Install and maintain a firewall configuration to protect cardholder data
	2. Do not use vendor-supplied defaults for system passwords and other security parameters
Protect Cardholder Data	3. Protect stored cardholder data
	4. Encrypt transmission of cardholder data across open, public networks
Maintain a Vulnerability Management Program	5. Protect all systems against malware and regularly update anti-virus software or programs
	6. Develop and maintain secure systems and applications
Implement Strong Access Control Measures	7. Restrict access to cardholder data by business need-to-know
	8. Identify and authenticate access to system components
	9. Restrict physical access to cardholder data
Regularly Monitor and Test Networks	10. Track and monitor all access to network resources and cardholder data
	11. Regularly test security systems and processes
Maintain an Information Security Policy	12. Maintain a policy that addresses information security

PROCEDURE

1) **Responsibilities**
   a) Global District Responsibilities
      i) The District will use *Payment Service Providers* to encrypt, process and store *Payment Card Data.*
      ii) The District Bureaus are prohibited from storing any *Payment Card Data* in an electronic format on any District computer, server, or database and further are prohibited from electronically transmitting *Payment Card Data*. In addition, any *Payment Card Data* that is written down must be shredded immediately upon transaction completion.
      iii) Any *payment service provider, contractor, vendor, or delegated county* working with the District to process *Payment Card Data* is legally obligated to maintain compliance with the twelve (12) security requirements established by the *PCI Security Standards Council*.
      iv) Payment service providers, contractors, and vendors excluding delegated counties, involved in the payment process must provide certification of their continued compliance with *PCI-DSS* annually to the District's Finance Bureau. Delegated counties are legally obligated to follow the 12 requirements of the *PCI-DSS*.
      v) The District Bureaus must request and obtain authorization to process *Payment Card* transactions from the Finance Bureau and Information Technology Bureau.

vi) Each District Bureau Chief is responsible for ensuring its Bureau's compliance with this procedure.

vii) The Finance and Information Technology Bureaus will be responsible for completing the required annual *Self-Assessment Questionnaire* (SAQ). Any recommended actions identified in this assessment or by the Information Technology Bureau must be implemented immediately by the Bureaus to ensure continued *PCI Compliance*.

viii) Each District Bureau is responsible for ensuring its employees who process *Payment Card* transactions receive annual *PCI-DSS* compliance training provided by the Finance or Information Technology Bureau. The level and content of training will be appropriate to the job functions of the employee.

(1) Existing employees whose position is authorized to process *Payment Card* transactions, that are not current with this training and do not have a Payment Card Industry (PCI) Compliance Authorization Acknowledgement Form on file, shall not be allowed to process *Payment Card* transactions.

(2) New employees whose position is authorized to process *Payment Card* transactions must receive PCI compliance training and sign the Payment Card Industry (PCI) Compliance Authorization Acknowledgement Form prior to processing any *Payment Card* transactions.

ix) Each District Bureau will provide its employees access to equipment and systems for processing *Payment Card* transactions based on job duties and not linked directly to the individual employee or the Bureau that they work for. For example, just because you work for Finance does not mean you have access to equipment or systems related to payment card transactions.

(1) When an authorized employee's job duties no longer require access to equipment or systems that process *Payment Card* transactions, access must be removed by the Finance and the Information Technology Bureau staff from the respective Microsoft Active Directory (AD) groups.

(2) The District Bureau Chiefs or their designee must, at a minimum, annually review their list of employees, contractors, vendors, or delegated counties that process *Payment Card* transactions to ensure continued authorization is warranted and to update (add, delete, or modify) the authorization list.

b) District Employees, Contractors, Vendors, or Delegated Counties Responsibilities.

i) All employees, contractors, vendors, or delegated counties who process *Payment Card* transactions must comply with this procedure.

ii) All District employees must only use District provided *Payment Card* equipment, systems, and information. *Payment Card* equipment systems will only be used to take *Payment Card* information while physically connected to the District's secured internal Local Area Network (LAN).

iii) Any District employee authorized to process *Payment Card* transactions must complete the Payment Card Industry (PCI) Compliance Authorization Acknowledgement Form.

iv) Violation of this procedure by any District employee, accessing or using *Payment Card Data* for reasons other than the intended purpose (identified herein) or beyond the scope of the individual's duties, may result in disciplinary action, up to and including termination of employment.

v) In the case of contractors or vendors, violation of this procedure is a breach of contract and subject to civil and/or criminal action, as applicable.

vi) In the case of Delegated Counties, violation of this procedure is a violation of the delegation agreement and may result in the termination of such agreement. The District will work with the Delegated County to attempt to correct the violation(s), prior to the termination of the agreement.

c) Information Technology Bureau Responsibilities
   i) Oversee enforcement, in partnership with the Finance Bureau, of this procedure and investigate any reported or potential violations of this procedure.
   ii) Lead investigations pertaining to suspected or actual *Payment Card* security breaches.
   iii) Control access, in partnership with the Finance Bureau, to protected information if employee fails to comply with this procedure.
   iv) Work in partnership with the Finance Bureau to create and maintain standard contract language specific to *PCI Compliance* requirements.
   v) Maintain daily and quarterly operational security procedures consistent with the latest *PCI-DSS* standards, including administrative and technical procedures for each of the *PCI-DSS* standards.
   vi) Provide results of all required network scans with the appropriate remediation steps for any identified noncompliant results to the Finance Bureau.
   vii) Coordinate the annual review of this procedure in partnership with the Finance Bureau.
   viii) Work with the District Bureaus, in partnership with the Finance Bureau, to provide annual *PCI Compliance* training to employees.

d) Finance Bureau Responsibilities
   i) Oversee enforcement, in partnership with the Information Technology Bureau, of this procedure and investigate any reported violations of the procedure.
   ii) Work in partnership with the Information Technology Bureau to create and maintain standard contract language specific to *PCI Compliance* requirements.
   iii) Review the contract language annually to ensure it remains current.
   iv) Keep a current list of *Payment Service Providers* utilized by the District for *Payment Card* processing.
   v) On an annual basis, work in partnership with the Information Technology Bureau, to collect documentation from *Payment Service Providers* that certifies that they are PCI compliant.
   vi) Work with the District's Bureaus to replace vendors that are not PCI compliant.
   vii) Serve as the primary contact for the District Bureaus with business operations questions about this procedure.
   viii) Working in partnership with the Information Technology Bureau, ensure that all solicitations involving services or hardware used to process *Payment Card* transactions include the requirement for the *Payment Service Provider* to maintain *PCI Compliance* while performing services for the District.
   ix) Work with Information Technology Bureau to verify all awarded solicitations include documentation acknowledging that the proposed service or hardware/software is PCI compliant.
   x) Ensure that standard *PCI Compliance* language is included in contracts and agreements with vendors and contractors that provide *Payment Card* services for the District.

2) **Security of Payment Device Hardware**

The purpose of applying security to payment device hardware is to protect the District's inventory of *Payment Card* device hardware and to provide procedures to ensure compliance with *PCI-DSS* requirements to restrict physical access to hardware that processes *Payment Card Data*. The *PCI-DSS* requirements are to maintain an inventory of and periodically inspect *Payment Card* devices to guard against tampering and/or unauthorized device substitution.

This section pertains to all *Payment Card* device hardware in use throughout the District, regardless of the procurement method. This includes, but is not limited to, workstations/laptops.

a) Inventory of Payment Card Devices
   i) The Information Technology Bureau is responsible for tracking *Payment Card* devices.
   ii) The Information Technology Bureau will maintain a current inventory of all hardware used to process payments. Inventory should track the equipment type and model number (e.g., Ingenico ICT250), S/N# which is a unique alphanumeric identifier on the bottom of the device), connectivity method (e.g., wireless, dial-up, IP/Ethernet), assigned District Bureau, District user, and District Office. Payment cards devices can include, but are not limited to, workstations, mobile devices, and peripherals.
   iii) Inventory logs are kept in the Information Technology Bureau.
   iv) Inventory logs are reviewed as part of the District's annual physical IT inventory.

b) Security of Payment Card Devices
   i) Each District Bureau will ensure none of its wireless *Payment Card* devices (also covers mobile devices i.e., iPads, iPhones) is left unattended while performing District business. When the device is not in use, it must be stored in a secure location. USB devices such as magstripe readers shall be tethered to the assigned workstation and tagged by the Information Technology Bureau with tamper evident seals. Store all spare hardware in a secure location. The District Bureaus that use the *Payment Card* devices to conduct District business are responsible for providing the necessary secure storage locations.
   ii) Contact the Information Technology Bureau to have devices repaired, replaced, and/or securely disposed of.

c) Inspection of Payment Card Devices
   i) *Payment Card* device inspections will be completed by the District Bureau that has been issued the device to conduct District business. The Information Technology Bureau is responsible for addressing malfunctioning equipment, as well as investigating suspected equipment alterations. The District Bureaus must inform the Information Technology Bureau of any such instances.
   ii) The Bureau that has been issued the device to conduct District business will inspect all devices daily and track each device's inspection date, passed/failed inspection result, and resolution for failed devices.
   iii) Each District Bureau will validate SWF numbers printed on the terminal.
   iv) Each District Bureau will inspect devices for tampering:
      (1) Damaged or altered tamper seals, wiring, or labels.
      (2) Mismatched keypad keys.
      (3) False keypad overlay.
      (4) External wires, other than the USB/power cable installed into the device.

(5) Missing screws or visible scratching around the screws that hold the pin pad case.
(6) Tinfoil or other metallic material or electronic device placed in the cards scanning area.
(7) Holes in the terminal or anything else unusual.

v) If a device fails inspection, the Bureau will immediately stop using it and notify the Information Technology Bureau.
vi) Each District Bureau will report devices that consistently do not work properly.
vii) Quarterly inspection logs are reviewed by the Information Technology Bureau, as part of the District's annual PCI audit.

DISTRIBUTION

This procedure will be stored in the Governing Documents Repository. It will also be posted in the District's document management system and the link emailed to Finance Bureau Staff, Information Technology Bureau Staff, the General Counsel, specifically identified Regulation Staff (that will handle Payment Card Transactions).

REFERENCES

PCI Security Standards Council
PnP Certification
Governing Board Policy *Technology Assets*
Executive Director Procedure *Data Security and Privacy*
Technical Memorandum *PCI Authorization Acknowledgement Form*

REVIEW PERIOD

This procedure will be reviewed annually by the Information Technology Bureau Chief and the Finance Bureau Chief or their designee(s).

DOCUMENT DETAILS

Document Name	Payment Card Industry (PCI) Compliance
Formerly Known As	N/A
Document Type	Procedure
Author(s)	Finance Bureau Chief, Accounting Manager, Information Technology Bureau (ITB) Chief, ITB Cybersecurity Architect, ITB Applications Systems Manager
Reviewing Stakeholder(s)	Office of General Counsel, Senior Staff, and Executive Staff
Document Owner Name	Melisa Lowe
Document Owner Title	Finance Bureau Chief
Review Period (in days)	365
Span of Control	District
Supersedes Date	10/22/2018
Effective Date	09/14/2021

APPROVAL

DocuSigned by:
7D9532862D6E447...

Brian Armstrong, P.G.
Executive Director

09/14/2021
Date

DocuSign

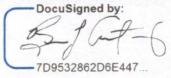
Certificate Of Completion

Envelope Id: F2A3CF0AA6964A8CBD3F794313E5A6DE
Status: Completed
Subject: Please DocuSign: PaymentCardIndustry(PCI)Compliance.docx
Source Envelope:
Document Pages: 8
Signatures: 1
Certificate Pages: 4
Initials: 0
AutoNav: Enabled
EnvelopeId Stamping: Enabled
Time Zone: (UTC-05:00) Eastern Time (US & Canada)

Envelope Originator:
Shellie Ferreira-Lee
2379 Broad Street
Brooksville, FL 34604
Shellie.Ferreira@swfwmd.state.fl.us
IP Address: 204.76.240.236

Record Tracking

Status: Original
9/9/2021 11:55:32 AM
Holder: Shellie Ferreira-Lee
Shellie.Ferreira@swfwmd.state.fl.us
Location: DocuSign

Signer Events	Signature	Timestamp
Brian Armstrong brian.armstrong@swfwmd.state.fl.us Executive Director Security Level: Email, Account Authentication (None)	DocuSigned by:  7D9532862D6E447...	Sent: 9/9/2021 11:59:12 AM Viewed: 9/9/2021 12:09:02 PM Signed: 9/14/2021 10:24:46 AM
	Signature Adoption: Drawn on Device Using IP Address: 174.211.104.3 Signed using mobile	
Electronic Record and Signature Disclosure: Accepted: 9/9/2021 12:09:02 PM ID: 520457ae-07cd-49e9-bf47-6e336abd523d		

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp
Virginia Singer Virginia.Singer@swfwmd.state.fl.us Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	COPIED	Sent: 9/14/2021 10:24:47 AM Viewed: 9/14/2021 10:32:52 AM
Melisa Lowe melisa.lowe@swfwmd.state.fl.us Finance Bureau Chief Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	COPIED	Sent: 9/14/2021 10:24:47 AM
Michael Attard michael.attard@swfwmd.state.fl.us Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:**	COPIED	Sent: 9/14/2021 10:24:48 AM

Carbon Copy Events	Status	Timestamp
Not Offered via DocuSign		

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	9/9/2021 11:59:12 AM
Certified Delivered	Security Checked	9/9/2021 12:09:02 PM
Signing Complete	Security Checked	9/14/2021 10:24:46 AM
Completed	Security Checked	9/14/2021 10:24:48 AM

Payment Events	Status	Timestamps

Electronic Record and Signature Disclosure

Your Consent to Use Electronic Records and Signatures

From time to time, the Southwest Florida Water Management District ("District") may provide you with certain agreements. The federal E-SIGN Act and the Florida Uniform Electronic Transaction Act, Chapter 668, Florida Statutes, allow the District to provide you these agreements electronically and the use of electronic signatures with your consent. Described below are the terms and conditions for providing you such agreements electronically as well as for the use of electronic signatures. This consent relates to your agreement with the District and any associated electronic signatures. If you consent to receive your agreement electronically and to use electronic signatures, you must keep your email address up to date by notifying ESignQuestions at ESignQuestions@swfwmd.state.fl.us of any changes to your contact information.

Please read the information below thoroughly and, if you can access this information electronically to your satisfaction, please confirm your acceptance and understanding that your electronic signature executed in conjunction with the electronic submission of your agreement shall be legally binding and such transaction shall be considered authorized by you by clicking the "I consent to use Electronic Records and Signatures" box located on the previous page. If you do not agree to use electronic signatures, click the link under "Other Options" to print and sign the agreement.

Right to Have Records Provided on Paper

At any time, you may request from the District paper copies of any of your agreements at no cost to you. You may request delivery of paper copies by contacting ESignQuestions at ESignQuestions@swfwmd.state.fl.us. Additionally, following your signing session, you will have the ability to download and print your agreement through the DocuSign, Inc. ("DocuSign") system. You will receive an email with a link to access your agreement within the DocuSign system.

Right to Withdraw Your Consent to Receive Electronic Records; Consequences

If you agree to receive your agreement electronically and use electronic signatures, you have the right to withdraw your consent at any time and at no cost to you. You must inform the District of your decision by ESignQuestions at ESignQuestions@swfwmd.state.fl.us. Please include your contact information and the agreement number you are declining to sign electronically in your withdrawal notice. If you elect to receive your agreement only in paper format, or refuse to sign electronically, it may slow down the speed at which you receive documents or information.

Hardware and Software Minimum Requirements

To access and retain your agreement, you will need the following:

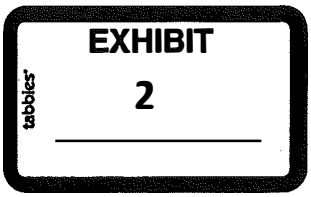
Operating Systems:	Windows 2000 or Windows XP
Browsers (for SENDERS):	Internet Explorer 6.0 or above
Browsers (for SIGNERS):	Internet Explorer 6.0, Mozilla Firefox 1.0, NetScape 7.2 (or above)
Email:	Access to a valid email account
Screen Resolution:	800 x 600 minimum
Enable Security Settings:	Allow per session cookies Users accessing internet behind a Proxy Server must enable HTTP 1.1 settings via proxy connection

These minimum requirements are subject to change. If these requirements change such that you may not be able to access or retain the electronic records, we will provide you with an email message at the email address we have on file for you, providing you with the revised hardware and software requirements. At that time, you will have the right to withdraw your consent to receive documents electronically.

Appendix 2: Fee Schedule*

	Effective
Permit Fees	
Augmentation Well	$300.00
Public Supply Well (WUP Required)	$500.00
Public Supply	$300.00
Commercial Irrigation Well (WUP	$300.00
Commercial Irrigation Well	$200.00
Other Irrigation Well (excluding	$115.00
Private Well (New)	$140.00
Redrill	$125.00
Repair	$150.00
Sandpoint Well (up to 3	$150.00
Elevator Shaft	$500.00
Monitor Wells (per well)	$75.00
Plugging (6" diameter or greater)	$100.00
Plugging (less than 6")	$50.00
Heat Exchange (Geothermal) Well (commercial)	$300.00
Heat Exchange (Geothermal) Well (residential)	$150.00
Air Sparging Well (up to 8	$75.00
Demolition Permit Processing	$75.00
Setback Variance Permit Processing	$75.00
Late fee for Limited Use Public Water System Permit renewal after October	$100.00
Change of permitted well use	$75.00
Water Sample / Analysis Fees	
Sample Collection Fee	$40.00
Bacteriolgical (Bact)	$20.00
Partial Chemical Testing	$50.00
Single Chemical Analysis	$10.00
Monthly Public Bact (includes collection	$60.00
Public Supply Well Clearance (20 samples)	$250.00
Public Supply Well Retest (per sample)	$20.00
Late fee for Public Water Systems monthly, quarterly annual chemical and bacteriological analysis results after the 15th of the following month they are due	$100.00

*Appendix 2 – from Sarasota County Health Department, Well Drilling Policy and Procedures Manual, October 14, 2008.



WELL CONSTRUCTION PERMITTING AGREEMENT BETWEEN THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT AND SARASOTA COUNTY

THIS AGREEMENT is made by and between the SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT, hereinafter referred to as the "DISTRICT," and SARASOTA COUNTY, hereinafter referred to as "SARASOTA," effective June 1, 2026.

INTRODUCTION AND INTENT

WHEREAS, the DISTRICT has the authority and responsibility, within its jurisdiction, for the administration and enforcement of rules and regulations governing water wells and water well contractors as set forth in Part III, Chapter 373, Florida Statutes (F.S.), and applicable portions of Chapters 40D-3, 62-524, 62-528, 62-531, 62-532, and 62-555, Florida Administrative Code (F.A.C.); and

WHEREAS, SARASOTA has the authority and responsibility, within its jurisdiction, to protect public health and prevent disease caused by natural and manmade factors in the environment, as set forth in Chapter 381, F.S.; and

WHEREAS, Sarasota County is within the geographical jurisdiction of the DISTRICT, as described in Section 373.069, F.S., and is therefore subject to the rules, regulations, authority, and orders of the DISTRICT, pursuant to Part III, Chapter 373, F.S.; and

WHEREAS, pursuant to Sections 373.308 and 373.309, F.S., the District is authorized to delegate to SARASOTA by interagency agreement the authority to regulate the permitting and construction of water wells within Sarasota County; and

WHEREAS, the DISTRICT and SARASOTA have entered into agreements, effective since April 5, 1978, which have delegated to SARASOTA the authority to administer and enforce rules and regulations governing water wells and water well contractors as set forth in Part III, Chapter 373, F.S., and applicable portions of Chapters 40D-3, 62-528, 62-531, 62-532 and 62-555, F.A.C.; and

WHEREAS, the parties desire to continue the regulation of water wells and water well contractors in Sarasota County through delegation to SARASOTA of the DISTRICT'S authority to implement Part III of Chapter 373, F.S., and applicable portions of Chapters 40D-3, 62-528, 62-531, 62-532, and 62-555, F.A.C., in a manner that ensures regulatory consistency throughout Sarasota County and protects public health, safety and welfare; and

WHEREAS, SARASOTA has and desires to continue to designate the Florida Department of Health in Sarasota County (FDOH-S) as the department within the county to perform the functions delegated to SARASOTA under this Agreement;

THEREFORE, based upon the mutual consideration contained in this Agreement, the parties hereby agree as follows:

1. This Agreement shall take effect on June 1, 2026. SARASOTA will continue to review and evaluate well construction permit applications and issue or deny permits for the construction, repair, modification, or abandonment of water wells in Sarasota County, with the following exceptions:

   a. permits issued in accordance with Chapter 62-524, F.A.C.; and

   b. permits for wells located within any areas subject to the Memorandum of Agreement Between the U.S. Environmental Protection Agency, Region IV, Superfund Division and the DISTRICT.

2. SARASOTA will review and evaluate applications and issue or deny permits for the construction, repair, modification, or abandonment of water wells for Class V, Group 1 injection wells, which include wells associated with thermal energy exchange, specifically air conditioning return flow wells and cooling water return flow wells. Class V, Group I wells serving multifamily residential units or business establishments, require prior permission from the Florida Department of Environmental Protection (FDEP), and FDEP Form 62-528.900(4) must be completed and attached to the permit application. Class V, Group 1 injection wells serving single-family air-conditioning return flow well systems do not need prior FDEP permission; however, FDEP Form 62-528.900(9) needs to be attached to the permit.

3. SARASOTA will review and evaluate permit applications as described in paragraphs 1 and 2 herein based solely upon the applicable provisions of Chapter 373, F.S., and applicable portions of Chapters 40D-3, 62-528, 62-531, 62-532, and 62-555, F.A.C.

4. The DISTRICT will review and evaluate applications and issue or deny permits for wells constructed, repaired, modified, or abandoned in accordance with the provisions of Chapter 62-524, F.A.C., and for any wells located within any areas subject to the Memorandum of Agreement Between the U.S. Environmental Protection Agency, Region IV, Superfund Division and the DISTRICT. The DISTRICT will provide SARASOTA with a copy of permits issued by the DISTRICT for informational purposes, if requested.

5. SARASOTA will administer water well contractor and water well construction regulation and require all wells be constructed, repaired, modified, or abandoned in accordance with the requirements of Part III, Chapter 373, F.S., and applicable portions of Chapters 40D-3, 62-528, 62-531, 62-532, and 62-555, F.A.C.

6. SARASOTA will use the forms adopted by the DISTRICT in Chapter 40D-1, F.A.C., which includes the most recent versions of the State of Florida Permit Application to Construct, Repair, Modify or Abandon a Well, Well Completion Report, Well Grouting/Abandonment Form, Well Construction Inspection Checklist, and Public

Supply Well Information and Classification Form. SARASOTA will use any revised or additional well construction-related forms that hereafter may be adopted by the DISTRICT.

7. SARASOTA shall be responsible for providing any permit data, guidance, or well construction information related to the construction, repair, modification, and abandonment of water wells, for which SARASOTA has delegated authority under this Agreement, when requested by the public, state, of local agencies.

8. SARASOTA will continue to participate in the on-line permitting program implemented through the DISTRICT's Water Management Information System (WMIS) or subsequent permitting program upon written notification by the DISTRICT. SARASOTA will use the DISTRICT's fee payment vendor unless otherwise approved by the DISTRICT in writing, and SARASOTA will comply with the twelve (12) requirements of the Payment Card Industry Data Security Standard (PCI-DSS) as set forth in Appendix 1: District Procedures for Payment Card Industry (PCI) Compliance, attached hereto and incorporated herein. In accordance with DISTRICT PCI Compliance procedures:

a. SARASOTA will notify the DISTRICT in writing within thirty (30) days regarding any change in SARASOTA'S Payment Card procedures affecting compliance with the PCI-DSS, after which the DISTRICT reserves the right to terminate this Agreement; and

b. To the extent allowable by law, SARASOTA will be responsible for maintaining compliance with federal, state, and local laws, rules, regulations, and ordinances pertaining to card payments and processing. SARASOTA will indemnify the DISTRICT and its officers, directors, employees, and representatives against, and hold them harmless from: (1) any claims or allegations made or that arise from or relate to any such obligations, and (2) any litigation, arbitration, judgments, awards, settlements, damages, expenses, losses, attorneys' fees, and costs arising from or relating to any such claims or allegations. Notwithstanding the foregoing, nothing herein shall be construed as either party waiving its rights to sovereign immunity as set forth in Section 768.28, F.S., or be construed as allowing any third party beneficiaries.

In the event SARASOTA desires to cease participating in WMIS or subsequent on-line permitting program, SARASOTA will provide the DISTRICT with ninety (90) days prior written notice, after which this Agreement will terminate.

9. Prior to issuing well construction permits, SARASOTA will determine whether water well contractors possess a valid State of Florida water well contractor license and are in compliance with the requirements of Chapter 62-531, F.A.C., and that all conditions for permit issuance set forth in Section 40D-3.301, F.A.C., are met. The DISTRICT will provide SARASOTA with access to an appropriate computer database containing contractor licensing information.

10. SARASOTA will require permit applicants to submit the permit application form described in Paragraph 6 herein, or use the on-line WMIS or subsequent permitting application process. For applications submitted on the permit application form, SARASOTA will enter the data into WMIS, or subsequent permitting program, on a daily basis and scan the application and any related permit documents into WMIS, or subsequent permitting program, within five business days. All document scanning required pursuant to this Agreement will be in accordance with Paragraph 17 of this Agreement and will comply with the document standards established by the DISTRICT.

11. For Well Completion Reports submitted on paper, SARASOTA will enter the data and scan the document into WMIS, or subsequent permitting program, within five business days.

12. SARASOTA will witness the grouting operations on all wells that are abandoned in accordance with Section 40D-3.531, F.A.C. SARASOTA may waive this requirement if the conditions of Rule 40D-3.531(4), F.A.C., have been satisfied. SARASOTA will fully complete for each such well a Well Grouting/Abandonment Form (see Paragraph 6 herein). SARASOTA will scan the completed forms into WMIS, or subsequent permitting program, within five business days.

13. In accordance with Chapters 40D-3, 62-555, and 64E-8, F.A.C., SARASOTA will issue permits, conduct well site inspections and witness the grouting operations for public supply wells. SARASOTA may waive this witnessing requirement if the conditions specified in Rule 40D-3.461(6), F.A.C., are met. SARASOTA will fully complete for each such well a Well Grouting/Abandonment Form (see Paragraph 6 herein). SARASOTA will scan the forms into WMIS, or subsequent permitting program, within five business days.

14. SARASOTA will conduct random well construction inspections for a minimum of twenty percent (20%) of all permitted wells, calculated on an annual average basis (running 12-month average). The inspectors will utilize the Well Construction Inspection Checklist referenced in Paragraph 6 herein, and will complete the form for each inspection. SARASOTA will scan the form into WMIS, or subsequent permitting program, within five business days. SARASOTA must address any deficiencies noted during the inspections.

15. SARASOTA will implement and maintain an effective compliance program, in cooperation with the DISTRICT, to ensure compliance with applicable portions of Chapters 40D-3, 62-528, 62-531, 62-532, and 62-555, F.A.C. The compliance program will include but is not limited to the investigation of all unpermitted and unlicensed activities, and monitoring of compliance with well construction standards and permit conditions. As part of the compliance program:

a. SARASOTA will carry out an inspection program, as described in more detail in Paragraphs 12, 13, and 14 herein;

b. SARASOTA will report all unlicensed activities to the DISTRICT and will

take appropriate enforcement action against the unlicensed individual or company;

c. SARASOTA will take enforcement action against licensed water well contractors as set forth in Chapter 62-531, F.A.C, and implemented by the Water Well Construction Disciplinary Guidelines and Citations Dictionary, June 2014 (or later version adopted by the District). Where appropriate, as described in the guidance documents, SARASOTA will comply with the due process requirements of Chapter 120, F.S.;

d. SARASOTA will report enforcement actions to the DISTRICT within thirty (30) days of commencement of an enforcement action. The DISTRICT will report the appropriate information to the Statewide Clearinghouse, if applicable;

e. The DISTRICT may conduct audits of SARASOTA'S compliance and enforcement programs, as the DISTRICT deems appropriate. The DISTRICT may direct SARASOTA to take specified enforcement actions if the DISTRICT finds SARASOTA has failed to do so where appropriate; and

f. The DISTRICT will, upon request, provide technical support and assist with the resolution of significant technical and policy disputes that cannot otherwise be resolved despite good faith efforts by SARASOTA and the contractor.

Nothing in this Agreement will limit the independent enforcement authority of either party.

16. SARASOTA will maintain a sufficient staff level to efficiently administer the delegated program. Staff levels will consist of, at a minimum, the following type of positions:

a. Supervisor – at least one person possessing the requisite level of knowledge and experience of well construction to direct the program and be responsible for the submittal of the required reports to the DISTRICT;

b. Technicians – a sufficient number of persons responsible for field inspections and witnessing of grouting and abandonment of wells, issuance of permits, well contractor compliance, well contractors' license investigation and coordination with the DISTRICT on related water use permit conditions;

c. Clerical – at least one person responsible for coordinating the submittal of documents and reports to the DISTRICT, document scanning and records management.

17. SARASOTA will implement records management procedures that comply

with the applicable provisions of Chapters 119, 257, 286, F.S., and the standards and requirements for records management set forth in Chapters 1B-24 and 1B-26, F.A.C. SARASOTA will produce documents in ISO-compliant format into WMIS, or subsequent permitting program, on a daily basis:

a. Well Completion Reports;

b. Well Construction, Repair, Modification or Abandonment Permit applications, permits issued and any permit applications that are denied;

c. Well Grouting/Abandonment forms;

d. Public Supply Well Information and Classification forms;

e. Well Construction Inspection Checklist forms; and

f. Documents Relevant to the Review of Well Construction Permit Applications.

18. Nothing in this Agreement will be construed to limit or delegate the DISTRICT's exclusive authority to review, evaluate, and issue Water Use Permits pursuant to Chapter 373, F.S., and applicable rules. If the withdrawal from the proposed or affected well will require a Water Use Permit, SARASOTA will withhold issuance of any Well Construction, Repair, Modification or Abandonment Permit until after the Water Use Permit has been issued by the DISTRICT, or until the DISTRICT has otherwise concurred in the issuance of the Well Construction Permit in writing.

19. The DISTRICT will maintain responsibility to administer examinations and issue licenses for water well contractors pursuant to Chapter 373, F.S., and applicable rules.

20. SARASOTA will have the authority to charge and retain well construction permit fees, in accordance with Sections 373.109 and 373.309, F.S, and at a minimum in accordance with Rule 40D-1.607, F.A.C. It is the intention of the parties that SARASOTA will operate the program in an efficient and cost-effective manner. In the event any fees proposed to be assessed by SARASOTA will exceed the fees currently charged by SARASOTA as set forth in Appendix 2: Fee Schedule, attached hereto and incorporated herein, SARASOTA must obtain the DISTRICT's concurrence. At the written request of the DISTRICT, SARASOTA will prepare and provide to the District a program financial audit justifying the proposed fee or increase. Any new or increased fee must be adopted by the Sarasota County Board of County Commissioners.

21. SARASOTA will permit the DISTRICT, upon request, to examine all project records relating to the subject matter of this Agreement, including the right to audit such related books, documents and papers during the Agreement period or following termination of this Agreement. SARASOTA will maintain public records associated with this Agreement for at least three years from their receipt or creation. This period will continue after the termination of this Agreement. SARASOTA recognizes and agrees

that it is subject to the Public Records provisions of Chapter 119, F.S., and that all public records, as defined by Chapter 119, F.S., made or received by SARASOTA in conjunction with this Agreement are subject to said provisions.

22. SARASOTA will submit to the DISTRICT an Annual Report summarizing activities occurring in conjunction with this Agreement, to include the following at a minimum:

a. a comparison of well construction permits issued versus well completion reports received during the previous year;

b. a comparison of well permits issued for abandonment versus abandonment inspection reports received during the previous year;

c. a comparison of well permits issued for public supply wells versus well grouting inspection reports for public supply wells received during the previous year;

d. the number of random inspections conducted during the previous year; and

e. reports of any enforcement proceedings, including the status of any ongoing enforcement cases and copies of all Warning Letters, Notices of Violation, Consent Orders and Final Orders relating thereto.

This report will be submitted to the DISTRICT by March 15 of each year.

23. The timing and content of the reports required under this Agreement may be revised upon the mutual agreement of the project managers for each party.

24. DISTRICT staff and SARASOTA staff will meet at least semi-annually, and more frequently if deemed appropriate by the parties, to review water well activities and clarify procedures.

25. The DISTRICT will provide SARASOTA with appropriate training on water well regulation, and will provide technical assistance as necessary to enable proper review of permit applications or to resolve compliance problems with existing wells. The DISTRICT will provide SARASOTA with appropriate training on WMIS or subsequent permitting program, scanning and document management procedures as needed.

26. The DISTRICT will provide SARASOTA with information concerning proposed changes to relevant rules, and current technical and administrative procedures.

27. SARASOTA may not further delegate its authority under this Agreement.

28. Unless terminated by either the DISTRICT or SARASOTA upon ninety (90) days prior written notice, this Agreement will continue in effect until May 31, 2031, and may be extended upon terms mutually acceptable to both parties.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year as indicated below.

Approved as to Legal Form and Content

_____
Attorney

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

By: _____
John Mitten, Chair

Attest: _____
Ashley Bell Barnett, Secretary

Filed this _____ of

_____, 2026.

_____
Deputy Agency Clerk

(Seal)

SARASOTA COUNTY, a political subdivision of the State of Florida
By: Board of County Commissioners

Approved as to Legal Form and Content

_____
Attorney

By: _____

Title:_____

Date:_____

ATTEST:

By:_____
Deputy Clerk

(Seal)

CONSENT AGENDA

May 19, 2026

Executive Director's Report: Approve Governing Board Minutes – April 28, 2026

Staff Recommendation:
Approve minutes as presented.

Presenter:
Brian J. Armstrong, P.G., Executive Director

GOVERNING BOARD MEETING
TUESDAY, APRIL 28, 2026 – 9:00 A.M.
2379 BROAD STREET, BROOKSVILLE, FLORIDA 34604
(352) 796-7211

Board Members Present
John Mitten, Chair
Jack Bispham, Vice Chair
John Hall, Treasurer
Michelle Williamson, Member
Kelly Rice, Member
Dustin Rowland, Member
James Holton, Member
Robert Stern, Member*
Nancy H. Watkins, Member
Josh Gamblin, Member
James Turner, Member

*Attended via Electronic Media

Board Member(s) Absent
Ashley Bell Barnett, Secretary
Brian Aungst, Jr., Member

Staff Members
Brian J. Armstrong, Executive Director
Amanda Rice, Assistant Executive Director
Chris Tumminia, General Counsel
Brian Werthmiller, Inspector General
Jennette Seachrist, Division Director
Michelle Hopkins, Division Director
Brian Starford, Division Director
Brandon Baldwin, Division Director
Michelle Weaver, Division Director

Board Administrative Support
Virginia Singer, Manager
Lori Manuel, Administrative Coordinator

1. Convene Public Meeting

The Governing Board of the Southwest Florida Water Management District (District) met for its regular meeting on April 28 at 9:00 a.m., in the Brooksville office at 2379 Broad Street, Brooksville, Florida 34604. This meeting was available for live viewing through internet streaming. An attendance roster is archived in the District's permanent records. Approved minutes from meetings can be found on the District's website at WaterMatters.org.

1.1 Call to Order

Chair John Mitten called the meeting to order. He noted that the Board meeting was being recorded for broadcast on government access channels, and public input would be provided in person. Chair Mitten stated that anyone wishing to address the Governing Board concerning any item listed on the agenda or any item that does not appear on the agenda should complete and submit a "Request to Speak" card. He stated that comments would be limited to three minutes per speaker, and when appropriate, exceptions to the three-minute limit may be granted by the Chair. Chair Mitten also requested that several individuals requesting to speak on the same topic designate a

spokesperson. He introduced each member of the Governing Board and staff present at the dais (this served as roll call). A quorum was confirmed.

1.2 Invocation and Pledge of Allegiance

Board Member Michelle Williamson offered the invocation and led the Pledge of Allegiance.

1.3 Employee Recognition

Chair Mitten recognized Jason LaRoche, Danielle Rogers, and David Arnold for their milestone years of service with the District.

1.4 Additions/Deletions to Agenda

Mr. Brian Armstrong, Executive Director, stated there was one addition to the Consent agenda:

General Counsel's Report

2.15 Approval of Emergency Order No. SWF 26-013 Declaration of Emergency Regarding Wildfire Risks

There was good cause to amend the published agenda as allowed by Section 120.525, Florida Statutes.

1.5 Public Input for Issues Not Listed on the Published Agenda

Mr. David Ballard Geddis, Jr., spoke regarding the management of water resources.

Mr. J. Hunter Leiro spoke in opposition to the approval of a Water Use Permit (WUP) for the proposed Stonebridge Artificial Intelligence (AI) data center in the city of Fort Meade.

Mr. Raul Alfonso spoke in opposition to the approval of a WUP for the proposed Stonebridge AI data center in the city of Fort Meade.

Board Member Nancy Watkins asked for confirmation that the Board would not be voting for the proposed WUP associated with the Stonebridge AI data center, during the meeting today. Chair Mitten confirmed that it was not on today's agenda.

Consent Agenda

Finance/Outreach and Planning Committee

2.1 Knowledge Management: Administrative Fees Governing Board Policy

Staff recommended the Board approve the proposed updates to the policy.

2.2 Knowledge Management: Records Management Governing Board Policy

Staff recommended the Board approve the proposed updates to the policy.

Resource Management Committee

2.3 FARMS – 597 Josh Road, LLC – H848 (Hardee County)

Staff recommended the Board:

1. Approve the 597 Josh Road, LLC project for a not-to-exceed project reimbursement of $85,093 provided by the Governing Board;
2. Authorize the transfer of $85,093 from fund 010 H017 Governing Board FARMS Fund to the 597 Josh Road, LLC project fund;
3. Authorize the Division Director to sign the agreement.

2.4 Sebring Watershed Management Plan Update Floodplain Information for Regulatory Use and to Update Flood Insurance Rate Maps – Q099 (Highlands County)

Staff recommended the Board approve use of the Sebring Watershed Management Plan Update floodplain information for best information available by the District ERP program and to update Flood Insurance Rate Maps in Highlands County.

2.5 Klosterman Bayou Watershed Management Plan Floodplain Information for Regulatory Use and to Update Flood Insurance Rate Maps – Q083 (Pinellas County)

Staff recommended the Board approve use of the Klosterman Bayou Watershed Management Plan Update floodplain information for best information available by the District ERP program and to update Flood Insurance Rate Maps in Pinellas County.

2.6 Final Sarasota Bay Surface Water Improvement and Management (SWIM) Plan – W601

Staff recommended the Board approve the Sarasota Bay SWIM Plan in accordance with Section 373.453, F.S.

2.7 Tampa Bay Estuary Program Third Amended and Restated Interlocal Agreement – W027

Staff recommended the Board approve the Tampa Bay Estuary Program Third Amended and Restated Interlocal Agreement.

Operations, Lands & Resource Monitoring Committee

2.8 Residential Security Lease Agreement for Kirkland Ranch – SWF Parcel No. 13-798-103X (Pasco County)

Staff recommended the Board:

- Approve the Residential Security Lease Agreement Between the Southwest Florida Water Management District and Lieutenant Balfour; and
- Authorize the Governing Board Chair to execute the Agreement on behalf of the District; and
- Authorize staff to make minor changes or corrections to conform documents or correct scrivener's errors; any substantive changes will be subject to Governing Board review and approval; and
- Authorize staff to execute any other documents necessary to complete the transaction in accordance with the approved terms.

2.9 Rockmine Road Timber Harvest Agreement (Sumter County)

Staff recommended the Board approve and execute the Rockmine Road Timber Harvest Agreement No. 2026LMREV002.

2.10 FDACS – SWFWMD Wildland Fire Cooperative Agreement

Staff recommended the Board:

- Approve the Cooperative Agreement between the Department of Agriculture and Consumer Services Florida Forest Service and the Southwest Florida Water Management District; and
- Authorize the Governing Board Chair to execute the Agreement.

Regulation Committee

2.11 Water Use Permit No. 20000660.011 – Farmland Reserve, Inc./Sun City Parcel (Hillsborough County)

Staff recommended the Board approve the proposed permit attached as an exhibit.

General Counsel's Report

2.12 Approval of First Amendment to Emergency Order No. SWF 26-004 – Declaration of Emergency Regarding the Lower and Middle Pools of the Tampa Bypass Canal (Hillsborough County)

Staff recommended the Board approve the First Amendment to Emergency Order No. SWF 26-004.

2.13 Approval of Emergency Order No. SWF 26-010 – Declaration of Emergency Regarding the Lower Hillsborough River Minimum Flows (Hillsborough County)

Staff recommended the Board approve Emergency Order No. SWF 26-010.

Executive Director's Report

2.14 Approve Governing Board Minutes – March 24, 2026

Staff recommended the Board approve the minutes as presented.

A motion was made and seconded to approve the amended Consent Agenda. The motion carried unanimously. (Audio – 00:17:52)

Finance/Outreach and Planning Committee

Treasurer John Hall called the committee to order.

3.1 Consent Item(s) Moved to Discussion - None

3.2 Investment Strategy Quarterly Update

Mr. John Grady, PTMA Financial Solutions, summarized the current economic forecast, which included Gross Domestic Product, inflation, consumer confidence, jobs/unemployment rates, labor force participation rate, consumer price index, interest rates and expectations. He provided an overview of the District's investment portfolios. Mr. Grady and Mr. Brandon Baldwin, Business and Information Technology Division Director, responded to questions.

Staff recommended the Board Accept and place on file the District's Quarterly Investment Reports for the quarter ended March 31, 2026.

A motion was made and seconded to approve staff's recommendation. The motion carried unanimously. (Audio – 00:45:10)

3.3 Budget Transfer Report

This item was for information only. No action was required.

3.4 Office of Inspector General Quarterly Update – January 1, 2026 to March 31, 2026

This item was for information only. No action was required.

Resource Management Committee

Board Member Dustin Rowland called the committee to order.

4.1 Consent Item(s) Moved to Discussion - None

4.2 Fiscal Year 2027 Cooperative Funding Initiative Update

Mr. Kevin Wills, Cooperative Funding Initiative Lead, presented the final staff evaluation scores and funding recommendations for the Fiscal Year (FY) 2027 Cooperative Funding Initiative (CFI) projects. He summarized projects recommended for funding which included Board prioritized

Alternative Water Supply (AWS), and new projects.

Mr. Wills stated that two projects for the Peace River Manasota Regional Water Supply Authority, phases 2B and 3C, are absent from the list as the District's share was fully funded in previous fiscal years. These two projects, along with the five recommended Board Prioritized AWS Projects, will be submitted to the Florida Department of Environmental Protection (FDEP) for funding consideration as part of their AWS grant program.

Mr. Wills noted that seven new CFI projects are recommended witch focus on conservation, Environmental restoration and flood protection in the Districts Northern, Tampa Bay and Southern Regions. Per the Boards direction at the December Workshop, FY27 is the final year for new non-prioritized CFI projects. Beginning in FY28, CFI funding will be limited to prioritized Alternative Water Supply, springs and District Initiative projects. This shift will be reflected in upcoming budget assumptions and reviewed and approved through the budget process each year.

Staff recommended the Board:
1. Approve staff recommendation to include FY2027 funding for the five AWS projects in the amount of $65,270,437 in the District's FY2027 RASB.
2. Approve staff recommendation to include FY2027 and future funding of seven new CFI projects (Q438, Q440, Q456, W024, Q444, Q445 and Q447) in the amount of $2,520,152 in the District's FY2027 RASB.

A motion was made and seconded to approve staff's recommendation. The motion carried unanimously. (Audio – 00:49:48)

Operations, Lands and Resource Monitoring Committee
Chair Mitten called the committee to order.

5.1 Consent Item(s) Moved to Discussion - None

5.2 Hydrologic Conditions Report
Ms. Tamera McBride, P.G., Hydrologic Data Manager, presented the Hydrologic Conditions report. Although some hydrologic indicators are experiencing short-term improvement from recent rainfall, Districtwide rainfall for March was below average, as was the 12-month rainfall total. Information was presented regarding rainfall, streamflow, groundwater levels, lake levels, public supply reservoirs and climate forecasts. She stated that stored water supplies are in use to offset dry conditions. The Climate Prediction Center's near-term climate forecast for May, June and July indicated chances of above-normal temperatures and precipitation. The National Weather Service anticipates dry conditions with below normal rainfall over the next few weeks. The wet season is anticipated to pick up in late May/early June. Staff responded to questions.

This item was for information only. No action was required.

Regulation Committee
No items were presented.

6.1 Consent Item(s) Moved to Discussion - None

General Counsel's Report
7.1 Consent Item(s) Moved to Discussion - None

7.2 Affirm Governing Board Committee Actions

A motion was made and seconded to approve staff's recommendation. The motion carried unanimously. (Audio – 01:00:10)

Committee/Liaison Reports

8.1 Agricultural and Green Industry Advisory Committee

A written summary of the March 27 meeting was provided.

Executive Director's Report

9.1 Executive Director's Report

Mr. Brian Armstrong, Executive Director, recognized volunteer staff that received the Meals on Wheels Adopt-a-Route Partner of the Year award.

Mr. Armstrong recognized retiring staff member, Ann Kenny. Ms. Kenny is the accounting manager and has been an integral part of the District receiving positive reviews related to its Comprehensive Annual Financial Reporting.

Chair's Report

10.1 Chair's Report

Chair Mitten asked if the Board had any matters which they would like to present. Vice Chair Jack Bispham commented that recent drought conditions, while challenging, have demonstrated strength in the District's planning efforts.

Board Members asked how the District can protect end users as related to potential applications for a Water Use Permit (WUP) associated with proposed data centers. The proposed Stonebridge data center in the City of Fort Meade (City) was specifically addressed. Mr. Armstrong responded that issuance of a WUP for a proposed data center in this District must be approved by the Board. He stated the District has communicated this to the City. Mr. Armstrong stated that because the City currently has a WUP permit, any request would be considered a modification to the existing permit. He explained there are many factors to be considered before a permit modification can be issued. The District will remain open to any discussion with the City. Mr. Armstrong stated the Board will be kept apprised of this matter. Discussion ensued.

The next meeting is scheduled for Tuesday, May 19 at 9:00 a.m., at the Tampa office.

10.2 Employee Milestones

A written summary was provided.

Adjournment

The meeting adjourned at 10:13 a.m.

Governing Board Meeting

May 19, 2026

3. FINANCE/OUTREACH & PLANNING COMMITTEE

FINANCE/OUTREACH & PLANNING COMMITTEE

May 19, 2026

Discussion: Consent Item(s) Moved to Discussion

Presenters:
Brandon Baldwin, Division Director, Business and IT Services Division
Michelle Weaver, P.E., Division Director, Employee, Outreach and General Services Division

FINANCE/OUTREACH & PLANNING COMMITTEE

May 19, 2026

Discussion: Action Item: Fiscal Year 2024-25 Annual Comprehensive Financial Report

Purpose

Presentation of the District's Annual Comprehensive Financial Report for fiscal year ended September 30, 2025, by the District's financial auditors, James Moore & Co., P.L., for acceptance by the Governing Board.

Background

The District is required by Section 218.39, Florida Statutes, to have an annual financial audit of its accounts and records performed by an independent certified public accountant, licensed in the State of Florida, and made in accordance with generally accepted auditing standards, Florida Statutes, and Rules of the Auditor General promulgated pursuant to Section 11.45.

The Annual Comprehensive Financial Report includes the State Single Audit pursuant to section 215.97, Florida Statutes, and Chapter 10.550, Rules of the Auditor General. The report also includes the Management Letter and Independent Accountants' Report for fiscal year ended September 30, 2025, and will be distributed under separate cover prior to the meeting. James Moore & Co., P.L. representatives will attend the meeting to communicate to the Board certain matters related to the conduct of the audit as required by auditing standards. A brief presentation of the report, management letter, and independent accountants' report will also be made by James Moore & Company.

Strategic Plan

This report helps to demonstrate the District's ability to cover operating costs and financial incentives through partnerships to meet the core responsibilities related to water supply, water quality, natural systems and flood protection.

Exhibit

To be provided under separate cover.

Staff Recommendation:

Accept and place on file the District's Annual Comprehensive Financial Report pursuant to Chapter 10.550, Rules of the Auditor General. The report also includes the Management Letter and Independent Accountants' Report for fiscal year ended September 30, 2025.

Presenter:

James Halleran, James Moore & Co., P.L.

FINANCE/OUTREACH & PLANNING COMMITTEE

May 19, 2026

Discussion: Information Item: Office of Inspector General Audit Activity – Quality Assurance Review

Background and Purpose:

The Office of Inspector General (OIG) operates the audit function under the Generally Accepted Government Auditing Standards (GAGAS), also known as the Yellow Book, issued by the Comptroller General of the United States. These standards require the OIG, which conducts audit engagements in accordance with GAGAS, to obtain an external peer review conducted by reviewers independent of the audit organization being reviewed. The peer review will determine whether: (1) the OIG's system of quality management was suitably designed and (2) the OIG is complying with its system of quality management so that it has reasonable assurance that it is fulfilling its responsibilities in accordance with professional standards and performing and reporting in conformity with such standards in all material respects.

The reviewer is Sam McCall with over 50 years of experience. He was previously the Chief Audit Officer at Florida State University for 9 years. Prior to joining FSU, Sam was City Auditor for the City of Tallahassee for 13 years and prior to that Deputy Auditor General for 13 of his 30 years in state government. He has served on the Comptroller General of the United States Advisory Council on Government Auditing Standards, the Institute of Internal Auditors (IIA) International Internal Auditing Standards Board, and the Governmental Accounting Standards Board Advisory Council. He is past National President of the Association of Government Accountants and received their Robert W. King Memorial Award and the National Intergovernmental Audit Forum David M. Walker Excellence in Government Performance and Accountability Award. In 2014, the IIA inducted Sam into the IIA American Hall of Distinguished Audit Practitioners and the IIA named Sam as one of the Top 15 Most Influential Government Auditing Professionals. That year the Association of Government Accountants also recognized Sam as their National Educator of the Year. In 2015, the Northwest Florida State College named Sam as the 2015 Alumnus of the year. In 2016, Sam was nationally recognized by the American Institute of Certified Public Accountants with their Outstanding CPA in Government Career Contribution Award. In December 2016, Sam completed a five-year appointment as a member of the Federal Accounting Standards Advisory Board that establishes GAAP for the federal government. In 2017, the FSU Office of Inspector General Services was recognized by the Florida Commission on Law Enforcement Accreditation as the first State University to receive such accreditation. From 2017 to 2019, Sam was selected to serve as Chair of SUAC (the State University Audit Council). In 2022, the Association of College and University Auditors recognized Sam with their Outstanding Professional Contribution Award. Lastly, in May 2023, Sam was approved by the Governor, State Attorney General, and the State Comptroller to serve on the three-person State Board of Administration Audit Committee upon the recommendation of the Attorney General.

For the period of October 1, 2022 to September 30, 2025, the OIG received the highest rating of pass. This is the 3rd consecutive time the OIG has received the highest rating.

Exhibit

Southwest Florida Water Management District Office of Inspector General, Report on Independent Quality Assurance Review, March 13, 2026.

Staff Recommendation:
This item is for the Board's information only, and no action is required.

Presenter:
Sam M. McCall Ph.D., CPA, CIA, CGAP, CGFM, CIG, External Peer Reviewer

Southwest Florida Water Management District

Office of Inspector General

Report on Independent Quality Assurance Review

March 13, 2026

Rainbow River State Park

Inspector General
Brian Werthmiller CPA, CFE, CIG

Independent External Assessor
Sam M. McCall PhD, CPA, CIA, CGAP, CGFM, CIG

Southwest Florida Water Management District
Office of Inspector General
Opinion Statement on Quality Assurance Review

John Mitten, Governing Board Chair
John Hall, Governing Board Treasurer, Finance/Outreach and Planning Committee Chair
Brian J. Armstrong, Executive Director
Brian Werthmiller, Inspector General

I have been engaged to conduct an independent external Quality Assurance Review (QAR) of Southwest Florida Water Management District (the District) Office of Inspector General (the Office) for the period October 1, 2022, to September 30, 2025. The primary objective of the QAR was to make a determination of whether the Office had an established system of quality control and had implemented policies and procedures to demonstrate reasonable assurance that audit work conformed in all material respects with *Government Auditing Standards* and applicable legal and regulatory requirements.

As the qualified assessor from outside the organization, I am fully independent of the Office and have the necessary skills to undertake this engagement. This QAR, concluded on March 13, 2026, consisted of a review and test of Office policies and procedures and documentation supporting completed audits. This assessor's work followed the standards and guidance provided in *Government Auditing Standards* for performance of external QARs. In addition, interviews were conducted with the District Chair, Treasurer, and Executive Director, and surveys were sent to and received from additional Governing Board members and selected management team members.

At the conclusion of an external QAR, participating organizations receive a rating of pass, pass with deficiencies, or fail. **I have concluded the Southwest Florida Water Management District Office of Inspector General has earned a QAR rating of "Pass," the highest rating possible under Generally Accepted Government Auditing Standards.** Pass means the audit organization's system of quality control has been suitably designed and complied with in all material respects to provide the audit organization with reasonable assurance of performing and reporting in conformity with professional audit standards and applicable legal and regulatory requirements. A detailed description of QAR ratings can be found in Attachment B.

I appreciate the opportunity to participate in the Office quality assurance review and thank the District for courtesies extended during this process. Please do not hesitate to reach out to me should you have any questions regarding the review.

Sam M. McCall

Sam M. McCall PhD, CPA, CIA, CGAP, CGFM, CIG
Independent External Assessor Performing the QAR

March 13, 2026
Date

Southwest Florida Water Management District
Office of Inspector General
Quality Assurance Review

March 13, 2026

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EXECUTIVE SUMMARY

Governance

The District's operations are directed by a 13-member Governing Board, appointed by the Governor and confirmed by the Senate. Governing Board members are unpaid volunteers representing diverse backgrounds and interests. Board members serve four-year terms and must live within the District. The Governing Board determines the District's overall policies, executes its statutory and regulatory responsibilities, and authorizes tax levies and budgets in accordance with the Truth in Millage (TRIM) statutory budgetary hearing process. The Governing Board appoints the District's Executive Director, subject to approval by the Governor and the Florida Senate, and appoints the District Inspector General.

Origin and Evolution

The District is one of five regional water management districts directed by state law to protect and preserve water resources within its boundaries. The District was created in 1961 by a special act of the Florida Legislature to be the local sponsor of the "Four River Basins, Florida Project." This was a major flood control project sponsored by the U.S. Army Corps of Engineers (Corps) after Hurricane Donna caused massive damage to west-central Florida in 1960. The project included flood control structures and water detention areas, and encompassed a 6,000-square-mile area. The District continues to cooperate with the Corps in maintaining and operating portions of this flood control system.

District responsibilities expanded in the mid-to-late1960s when regulatory programs for regional wellfields serving the Tampa Bay metropolitan area were initiated, and again in 1972 when the Florida Legislature passed the Water Resources Act. The Act significantly furthered the transition from strictly flood control to a more broad-based policy of resource management and service to the public. The Act was in response to a growing need for a more comprehensive approach to water management in the State, and received recognition as a model water statute from the National Water Commission for its regional approach and comprehensive scope.

The District's duties and responsibilities have increased over the years. Some of these new duties were the result of legislative action; others came about through delegation by state agencies; while others were initiated by the District under existing authority in response to evolving water management challenges. While the mission has remained essentially the same since passage of the Water Resources Act, to manage and protect water and related natural resources, areas of responsibility now encompass water supply, flood protection, water quality management and natural systems management. Moreover, there is growing recognition that the integration of all these areas is essential to effective planning and management of the resource.

Area

The District encompasses all or part of sixteen counties on the west-central coast of Florida, from Charlotte County in the south to Levy County in the north. It also extends from the Gulf of Mexico east to Polk and Highlands counties. The District contains 97 local governments spread over approximately 10,000 square miles, with a total population in 2021 of more than 5.5 million.

Office Statutory Authorization

In accordance with Section 373.079(4)(b), Florida Statutes, the District shall have an Inspector General who shall report directly to the Board. In addition, the IG must have the same qualifications and perform the applicable duties of state agency inspectors general as provided for in Section 20.055, Florida Statutes. This latter section of law, known as the Florida Inspector General Act, provides responsibility to IGs to include authority and responsibility to perform audits, investigations, and management reviews, to review internal controls, and to carry out programs to prevent and detect fraud and abuse. The IG has specific reporting responsibilities to the Board, Auditor General of the State of Florida, and the Joint Legislative Auditing Committee of Legislature. In addition to very high educational and experience requirements, the IG must possess at appointment, or obtain within the first year after appointment, a certification from the Association of Inspectors General as a Certified Inspector General (CIG). Lastly, all audit reports issued must include a statement that the audit was conducted in accordance with appropriate audit standards. For the District, the Office has chosen to cite Generally Accepted Government Auditing Standards (GAGAS) issued by the Comptroller General of the United States.

Statement of Opinion as to Conformance with Government Auditing Standards

In accordance with the standards promulgated by the Comptroller General of the United States in *Government Auditing Standards*, I have completed an independent external QAR of the Office of Inspector General at Southwest Florida Water Management District. Analysis was performed of documentation provided in support of policies and procedures and audits performed, information received during interviews with the Governing Board Chair and Treasurer and the District Executive Director, and responses to surveys conducted. **I have concluded the District Office of Inspector General has earned a review rating of "Pass," the highest rating possible under Generally Accepted Government Auditing Standards.** Pass means the audit organization's system of quality control has been suitably designed and complied with in all material respects to provide the audit organization with reasonable assurance of performing and reporting in conformity with professional standards and applicable legal and regulatory requirements. A detailed description of QAR ratings can be found in Attachment B.

Objectives, Scope, and Methodology

Objectives

- The principal objective of the QAR was to assess Office conformance with *Government* Auditing *Standards.*
- The independent assessor also evaluated the IGs effectiveness in carrying out its mission (as set forth in the audit charter and expressed in the expectations of the Board and Senior Management) and identified successful audit practices performed by the IG.

Scope

- The scope of the QAR included the audit charter approved by the Board, which defines the purpose, authority, and responsibility of the IG. In addition, Office responsibility and operations was reviewed for compliance with Section 20.055,

Florida Statutes, as applicable.

- The QAR was concluded on March 13, 2026, and provides the board and senior management information about Office operations as of that date.
- *Government Audit* Standards in place during the period October 1, 2022, to September 30, 2025, were the basis for the QAR.

Methodology

- The IG compiled and provided information consistent with GAS for an external QAR. This information included District and Office policies and procedures as well as documentation supporting completed work.
- The IG provided a listing of key stakeholders (senior management and the board) and the independent assessor sent surveys to selected individuals. Survey results were tabulated by the assessor and confidentiality was maintained for responses received. Summary survey results were included in the QAR report.
- To accomplish the objectives, the assessor reviewed information requested and provided the IG. The assessor also conducted interviews with selected key stakeholders, including the Executive Director, Board Chair, Board Treasurer, and the IG; reviewed a sample of audit projects and associated workpapers and reports; and reviewed survey data received from key stakeholders.

Summary of Observations

Observations are divided into three categories:

- **Successful Audit Practices** – Areas where the IG is operating in a particularly effective or efficient manner are as follows:
    - Audit Charter - The Office audit charter is thorough and comprehensive.
    - Policies and procedures – District policies relating to the responsibilities of the IG in the areas of internal control, fraud, and whistle-blower were comprehensive and complete
    - Independence – The audit function is organizationally independent in fact and appearance, routinely meets with the Chair and Board, and adds value to

operations by providing assurance and advisory services on an on-going basis.

- Professional Judgement – The IG is well qualified for the position, is respected externally and within the organization, and obtains appropriate continuing professional education for the position.
- Risk Assessment - The risk assessment process is well documented and the annual work plan is presented to the Board in an easily understandable manner.
- Planning - Engagement planning includes clear descriptions of audit scope, objectives, and methodology.
- Audit Programs - Audit programs were prepared and completed consistent with audit objectives.
- Conducting Engagements - Working papers reviewed clearly identified information needed, analysis, and evaluation results, all of which were documented, referenced, and easy to follow. Working papers demonstrated the work of a very experienced and qualified auditor.
- Reporting - Communication with auditees was evidenced throughout the reviewed audits. Written reports were accurate, complete, and presented with the proper tone and context, and took into consideration managements views and responses.

- Gaps to Conformance
  - No gaps to conformance with the Standards were noted during this quality assurance review.

- Opportunities for Continuous Improvement –
  - Survey respondents were given the opportunity to identify any needed improvements and overall had no significant suggestions to offer. Survey responses were consistent with the external assessor's conclusions.

ATTACHMENT A – EVALUATION SUMMARY

	Pass	Pass With Deficiencies	Fail
Overall Evaluation	X		

Compliance with Generally Accepted Government Auditing Standards (GAGAS)		Pass	Pass With Deficiencies	Fail
Chapter 1	Foundation and Principles for the Use and Application of Government Auditing Standards	X		
Chapter 2	General Requirements for Complying with GAGAS	X		
	Complying with GAGAS	X		
	Relationship between GAGSAS and Other Professional Standards	X		
	Stating Compliance with GAGAS in the Audit Report	X		
Chapter 3	Ethics, Independence, and Professional Judgement	X		
	Ethical Principles	X		
	Independence	X		
	Professional Judgement	X		
Chapter 4	Competence and Continuing Professional Education	X		
	Competence	X		

	Continuing Professional Education	X		
Chapter 5	Quality Control and Peer Review	X		
	Quality Control and Assurance	X		
	External Peer Review	X		
Chapter 8	Fieldwork Standards for Performance Audits	X		
	Planning	X		
	Conducting the Engagement	X		
	Supervision	X		
	Evidence	X		
	Audit Documentation	X		
Chapter 9	Reporting Standards for Performance Audits	X		
	Reporting Auditor's Compliance with GAGAS	X		
	Report Format	X		
	Report Content	X		
	Obtaining the Views of Responsible Officials	X		
	Report Distribution	X		
	Report Confidential or Sensitive Information	X		
	Discovery of Insufficient Evidence after Report Release	X		

Attachment B – Rating Definitions

"Pass" - A conclusion that the audit organization's system of quality control has been suitably designed and complied with to provide the audit organization with reasonable assurance of performing and reporting in conformity with professional standards and applicable legal and regulatory requirements in all material respects.

"Pass with Deficiencies" - A conclusion that the audit organization's system of quality control has been suitably designed and complied with to provide the audit organization with reasonable assurance of performing and reporting in conformity with professional standards and applicable legal and regulatory requirements in all material respects with the exception of a certain deficiency or deficiencies described in the report

"Fail" - A conclusion, based on the significant deficiencies described in the report, that the audit organization's system of quality control is not suitably designed to provide the audit organization with reasonable assurance of performing and reporting in conformity with professional standards and applicable legal and regulatory requirements in all material respects, or that the audit organization has not complied with its system of quality control to provide the audit organization with reasonable assurance of performing and reporting in conformity with professional standards and applicable legal and regulatory requirements in all material respects.

ATTACHMENT C – SURVEY RESULTS

Survey Question #	Applicable Standards Area	Statement	Percent Strongly Agree	Percent Agree	Percent Disagree	Percent Strongly Disagree	Percent Don't Know	Total
1	Foundation and Principles	District audits promote accountability and transparency by providing reliable, useful, and timely information	94	6				100
2	Foundation and Principles	Audits are performed to improve performance and operations, reduce costs where applicable, and to facilitate decision making by management and the Board	83	6	11			100
3	Foundation and Principles	Depending on the audit objectives, audits often address one or more of the following: program efficiency and results, internal controls, compliance with applicable laws, rules, and regulations, and policy and/or procedure.	94	6				100
4	Ethics, Independence and Judgement	Ethical principles demonstrated by the IG include: integrity, objectivity, proper use of government information, professional behavior, and serving the public trust	100					100
5	Ethics, Independence and Judgement	District audits promote accountability and transparency by providing reliable, useful, and timely information	83	11	6			100
6	Ethics, Independence and Judgement	Professional judgement is demonstrated in planning and conducting audits and reporting the results	78	22				100
7	Competence	Audit services are provided with competence, integrity, objectivity, and independence	94	6				100
8	Competence	The District Inspector General demonstrates the technical knowledge, skills, and abilities for each audit performed	89	11				100
9	Fieldwork	When beginning an audit, the IG discusses the audit plan to include the audit scope (time period) objectives (purpose of the audit) and methodology (the criteria and process to be followed) for the audit.	78	22				100

10	Fieldwork	In planning the audit, the IG is open to additional thoughts, suggestions, and questions about the audit	78	22				100
11	Fieldwork	Audit conclusions are supported by valid, accurate, appropriate, and complete documentation	89	11				100
12	Fieldwork	The IG demonstrates an adequate understanding of internal controls	89	11				100
13	Fieldwork	The IG demonstrates an adequate understanding of laws, rules and regulations, contracts and agreements applicable to the District	78	22				100
14	Fieldwork	The IG demonstrates an adequate understanding of information systems (note: the IG is not expected to be an expert in information systems of have the knowledge of a person trained solely as an IT auditor - the IG should have general IT knowledge)	72	22			6	100
15	Fieldwork	The IG demonstrates an adequate understanding of fraud and/or abuse and is vigilant for issues that may be indicative of fraud and/or abuse	94	6				100
16	Reporting Standards	Audit reports adequately describe the scope, objectives, and methodology for audits performed	83	11			6	100
17	Reporting Standards	Issued reports generally meet the following quality elements: accurate, objective, complete, convincing, clear, concise, and timely	78	22				100
18	Reporting Standards	Reports are presented in an unbiased manner, with proper tone and context, impartially, and with fairness	78	22				100
19	Reporting Standards	The IG requests and takes into consideration managements views and responses to audit findings and conclusion included in issued reports	67	33				100
20	Reporting Standards	The IG makes efforts to assure reports are complete, objective, and fair.	89	11				100

21	Additional Comments	What are the strengths of the District Inspector General? What areas of responsibility would you like to see continued or expanded? What additional services would be helpful?	1.The IG at the District is transparent, proactive, collaborative, and diligent. He plays a critical role at the District and I lean on his deep expertise and experience to ensure our programs and finances are managed and monitored with the utmost integrity. 2. He is very knowledgeable of auditing standards and understands how to perform an audit and is respectful of people's time. He is a great resource to have when looking at internal controls and processes. 3. Brian is kind even when delivering a tough message. He asks questions that prompt identification of issues and developing of solutions. He is exceptionally thorough in audits and investigations. I would like to see consultive opportunities where open dialogue could be had on questions or concerns without fear of prompting further investigation. Understanding his obligation as IG is to investigate issues that become known to him, perhaps some education on how to approach him with said dialogue would be helpful. 4. Our Inspector General is extremely helpful and I rely on him to bounce things off of. He is a great resource to make sure we are doing things correctly from an audit perspective. He is very conscientious of maintaining his independence and is very professional in completing his audits. He makes staff feel comfortable in responding to and working through an audit and is always respectful of their time. 5. The District's IG is very knowledgeable of laws, regulations, policies, and procedures. He has a great understanding of audit process and practices. He also displays great insight into how situations will be interpreted by other auditors, such as the State Auditors.
22	Additional Comments	What are enhancement opportunities for the audit function? What things would you like to see the function stop doing?	1. The audit function is currently operating at a high level of effectiveness. I recommend maintaining the existing operational balance, as the current level of engagement and oversight is appropriate and effective. 2. An enhancement opportunity would be to provide training for District staff at all levels regarding the types of audits that are performed and how important internal controls are. 3. Evaluation of District Policies and Procedures for value added obligations (controls) and those that may not be value added resulting in efficiency and risk. No comments on functions that should be stopped.
23	Additional Comments	Please provide any additional comments on the quality of the audit function and Inspector General	1.Mr. Werthmiller brings a high level of quality and leadership to the District in his role as Inspector General. Having worked with numerous auditors throughout my career, I find Brian to be exceptionally effective. The Governing Board is fortunate to have Mr. Werthmiller in this role, and his function is vital to the District's success. 2. I'm thankful Brian is our IG. He is very thorough but fair with his audits. He also is very helpful in identifying issues that help us avoid potential audit findings by outside Agencies. He does a great job.

Attachment D – Stakeholders Interviewed

- Brian Armstrong – Executive Director
- John Mitten – Governing Board, Chair

In addition, surveys were distributed to and subsequently returned by the following stakeholders at the Board and senior management level

- Jack Bispham – Governing Board
- Kelly Rice – Governing Board
- Michelle Williamson – Governing Board
- Brian Armstrong – Executive Director
- Chris Tumminia – General Counsel
- Mandi Rice – Assistant Executive Director
- Michelle Hopkins – Regulation Division
- Jennette Seachrist – Resource Management Division
- Michelle Weaver – Employee Outreach and General Services
- Brandon Baldwin – Business and Information Technology Services
- Brian Starford – Operations, Lands and Resource Monitoring
- Dave Kramer – Environmental Resources Permit
- Jay Hoecker – Water Resources
- Dave Dickens – General Services
- Robyn Felix – Communications and Board Services
- Tom Hughes – Information Technology Bureau
- Melissa Lowe – Finance Bureau
- Jerry Mallams – Operations

Attachment E – External Assessor Qualifications

Sam M. McCall, PhD, CPA, CIA, CGAP, CGFM, CIG

Sam McCall has worked in government for almost 57 years. He is currently working part-time as the Director of Assurance and Consulting for Law Redd Crona, and Munroe, CPAs and also performing additional work outside the firm as Sam M McCall, CPA. In May 2022, Sam completed nine years of service at Florida State University as Chief Audit Officer. Prior to joining FSU, Sam was City Auditor for the City of Tallahassee for 13 years and prior to that Deputy Auditor General for 13 of his 30 years in state government. He has served on the Comptroller General of the United States Advisory Council on Government Auditing Standards, the Institute of Internal Auditors (IIA) International Internal Auditing Standards Board, and the Governmental Accounting Standards Board Advisory Council. He is past National President of the Association of Government Accountants and received their Robert W. King Memorial Award and the National Intergovernmental Audit Forum David M. Walker Excellence in Government Performance and Accountability Award. In 2014, the IIA inducted Sam into the IIA American Hall of Distinguished Audit Practitioners and the IIA named Sam as one of the Top 15 Most Influential Government Auditing Professionals. That year the Association of Government Accountants also recognized Sam as their National Educator of the Year. In 2015, the Northwest Florida State College named Sam as the 2015 Alumnus of the year. In 2016 Sam was nationally recognized by the American Institute of Certified Public Accountants with their Outstanding CPA in Government Career Contribution Award. In December 2016, Sam completed a five-year appointment as a member of the Federal Accounting Standards Advisory Board that establishes GAAP for the federal government. In 2017, the FSU Office of Inspector General Services was recognized by the Florida Commission on Law Enforcement Accreditation as the first State University to receive such accreditation. From 2017 to 2019, Sam was selected to serve as Chair of SUAC (the State University Audit Council). In 2022, the Association of College and University Auditors recognized Sam with their Outstanding Professional Contribution Award. Lastly, in May 2023, Sam was approved by the Governor, State Attorney General, and the State Comptroller to serve on the three-person State Board of Administration Audit Committee upon the recommendation of the Attorney General. The SBA invest funds for the Florida Retirement System, the nation's fourth largest public pension program.

In terms of quality assurance reviews, while with the Auditor General, Sam participated in the National State Auditors Association QAR program and served as a team member for review of

the state audit function in Tennessee, team leader in North Carolina, and as the concurring reviewer (highest level) in South Carolina, Nevada, Arizona, California, and Hawaii. In the Florida Auditor General's Office, quality assurance reviews of state agency Offices of Inspectors General were under his supervision for several years. While at the City of Tallahassee and at FSU, quality assurance reviews of his Office consistently received "pass/generally conforms" assessments (the highest level) by external independent quality review teams. While at the City of Tallahassee, the Office of the City Auditor was the first city in the nation to receive a successful QAR under both Government Auditing Standards and the Standards for the Professional Practice of Internal Auditing issued by the Institute of Internal Auditors.

Item 3.4

FINANCE/OUTREACH & PLANNING COMMITTEE

May 19, 2026

Submit & File: Information Item: Budget Transfer Report

Purpose
Provide the Budget Transfer Report covering all budget transfers made during the month of April 2026.

Background
In accordance with Board Policy, *Budget Authority Transfer of Funds*, all transfers approved by the Executive Director and Finance Bureau Chief under delegated authority are presented to the Finance/Outreach & Planning Committee of the Governing Board as a Submit and File Report at the next regular scheduled meeting. The exhibit for this item reflects all such transfers executed during the month of April 2026.

Exhibit
Budget Transfer Report

Staff Recommendation:
This item is for the Board's information only, and no action is required.

Presenter:
Melisa J. Lowe, Bureau Chief, Finance Bureau

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
Budget Transfer Report
April 2026

Item No.	--- TRANSFERRED FROM --- Bureau / Expenditure Category	--- TRANSFERRED TO --- Bureau / Expenditure Category	Reason for Transfer	Transfer Amount
Change from Original Budget Intent				
1	Data Collection Salaries	Procurement Temp Contracted Services	Transfer of funds originally budgeted for the salary of a Hydrogeologist in the Geohydrologic Data Section. The funds are no longer required due to challenges in backfilling the position. The funds are required to secure temporary staffing for the Procurement Services Office to maintain consistent service levels which is essential for operational continuity while staff are out on extended leave.	$ 31,003.00
2	General Services Consultant Services	General Services Equipment - Outside	Transfer of funds originally budgeted for engineering services to fulfill special requests associated with District facilities. Expenditures will be less than anticipated for the fiscal year. The funds are required to replace an ice maker that is in place for field staff. The unit is more than 20 years old, no longer operating and is not repairable.	9,974.00
			Total Change from Original Budget Intent	**$ 40,977.00**
Consistent with Original Budget Intent				
1	Engineering and Project Management Capitalized - Contracted Construction	Engineering and Project Management Capitalized - Contracted Construction	Funds are needed for the original budgeted purpose for the implementation of the Cathodic Protection System at Structure S-160. The completed project has prior year expenditures eligible for reimbursement through a Department of Environmental Protection grant. The funds are being transferred for the appropriate accounting of reimbursable expenditures.	$ 66,621.57
2	Natural Systems & Restoration Contracted Construction	Natural Systems & Restoration Miscellaneous Permits & Fees	Funds are needed for the original budgeted purpose for the Cape Haze Ecosystem Restoration project. The funds are being transferred for the appropriate accounting of Florida Fish and Wildlife permit fees to relocate gopher tortoises within and adjacent to the restoration project construction limits.	8,473.00
			Total Consistent with Original Budget Intent	**$ 75,094.57**
			Total Amount Transferred	**$ 116,071.57**

This report identifies transfers made during the month that did not require advance Governing Board approval. These transfers have been approved by either the Executive Director, or designee, or the Finance Bureau Chief consistent with Budget Authority Transfer of Funds Board Policy, and are presented to the Governing Board as a Submit and File Report. This Board Policy limits transfers made for a purpose other than the original budget intent to $75,000. However, transfers made for accounting reallocation purposes consistent with original budget intent are not limited.

Governing Board Meeting

May 19, 2026

4. OPERATIONS, LANDS & RESOURCE MONITORING COMMITTEE

OPERATIONS, LANDS & RESOURCE MONITORING COMMITTEE

May 19, 2026

Discussion: Consent Item(s) Moved to Discussion

Presenter:
Brian S. Starford, P.G., Division Director, Operations, Lands and Resource Monitoring Division

OPERATIONS, LANDS & RESOURCE MONITORING COMMITTEE

May 19, 2026

Discussion: Action Item: Surplus Lands 2026 Biennial Assessment

Purpose

To request the Governing Board accept the 2026 Surplus Lands Biennial Assessment, conducted in accordance with Governing Board Policy, and approve the removal of the surplus designation from one (1) parcel, SWF Parcel No. 13-001-741S, previously declared in 2013. Approval of this action requires a two thirds majority vote. No new parcels are recommended for surplus designation.

Background/History

Per Florida Statutes and District Policy, use of the proceeds from the sale of surplus lands is restricted to certain purposes, such as purchasing lands or interests in land for flood control, water storage, water management, conservation, protection of water resources, aquifer recharge, water resource and water supply development, and preservation of wetlands, streams, and lakes, or payment of debt service on revenue bonds or notes issued under Section 373.584, Florida Statutes.

The Governing Board Policy Sale, Exchange, or Conveyance of Interest in Land by the District states that “the Governing Board will review the District’s landholdings on a biennial basis to identify lands appropriate to surplus”. The first surplus assessment was conducted in 2011 by the Governing Board’s Surplus Lands Subcommittee, and to date a total of 7 evaluations have been completed. As a result, the Governing Board has declared approximately 5,280 acres as surplus. Following the 2023 Surplus Assessment, the Governing Board directed staff to perform a further assessment during Fiscal Year 2024 of approximately 44,672 acres, owned in fee simple, which 1) were not jointly owned or cooperatively purchased, 2) were not within a Basin Management Action plan (BMAP), 3) were not project lands or lands that contain flood control structures or flood detention areas, 4) were not subject to encumbrances such as Land Use Agreements for cooperative management, and 5) Were not within any Wildlife Management Areas (WMA’s). As a result of the assessment, no additional land was identified for surplus recommendation.

In January 2026, staff began the scheduled biennial review of the District’s landholdings, focusing on the same 44,672 acres of District fee landholdings to identify lands that no longer meet the original acquisition purposes or do not provide substantive water resource benefits.

Staff followed a specific internal process designed to thoroughly review existing landholdings. First, an initial assessment was conducted of existing landholdings and their contribution to the District’s four (4) AORs. Landholdings were then further evaluated to determine if they should be sold and protected with a less-than-fee interest such as a conservation easement. After the initial assessment of the District’s existing landholdings, staff did not identify additional parcels appropriate for surplus.

Land Resources staff are requesting that one (1) parcel which was previously declared surplus have the surplus designation removed. The Tampa Bypass Canal (TBC) – 16, SWF Parcel No. 13-001-741S, parcel is approximately 1.59 acres and declared surplus in 2013. This parcel has been identified for potential future use by the District for staging equipment or storing dredge material associated with maintenance of the TBC. Also, the parcel has limited development potential and therefore limited marketability. A site map of TBC-16 is found in Exhibit 1.

Benefits/Costs
Periodic evaluation of the District's fee landholdings for potential surplus opportunities is fiscally responsible and provides a method for funding additional land purchases that better meet the District's mission and AORs.

Strategic Plan
This item supports the District's Strategic Plan Land Management Core Business Process.

Exhibit
2026 Biennial Surplus Assessment

Staff Recommendation:

- Accept the 2026 Surplus Lands Biennial Assessment conducted in accordance with Governing Board Policy.
- Approve, by a two-thirds majority vote, removal of the declaration of surplus for TBC-16.

Presenter:
Ellen Morrison, Bureau Chief, Land Resources Bureau

May 19, 2026

Surplus Lands

2026 BIENNIAL ASSESSMENT

Southwest Florida
Water Management District

Surplus Lands 2026 Biennial Assessment

In 2011, at the direction of the Governing Board, the District began a regular assessment of its landholdings to determine surplus opportunities. In 2015, the Governing Board amended its policy (Policy) *Sale, Exchange, or Conveyance of Interest in Lands by the District* to require this assessment to occur on a biennial basis. To date, staff have undertaken seven (7) assessments of District landholdings that have resulted in the Governing Board declaring approximately 5,280 acres for surplus or transfer/exchange to another governmental entity. Surplus Lands activities are reported monthly to the Governing Board.

Per Florida Statutes and District Policy, use of the proceeds from the sale of surplus lands is restricted to certain purposes, such as purchasing lands or interests in land for flood control, water storage, water management, conservation, protection of water resources, aquifer recharge, water resource and water supply development, and preservation of wetlands, streams, and lakes, or payment of debt service on revenue bonds or notes issued under Section 373.584, Florida Statutes.

In addition to District fee landholdings being assessed for potential surplus on a biennial basis, surplus assessment opportunities are also conducted during the acquisition process. If an acquisition includes land that does not meet conservation or other needs of the District, staff will recommend it be declared surplus at the time of acquisition. In general, staff work to ensure that the District's landholdings are limited to lands that significantly meet at least two (2) of the District's four (4) Areas of Responsibility (AORs): water supply, water quality, flood protection, and natural systems.

In January 2026, staff began the scheduled biennial review of District fee landholdings to identify lands that no longer meet the original acquisition purposes or do not provide substantive water resource benefits. The parcels evaluated were not jointly owned or cooperatively purchased, within a Basin Management Action plan (BMAP), project lands or lands that contain flood control structures or flood detention areas, or subject to encumbrances such as Land Use Agreements for cooperative management, Wildlife Management Areas (WMA's), or Perpetual Easements

Staff follow a specific internal process designed to thoroughly review existing landholdings. First, an initial assessment is conducted of existing landholdings and their contribution to the District's four (4) AORs. Landholdings are then further evaluated to determine if they should be sold and protected with a less-than-fee interest such as a conservation easement. After the initial assessment of the District's existing landholdings, staff did not identify additional parcels appropriate for surplus.

2026 Surplus Lands Biennial Assessment Results

Parcels Recommended for Surplus Declaration			
Surplus ID	**Property**	**Acreage**	**Recommended Conditions**
N/A	N/A	N/A	N/A

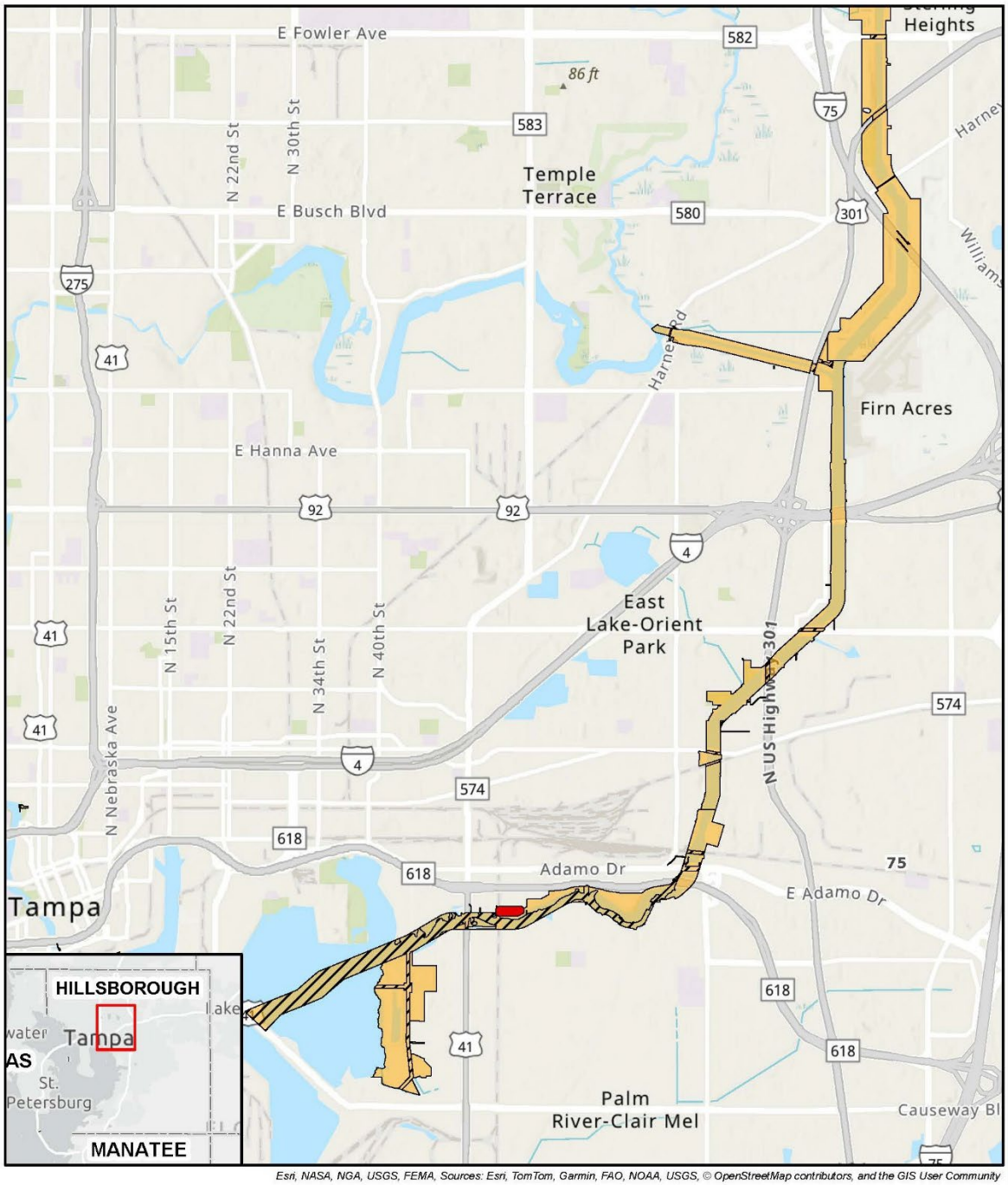
Finally, Land Resources staff are requesting that one (1) parcel which was previously declared surplus have the surplus designation removed. The Tampa Bypass Canal (TBC) – 16, SWF Parcel No. 13-001-741S, parcel is approximately 1.59 acres and declared surplus in 2013. The

parcel has been identified for potential future use by the District for staging equipment or storing dredge material associated with the maintenance of the TBC. Also, the parcel has limited development potential and therefore limited marketability.

The following maps depict the TBC-16 parcel currently being recommended for removal of the surplus declaration.

Parcels Recommended for Removal of Surplus Declaration			
Surplus ID	**Property**	**Acreage**	**Recommended Conditions**
TBC-16	Tampa Bypass Canal	1.59	Remove surplus declaration

Tampa Bypass Canal
SWF Parcel No. 13-001-741S, Surplus ID TBC-16 Location Map



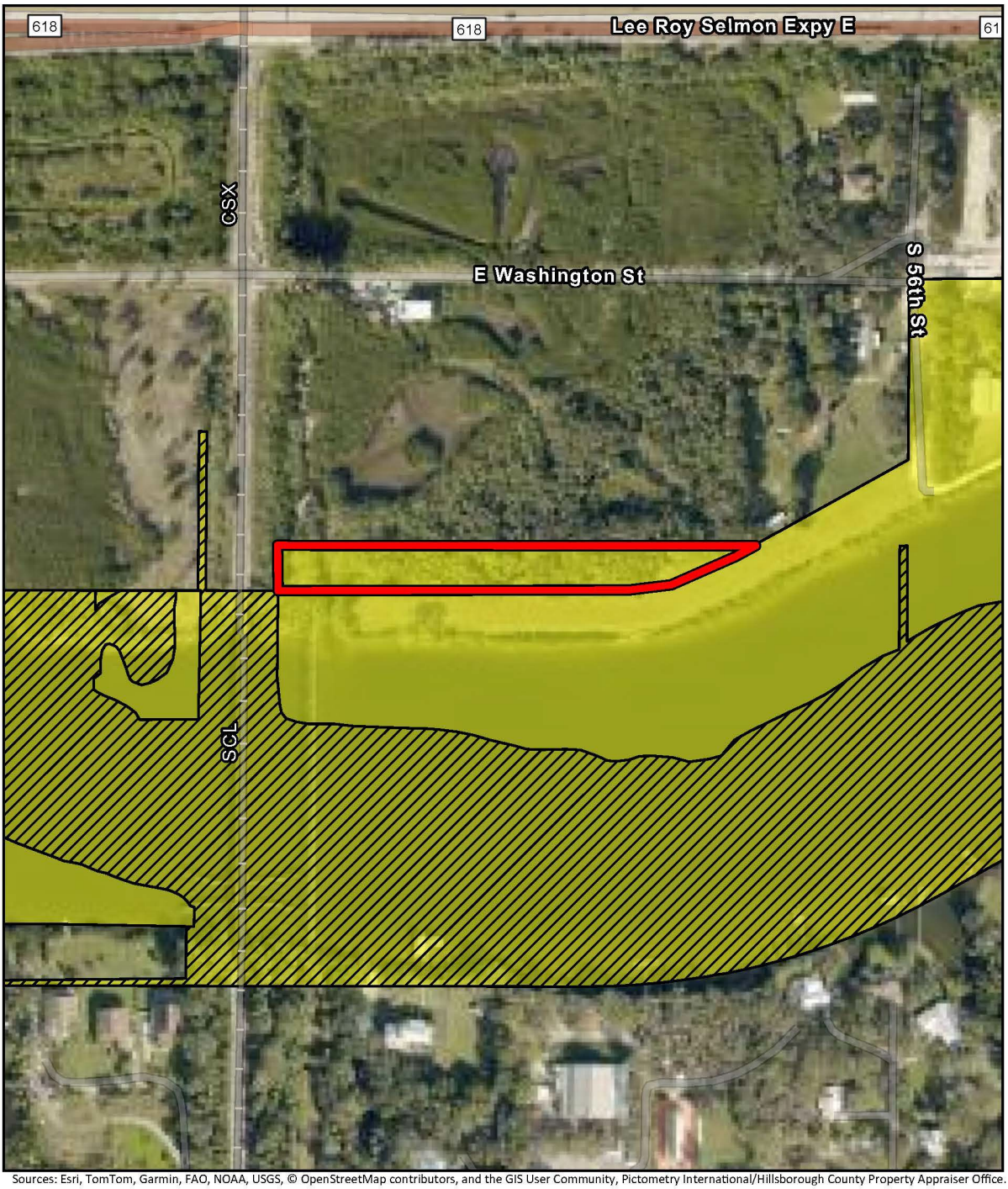
Surplus ID TBC-16 (SWF# 13-001-741S)
District Owned Lands Fee Simple
District Owned Land Easements

0 0.5 1
Miles

N

Southwest Florida Water Management District

Tampa Bypass Canal
SWF Parcel No. 13-001-741S, Surplus ID TBC-16 Site Map



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Pictometry International/Hillsborough County Property Appraiser Office.

Surplus ID TBC-16 (SWF# 13-001-741S)
District Owned Lands Fee Simple
District Owned Land Easements

0 150 300
Feet

N

Southwest Florida Water Management District

OPERATIONS, LANDS & RESOURCE MONITORING COMMITTEE

May 19, 2026

Discussion: Information Item: Hydrologic Conditions Report

- April marks the seventh month of the eight-month dry season (October through May). Rainfall has been scattered, below average, regionally variable, and associated with seasonally transitional weather systems (i.e., lessening cold fronts; increasing sea breeze/convective rainstorms) intermixed with high pressure and drier air conditions.
- **Rainfall:** Provisional (Apr. 1-28) rainfall totals are below normal in the northern counties, while they are within the normal range in the central and southern counties. The Districtwide 12-month cumulative rainfall deficit has improved and shows a monthly deficit of 11.39 inches below the long-term historical average.
- **Streamflow:** Provisional (Apr. 1-27) streamflow has decreased at nine of 12 monitoring stations, while flow has increased at three stations, compared to last month. Eight stations report normal flow, one station reports below-normal flow, while three report much-below-normal flow. Regional streamflow, based on three index rivers, is much below normal in the northern counties, while within the normal range in the central and southern counties.
- **Groundwater**: Provisional (Apr. 1-26) regional aquifer-level percentiles have increased in all three regions of the District, compared to last month. Regional aquifer-level percentiles are below normal in the northern counties, while within the normal range in the central and southern counties.
- **Lake Levels:** Provisional (Apr. 1-27) regional lake levels have declined in all four lake regions of the District, compared to last month. Average lake levels are below normal in the Northern, Tampa Bay and Lake Wales Ridge regions, while within the normal range in the Polk Uplands Region.
- **Overall:** April has been another below-average rainfall month, to date, with regional hydrologic indicators showing mixed (i.e., some increases and decreases) responses due to the spatial variability of the rainfall and areas of lingering dry conditions. The National Oceanic and Atmospheric Administration (NOAA) predicts above-normal rainfall Districtwide from May through July with most rainfall occurring after May. Consistent above average rainfall is needed to improve overall hydrologic conditions. Wildfire risk is considered “moderate” throughout the District.

Strategic Plan
District’s Strategic Plan Water Resources Planning and Monitoring Core Business Process

Exhibit
None.

Staff Recommendation:
This item is for the Board's information only, and no action is required.

Presenter:
Tamera McBride, Hydrologic Data Manager, Data Collection Bureau

Governing Board Meeting

May 19, 2026

5. RESOURCE MANAGEMENT COMMITTEE

RESOURCE MANAGEMENT COMMITTEE

May 19, 2026

Discussion: Consent Item(s) Moved to Discussion

Presenter:
Jennette M. Seachrist, P.E., Division Director, Resource Management Division

Governing Board Meeting

May 19, 2026

6. REGULATION COMMITTEE

REGULATION COMMITTEE

May 19, 2026

Discussion: Consent Item(s) Moved to Discussion

Presenter:
Michelle Hopkins, P.E., Division Director, Regulation Division

Governing Board Meeting
May 19, 2026

7. GENERAL COUNSEL'S REPORT

GENERAL COUNSEL'S REPORT

May 19, 2026

Discussion: Consent Item(s) Moved to Discussion

Presenter:
Christopher A. Tumminia, General Counsel, Office of General Counsel

GENERAL COUNSEL'S REPORT

May 19, 2026

Discussion: Action Item: Consideration of Final Order – Polk Regional Water Cooperative v. Tampa Bay Water and Southwest Florida Water Management District (and Mosaic Fertilizer, LLC (Intervenor) – Water Use Permit No. 20011794.003 – Division of Administrative Hearings Case No. 25-5480

On July 22, 2025, the District approved Tampa Bay Water's (TBW) application for Water Use Permit No. 200111794.003 (Permit), authorizing the modification of an existing permit to increase the allowable withdrawal from the Alafia River to 19% of the available flow up to 75 million gallons per day. On September 29, 2025, the Polk Regional Water Cooperative (PRWC) filed a petition for administrative hearing challenging the District's issuance of the Permit. On October 14, 2025, the District referred the petition to the Division of Administrative Hearings to conduct formal administrative proceedings related to the permit challenge. Mosaic Fertilizer, LLC, was authorized to intervene in the proceeding on February 11, 2026.

On February 12, 2026, mediation resulted in an agreement in principle to resolve the case. The parties jointly moved for, and were granted, an abeyance of the DOAH proceeding until April 22, 2026, to allow time for final negotiations. According to the final settlement agreement, the parties have agreed on the following changes to the Permit:

- The original expiration date of July 22, 2032, will be modified and replaced with May 19, 2040.
- A new special condition will be added to provide that the Permit will be modified to reduce the allowable withdrawal from 19% to no less than 14% if the PRWC meets certain conditions and applies for a water use permit to utilize up to 5% of the available flow from the Alafia River before a certain date.
- Minor clarifications and technical changes to improve clarity.

Following execution of the settlement agreement on April 20, 2026, TBW joined with the District and the PRWC in requesting that the Administrative Law Judge (ALJ) relinquish jurisdiction to the District for the issuance of the Proposed Permit. The ALJ granted the motion on April 22, 2026.

The proposed Final Order includes a copy of the Proposed Permit that will be issued to TBW upon approval of the Final Order. The Governing Board's entry of the Final Order will also dismiss the petitions and close the case.

Strategic Plan
This item supports the Strategic Initiative for Programs, Projects, and Regulations, and Core Business Process for Regulation as described in the District's Strategic Plan.

Exhibit
Final Order

Staff Recommendation:

- Approve and enter the Final Order.
- Authorize the General Counsel to execute all documents necessary to implement the Settlement Agreement and to make minor clarifying or technical revisions as needed to correct errors or ensure consistency with the terms of the Agreement.

Presenter:

Christopher A. Tumminia, General Counsel, Office of General Counsel

BEFORE THE GOVERNING BOARD OF THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

ORDER NO. SWF 26-014

POLK REGIONAL WATER COOPERATIVE,

Petitioner,

DOAH Case No. 25-005480

vs.

TAMPA BAY WATER, and SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT,

Respondents,

and

MOSAIC FERTILIZER, LLC,

Intervenor.
_____/

FINAL ORDER

THIS CAUSE was heard by the Governing Board of the Southwest Florida Water Management District ("District") pursuant to Sections 120.57(1)(i) and Chapter 373, Part II, Florida Statutes ("F.S.") and the rules promulgated thereunder in Chapter 40D-2, Florida Administrative Code ("F.A.C.") for the purpose of issuing a final order in the above-styled proceeding.

FINDINGS OF FACT

1. On May 22, 2025, Tampa Bay Water ("TBW") submitted Water Use Permit Application No. 20011794.003 (the "Application") to the District seeking a modification of Water Use Permit No. 20011794.002. The Application requested an increase in surface water withdrawals from the Alafia River from the permitted 10% of available flows above

the minimum flow threshold to 19% of available flows above that threshold, for public supply use. The Application did not request an extension in permit duration.

2. The District evaluated the Application in accordance with Chapter 373, Part II, F.S., and the rules promulgated thereunder in Chapter 40D-2, F.A.C.

3. On July 22, 2025, the District issued a Notice of Final Agency Action approving the Application and issuing Water Use Permit 20011794.003 ("Permit"). Also, on July 22, 2025, the Polk Regional Water Cooperative ("Petitioner") filed a motion with the District to extend the time to file a petition for an administrative hearing to September 30, 2025. That motion was granted by order dated July 29, 2025.

4. On September 29, 2025, Petitioner filed its Petition for Formal Administrative Hearing with the District challenging the District's intent to issue the Permit to TBW ("Petition").

5. On October 14, 2025, the Petition was referred to the Division of Administrative Hearings ("DOAH") for further proceedings. Thereafter, on January 28, 2026, the Petitioner filed a motion seeking leave to amend its Petition, attaching its proposed amended petition to the motion ("Amended Petition"). By order dated February 8, 2026, leave to amend was granted, and the Petitioner's amended petition was accepted by the Administrative Law Judge as establishing the disputed issues in the case.

6. On February 4, 2026, Mosaic Fertilizer, LLC, filed a Notice of Appearance or in the Alternative Motion to Intervene, which was granted by the Administrative Law Judge on February 11, 2026.

7. Before the final hearing, the Petitioner and the Respondents entered into a Notice of Change of Agency Action and Settlement and Coordination Agreement to

resolve the issues raised in the Petition (the “Settlement Agreement”). Pursuant to Section VII.a. of the Settlement Agreement, the Parties agreed to modifications of the Permit (the “Proposed Permit”) as described in Exhibit A attached to the Settlement Agreement.

8. The Permit is only modified to extend the expiration date from November 27, 2032, to April 28, 2040, and to add additional language to Special Condition 9 consistent with the Settlement Agreement. Special Condition 9 of the Permit authorizes Tampa Bay Water’s withdrawals from the Alafia River pursuant to a flow-based diversion schedule, under which authorized withdrawal quantities are determined by measured streamflow at a designated reference gage and are subject to minimum flow thresholds below which withdrawals are not permitted (“Authorized Withdrawals”). The Authorized Withdrawals shall be protected from interference pursuant to Section 373.223(1)(b), F.S., Section 3.7 of the SWFWMD Applicant’s Handbook Part B, and any subsequent amendments thereto. A copy of the Proposed Permit is attached hereto and incorporated herein by reference as Exhibit “A.”

9. On April 22, 2026, the Petitioner, TBW, and District (the “Parties”) jointly moved for the entry of an order relinquishing jurisdiction of the matter from DOAH back to the District and closing the file with DOAH. The Administrative Law Judge granted this motion on April 22, 2026, and jurisdiction was relinquished back to the District.

10. This matter then came before the District for review of the Proposed Permit and resolution of the Petitions.

11. District staff reviewed the proposed revisions to the Permit and determined that the Proposed Permit, as revised, meets the criteria for issuance of a water use permit

established in Chapter 373, Part II, F.S., and Chapter 40D-2, F.A.C.

CONCLUSIONS OF LAW

12. The District has jurisdiction over the Parties and the subject matter of this proceeding pursuant to Section 120.57(1)(i) and Chapter 373, Part II, F.S., following the Administrative Law Judge's order relinquishing jurisdiction of this matter to the District.

13. The scope of the District's authority over this matter is to determine whether additional proceedings are required to arrive at final agency action. *See* § 120.57(1)(i), F.S. (stating "If the administrative law judge enters an order relinquishing jurisdiction, the agency may promptly conduct a proceeding pursuant to [Section 120.57(2), F.S.], if appropriate").

14. If additional proceedings are not required, the District may close this administrative proceeding by entering a final order. *See* § 120.57(4), F.S.

15. The disputed material facts in this matter were resolved via the Parties' settlement agreement. Therefore, any additional administrative proceeding is unnecessary and inappropriate. The purpose of a Chapter 120, F.S., administrative proceeding is to formulate final agency action. *See Young v. Dep't of Community Affairs*, 625 So. 2d 831, 833 (Fla. 1993) (quoting *McDonald v. Dep't of Banking & Fin.*, 346 So. 2d 569, 584 (Fla. 1st DCA 1977). The resolution of all disputed material facts obviates the need to conduct an additional administrative proceeding to formulate final agency action.

16. Therefore, the District has reviewed the Proposed Permit and determined that it meets the criteria for issuance of a water use permit established in Chapter 373, Part II, F.S., and Chapter 40D-2, F.A.C.

STATEMENT OF THE ORDER

Based upon the foregoing Findings of Fact and Conclusions of Law, **IT IS ORDERED**:

1. The Amended Petition for Administrative Hearing filed by the Polk Regional Water Cooperative and the Notice of Appearance or in the Alternative Motion to Intervene filed by Mosaic Fertilizer, LLC, are **DISMISSED WITH PREJUDICE**.

2. The Proposed Permit attached as Exhibit "A" is approved, and Water Use Permit No. 20011794.003 is **ISSUED.**

DONE AND ORDERED on May 19, 2026, in Tampa, Florida.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Approved as to Legal Form and Content

_____
Chris Tumminia, Deputy General Counsel

By: _____
John Mitten, Chair

Attest: _____
Ashley Bell Barnett, Secretary

Filed this _____ day of May, 2026.

_____
Deputy Agency Clerk

NOTICE OF RIGHTS

In accordance with Section 120.569(1), F.S., a party who is adversely affected by final agency action may seek judicial review of the action in the appropriate District Court of Appeal pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, within thirty (30) days after the rendering of the final action by the District.

Copies furnished to:
Edward P. de la Parte, Jr., Esq.: Edelaparte@dgfirm.com
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Zachary L. Roper, Esq.: zroper@dgfirm.com
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Counsel for Tampa Bay Water

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Counsel for Mosaic Fertilizer, LLC

EXHIBIT A

Southwest Florida Water Management District

2379 Broad Street, Brooksville, Florida 34604-6899
(352) 796-7211 or 1-800-423-1476 (FL only)

WaterMatters.org

Bartow Office
170 Century Boulevard
Bartow, Florida 33830-7700
(863) 534-1448 or
1-800-492-7862 (FL only)

Sarasota Office
78 Sarasota Center Boulevard
Sarasota, Florida 34240-9770
(941) 377-3722 or
1-800-320-3503 (FL only)

Tampa Office
7601 U.S. 301 North (Fort King Highway)
Tampa, Florida 33637-6759
(813) 985-7481 or
1-800-836-0797 (FL only)

An Equal Opportunity Employer

July 22, 2025

Tampa Bay Water
Attn: Cathleen Beaudoin Jonas
2575 Enterprise Road
Clearwater, FL 33763

Subject: **Notice of Final Agency Action – Approval**
Water Use Permit No.: 20 011794.003
Project Name: Alafia River Withdrawal Facility
County: Hillsborough

Dear Sir/Madam:

The Southwest Florida Water Management District (District) is in receipt of your application for Water Use Permit No. 20 011794.003. Based upon a review of the information you submitted, the application was approved by the District's Governing Board. A copy of the permit is enclosed for your records. Please refer to the attached Notice of Rights to determine any legal rights you may have concerning the District's agency action on the permit application described in this letter.

The District's action in this matter only becomes closed to future legal challenges from members of the public if such persons have been properly notified of the District's action and no person objects to the District's action within the prescribed period of time following the notification. The District does not publish notices of agency action. If you wish to limit the time within which a person who does not receive actual written notice from the District may request an administrative hearing regarding this action, you are strongly encouraged to publish, at your own expense, a notice of agency action in the legal advertisement section of a newspaper of general circulation in the county or counties where the activity will occur. Publishing notice of agency action will close the window for filing a petition for hearing. Legal requirements and instructions for publishing notices of agency action, as well as a noticing form that can be used, are available from the District's website at www.WaterMatters.org/permits/noticing. If you publish notice of agency action, a copy of the affidavit of publication provided by the newspaper should be sent to the District's Tampa Service Office for retention in this permit's File of Record.

Please be advised that the Governing Board has formulated a water shortage plan referenced in a Standard Water Use Permit Condition (Exhibit A) of your permit, and will implement such a plan during periods of water shortage. You will be notified during a declared water shortage of any change in the conditions of your Permit or any suspension of your Permit, or of any restriction on your use of water for the duration of any declared water shortage. Please further note that water conservation is a condition of your Permit and should be practiced at all times.

The ID tags for your withdrawals shall be installed by a District representative. This representative will attempt to contact you within 30 days to discuss placement of your tags. If you have any questions or concerns regarding your tags, please contact Joseph Hagin at 813-278-7784 in the Tampa Service Office. If you have any questions or concerns regarding your permit or any other information, please contact the Water Use Permit Bureau in the Tampa Service Office.

Sincerely,

April Breton Electronically Signed

April Breton
Bureau Chief
Water Use Permit Bureau
Regulation Division

Encl: Permit
Notice of Rights

cc: Cathleen Beaudoin Jonas

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
WATER USE PERMIT
Individual PERMIT
NO. 20 011794.003

PERMIT ISSUE DATE:	**EXPIRATION DATE:**	**May [SW Board Mtg Date]__, 2040**
July 22, 2025		

The Permittee is responsible for submitting an application to renew this permit no sooner than one year prior to the expiration date, and no later than the end of the last business day before the expiration date, whether or not the Permittee receives prior notification by mail. Failure to submit a renewal application prior to the expiration date and continuing to withdraw water after the expiration date is a violation of Chapter 373, Florida Statutes, and Chapter 40D-2, Florida Administrative Code, and may result in a monetary penalty and/or loss of the right to use the water. Issuance of a renewal of this permit is contingent upon District approval.

TYPE OF APPLICATION: Modification

GRANTED TO: Tampa Bay Water/Attn: Cathleen Beaudoin Jonas
2575 Enterprise Road
Clearwater, FL 33763

PROJECT NAME: Tampa Bay Water Alafia River Project

WATER USE CAUTION AREA(S): SOUTHERN WATER USE CAUTION AREA

COUNTY: Hillsborough

TOTAL QUANTITIES AUTHORIZED UNDER THIS PERMIT (in gallons per day)	
ANNUAL AVERAGE	32,200,000 gpd *
MAXIMUM	75,000,000 gpd
ANNUAL AVERAGE	32,200,000 gpd *
MAXIMUM	[illegible]

* The actual quantities authorized under the permit are based on the flows in the Alafia River as described in Special Condition No. 9. The annual average quantity shown above is a projection based on Historical Flows.

ABSTRACT:

This is a modification of an existing water use permit for public supply and authorizes a maximum daily withdrawal of 75 mgd of water from the Alafia River. Actual withdrawals are not limited by the Annual Average quantity and instead will be based on withdrawals in accord with permit conditions including the percentage withdrawal schedule provided below, which is increased from the previous revision of 10% to 19% of the available flow above the Minimum Flow threshold. Tampa Bay Water is a regional utility that relies on multiple sources to meet demand, including the Alafia River Withdrawal Facility which has been developed for conjunctive use to meet regional demand, optimize wellfield withdrawals, and relieve associated environmental stresses. There is no change in Use Type from the previous revision. The Annual Average quantity is an estimate only of the long-term average yield. The Maximum Daily quantity represents maximum system pumping capacity.

TBW ALAFIA RIVER DIVERSION SCHEDULE

Permitted daily withdrawal	**When baseline flow for previous day is:**
No withdrawals	≤128 cfs (82.7 mgd)
All flow above 128 cfs (82.7 mgd)	>128 cfs (82.7 mgd) and ≤ 158 cfs (102.1 mgd)
19% of Flow, up to 116.1 cfs (75 mgd)	>158 cfs (102.1 mgd)
Permitted daily withdrawal	**When baseline flow for previous day is:**

Special Conditions include those that require the Permittee to submit the Annual Surface Water Withdrawal Report by July 1 of each year, monthly reporting of withdrawals, continued monitoring of river stage, streamflow and spring discharge. Report compliance with the Minimum Flow for the Alafia River, daily calculations of Baseline Flow and permitted withdrawal rates, and continued implementation of the Hydrobiological Monitoring Plan, with annual data and periodic interpretive reports also due by July 1 of each year.

USE TYPE

Regional Public
Supply System

WITHDRAWAL POINT QUANTITY TABLE

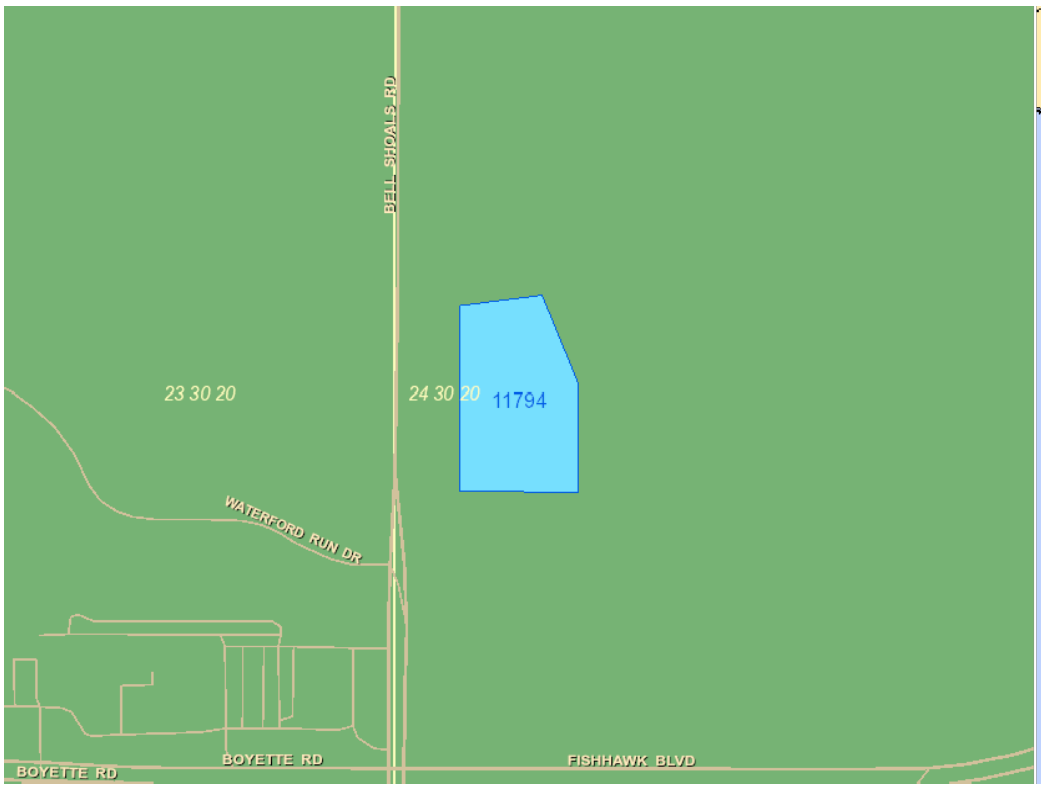
Water use from these withdrawal points are restricted to the quantities given below :

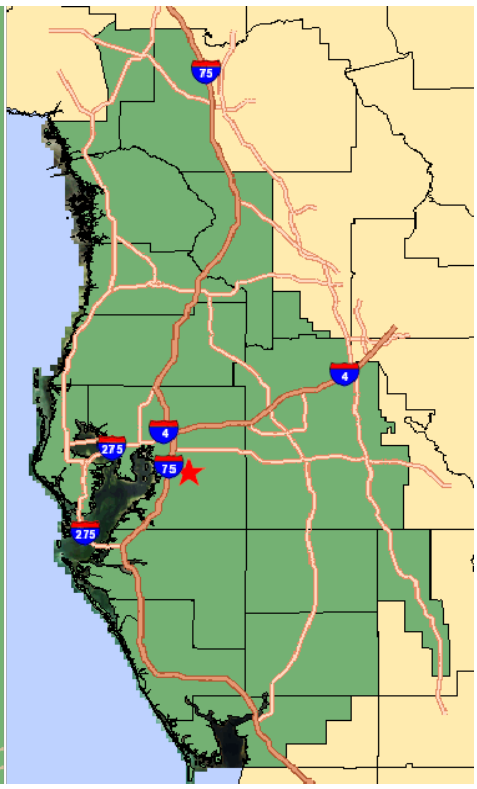
I.D. NO. / PERMITTEE/ DISTRICT	DIAM (in.)	DEPTH TTL./CSD.FT. (feet bls)	USE DESCRIPTION	AVERAGE (gpd)	PEAK MONTH (gpd)	MAXIMUM (gpd)
1 / 1	120	N/A / N/A	Public Supply	Per Special Cond. 9	Per Special Cond. 9	75,000,000

WITHDRAWAL POINT LOCATION TABLE

DISTRICT I.D. NO.	LATITUDE/LONGITUDE
1	27° 51' 25.74"/82° 16' 07.22"

Location Map
Tampa Bay Water/Attn: Cathleen Beaudoin Jonas
WUP No. 20 011794.003





Legend

DIDs

WUP Boundary

Natural Color Imagery

HILLSBOROUGH COUNTY

N
W
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Southwest Florida Water Management District

STANDARD CONDITIONS:

The Permittee shall comply with the Standard Conditions attached hereto, incorporated herein by reference as Exhibit A and made a part hereof.

SPECIAL CONDITIONS:

1. All reports and data required by condition(s) of the permit shall be submitted to the District according to the due date(s) contained in the specific condition. If the condition specifies that a District-supplied form is to be used, the Permittee should use that form in order for their submission to be acknowledged in a timely manner. The only alternative to this requirement is to use the District Permit Information Center (www.swfwmd.state.fl.us/permits/epermitting/) to submit data, plans or reports online. There are instructions at the District website on how to register to set up an account to do so. If the report or
data is received on or before the tenth day of the month following data collection, it shall be deemed as a timely submittal.

   All mailed reports and data are to be sent to:

   Southwest Florida Water Management District
   Tampa Service Office, Water Use Permit
   Bureau 7601 U.S. Hwy. 301 North
   Tampa, Florida 33637-6759

   Submission of plans and reports: Unless submitted online or otherwise indicated in the special condition, the original and two copies of each plan and report, such as conservation plans, environmental analyses, aquifer test results, per capita annual reports, etc. are required.

   Submission of data: Unless otherwise indicated in the special condition, an original (no copies) is required for data submittals such as crop report forms, meter readings and/or pumpage, rainfall, water level, evapotranspiration, or water quality data.

   (499)

2. The Annual Average Daily quantity for District ID No. 1, Permittee ID No. 1, shown in the Withdrawal Point Quantity Table, is an estimate only of the long-term average yield, and is not intended to restrict the withdrawal quantities authorized from the Alafia River. The quantities withdrawn from the Alafia River are limited by Special Conditions in this Permit and the Maximum Daily quantity of 75 MGD.(221)

3. The Permittee shall investigate complaints related to withdrawals. This condition shall be an ongoing effort for the duration of this permit. All complainants will make an application to the Permittee and must receive an investigation report, including any action to be taken within a reasonable time by the Permittee. The Permittee shall file a report of the complaint, the findings of facts, and any mitigation action taken or to be taken by the Permittee, to the Water Use Bureau Chief for review and approval within 90 days of the receipt of any complaint. The report shall include:

   a. The name and address of each complainant;
   b. The date and nature of the complaint;
   c. A summary of the Permittee's investigation;
   d. A summary of the Permittee's determination, including details of any mitigation activities; and
   e. Cost of mitigation activity for each complaint.

   Full mitigation shall not exceed 180 days from complaint receipt, unless additional time is granted by the District. A summary of the investigations of complaint and mitigation activities related to the Alafia River Withdrawal Facility for the annual reporting period shall be provided in the Annual Report.(448)

4. The Permittee shall submit a concise individual annual report ("Alafia River Surface Water Withdrawal Annual Report") to the District which compiles the data collected during the course of the year, by Special Condition of this permit and as part of the HBMP, and provides an assessment of the water resources and environmental systems in the area of the Alafia River. The Surface Water Withdrawal

Annual Report shall concisely summarize the elements listed below, and any other elements within this

permit which require annual environmental reporting, with emphasis on the interactions between these elements, where appropriate. Three hard copies of each Surface Water Withdrawal Annual Report, plus one copy in electronic format, shall be submitted to the Water Use Bureau Chief by July 1 of each year. The report shall cover the preceding water year from October 1 to September 30.

1. Hydrologic Data and Water Production Summary. Flow metering, stage, streamflow and spring discharge monitoring data collected as part of this permit shall be summarized. This section shall also include a summary of activities conducted to maintain accuracy of flow metering, and discussion as to how this facility is operated in compliance with the Tampa Bay Water Optimized Regional Operations Plan.
2. Environmental Conditions and HBMP Implementation. Data collected as part of the HBMP shall be summarized and analyzed by the Permittee to document any effects of surface water withdrawals on the Alafia River and its estuary. Each annual report will contain a HBMP data report of all raw data collected during the past year. A brief summary of any recommended changes to the monitoring requirements shall also be included. More comprehensive analyses for the HBMP shall be included in the HBMP Interpretive reports which shall be submitted every five years.
3. Investigation of Complaints. A summary of the investigations of all complaints concerning adverse impacts to existing legal users, land uses and environmental features, as well as all of the Permittee's efforts to mitigate such adverse impacts, shall be provided for each reporting period. (524)

5. This Permit is located within the Southern Water Use Caution Area (SWUCA). Pursuant to Section 373.0421, Florida Statutes, the SWUCA is subject to a minimum flows and levels recovery strategy, which became effective on January 1, 2007. The Governing Board may amend the recovery strategy, including amending applicable water use permitting rules based on an annual assessment of water resource criteria, cumulative water withdrawal impacts, and on a recurring five-year evaluation of the status of the recovery strategy up to the year 2025 as described in Chapter 40D-80, Florida Administrative Code. This Permit is subject to modification to comply with new rules.(652)

6. A. Flow Metering
Flow data recorded at the Alafia River intake structure pipeline shall represent the total surface water source pumpage for the Alafia River Withdrawal Facility. For flow monitoring points equipped with SCADA, the Permittee shall maintain the following for each flow monitoring point: one venturi-type flow meter or other approved flow meter, one non-resettable totalizing recording device at each monitoring point, and one remote transmitter unit that transfers the recorded flow data by telemetry to the remote SCADA master station. The SCADA master station flow data shall be recorded on a daily basis for each flow monitoring point and for the combined facility pumpage. For all SCADA-equipped monitoring points, the non-resettable totalizing recording device at each monitoring point shall be recorded on an annual basis, and reported in the Annual Report with a comparison to the SCADA-retrieved cumulative flow for each monitoring point. If and when any part of the facility becomes equipped with SCADA, the provisions of this paragraph shall apply.

The Permittee shall undertake regular and routine testing, calibration and preventive/corrective maintenance for all flow meters to ensure that they have and maintain an accuracy within 5 percent of actual flow as installed. Within 3 working days of identification of a meter that does not meet this standard, the Permittee shall inform the District in writing of the facts regarding the problem. Until the problem is corrected, flows through the metered point shall be estimated. The Permittee shall correct the problem within 15 days following identification of the problem, or discontinue use of the withdrawal until the problem is corrected, unless an extension is confirmed in writing from the Water Use Permit Bureau Chief. The Annual Report shall summarize activities conducted to maintain accuracy of flow metering.

B. Stage, Streamflow and Spring Discharge Monitoring
The Permittee shall monitor the average daily stage and estimated average daily flow for the Alafia River, and the average daily stage and spring discharge for Buckhorn and Lithia Springs at the sites and frequencies listed in Exhibit D. The sites listed in Exhibit D are currently monitored in accordance with the South Central Hillsborough Regional Wellfield (SCHRWF) and Brandon Urban Dispersed Wellfield (BUDWF) Water Use Permits (WUPs 4352 and 11732, respectively). The Permittee may utilize data obtained from the SCHRWF and BUDWF to satisfy the permit monitoring requirements for this condition. However, should monitoring at the sites listed in Exhibit D cease to be required under the SCHRWF and/or BUDWF WUPs, the Permittee shall be required to monitor the listed sites for this

permit, or establish new District-approved sites to replace the lost sites.

The sites listed in Exhibit D shall continue to be monitored and reported in accordance with the SCHRWF and BUDWF permits. Data from these sites shall not be reported for this permit as long as the data is submitted in support of the SCHRWF and BUDWF permits. For the purpose of this permit, data obtained from the listed sites during the annual reporting period shall be summarized in the Annual Report required by this permit. Any proposed changes to the recording frequency and locations shall be approved by the Water Use Permit Bureau Chief, and shall be summarized in the Annual Report as described in the applicable Special Condition.

(675)

7. The Permittee shall continue implementation of the Tampa Bypass Canal/Alafia River Water Supply Projects Hydrobiological Monitoring Plan 2010 Update (HBMP), dated February 2011 and as modified on 8/1/2012, which is incorporated herein as Exhibit C. Any proposed changes to the HBMP should be submitted in writing to the Water Use Permit Bureau Chief for review and approval.

   The HBMP includes an annual Data report due by July 1 each year, and periodic Interpretive reports on a five-year cycle with the next due by July 1, 2026. Upon completion of each five-year cycle of the HBMP, a draft Interpretive report shall be submitted to the District as part of the overall annual Data report. The District shall review and provide written comments within 45 days of the submittal of each draft Interpretive report. Final Interpretive reports shall be submitted by the Permittee within 90 days of receipt of District comments.

   The District will review the results of these reports to determine if the withdrawals have or are expected to result in unacceptable environmental impacts to the natural resources of the Alafia River and its estuary as addressed in Section 4 of the District's Basis of Review, Water Use Permit Information Manual, Part B. If unacceptable environmental impacts have or are expected to occur due to the withdrawals, then the District shall require a revision to the withdrawal schedule.(676)

8. The following withdrawal facilities shall continue to be maintained and operated with existing, non-resettable, totalizing flow meter(s) or other measuring device(s) as approved by the Water Use Permit Bureau Chief:

   District ID No. 1, Permittee ID No. 1 (Alafia River Withdrawal Facility intake near Bell Shoals Road)
   District ID No. 2, Permittee ID No. ALF-2 (Influent meter into the Regional Water Treatment Plant from all sources)

   Meter reading and reporting, as well as meter accuracy checks every five years shall be in accordance with instructions in Exhibit B, Metering Instructions, attached to and made part of this permit.(719)

9. Surface water withdrawals at DID No.1 will be based on adjusted previous day’s average flow of the Alafia River at the "Alafia River at Lithia" gage (USGS Gage 02301500) combined with weekly measured flows at Buckhorn Springs and Lithia Springs Major. This will be referred to as Baseline Flow and shall be determined on a daily basis using the following formula:

   1. Average daily river flow as measured at the Lithia gage for the previous day shall be multiplied by a factor of 1.117, to account for additional watershed contributions between the gage and the Alafia River Withdrawal Facility intake.
   2. The most recent springflow measured at Buckhorn Springs and Lithia Springs Major shall be added to the product in Step One.
   3. The Annual Average Daily withdrawal of 5.06 MGD (approximately 8 cfs) permitted to upgradient existing legal user Mosaic (WUP 1532) shall be added to the sum in Step Two.
   4. The resulting quantity is the Baseline Flow for purposes of determining Tampa Bay Water's permitted daily withdrawal.

   Baseline Flow shall be calculated and recorded on a daily basis and reported to the Permit Data Section (using District approved forms) on or before the fifteenth (15th) day of the following month, as DID No. 110. The recordings shall include daily average water flow in million gallons per day (MGD), and daily average water flow in cubic feet per second (cfs).

The quantities withdrawn from the lower Alafia River by Tampa Bay Water are limited by the adopted Minimum Flow, delineated in Rule 40D-8.041(8), Florida Administrative Code, and the maximum diversion capacity, and are set forth as referenced below:
a. No diversion from the Alafia River may occur when the calculated Baseline Flow for the previous day is 128 cfs (82.7 mgd) or less, representing the Low Flow Threshold of 120 cfs plus the Annual Average Daily withdrawal of 8 cfs permitted to Mosaic;
b. For a calculated Baseline Flow between 128 cfs (82.7 mgd) and 158 cfs (102.1 mgd) for the previous day, the daily diversion is limited to the difference between the Baseline Flow and 128 cfs (82.7 mgd).
c. For a calculated Baseline Flow of 158 cfs (102.1 mgd) or greater for the previous day, the daily diversion is limited to 19% of the Baseline Flow.
d. The maximum diversion on any single day shall not exceed 75 MGD (116.1 cfs).

Potential Adjustment of Special Condition 9:

(i) Existing Legal User Status: After December 31, 2032, but before 2040, if the Polk Regional Water Cooperative (PRWC) submits a water use permit application to the District for the withdrawal of surface water from the North or South Prongs of the Alafia River for potable public water use solely for its members located in Polk County consistent with the Settlement and Coordination Agreement Between Polk Regional Water Cooperative, Tampa Bay Water, & Southwest Florida Water Management District (Settlement Agreement), Tampa Bay Waters's existing legal user status, as defined, in part, under condition 9.3. above, shall be limited to 14% of Baseline Flow, unless a different percentage is determined based on the Settlement Agreement for a prorata reduction.

(ii) Tampa Bay Water Alafia River Allocation Modification: After December 31, 2032, but before December 31, 2040, upon the request of PRWC, within thirty (30) days, Tampa Bay Water shall submit a letter to the District to modify its permit to limit its permitted withdrawal from the Lower Alafia River based on the following modified diversion schedule, to become effective upon actual commencement of the withdrawal of surface water for potable water use by the PRWC from the North or South Prongs of the Alafia River located in Polk County.

(iii) Modification or Deletion of Special Condition 9: Special Condition 9 may only be modified or deleted before the expiration date of this permit in 2040 if the PRWC accepts an Alternative Project as set forth in the Settlement Agreement, PRWC fails to determine an Alafia River project is feasible as set forth in the Settlement Agreement, or the parties to the Settlement and Coordination Agreement agree in writing otherwise.

1. No diversion from the Alafia River may occur when the calculated Baseline Flow for the previous day is 128 cfs (82.7 mgd) or less.

2. For a calculated Baseline Flow between 128 cfs (82.7 mgd) and 149 cfs (96.3 mgd) for the previous day, the daily diversion is limited to the difference between the Baseline Flow and 128 cfs (82.7 mgd).

3. For a calculated Baseline Flow of 149 cfs (96.3 mgd) or greater for the previous day, the daily diversion is limited to 14% of the Baseline Flow.

4. The maximum diversion on any single day shall not exceed 75 mgd (116.1 cfs). (990)

10. This permit and the facilities governed by the permit shall be operated in accordance with the Tampa Bay Water Optimized Regional Operations Plan, and all modifications thereof, as approved by the District.(991)

11. Total influent quantities delivered to the C.W. Bill Young Reservoir shall be calculated on a daily basis and reported to the District as District ID No. 4, Permittee ID No. RES INF by the fifteenth day of each month.(992)

12. The remedies for violation of this permit are cumulative. Thus, the pursuit of one remedy shall not preclude the pursuit of other remedies provided by this permit or by applicable law. The pursuit of any remedy provided in this permit or by applicable law shall not constitute a forfeiture or waiver of any other remedy. The waiver of one violation shall not be deemed a waiver of any other violation. Forbearance to enforce one or more of the remedies provided by this permit or by applicable law on

an event of violation shall not be deemed or construed to constitute a waiver of the right to any remedy for that violation.(995)

40D-2
Exhibit A

WATER USE PERMIT STANDARD CONDITIONS

1. With advance notice to the Permittee, District staff with proper identification shall have permission to enter, inspect, collect samples, take measurements, observe permitted and related facilities and collect and document any information deemed necessary to determine compliance with the approved plans, specifications and conditions of this permit. The Permittee shall either accompany District staff onto the property or make provision for access onto the property.

2. When necessary to analyze impacts to the water resource or existing users, the District shall require the Permittee to install flow metering or other measuring devices to record withdrawal quantities and submit the data to the District.

3. A District identification tag shall be prominently displayed at each withdrawal point that is required by the District to be metered or for which withdrawal quantities are required to be reported to the District, by permanently affixing the tag to the withdrawal facility.

4. The Permittee shall mitigate any adverse impact to environmental features or offsite land uses as a result of withdrawals. When adverse impacts occur or are imminent, the District shall require the Permittee to mitigate the impacts. Examples of adverse impacts include the following:
   A. Significant reduction in levels or flows in water bodies such as lakes, impoundments, wetlands, springs, streams or other watercourses; or
   B. Damage to crops and other vegetation causing financial harm to the owner; and
   C. Damage to the habitat of endangered or threatened species.

5. The Permittee shall mitigate any adverse impact to existing legal uses caused by withdrawals. When adverse impacts occur or are imminent, the District may require the Permittee to mitigate the impacts. Adverse impacts include:

   A. A reduction in water levels which impairs the ability of a well to produce water;
   B. Significant reduction in levels or flows in water bodies such as lakes, impoundments, wetlands, springs, streams or other watercourses; or
   C. Significant inducement of natural or manmade contaminants into a water supply or into a usable portion of an aquifer or water body.

6. Permittee shall notify the District in writing within 30 days of any sale, transfer, or conveyance of ownership or any other loss of permitted legal control of the Project and / or related facilities from which the permitted consumptive use is made. Where Permittee's control of the land subject to the permit was demonstrated through a lease, the Permittee must either submit documentation showing that it continues to have legal control or transfer control of the permitted system / project to the new landowner or new lessee. All transfers of ownership are subject to the requirements of Rule 40D-1.6105, F.A.C. Alternatively, the Permittee may surrender the consumptive use permit to the District, thereby relinquishing the right to conduct any activities under the permit.

7. All withdrawals authorized by this WUP shall be implemented as conditioned by this permit, including any documents submitted as part of the permit application incorporated by reference in a permit condition. This permit is subject to review and modification, enforcement action, or revocation, in whole or in part, pursuant to Section 373.136 or 373.243, F.S.

8. This permit does not convey to the Permittee any property rights or privileges other than those specified herein, nor relieve the Permittee from complying with any applicable local government, state, or federal law, rule, or ordinance.

9. The Permittee shall cease or reduce surface water withdrawal as directed by the District if water levels in lakes fall below the applicable minimum water level established in Chapter 40D-8, F.A.C., or rates of flow in streams fall below the minimum levels established in Chapter 40D-8, F.A.C.

10. The Permittee shall cease or reduce withdrawal as directed by the District if water levels in aquifers fall below the minimum levels established by the Governing Board.

11. A Permittee may seek modification of any term of an unexpired permit. The Permittee is advised that section 373.239, F.S., and Rule 40D-2.331, F.A.C., are applicable to permit modifications.

12. The Permittee shall practice water conservation to increase the efficiency of transport, application, and use, as well as to decrease waste and to minimize runoff from the property. At such time as the Governing Board adopts specific conservation requirements for the Permittee's water use classification, this permit shall be subject to those requirements upon notice and after a reasonable period for compliance.

13. The District may establish special regulations for Water-Use Caution Areas. At such time as the Governing Board adopts such provisions, this permit shall be subject to them upon notice and after a reasonable period for compliance.

14. Nothing in this permit should be construed to limit the authority of the District to declare a water shortage and issue orders pursuant to chapter 373, F.S. In the event of a declared water shortage, the Permittee must adhere to the water shortage restrictions, as specified by the District. The Permittee is advised that during a water shortage, reports shall be submitted as required by District rule or order.

15. This permit is issued based on information provided by the Permittee demonstrating that the use of water is reasonable and beneficial, consistent with the public interest, and will not interfere with any existing legal use of water. If, during the term of the permit, it is determined by the District that a statement in the application and in the supporting data are found to be untrue and inaccurate, the use is not reasonable and beneficial, in the public interest, or does impact an existing legal use of water, the Governing Board shall modify this permit or shall revoke this permit following notice and hearing, pursuant to sections 373.136 or 373.243, F.S. The Permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

16. Within the Southern Water Use Caution Area, if the District determines that significant water quantity or quality changes, impacts to existing legal uses, or adverse environmental impacts are occurring, the District, upon reasonable notice to the Permittee, including a statement of facts upon which the District based its determination, may reconsider the quantities permitted or other conditions of the permit as appropriate to address the change or impact, but only after an opportunity for the Permittee to resolve or mitigate the change or impact or to request a hearing.

17. All permits are contingent upon continued ownership or legal control of all property on which pumps, wells, diversions or other water withdrawal facilities are located.

Exhibit B
Instruction
s

METERING INSTRUCTIONS

The Permittee shall meter withdrawals from surface waters and/or the ground water resources, and meter readings from each withdrawal facility shall be recorded on a monthly basis within the last week of the month. The meter reading(s) shall be reported to the Water Use Permit Bureau on or before the tenth day of the following month for monthly reporting frequencies.

For bi-annual reporting, the data shall be recorded on a monthly basis and reported on or before the tenth day of the month
following the sixth month of recorded data.

The Permittee shall submit meter readings online using the Permit Information Center at www.swfwmd.state.fl.us/permits/epermitting/ or on District supplied scanning forms unless another arrangement for submission of this data has been approved by the District. Submission of such data by any other unauthorized form or mechanism may result in loss of data and subsequent delinquency notifications. Call the Water Use Permit Bureau inTampa at (813) 985-7481 if difficulty is encountered.

The meters shall adhere to the following descriptions and shall be installed or maintained as follows:

1. The meter(s) shall be non-resettable, totalizing flow meter(s) that have a totalizer of sufficient magnitude to retain total gallon data for a minimum of the three highest consecutive months permitted quantities. If other measuring device(s) are proposed, prior to installation, approval shall be obtained in writing from the Water Use Permit Bureau Chief.
2. The Permittee shall report non-use on all metered standby withdrawal facilities on the scanning form or approved alternative reporting method.
3. If a metered withdrawal facility is not used during any given month, the meter report shall be submitted to the District indicating the same meter reading as was submitted the previous month.
4. The flow meter(s) or other approved device(s) shall have and maintain an accuracy within five percent of the actual flow as installed.
5. Meter accuracy testing requirements:
   A. For newly metered withdrawal points, the flow meter installation shall be designed for inline field access for meter accuracy testing.
   B. The meter shall be tested for accuracy on-site, as installed according to the Flow Meter Accuracy Test Instructions in this Exhibit B, every five years in the assigned month for the county, beginning from the date of its installation for new meters or from the date of initial issuance of this permit containing the metering condition with an accuracy test requirement for existing meters.
   C. The testing frequency will be decreased if the Permittee demonstrates to the satisfaction of the District that a longer period of time for testing is warranted.
   D. The test will be accepted by the District only if performed by a person knowledgeable in the testing equipment used.
   E. If the actual flow is found to be greater than 5% different from the measured flow, within 30 days, the Permittee shall have the meter re-calibrated, repaired, or replaced, whichever is necessary. Documentation of the test and a certificate of re-calibration, if applicable, shall be submitted within 30 days of each test or re-calibration.
6. The meter shall be installed according to the manufacturer’s instructions for achieving accurate flow to the specifications above, or it shall be installed in a straight length of pipe where there is at least an upstream length equal to ten (10) times the outside pipe diameter and a downstream length equal to two (2) times the outside pipe diameter. Where there is not at least a length of ten diameters upstream available, flow straightening vanes shall be used in the upstream line.
7. Broken or malfunctioning meter:
   A. If the meter or other flow measuring device malfunctions or breaks, the Permittee shall notify the District within 15 days of discovering the malfunction or breakage.
   B. The meter must be replaced with a repaired or new meter, subject to the same specifications given above, within 30 days of the discovery.

C. If the meter is removed from the withdrawal point for any other reason, it shall be replaced with another meter having the same specifications given above, or the meter shall be reinstalled within 30 days of its removal

from the withdrawal. In either event, a fully functioning meter shall not be off the withdrawal point for more than 60 consecutive days.

8. While the meter is not functioning correctly, the Permittee shall keep track of the total amount of time the withdrawal point was used for each month and multiply those minutes times the pump capacity (in gallons per minute) for total gallons. The estimate of the number of gallons used each month during that period shall be submitted on District scanning forms and noted as estimated per instructions on the form. If the data is submitted by another approved method, the fact that it is estimated must be indicated. The reason for the necessity to estimate pumpage shall be reported with the estimate.

9. In the event a new meter is installed to replace a broken meter, it and its installation shall meet the specifications of this condition. The permittee shall notify the District of the replacement with the first submittal of meter readings from the new meter.

FLOW METER ACCURACY TEST INSTRUCTIONS

1. Accuracy Test Due Date - The Permittee is to schedule their accuracy test according to the following schedule:

A. For existing metered withdrawal points, add five years to the previous test year, and make the test in the month assigned to your county.

B. For withdrawal points for which metering is added for the first time, the test is to be scheduled five years from the issue year in the month assigned to your county.

C. For proposed withdrawal points, the test date is five years from the completion date of the withdrawal point in the month assigned to your county.

D. For the Permittee's convenience, if there are multiple due-years for meter accuracy testing because of the timing of the installation and/or previous accuracy tests of meters, the Permittee can submit a request in writing to the Water Use Permit Bureau Chief for one specific year to be assigned as the due date year for meter testing. Permittees with many meters to test may also request the tests to be grouped into one year or spread out evenly over two to three years.

E. The months for accuracy testing of meters are assigned by county. The Permittee is requested but not required to have their testing done in the month assigned to their county. This is to have sufficient District staff available for assistance.

January	Hillsborough
February	Manatee, Pasco
March	Polk (for odd numbered permits)*
April	Polk (for even numbered permits)*
May	Highlands
June	Hardee, Charlotte
July	None or Special Request
August	None or Special Request
September	Desoto, Sarasota
October	Citrus, Levy, Lake
November	Hernando, Sumter, Marion
December	Pinellas

* The permittee may request their multiple permits be tested in the same month.

2. Accuracy Test Requirements: The Permittee shall test the accuracy of flow meters on permitted withdrawal points as follows:

A. The equipment water temperature shall be set to 72 degrees Fahrenheit for ground water, and to the measured water temperature for other water sources.

B. A minimum of two separate timed tests shall be performed for each meter. Each timed test shall consist of measuring flow using the test meter and the installed meter for a minimum of four minutes duration. If the two tests do not yield consistent results, additional tests shall be performed for a minimum of eight minutes or

longer per test until consistent results are obtained.

C. If the installed meter has a rate of flow, or large multiplier that does not allow for consistent results to be obtained with four- or eight-minute tests, the duration of the test shall be increased as necessary to obtain accurate and consistent results with respect to the type of flow meter installed.

D. The results of two consistent tests shall be averaged, and the result will be considered the test result for the meter being tested. This result shall be expressed as a plus or minus percent (rounded to the nearest one-tenth percent) accuracy of the installed meter relative to the test meter. The percent accuracy indicates the deviation (if any), of the meter being tested from the test meter.

3. Accuracy Test Report: The Permittees shall demonstrate that the results of the meter test(s) are accurate by submitting the following information within 30 days of the test:

A. A completed Flow Meter Accuracy Verification Form, Form LEG-R.101.00 (5/14) for each flow meter tested. This form can be obtained from the District's website (www.watermatters.org) under "ePermitting and Rules" for Water Use Permits.

B. A printout of data that was input into the test equipment, if the test equipment is capable of creating such a printout;

C. A statement attesting that the manufacturer of the test equipment, or an entity approved or authorized by the manufacturer, has trained the operator to use the specific model test equipment used for testing;

D. The date of the test equipment's most recent calibration that demonstrates that it was calibrated within the previous twelve months, and the test lab' s National Institute of Standards and Testing (N.I.S.T.) traceability reference number.

E. A diagram showing the precise location on the pipe where the testing equipment was mounted shall be supplied with the form. This diagram shall also show the pump, installed meter, the configuration (with all valves, tees, elbows, and any other possible flow disturbing devices) that exists between the
pump and the test location clearly noted with measurements. If flow straightening vanes are utilized, their location(s) shall also be included in the diagram.

F. A picture of the test location, including the pump, installed flow meter, and the measuring device, or for sites where the picture does not include all of the items listed above, a picture of the test site with a notation of distances to these items.

WELL COMPLAINT INSTRUCTIONS

The permittee shall adhere to the following process for handling water resource, surface or ground water withdrawal point impact, dewatering complaints, or discharge/seepage of water from their property:

1. Within 48 hours of a complaint received by the Permittee related to their withdrawal or use of water or dewatering activity, the Permittee shall notify the District, perform a preliminary investigation to determine whether the Permittee's pumpage, dewatering activity, or discharge/seepage from their property may have caused the problem.
2. If this preliminary assessment indicates that the Permittee may be responsible, the Permittee shall, within 72 hours of complaint receipt, supply the complainant with any water necessary for health and safety purposes, such as drinking water.
3. If the resulting investigation determines that the Permittee was not responsible for the well problem, the Permittee shall document the reasons for this determination.
4. If the detailed investigation confirms that the complainant's problem was caused by the Permittee's pumpage, dewatering, or discharge or water impoundment activities:
   A. The complainant's problem shall be fully corrected within 15 days of complaint receipt.
   B. Impacts to wells: Full correction shall be restoration of the complainant's well to pre-impact condition or better, including the aspects of pressure levels, discharge quantity, and water quality. This

detailed investigation shall include, but not be limited to, an analysis of water levels and pumpage impacts at the time of the complainant's problem, well and pump characteristics including depths, capacity, pump

curves, and irrigation system requirements.

5. The Permittee shall file a report of the complaint, the findings of facts, appropriate technical data, and any mitigating action taken or to be taken by the Permittee, to the Water Use Permit Bureau Chief, for review and approval within 20 days of the receipt of any complaint. The report shall include:
   A. The name and address of each complainant;
   B. The date and nature of the complaint;
   C. A summary of the Permittee's investigation;
   D. A summary of the Permittee's determination, including details of any mitigation activities; and
   E. Cost of mitigation activity for each complaint.
6. A copy of the report shall be sent to the complainant within 20 days of complaint receipt.

April Breton Electronically Signed

Authorized Signature
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

This permit, issued under the provision of Chapter 373, Florida Statues and Florida Administrative Code 40D-2, authorizes the Permittee to withdraw the quantities outlined above, and may require various activities to be performed by the Permittee as described in the permit, including the Special Conditions. The permit does not convey to the Permittee any property rights or privileges other than those specified herein, nor relieve the Permittee from complying with any applicable local government, state, or federal law, rule, or ordinance.

Exhibit C
Tampa Bypass Canal / Alafia River
Water Supply Projects
Hydrobiological Monitoring Program
2010 Update

Tampa Bypass Canal / Alafia River Water Supply Projects Hydrobiological Monitoring Program 2010 Update

FINAL

Prepared by

TAMPA BAY WATER
Supplying Water To The Region

2575 Enterprise Road
Clearwater, Florida 33763

PBS&J

4030 Boy Scout Boulevard
Tampa, Florida 33607

February 2011

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Abbreviations and Acronyms

AR	Alafia River
Chl-a	Chlorophyll-a
DOC	Dissolved Organic Carbon
DO	Dissolved Oxygen
EMAP	Environmental Monitoring and Assessment Program
EPA	Environmental Protection Agency (U.S.)
EPCHC	Environmental Protection Commission of Hillsborough County
FIM	FWRI Fisheries Independent Monitoring Program
FWRI	Fish and Wildlife Research Institute (formerly Florida Marine Research Institute)
GIS	Geographic Information System
HBMP	Hydrobiological Monitoring Program
HR	Hillsborough River
MB	McKay Bay
NRC	National Research Council
NWS	National Weather Service
PBS&J	PBS&J, Inc.
PR	Palm River
PSU	Practical Salinity Units
PPT	Parts per Thousand
QA/QC	Quality Assurance/ Quality Control
Rkm	River Kilometer
SAV	Submerged Aquatic Vegetation
SAS	Software system developed by the SAS Institute, Cary, NC.
SWFWMD	Southwest Florida Water Management District
TBC	Tampa Bypass Canal
TOC	Total Organic Carbon
TSS	Total Suspended Solids
USF	University of South Florida
USGS	U.S. Geological Survey
WUP	Water Use Permit

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1.0 Introduction

Special conditions in the Southwest Florida Water Management District (SWFWMD or District) Water Use Permits (WUPs) 2011794.00 and 2011796.00 required development and implementation of comprehensive hydrobiological monitoring programs (HBMPs) for the Alafia River and the Tampa Bypass Canal/Hillsborough River Water Supply Projects. Because of the consistent elements and the close proximity of the two water supply projects, a single, integrated HBMP was designed and implemented to meet the permit requirements for both projects (PBS&J, 2000).

This document, the HBMP 2010 Update, incorporates all previously approved program modifications and reflects the current HBMP as of July 2010.

1.1. Background

Design of the Alafia River/Tampa Bypass Canal HBMP began in May 1999. The HBMP was designed in a series of workshops and subcommittee meetings attended by regulatory agency and local government representatives, and other stakeholders. A final HBMP design document was completed in late 1999 (PBS&J, 2000).

HBMP field sampling was initiated in April 2000, and continued implementation of the HBMP has been required under special conditions for the renewed and modified water use permits for these regional public water supply projects. The HBMP was intended to be routinely modified based on field conditions and the ongoing evaluation of HBMP data.

In the ten years since the acceptance of the final HBMP design by both the design group and the Tampa Bay Water Board, several modifications have been made to the HBMP design. These modifications were in response to requests by the District and other stakeholders, logistical problems encountered during early implementation, and the sampling modifications identified based on evaluations of HBMP data.

Potential modifications to improve the monitoring program have been provided in HBMP annual and multi-year interpretative reports and discussed at Annual HBMP Meetings. All modifications approved by the District and incorporated into the program are listed in Appendix A.

1.2. HBMP Goals and Objectives

In accordance with the District's Basis for Review for water use permitting, the minimal goal of the HBMP is to generate information at an appropriate scale and resolution to determine if the permitted water supply projects are in compliance with District rules. Accordingly, the overall goals established for the HBMP are consistent with the District's performance standards provided in the Basis of Review.

The goal of the HBMP is to ensure that reduced flows in the Tampa Bypass Canal, Hillsborough River and Alafia River attributable to Tampa Bay Water's permitted surface water withdrawals do not deviate from the normal rate and range of fluctuation to the extent that:

- Water quality, vegetation, and animal populations are adversely impacted in streams and estuaries
- Salinity distributions in tidal streams and estuaries are significantly altered as a result of withdrawals
- Recreational use or aesthetic qualities of the resource are adversely impacted.

In addition to the above stated goals, the 1999 design process also generated programmatic objectives to address the District's process for evaluating compliance with these Water Use Permits. Accordingly, stakeholders agreed upon HBMP objectives as follows:

- Document existing conditions in the potentially affected waterbodies
- Enable the detection of changed conditions in the potentially affected waterbodies
- Determine if the detected changed conditions are attributable to reductions in freshwater inflows
- Provide a scientifically defensible means to evaluate whether the permitted surface water withdrawals are causing or significantly contributing to the detected changed conditions
- Determine whether the detected changed conditions constitute or could result in unacceptable adverse impacts
- Recommend appropriate management actions or operational changes designed to eliminate or mitigate unacceptable adverse impacts if they occur or are expected to occur.

As reflected in the above listed objectives, the overall purpose and scope of the HBMP extend beyond just data acquisition, analysis, and reporting. The HBMP also incorporates programmatic criteria that have been developed to ensure that the permitted withdrawals are consistent with District rules throughout the lifetime of the permits.

1.3. HBMP Monitoring Areas

Stakeholders involved in the 1999 design process came to consensus that any potential impacts from the permitted surface water withdrawals would likely first be manifested in the river systems where surface water withdrawals will take place, and possibly Hillsborough Bay. Therefore, the potentially affected waterbodies or portions of waterbodies were identified based on geographic areas of concern; these were defined as "reporting units" for purposes of monitoring program design.

HBMP reporting units were established for each of five potentially affected waterbodies:

- The lower Alafia River below Bell Shoals Road
- The Tampa Bypass Canal/Palm River below Structure S-160
- McKay Bay
- The lower Hillsborough River below the City of Tampa dam
- Hillsborough Bay

The design stakeholder group concluded that Hillsborough Bay proper could be potentially affected by the permitted water supply projects, but that additional sampling in Hillsborough Bay

as a component of the HBMP was not warranted for two reasons. First, impacts from Tampa Bay Water withdrawals should be detected in the other reporting units before being detected in Hillsborough Bay. Second, the data gathered from existing long-term EPCHC and FWRI monitoring programs can be used to characterize the status of this reporting unit.

1.4. HBMP Monitoring Elements

The HBMP has three monitoring program elements:

- Hydrology/Water quality
- Biota
- Habitat/Vegetation

During the design of the HBMP, critical indicators were identified for each monitoring element in each reporting unit. Critical indicators are units of measure that describe the status of the statistical populations or subpopulations of interest, usually in response to some environmental stressor. Structural and hydrobiological differences among the reporting units necessitate slightly different groups of critical indicators for each.

Specific monitoring objectives for each of the three HBMP elements adopted by the stakeholder group are summarized briefly below.

- Hydrology/Water Quality
    - Estimate the daily freshwater inflows, freshwater withdrawals, and water levels in each reporting unit.
    - Estimate the distribution of water quality indicators by reporting unit on an appropriate temporal basis.

Estimates of freshwater inflows and withdrawals, and water levels, are to be made on a daily basis. The temporal basis is consistent for all water quality indicators; however, the temporal basis differs among the spatial reporting units. All reporting units have adequate sample size to ensure both annual and seasonal estimates of water quality conditions.

- Biota
    - Estimate by reporting unit on an appropriate temporal basis, the species composition (to the lowest practical identifiable level), and abundance and distribution of:
        - Juvenile and adult fishes
        - Benthic macroinvertebrate infauna and epifauna
        - Ichthyoplankton and other macrozooplankton.

As with water quality, the temporal basis is consistent for all biotic indicators, however, the temporal basis differs among the spatial reporting units. All reporting units have adequate sample size to ensure both annual and seasonal estimates of biotic conditions in all reporting units.

An additional indicator for the biota element, “estimate the species composition (to the lowest practical identifiable level) and abundance of water-dependent birds in upper McKay Bay and

the Alafia Banks on an appropriate temporal basis", was included in the initial design, but was discontinued from the program based on evaluation of data collected (see Appendix A).

- Habitat/Vegetation
    - Estimate the areal extent and upstream/downstream limits of emergent vegetation communities by reporting unit on a periodic basis.
    - Estimate species composition and relative abundance of submerged aquatic vegetation communities in the Alafia River on periodic basis.
    - Estimate the distribution of sediment grain size and sediment total organic matter by reporting unit on an appropriate temporal basis (derived from benthic sampling).

Typically, there is little within-year variation in the habitat indicators, therefore, estimation of the status of these indicators on an annual or multi-year basis was considered appropriate. The temporal basis is consistent for all habitat indicators across all spatial reporting units. All reporting units have adequate sample size to ensure annual estimates of habitat conditions.

2.0 HBMP Design Approach

This section provides an overview of the sampling techniques and strategies used in the HBMP. Sections 2.1 and 2.2 discuss the general design of the program. Section 2.3 discusses the general indicators used in the program. HBMP geographic reporting units, spatial strata and randomization, temporal stratification, and considerations for each reporting unit are discussed in Sections 2.4-2.6.

2.1. HBMP Design - General Considerations

Appropriate environmental monitoring programs are critical components of effective resource management. According to the National Research Council (1990), effective environmental monitoring:

- Provides the information needed to evaluate the effectiveness of, and to appropriately adjust, resource management actions
- Provides an early warning system, allowing for lower cost solutions to environmental problems
- Contributes to the knowledge of ecosystems and how they are affected by human activity, and such knowledge allows for the establishment of priorities for environmental protection and for the assessment of status and trends
- Provides information that helps to answer layperson questions
- Is essential for the construction, adjustment, and verification of quantitative predictive models which are an important basis for evaluating, developing, and selecting environmental management strategies
- Provides resource managers the scientific rationale for setting environmental standards
- Determines legal compliance with established environmental standards and conditions as set forth in regulatory programs.

Environmental monitoring programs need to have clearly articulated goals and objectives to minimize data gaps and unanswered critical questions. Therefore, monitoring programs need to be properly designed at the outset, and monitoring methods appropriately applied, if they are to meet the multiple expectations of all those who rely on the information generated. Even when monitoring programs are technically sound, it is their overall design and institutional context that often limits the usefulness of the resulting information.

The National Research Council (1990) has identified the following factors for sound program design and objective implementation of monitoring programs:

- The goals and objectives of the monitoring program must be clearly articulated in terms that pose questions that are meaningful to the public and that provide the basis for scientific investigation
- Not only must data be gathered, but attention must also be paid to their management, synthesis, interpretation, and analysis
- Procedures for quality assurance are needed, including multiple levels of peer review

- Well-designed monitoring programs often result in unanswered questions about environmental processes or human impacts. Therefore, where feasible, supportive research should be provided
- Adequate resources are needed not only for data collection but also for detailed analysis, evaluation, and reporting over the long term
- Programs should be sufficiently flexible to allow for their modification when and where changes in conditions or new information suggests the need
- Provision should be made to ensure that monitoring information is made available to all interested parties in a form that is useful to them.

2.2. General Design Criteria Associated with HBMP Monitoring Elements

The initial step undertaken in the development of the HBMP was to define those parameters that were thought to be indicators of potential changes in each of the potentially affected water bodies. The next step was to define the geographical areas where data collection should be implemented. It was agreed that the HBMP sampling design should provide technically sound and practical methods for collecting the data needed to obtain unbiased population, subpopulation, and variance estimates.

Unbiased population and subpopulation estimates are metrics whose average value, taken over all possible samples, is equal to the population parameter value of the metric. In other words, the estimate gives the correct value for some measure of the population. Here, the term **population** refers to the totality of individual observations about which inferences are to be made within a definitely specified sampling area limited in space and time.

Cochran et al. (1954) point out that the population to be sampled (the *sampled* population) should coincide with the population about which inferences are to be drawn (the *target* population). Cochran (1977) further states that at times, for reasons of practicability or convenience, the sampled population is more restricted than the target population. In such cases, it should be noted that conclusions drawn from the sample apply to the sampled population. Judgment must be used to determine the extent to which the conclusions will also apply to the target population. One way in which this problem can be avoided is to ensure at the design phase that the sampled population is carefully defined to closely agree with the target population definition.

A **subpopulation** is a specific portion of the population, defined either in space or time. For example, the subpopulation may be the shallow portion (defined by some specific depth) of the waterbody of concern. A subpopulation could also be all measurements made in a particular season of the year (e.g., wet or dry season subpopulations).

Sampling theory was employed to determine the best design for the HBMP sampling strategy. There are basically two common types of sampling strategies (Cochran, 1977):

Probability Sampling - Employing this approach requires a definition of the set of distinct samples that the sampling program is capable of sampling if applied to a specific population.

Each possible sample must have a known probability of selection. The samples are selected by a random process in which each sample receives its appropriate probability of being selected.

Nonprobability Sampling - Common approaches include: sampling a restricted portion of the population that is readily accessible (e.g., fixed station sampling of salinity from a bridge); haphazard sample selection without conscious planning; and a selection of "typical" or "representative" sample units that are considered close to the average of the target population.

If conditions are appropriate, each of the methods can provide useful results. However, the only way to verify if an estimate is unbiased is to compare it with the actual population values or an estimate derived from a probability sampling approach. Even if such a test comparison demonstrates that the nonprobability sampling estimate is unbiased, this does not necessarily mean that method will continue to give unbiased results under all circumstances. For example, future changes in drainage patterns in a watershed may cause more or less runoff to enter the waterbody of concern. Therefore, in this example, checks of the unbiased nature of the nonprobability sample estimate would have to continue throughout the length of the monitoring program. A probability sampling approach yields unbiased estimates regardless of changing conditions.

Unbiased variance estimates will provide a measure of uncertainty in the population and subpopulation estimates. In order to ensure that variance estimates are unbiased, it is recommended that the sampling design follow the basic rules for probability sampling and variance estimation. Thus, for all elements of the sampling design, at least two samples must be collected from each subpopulation for which an unbiased estimate of variance is required, and each sampling unit in the subpopulation must have a known, non-zero probability of inclusion in the sample. In addition, the pairwise inclusion probabilities of all possible combinations of the two samples must be known and non-zero. Logistical constraints may require that some sampling units have a lower inclusion probability than others, and can be incorporated into the sampling design, if necessary. The inclusion probabilities used to select sampling units will be specified quantitatively, introduced as weights in all computations of estimates and associated variances, and hence allow all estimates to be unbiased.

Given the above conditions, and based on the efforts of the HBMP design stakeholder group, it was concluded that a probability-based design was best suited to meet the programmatic goals and objectives of the HBMP. It should, however, be noted that several other data needs were also identified that would not be best addressed using a probability-based approach. These informational needs were anticipated to be addressed separately as "special studies" (see Appendix A and PBS&J, 2000 for additional information).

To implement the design approach, a series of decisions were made regarding the specifics of the monitoring program design. First, specific **monitoring objectives** were defined. Second, the **indicators** of the status of the population (or subpopulations) were defined. Third, the **reporting units** were defined with respect to both space and time.

The general probability sampling approach allows inferences to be drawn not only about the target populations but also a variety of subpopulations. As a general rule of thumb, if it is desired

to draw an inference with regard to a particular subpopulation, then that subpopulation or **stratum** should be designed into the overall monitoring plan (Summers and Maddox, 1999). The use of strata within a sampling design enhances the power to detect differences because it optimizes the design based on the natural variability characteristics of the indicators being measured.

Cochran (1977) concludes that incorporating strata into the sampling design, referred to as **stratified random sampling**, is a common and indicated technique if:

- Data of known precision are wanted for certain subpopulations, in which case it is advisable to treat each such subdivision as a "population" in its own right
- Convenience dictates the use of stratification
- Sampling problems differ markedly in different parts of the population
- It is desired to increase the precision of estimates of the characteristics of the population as a whole.

The HBMP design stakeholder group concluded that a stratified random sampling approach was the best sampling design to meet HBMP objectives.

2.3. General Indicator Characteristics for HBMP Monitoring Elements

Following the identification of specific measurable monitoring objectives, the next step in the monitoring design process is the definition of appropriate indicators. Indicators are units of measure that describe the status of the statistical populations, or subpopulations, of interest, usually in response to some environmental stressor. The term **indicator** in this context is somewhat analogous to the term *parameter*, as it is applied in environmental monitoring jargon; however, it is broader in scope.

Indicators can be generally broken down into two classes: 1) desirable indicators, and 2) critical indicators. General characteristics for each of these are listed below.

General characteristics of desirable indicators include:

- Sampling Unit Stable - measurements of the response indicator taken at a sampling unit should be stable over the course of the sampling period
- Available Method - should have a generally accepted, standardized method of measurement that can be applied on a regional scale
- Historical Record - has a historical database, or a historical database can be generated from acceptable data sources
- Retrospective - can be related to past conditions via retrospective analyses
- Anticipatory - provides an early warning of widespread changes in ecosystem processes or conditions
- Cost-Effective - has low incremental cost relative to its information value
- New Information - provides new information; does not merely duplicate data already collected by other agencies or investigators

General characteristics of critical indicators include:

- Regionally Responsive - must reflect changes in ecosystem conditions and respond to stressors of concern across most resource classes and habitats in a region
- Unambiguously Interpretable - must be related to an assessment endpoint or relative exposure or habitat variable that forms part of the investigators' overall conceptual model of ecological structure and function
- Low Measurement Error - exhibits low measurement error and stability of regional cumulative frequency distribution during the index period
- Simple Quantification - can be quantified by cost-effective synoptic or automated monitoring
- Environmental Impact - sampling must have minimal environmental impact
- Low Year-to-Year Variability - must have sufficiently low natural inter-annual variation to detect ecologically significant changes within a reasonable time frame

It is important to note that, with respect to surface water supply projects, all potentially applicable response indicators must have either a direct relationship to changes in freshwater inflows, or an indirect relationship (e.g., center of fish population distribution). Indicators with a direct relationship to freshwater inflows are typically physical or chemical in nature (e.g., salinity), and respond more or less instantaneously to changing inflows. Indicators with an indirect relationship to freshwater inflows are typically biological in nature (e.g., center of fish population distribution), are mediated by physical and chemical changes, and generally respond on a slower time scale (e.g., days, months, and seasons).

The HBMP design stakeholder group deliberated on critical and desirable indicators over the course of several workshops, applied the criteria described above, and generated a list of potential indicators for each of the three identified monitoring elements: hydrology/water quality, biota, and habitat. This list was ultimately reduced to a final recommended suite of critical indicators for each monitoring element (see PBS&J, 2000) that is summarized in the following sections.

2.4. Reporting Units and Spatial Strata

The spatial and temporal extents, statistically often referred to as the *target population*, of the sampling program were defined during the development of the HBMP.

The potentially affected waterbodies or portions of waterbodies were identified based on geographic areas of concern; these were defined as spatial "reporting units" for purposes of program design and monitoring for withdrawal-related changes on an annual basis.

HBMP spatial reporting units include:

- Lower Hillsborough River – Figure 2.4.1
- Tampa Bypass Canal/Palm River - Figure 2.4.2
- McKay Bay – Figure 2.4.3
- Lower Alafia River – Figure 2.4.4
- Hillsborough Bay – Figure 2.4.5

HBMP sampling is conducted in each of the four primary reporting units: the lower Hillsborough River, the Tampa Bypass Canal/Palm River, McKay Bay, and the lower Alafia River.

For the fifth reporting unit, Hillsborough Bay, the HBMP design stakeholder group concluded that this reporting unit could be affected by the permitted water supply projects, but that additional sampling in Hillsborough Bay as a component of the HBMP was not warranted for two reasons. First, impacts from Tampa Bay Water withdrawals should be detected in the other reporting units before being detected in Hillsborough Bay. Second, the data gathered from existing monitoring programs can be used to characterize the status of this reporting unit.

HBMP data collection sites in Hillsborough Bay are located near the mouth of each primary reporting unit. The Environmental Protection Commission of Hillsborough County (EPCHC) and the FWRI have long-term monitoring programs in Hillsborough Bay that are independent of the HBMP. In Water Year 2005, the Fisheries Independent Monitoring Program of the Fish and Wildlife Research Institute (FWRI) also began HBMP-specific sampling in Hillsborough Bay at the mouth of the Alafia River. Results from these programs comprise the majority of the data evaluated by the HBMP for Hillsborough Bay reporting unit.

2.5. Spatial Randomization

To develop the HBMP stratified random sampling design, a randomized method for choosing monthly sampling sites is used for each of the spatial strata within each reporting unit. The centerlines of the linear reporting units were generated using an ARCINFO function that interpolates intermediate topographic contours. The function used the riverbanks as contours and interpolated the centerlines as intermediate contours between the banks. The centerlines were then divided into 1-meter long segments, and each of these was defined as a potential sampling station and named according to its distance from the river mouth and the strata in which it was located.

HBMP monthly sampling stations for the linear reporting units are selected by stratum. Each station in the stratum is assigned a unique consecutive whole number. A series of random numbers is then created using the SAS “ranuni()” statement. These random numbers are matched with the numbers assigned to the stations, and the corresponding stations are selected. Lists of primary and alternate stations by stratum are provided to the field staff. In the event that a primary station cannot be sampled, field staff must choose the first alternate station (not the closest station). If an alternate station cannot be sampled, field staff must choose the next alternate station in the sequence.

A “right”, “left”, or “center” (“shallow right”, “shallow left”, or “deep” in the Palm River) designation is also chosen in the monthly sample selection process. A “left” designation instructs the field staff to take a sample on the left 33% of the river (with left defined as the left side looking upstream). A “center” designation instructs the crew to sample in the center 33% of the river and a “right” designation in the right 33%. The designations are the same for the Palm River except that the “shallow” stations are sampled in water less than 2 meters deep. The lateral positions are randomly selected using the SAS “ranuni()” statement. Each portion of a river has

an equal chance of being selected for any given station. The depth strata of the Palm River are treated as substrata. Lateral position is not randomly selected in the deep Palm River substrata. The "left" or "right" lateral positions are randomly selected in the Palm River shallow strata.

Stations for water quality, benthos, and fish sampling are randomly selected for each monthly sampling. Stations for plankton sampling were randomly selected one time at the beginning of the program.

McKay Bay monthly stations are grouped by hexagon or cell. Initially a cell is randomly selected for sampling. Then the station within the selected cell is selected in a manner consistent with the technique described above for the linear reporting units. Lists of the primary and alternate stations are provided to the field staff. There is only one primary station in each cell. If that station cannot be sampled, field staff must select the first alternate station. If an alternate station cannot be sampled, crews must select the next alternate station in that cell. There are no lateral sample station designations in McKay Bay.

McKay Bay cells are selected using a method weighted for the number of stations in each cell. Each of the McKay Bay cells is the same size, but some of the cells on the edge of the bay overlap land areas. These overlap areas do not constitute valid stations. McKay Bay cells are selected using a weighted formula in SAS. Each cell is assigned a sequential percentage of the values from 0 to 1 in accordance with the proportion of the total stations in McKay Bay located in that cell. For instance, if Cell 1 contains 15% of the total stations it would be assigned values from 0.00001 to 0.15000 in the formula. If Cell 2 contained 5% of the stations in McKay Bay, it would be assigned values from 0.15001 to 0.20000 in the formula. Though the water quality, benthos, fish, and plankton efforts may sample the same cell during a given month, a single sampling element is never sampled twice within one cell in a given month.

2.6. Temporal Strata

Temporal strata are specific to each of the four reporting units. In general, these strata were defined to ensure that the key within-year sources of variation were taken into account. Specifically, two sources of within-year variation were considered critical. One source dealt with the intra-annual variation in flows due to the seasonal differences in rainfall. Typically, flows are higher in the normal wet season period (July through September) when compared to flows observed in the dry season (October through June). Flows in the months of April and May in particular can be extremely low due to prolonged periods of low rainfall. The second within-year source of expected variation in flows would be the manifestation of the permitted withdrawal schedules. Since the withdrawal schedules vary as a function of ambient flow, the reductions in freshwater flow due to the withdrawals will not be consistent throughout the year. Based on historical flow conditions, the greatest daily withdrawals will typically occur during the months of July through September.

Two other sources of temporal variation, tides and diel variability, were considered during the development of the sampling program but were determined to be adequately addressed to meet HBMP objectives based on other sampling criteria and constraints.

2.6.1. Lower Hillsborough River

The general temporal sampling strategy for the lower Hillsborough River ensures that an adequate sample size is available for drawing inferences about river-wide status on an annual or seasonal basis. A temporally even sampling effort exists for water quality, fish, and plankton sampling. By comparison, the benthic sampling program currently includes two different sampling intensities. Benthic sampling effort in both the wet season (i.e., July through September) and in the late dry season (April through June) is greater than that during the periods of October through December and January through March. Thus, the lower Hillsborough River sampling strategy for benthos is on a wet season/dry season basis.

In addition, continuous monitoring (every 15 minutes) of conductivity and temperature is conducted at three permanent fixed locations (Sligh Ave., Columbus Ave., and a third station located between Sligh and Columbus). These stations provide information on short-term responses in water quality to changes in freshwater flow. Rainfall and flow measurements are determined on a daily basis. Vegetation sampling consists of aerial photography and shoreline surveys conducted every three years between October and December.

2.6.2. TBC/Palm River

The temporal sampling strategy for the TBC/Palm River focuses on the expected differences in river status that are likely to occur between the wet and dry seasons. Sampling for benthos and water quality during the wet season, when mean daily withdrawals will be largest, is more intense than during the dry season. To this end, there are two temporal sampling strata for both water quality and benthos, with adequate sampling intensity for inferences to be made regarding the status of water quality or benthos in the river for both the wet and dry seasons. Equivalent sampling intensities are employed across all months of the year for zooplankton sampling. Based on stakeholder consensus and District approval, fish sampling in the TBC/Palm River was discontinued in Water Year 2009 (see Appendix A).

Continuous monitoring (every 15 minutes) of conductivity and temperature is conducted at the Maydell Drive recorder. This monitoring provides information on short-term responses in water quality to changes in freshwater flow. Rainfall and flow measurements are collected on a daily basis. Vegetation sampling consists of aerial photography and shoreline surveys conducted every three years during the months of October through December.

2.6.3. McKay Bay

The temporal sampling strategy for McKay Bay closely follows that for the TBC/Palm River and focuses on the expected differences in the status of McKay Bay between the wet and dry seasons. Continuous monitoring (every 15 minutes) of conductivity and temperature is conducted at the 22nd Street Causeway station. Sampling of benthos and water quality is more intense during the wet season, when mean daily withdrawals are expected to be greatest based on historical flow conditions. Equivalent sampling intensities are employed across all months for both fish and plankton sampling.

The sampling schedule is based on temporal randomization around a selected day within each month. This method provides estimates of within-temporal stratum variability, increases the power of any tests of significance, and also best represents the range of flow conditions expected.

2.6.4. Lower Alafia River

The temporal sampling strategy for the lower Alafia River is very similar to that defined for the lower Hillsborough River. Equal sampling intensities are employed across all months for water quality, benthos, fish, and plankton sampling. The sampling intensity is meant to be sufficient to allow meaningful river-wide inferences regarding each of these HBMP elements to be drawn on a quarterly basis. An additional fish sampling effort occurs once annually in the freshwater stratum.

During the HBMP design process, stakeholders recommended that an inset stratum for benthic sampling be specifically addressed, extending approximately 1 km upstream and 1 km downstream of the freshwater interface based on an analysis of pre-operational water quality data. Additional benthic sampling is currently conducted in the inset stratum during the months of June through August. This sampling was initially designed to be sufficiently intense to allow inferences to be drawn about the status of this stratum during the wet season.

Continuous monitoring (every 15 minutes) of conductivity and temperature is conducted at one fixed station currently located on the River south of Buckhorn Creek. In addition, the USGS collects data from two additional fixed sites on the Alafia River. These data provide information on short term responses in water quality to changes in freshwater flow. The frequency of rainfall and flow measurements is daily. Vegetation sampling consists of aerial photography and shoreline surveys conducted every three years during the October through December period. Submerged aquatic vegetation is currently monitored every five years in two strata.

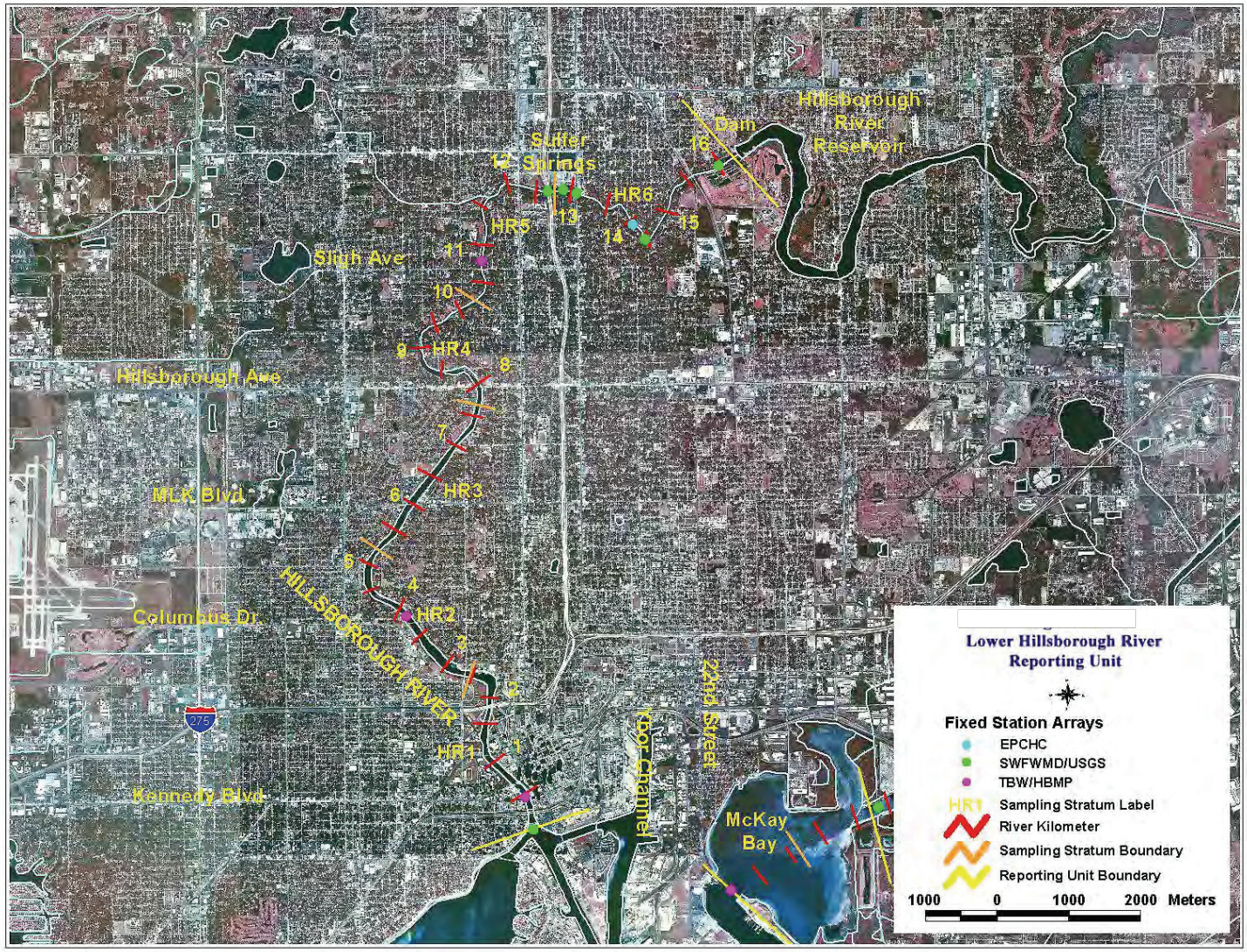

Figure 2.4.1. Lower Hillsborough River Reporting Unit

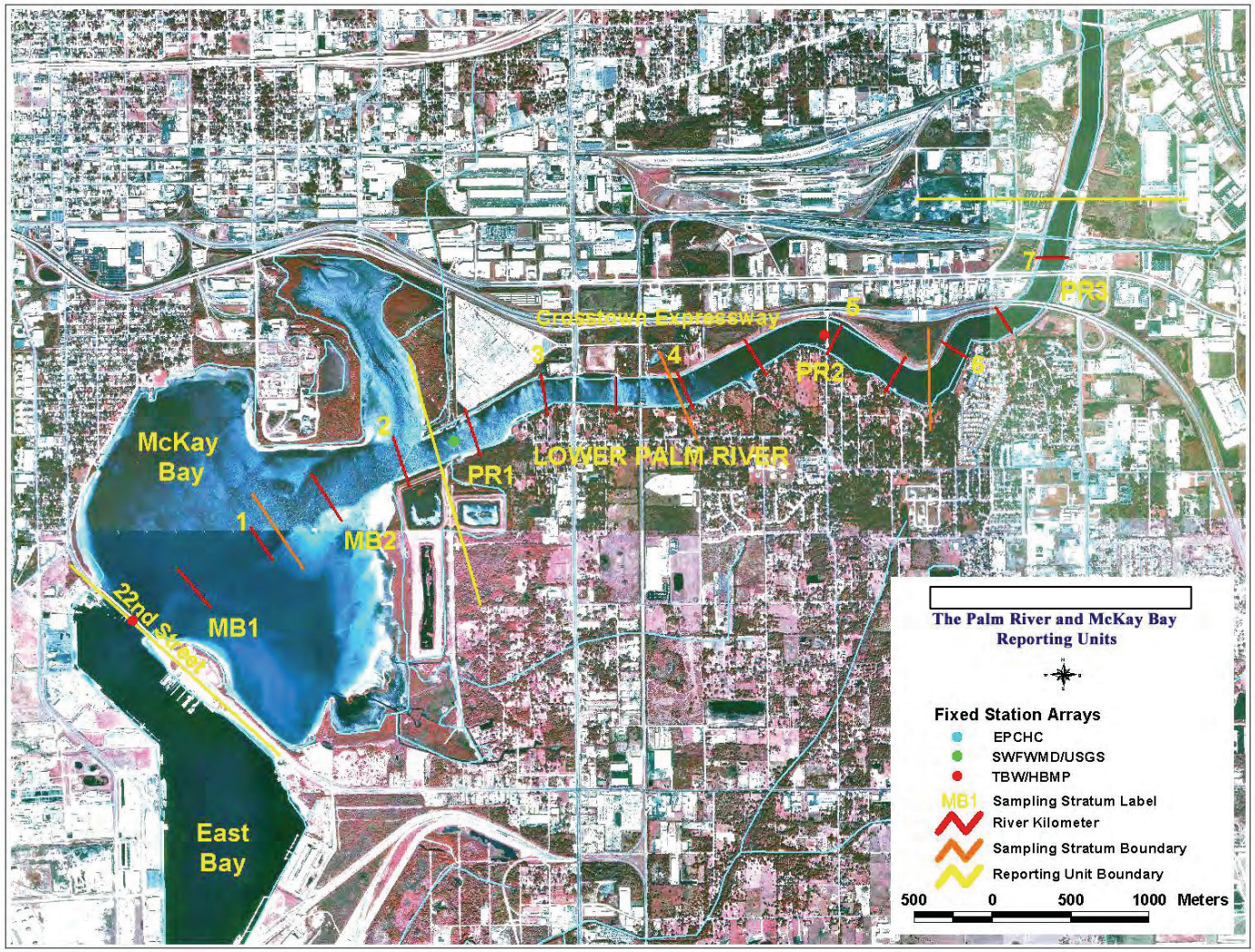

Figure 2.4.2. The Palm River and McKay Bay Reporting Units

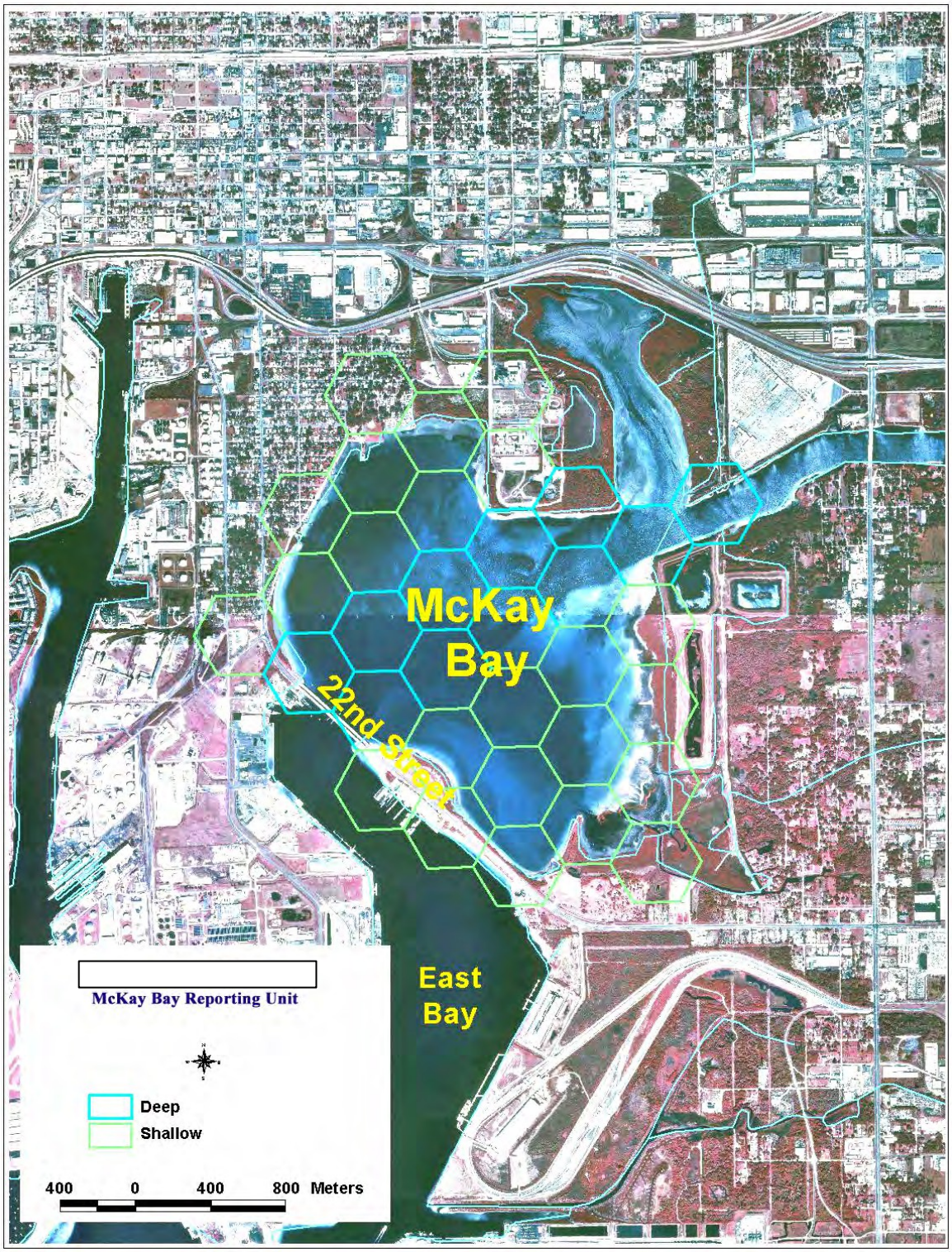

Figure 2.4.3. McKay Bay Reporting Unit

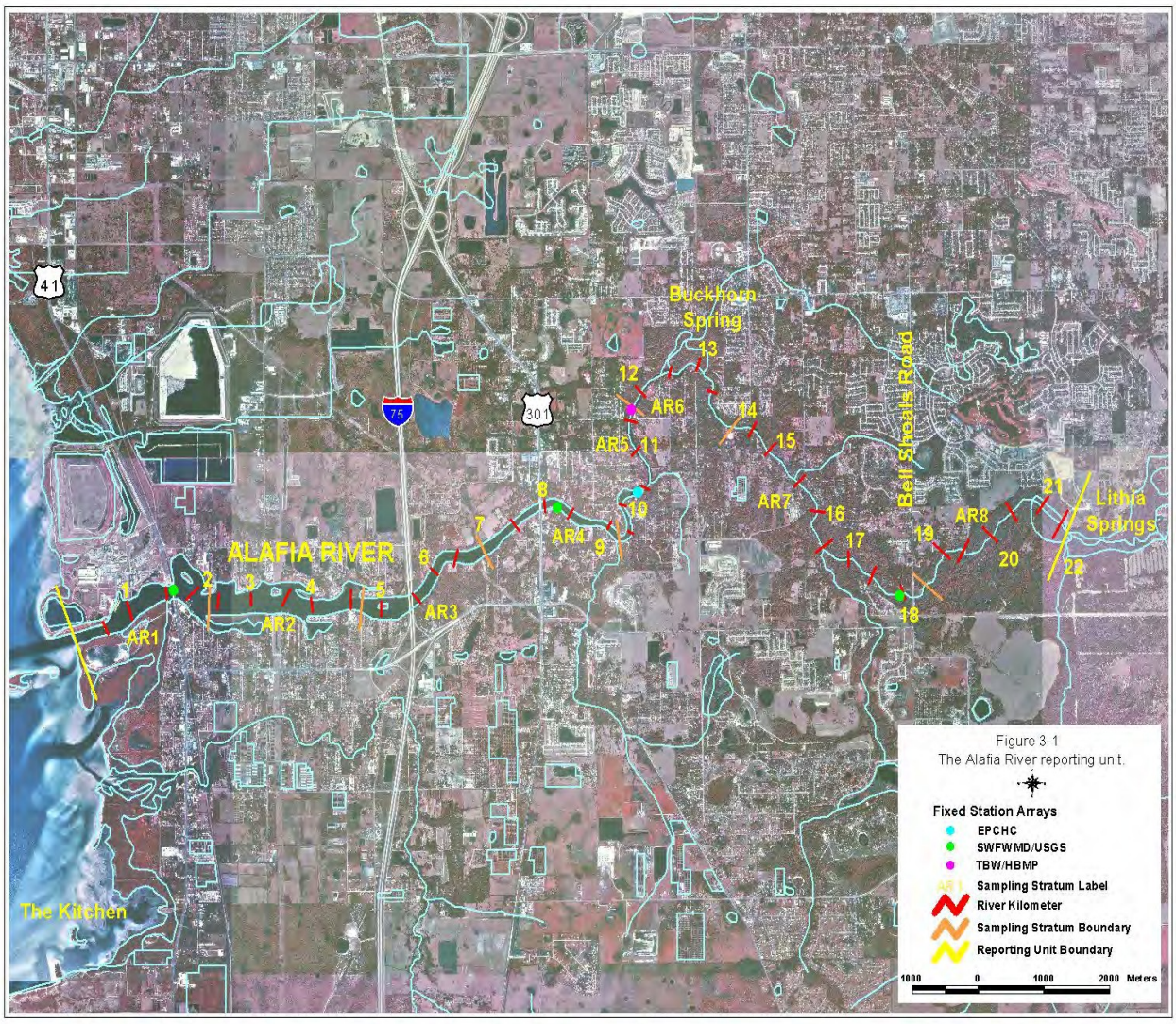

Figure 2.4.4. The Alafia River Reporting Unit

Figure 2.4.5. Hillsborough Bay Reporting Unit

3.0 Tampa Bypass Canal/Hillsborough River HBMP

3.1. Introduction

This section describes the special permit conditions, flow, water quality, and biological data collection efforts in the lower Hillsborough River, Tampa Bypass Canal (TBC), and McKay Bay conducted under the HBMP. The sampling programs for these reporting units are summarized in Tables 3.1.1 through 3.1.3 at the end of this section. Modifications to the initial HBMP sampling design and the rationale for these modifications are provided in Appendix A.

Additional information and specific procedures for sample collection and analysis are provided in the HBMP Quality Assurance and Quality Control Plan-Version 2.1 (PBS&J, 2008).

3.2. Lower Hillsborough River, Tampa Bypass Canal and McKay Bay Reporting Units

The Lower Hillsborough River (HR) reporting unit (Figure 2.4.1) extends from the mouth of the river at Platt Street to the City of Tampa Dam, covering a distance of 16.34 river kilometers. This spatial reporting unit was divided into six strata, five of equal length (2.55 km) below Sulphur Springs, and one of 3.61 km in length from Sulphur Springs upstream to the dam. These strata are used for all of the HBMP elements (i.e., water quality, benthos, adult and juvenile fish, ichthyoplankton and vegetation).

The TBC/Palm River reporting unit (Figure 2.4.2) extends from the mouth upstream to Structure S-160. This spatial reporting unit is divided into 3 strata of equal length (1.75 km). In addition to these longitudinal strata, it was also recognized during HBMP design that significant variation in both water quality and benthos might exist due to differences in depth. Therefore, both shallow and deep water substrata within each longitudinal stratum were defined in the Palm River for both water quality and benthos monitoring elements.

The McKay Bay reporting unit (Figure 2.4.3) extends from the 22nd Street Causeway to the mouth of the TBC. This spatial reporting unit was divided into 2 strata: 1) the channel that runs approximately along the centerline of the Bay; and 2) the shallow remainder of the Bay. The channel portion was further divided into 2 strata of equal length (1.1 km). Sample selection for water quality and benthic sampling locations is based on a hexagonal grid framework, similar to that used by the Environmental Protection Commission of Hillsborough County (EPCHC), except using a finer grid scale of approximately 0.2 km^2. These hexagons were then divided into a 1-m^2 grid and potential sample stations established at the 1-m^2 grid nodes. The hexagons, grids, and stations were generated by Janicki Environmental (PBS&J, 2000).

3.3. Lower Hillsborough River and Tampa Bypass Canal Permit Conditions

Water Use Permit 20011796.002 for the Tampa Bypass Canal (TBC)/Hillsborough River Water Supply Projects authorizes Tampa Bay Water to divert water from the Hillsborough River and withdraw water from Tampa Bypass Canal according to the schedule provided in the permit.

This permit requires that Tampa Bay Water continue to implement the approved TBC/Hillsborough River HBMP in order to address the following objectives:

- Use baseline conditions to compare the effects of the permitted water use upon streamflow rates, salinity distributions, and selected water quality and biologic variables within the lower Hillsborough River below Tampa Dam, TBC, Palm River, and McKay Bay

- Monitor diversions from the Hillsborough River and withdrawals from the TBC at the withdrawal points and evaluate streamflow data for the lower Hillsborough River at the Tampa Dam, and the TBC at the District's Structures 160 and 162

- Evaluate the ecological relationships of the lower Hillsborough River below Tampa Dam, TBC, Palm River, and McKay Bay to freshwater flows

- Monitor selected water quality and biologic variables in order to determine if the ecological characteristics of the lower Hillsborough River below Tampa Dam, TBC, Palm River, and McKay Bay relate to freshwater flow change over time

- Determine the relative effect of permitted diversions and withdrawals on any ecologic changes that may occur in the lower Hillsborough River below Tampa Dam, TBC, Palm River, and McKay Bay

- Determine if these withdrawals cause or significantly contribute to any unacceptable adverse environmental impacts to the natural resources of the lower Hillsborough River below Tampa Dam, TBC, Palm River, and McKay Bay exhibit as a result of changes in freshwater flows. The HBMP shall identify criteria that will be used to determine unacceptable adverse environmental impacts to the resources

- Coordinate with appropriate agencies that have or are currently collecting data that can be incorporated into the HBMP to avoid duplication of effort and to facilitate the most efficient use of resources.

3.4. Sampling Site Selection

All but one of the monthly sample sites (stations) for water quality, fish, benthos, and plankton are randomly selected. There is a fixed water quality sampling station at the mouth of the Hillsborough River and East Bay. This station is collocated with EPCHC water quality sampling Station 52. Sampling stations for water quality, fish, and benthos are randomly selected each month. Sampling stations for plankton were randomly selected at the beginning of the HBMP and remain fixed.

Sampling stations for the Hillsborough River and TBC are identified by stratum and location relative to the mouth of the river. Thus, the station in Hillsborough River Stratum 1, 1000 meters from the mouth of the river, is identified as “HR101000”. The prefix “HR1” designates the river and stratum and the suffix “01000” identifies the distance from the mouth of the river. The “HR”

and "PR" designations identify Hillsborough and Palm River stations, respectively. All potential stations and their corresponding latitude and longitude have been determined and are listed in the project database. Stations are chosen in each stratum by randomly selecting from the list of potential stations.

Plankton sampling stations in McKay Bay are identified by the "MB" prefix and are oriented on a centerline that begins at the 22nd Street Causeway Bridge and ends at the downstream terminus of the TBC centerline. Plankton sampling in McKay Bay occurs in two strata. The naming convention for McKay Bay plankton stations follows that of the rivers with the distance designation representing meters from the 22nd Street Causeway. The TBC stations for water quality, fish, benthos, and plankton are also defined in meters from the 22nd Street Causeway.

In addition to the station location along the river's length, the location relative to the river's width (left, middle, or right) is also randomly selected for water quality, fish, and benthos sampling. Finally, the starting point of a day's sample collection (e.g. river mouth or upstream boundary) is randomly selected each month for water quality.

River width and starting point selection parameters are not used for water quality, fish, or benthos sampling in McKay Bay, as the McKay Bay sampling design is not based upon linear stratification. For sampling purposes, McKay Bay has been divided into hexagons, which are further partitioned into 1-meter cells. Each potential sample station is located within a single grid cell. Stations are selected by randomly selecting a hexagon, then randomly selecting a grid cell within the hexagon. The prefix "M" and a unique suffix number that identifies the hexagon and grid cell identify McKay Bay stations.

The week in which sampling is conducted for each month is randomly selected for water quality and fish. Plankton sampling dates are chosen based upon the appropriate correspondence of tide stage with time of day. The Environmental Protection Commission of Hillsborough County (EPCHC) performs water quality and benthos sampling in Hillsborough Bay at fixed sampling stations during fixed weeks of the month or a late summer/early fall index period.

3.5. Hydrology / Water Quality

Current data collection activities for the hydrology/water quality element of the TBC/Hillsborough River HBMP are described briefly below. Specific procedures for sample collection and analysis are provided in the HBMP Quality Assurance and Quality Control Plan-Version 2.1 (PBS&J, 2008).

River flow and rainfall measurements are obtained from Tampa Bay Water maintained equipment or equipment maintained and operated by USGS. Salinity data are obtained from HBMP continuous water quality recording stations installed specifically for this project; these stations were installed in the early part of Water Year 2001.

Water quality samples and measurements are taken monthly in each of the three reporting units, lower Hillsborough River, TBC, and McKay Bay. Water quality sampling consists of a water column profile and an associated grab sample. The water column profiles measure temperature,

specific conductance, pH, salinity (calculated from specific conductance), and dissolved oxygen. These measurements are typically made at the water column surface, bottom, and 0.5 meter increments from the surface. The grab samples are analyzed by a subcontracted laboratory for parameters specific to each reporting unit. Sampling is typically conducted over a two- to three-day period. An increased number of samples are taken during the summer wet-season as shown in the HBMP sampling summary tables below. Hydrologic and water quality parameters measured in the lower Hillsborough River, TBC, and McKay Bay are shown in Table 3.5.1. In addition, the EPCHC collects water quality samples once monthly at fixed stations in Hillsborough Bay. This effort measures all water quality parameters included in the HBMP.

As described above, the HBMP maintains one continuous water quality recorder in the TBC, one in McKay Bay, and three in the Hillsborough River (Sligh Ave., Columbus Ave., and between Sligh and Columbus). These recorders were installed in Water Year 2001 as part of the HBMP and are listed in the sampling summary tables (Tables 3.7.1-3.7.3). In addition, the USGS maintains several long-term real-time water quality recorders that are used for the HBMP.

Table 3.5.1. Hydrologic and water quality parameters measured in the three reporting units.

Lower Hillsborough River	Tampa Bypass Canal Lower Palm River	McKay Bay
stream flow	stream flow	stream flow
surface water elevation	surface water elevation	surface water elevation
salinity	salinity	salinity
specific conductance	specific conductance	specific conductance
temperature	temperature	temperature
pH	pH	pH
dissolved oxygen	dissolved oxygen	dissolved oxygen
chlorophyll *a*	chlorophyll *a*	chlorophyll *a*
----------	color	color
orthophosphorus*	orthophosphorus*	orthophosphorus*
total phosphorus*	total phosphorus*	total phosphorus*
ammonia/ammonium *	ammonia/ammonium *	ammonia/ammonium *
nitrate+nitrite*	nitrate+nitrite*	nitrate+nitrite*
total Kjeldahl nitrogen*	total Kjeldahl nitrogen*	total Kjeldahl nitrogen*
total nitrogen*	total nitrogen*	total nitrogen*

*Sampling for these parameters is not specified or required in the original or the current HBMP design. These parameters have been collected during certain water years for other Tampa Bay Water projects.

3.6. Biota

Current data collection activities for the biota element of the TBC/Hillsborough River HBMP (benthic macroinvertebrates, ichthyoplankton and other zooplankton, and fish) are described

briefly below. Specific procedures for sample collection and analysis are provided in the HBMP Quality Assurance and Quality Control Plan-Version 2.1 (PBS&J, 2008).

3.6.1. Benthic Macroinvertebrates

Benthic macroinvertebrate samples are also taken monthly in each of the three reporting units. Sampling is typically conducted over a three- to four-day period. A greater number of samples are taken during the summer wet-season. Hillsborough River samples are archived in an unsorted condition in April, May, June, October, November, and December. Samples during these months were not included in the draft HBMP design. During its review of the draft HBMP design, SWFWMD requested that samples be collected during these months, but archived for potential future analysis (see Appendix A). Samples for the remainder of the year are sorted and analyzed.

The sample collection and analysis techniques of the HBMP and the EPCHC programs are the same. The EPCHC benthos-sampling program includes Hillsborough Bay. EPCHC samples once per year during a late summer/early fall index period.

Water column casts or profiles and Secchi-depth measurements are performed at each station. Sediment samples are also taken at each station to be analyzed for percent fines and organic matter content. Benthic macroinvertebrate samples are sieved and stored for later sorting and analyses by the subcontracted invertebrate taxonomy laboratory.

3.6.2. Ichthyoplankton and other Zooplankton

Plankton collections are made monthly in each reporting unit by University of South Florida (USF) staff. The sampled locations within each reporting unit were selected using a one-time stratified-random approach as described above.

Dates of sampling are chosen to correspond with the occurrence of night-time flood tides. Night-time zooplankton catches are known to be generally larger than daytime catches. This phenomenon was confirmed during preliminary sampling of the lower Alafia River prior to 2000. Similarly, existing data indicate that, during flood tides, the estuarine water column tends to contain more organisms that are moving upstream or are trying to maintain position within the estuary, whereas ebb tidal waters tend to contain more organisms that are in the process of leaving the estuary. Night-time flood tides were therefore chosen as the standard conditions for zooplankton sampling. A water column profile is performed at the end of each tow.

3.6.3. Fish

Fish sampling is conducted once monthly in each reporting unit except the TBC by Florida Fish and Wildlife Research Institute (FWRI) staff. The sampling effort in each stratum typically consists of utilizing two 21-m seines and one 6.1-m otter trawl, though some strata in the Hillsborough River are not sampled with trawls. Most of the animals traditionally sampled by the FWRI Fisheries Independent Monitoring Program are included in this effort. These include all fishes, blue crabs, stone crabs, horseshoe crabs and penaeid shrimp. A water profile is performed at each station.

3.7. Habitat / Vegetation

Current data collection activities for the habitat/vegetation element of the TBC/Hillsborough River HBMP are described briefly below. Specific procedures for sample collection and analysis are provided in the HBMP Quality Assurance and Quality Control Plan-Version 2.1 (PBS&J, 2008).

Vegetation sampling consists of interpretation of aerial photography and shoreline surveys conducted every three years during the October through December period. The boundaries of floodplain vegetation associations delineated during previous HBMP mapping events are plotted on false-color infrared aerial photographs provided by Tampa Bay Water. Paper and/or electronic versions of the photographs and boundaries are used in the field to map changes in floodplain vegetation. These photographs are supplemented with other aerial photographs if necessary. The observed vegetation-association boundaries are compared with the previous event's boundary to determine any shifts. Changes in vegetation boundaries are made by creating a copy of the previous event's coverage and editing only those polygons with changed boundaries or shapes. This procedure is designed to minimize observer bias.

If changes are identified on paper maps, the resulting polygons are digitized to create a GIS coverage for each reporting unit. Inter-annual changes in the area and extent of major vegetation associations in the reporting units are calculated by comparing the association boundaries and areas over time. These vegetation association polygons are also used to calculate linear estimates of vegetation shoreline extents. Estimation of the first and last occurrence of vegetation community indicator species (e.g., black needlerush (*Juncus roemerianus*)) for each monitoring event is based on the population occurrence of each species rather than the occurrence of individual plants of each species.

Table 3.1.1
Sampling Program Summary for the Lower Hillsborough River Reporting Unit

Element	Spatial Strata	Month												Total
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	
Water Quality	6 strata	1/stratum	1/stratum	1/stratum	1/stratum	1/stratum	1/stratum	1/stratum	1/stratum	1/stratum	1/stratum	1/stratum	1/stratum	72
	1 fixed bay station	1/station	1/station	1/station	1/station	1/station	1/station	1/station	1/station	1/station	1/station	1/station	1/station	12
Benthos	6 strata	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	144[1]
Fish	Seine samples in 6 longitudinal strata (HR1 – HR6)	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	144 seines
	Trawl samples in 3 longitudinal strata (HR1 - HR3)	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	72 trawls
Ichthyoplankton and other Zooplankton	6 strata	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ Stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	144 hauls
Hydrology/ Water Quality	Temperature, conductivity and salinity (bottom and surface) at Sligh Ave., Columbus Ave., and a third station located between Sligh and Columbus													
Vegetation/Habitat	Entire reporting unit										polygon mapping			1
											shoreline survey [2]			1

[1] Only samples collected from January through March, and July through September (72 samples a year), are processed; the remaining samples are preserved and archived after sieving but before sorting and other analyses. Sediment samples are not collected for the archived samples.
[2] Conducted once every three years (Fall 2011 (WY 2012), Fall 2014 (WY 2015), etc.).

Table 3.1.2
Sampling Program Summary for the TBC/Palm River Reporting Unit

Element	Spatial Strata	Month												Total
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	
Water Quality	3 longitudinal strata (PR1 - PR3,) with Deep channel & shallow substrata	1 deep & 1 shallow/ stratum	1 deep & 1 shallow/ stratum	1 deep & 1 shallow/ stratum	1 deep & 1 shallow/ stratum	1 deep & 1 shallow/ stratum	1 deep & 1 shallow/ stratum	2 deep & 2 shallow/ stratum	2 deep & 2 shallow/ stratum	2 deep & 2 shallow/ stratum	1 deep & 1 shallow/ stratum	1 deep & 1 shallow/ stratum	1 deep & 1 shallow/ stratum	90
	1 Fixed Station on upstream side of S-160	1	1	1	1	1	1	1	1	1	1	1	1	12
Benthos	1 Stratum (PR1 downstream of US41) with Deep channel / shallow substrata	1 Deep 1 Shallow		1 Deep 1 Shallow		1 Deep 1 Shallow		1 Deep 1 Shallow	1 Deep 1 Shallow	1 Deep 1 Shallow		1 Deep 1 Shallow		14
Ichthyoplankton and other Zooplankton	1 Stratum (PR1 downstream of US41) in deep center channel	2 hauls/ stratum	2 hauls/ Stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ Stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	24 hauls
Hydrology/ Water Quality	Maydell Drive (temperature, conductivity, and salinity @ surface and bottom).													
Vegetation/Habitat	Entire reporting unit										polygon mapping[1]			1
											shoreline survey[1]			1

[1] Conducted once every three years (Fall 2011 (WY 2012), Fall 2014 (WY 2015), etc.).

Table 3.1.3
Sampling Program Summary for the McKay Bay Reporting Unit

Element	Spatial Strata	Month												Total
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	
Water Quality	34 cells	3	4	3	4	3	3	10	10	10	3	4	3	60
Benthos	34 cells	3	4	3	4	3	3	10	10	10	3	4	3	60
Fish	1 shallow (seine: 26 cells) and 1 deep (trawl: 18 cells) strata	1 seine in each of 10 cells 1 trawl in each of 4 cells	1 seine in each of 10 cells 1 trawl in each of 4 cells	1 seine in each of 10 cells 1 trawl in each of 4 cells	1 seine in each of 10 cells 1 trawl in each of 4 cells	1 seine in each of 10 cells 1 trawl in each of 4 cells	1 seine in each of 10 cells 1 trawl in each of 4 cells	1 seine in each of 10 cells 1 trawl in each of 4 cells	1 seine in each of 10 cells 1 trawl in each of 4 cells	1 seine in each of 10 cells 1 trawl in each of 4 cells	1 seine in each of 10 cells 1 trawl in each of 4 cells	1 seine in each of 10 cells 1 trawl in each of 4 cells	1 seine in each of 10 cells 1 trawl in each of 4 cells	120 seines 48 trawls
Ichthyoplankton and other Zooplankton	6 cells – fixed location stations - shallow 2 strata – fixed location stations – deep channel	1 haul/ cell 2 hauls/ stratum	1 haul/ cell 2 hauls/ Stratum	1 haul/ cell 2 hauls/ stratum	1 haul/ cell 2 hauls/ stratum	1 haul/ cell 2 haul/s stratum	1 haul/ cell 2 hauls/ stratum	1 haul/ cell 2 hauls/ stratum	1 haul/ cell 2 hauls/ stratum	1 haul/ cell 2 hauls/ stratum	1 haul/ cell 2 hauls/ stratum	1 haul/ cell 2 hauls/ stratum	1 haul/ cell 2 hauls/ stratum	72 hauls 48 hauls
Hydrology/ Water Quality	22nd Street Causeway (temperature, conductivity, and salinity @ surface and bottom).													
Vegetation/Habitat	Entire reporting unit										polygon mapping [1]			1

[1] Conducted once every three years (Fall 2011 (WY 2012), Fall 2014 (WY 2015), etc.).

4.0 Alafia River HBMP

4.1. Introduction

This section described the flow, water quality, and biological data collection efforts in the lower Alafia River conducted under the HBMP. The sampling program for this reporting unit is summarized in Table 4.1.1 at the end of this section. Modifications to the initial sampling design and the rationale for these modifications are provided in Appendix A.

Additional information and specific procedures for sample collection and analysis are provided in the HBMP Quality Assurance and Quality Control Plan-Version 2.1 (PBS&J, 2008).

4.2. Lower Alafia River Reporting Unit

The current lower Alafia River (AR) spatial reporting unit (Figure 2.4.4) is about 18.5 kilometers long. The estuarine portion of the river extends from the mouth to approximately river kilometer 14 (Rkm 14). This estuarine portion of the river was divided into 6 strata of equal length (2.33 km). The remaining 4.5 kilometers of the reporting unit, from kilometer 14 to kilometer 18.5 slightly upstream of Bell Shoals Road, is generally considered to be a freshwater system. An additional freshwater segment, upstream of the intake (stratum AR8, Rkm 18.5 to 21.0) was removed from the original HBMP design because the sampling methods required in this stratum were not compatible with those used in the other strata, and potential impacts related to withdrawals are most likely to be observed downstream of Tampa Bay Water's intake near Bell Shoals Road.

These strata are used for all of the HBMP study elements. An additional inset stratum for benthos sampling was defined in consultation with Hillsborough County and the SWFWMD. This stratum extends approximately 1 km upstream (Rkm 13) and 1 km downstream (Rkm 7) of the freshwater interface and includes additional sampling for portions of Strata AR4 and AR6 and all of AR5.

4.3. Alafia River Permit Conditions

Water Use Permit 2011794.01 for the Alafia River authorizes Tampa Bay Water to withdraw water from the Alafia River at Bell Shoals Road according to the schedule provided in the permit.

The original water use permit (Permit 2011794.00) required Tampa Bay Water to develop and implement an HBMP) for the Alafia River. The permit specified that the HBMP address the following objectives:

- Establish baseline conditions prior to permitted use for streamflow rates, salinity distributions, and selected water quality and biological variables within the Alafia River and its estuary

- Monitor withdrawals from the Alafia River at the withdrawal point and evaluate streamflow data for the river at all applicable locations

- Evaluate the ecological relationships of the Alafia River and its estuary to freshwater flows

- Monitor selected water quality and biological variables in order to determine if the ecological characteristics of the river and its estuary related to freshwater flow change over time

- Determine the relative effect of permitted withdrawals from the Alafia River on any ecologic changes that may occur in the river and its estuary

- Determine if these withdrawals cause or significantly contribute to any unacceptable environmental impacts that the river and its estuary exhibit as a result of changes in freshwater flows

- Coordinate with appropriate agencies that have or are currently collecting data that can be incorporated into the HBMP to avoid duplication of effort and to facilitate the most efficient use of resources.

4.4. Sampling Site Selection

All but one of the monthly sample sites (stations) for water quality, fish, benthos, and plankton are randomly selected. There is a fixed water quality sampling station at the mouth of the Alafia River. This station corresponds to EPCHC water quality Station 8. Sampling stations for water quality, fish, and benthos are randomly selected each month. Sampling stations for plankton and for fixed-station vegetation monitoring were randomly selected at the beginning of the HBMP and remain fixed.

Sampling stations for the Alafia River are identified by stratum and location relative to the mouth of the river. Thus, the station in Alafia River Stratum 1, 1000 meters from the mouth of the river, is identified as "AR101000". The prefix "AR1" designates the river and stratum and the suffix "01000" identifies the distance from the mouth of the river. All potential stations and their corresponding latitude and longitude have been determined and are listed in the project database. Stations are chosen in each stratum by randomly selecting from the list of potential stations.

In addition to the station location along the river's length, the location relative to the river's width (left, middle or right) is also randomly selected for water quality, fish and benthos sampling. Finally, the starting point of a day's sample collection (e.g., river mouth or upstream boundary) is randomly selected each month for water quality. The week in which sampling is conducted for each month is randomly selected for water quality and fish. Plankton sampling dates are chosen based upon the appropriate correspondence of tide stage with time of day.

4.5. Hydrology / Water Quality

Current data collection activities for the hydrology/water quality element of the Alafia River HBMP are described briefly below. Specific procedures for sample collection and analysis are provided in the HBMP Quality Assurance and Quality Control Plan-Version 2.1 (PBS&J, 2008).

River flow and rainfall measurements are obtained from Tampa Bay Water maintained equipment or equipment maintained and operated by the USGS. Salinity data are obtained from the HBMP continuous water quality recording station installed on the Alafia River downstream of Buckhorn Creek; this station was installed in the early part of Water Year 2001.

Water quality samples and measurements are taken once a month. Water quality sampling consists of a water column profile and an associated grab sample. The water column profiles measure temperature, specific conductance, pH, salinity (calculated from specific conductance), and dissolved oxygen. These measurements are typically made at the water column surface, at the bottom, and at 0.5 meter increments from the surface. The grab samples are analyzed by a subcontracted laboratory for the parameters listed in Table 4.6.1. Sampling is typically conducted over a two-day period.

Table 4.5.1. Hydrologic and water quality parameters measured in the Alafia River.

Lower Alafia River
stream flow
surface water elevation
salinity
specific conductance
temperature
pH
dissolved oxygen
chlorophyll *a*
color
total suspended solids
orthophosphorus* total
phosphorus*
ammonia/ammonium*
nitrate+nitrite*
total Kjeldahl nitrogen*
total nitrogen*

*Sampling for these parameters is not specified or required in the original or the current HBMP design. These parameters have been collected during certain water years for other Tampa Bay Water projects.

4.6. Biota

Current data collection activities for the biota element of the Alafia River HBMP (benthic macroinvertebrates, ichthyoplankton and other zooplankton, and fish) are described briefly below. Specific procedures for sample collection and analysis are provided in the HBMP Quality Assurance and Quality Control Plan-Version 2.1 (PBS&J, 2008).

4.6.1. Benthic Macroinvertebrates

Benthic macroinvertebrate samples are also taken once monthly in the Alafia River reporting unit. Sampling is typically conducted over a three- to four-day period. A greater number of samples are taken during the summer wet-season in an index stratum in the middle of the Alafia River. Early modeling efforts and subsequent analyses suggested that were salinity changes to occur as a result of Tampa Bay Water operations, they would most likely occur in this stratum.

Water column casts or profiles and Secchi-depth measurements are performed at each station. Sediment samples are also taken at each station to be analyzed for percent fines and organic matter content. Benthic macroinvertebrate samples are sieved and stored for later sorting and analyses by the subcontract invertebrate taxonomy laboratory.

4.6.2. Ichthyoplankton and other Zooplankton

Plankton collections are made monthly in the reporting unit by University of South Florida (USF) staff. The sampled locations within the reporting unit were selected using a one-time stratified-random approach as described above. Dates of sampling are chosen to correspond with the occurrence of night-time flood tides. Night-time zooplankton catches are known to be generally larger than daytime catches. This phenomenon was confirmed during preliminary sampling of the lower Alafia River. Similarly, existing data indicate that, during flood tides, the estuarine water column tends to contain more organisms that are moving upstream or are trying to maintain position within the estuary, whereas ebb tidal waters tend to contain more organisms that are in the process of leaving the estuary. Night-time flood tides were therefore chosen as the standard conditions for zooplankton sampling. A water column profile is performed at the end of each tow.

4.6.3. Fish

Fish sampling is conducted once monthly by Fish and Wildlife Research Institute (FWRI) staff. The sampling effort in each stratum typically consists of utilizing two 21-m seines and one 6.1-m otter trawl. The upper and lower-most strata of the Alafia River are not sampled using trawls. Additional Alafia River associated fish sampling occurs in Hillsborough Bay at the mouth of the Alafia River. This additional sampling effort was initiated in Water Year 2005 to assess fish populations that leave the Alafia River during periods of high flow (see Appendix A). Most of the animals traditionally sampled by the FWRI Fisheries Independent Monitoring Program are included in this effort. These include all fishes, blue crabs, stone crabs, horseshoe crabs, grass shrimp and penaeid shrimp. A water column profile and Secchi depth measurements are performed at each station.

4.7. Habitat / Vegetation

Current data collection activities for the habitat/vegetation element of the Alafia River HBMP are described briefly below. Specific procedures for sample collection and analysis are provided in the HBMP Quality Assurance and Quality Control Plan-Version 2.1 (PBS&J, 2008).

Riverine vegetation is mapped once every three years during the Fall index period (September through December). The boundaries of floodplain vegetation associations delineated during previous HBMP mapping events are plotted on false-color infrared aerial photographs provided by Tampa Bay Water. Paper and/or electronic versions of the photographs and boundaries are used in the field to map changes in floodplain vegetation. These photographs are supplemented with other aerial photographs if necessary. Vegetation is usually mapped by field staff in boats. The observed vegetation-association boundaries are compared with the previous event's boundary to determine shifts. Changes in vegetation boundaries are made by creating a copy of the previous event's coverage and editing only those polygons with changed boundaries or shapes. This procedure is designed to minimize observer bias.

If changes are made on paper maps, the resulting polygons are digitized to create a GIS coverage for each reporting unit. Inter-annual changes in the area and extent of major vegetation associations in the reporting units are calculated by comparing the association boundaries and areas over time. These vegetation association polygons are also used to calculate linear estimates of vegetation shoreline extents. Estimation of the first and last occurrence of vegetation community indicator species (e.g., black needlerush (*Juncus roemerianus*)) for each monitoring event is based on the population occurrence of each species rather than the occurrence of individual plants of each species.

Submerged aquatic vegetation (SAV) is surveyed once every five years. Sampling is conducted once during the SAV growing season. SAV is surveyed in two reporting units defined as the marine/brackish transitional area, and the brackish/fresh transitional area. These reporting units were identified by documenting the existing first and last occurrence of black needlerush (*Juncus roemerianus*). The mid-points of the marine/brackish and the brackish/fresh reporting units are defined as the observed downstream and upstream last occurrence of *Juncus*, respectively. The respective reporting units extend 2 km upstream and 2 km downstream from these two mid-points, therefore, both the marine/brackish and the brackish/fresh reporting units are 4 river km in length. Each reporting is divided into four spatial strata, each 1 km in length.

Under the original SAV sampling protocol, SAV was assessed at randomly-selected sampling locations in each stratum, on both the left and right sides of the river channel centerline. A revised sampling protocol has been implemented using underwater cameras. Under the revised protocol, a two transects (one on each side of the river) are surveyed for SAV along the entire 8-kilometer combined extent of the marine/brackish and brackish/fresh reporting units. The transects are surveyed by towing an underwater camera transmitting to a surface video screen. The transects are defined as the area between the side of the river channel and the water depth of two meters or less. Staff performing the survey documents the latitude and longitude of each SAV occurrence. These latitude and longitudes are converted to decimal river kilometers for reporting purposes.

In the event the video camera protocol cannot be implemented, SAV is sampling according to the original protocol. Under the original sampling protocol, a total of 36 randomly selected samples per reporting unit are collected using divers. These consist of eight samples per stratum (four samples on each side of the river). The relative percent cover of SAV plant species within a 1 m^2 quadrat is assessed at each sample location. The SAV sample locations are randomly selected for each event.

Table 4.1.1
Sampling Program Summary for the Lower Alafia River Reporting Unit

Element	Spatial Strata	Month												Total
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	
Water Quality	6 estuarine strata	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	144
	1 fixed bay station	1 station	1 station	1 station	1 station	1 station	1 station	1 station	1 station	1 station	1 station	1 station	1 station	12
	1 freshwater stratum (AR7)	2/stratum	3/stratum	2/stratum	3/stratum	2/stratum	3/stratum	2/stratum	3/stratum	2/stratum	3/stratum	2/stratum	3/stratum	30
Benthos	6 estuarine strata	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	2/stratum	144
	1 inset stratum						7/stratum	6/stratum	7/stratum					20
	1 freshwater stratum (AR7)	3/stratum	3/stratum	3/stratum	3/stratum	3/stratum	3/stratum	3/stratum	3/stratum	3/stratum	3/stratum	3/stratum	3/stratum	36
Fish	6 longitudinal, estuarine strata (AR1 – AR6) with shallow samples	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	2 seines/ stratum	144 seines
	3 longitudinal, estuarine strata (AR1 – AR3) with deep samples	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	2 trawl/ stratum	72 trawls
	1 freshwater stratum (AR7) with shoreline seines										10 seines/ stratum			10 seines
	1 bay stratum (AR0) outside river mouth	2 shoreline seines 2 offshore seines 3 trawls	2 shoreline seines 2 offshore seines 3 trawls	2 shoreline seines 2 offshore seines 3 trawls	2 shoreline seines 2 offshore seines 3 trawls	2 shoreline seines 2 offshore seines 3 trawls	2 shoreline seines 2 offshore seines 3 trawls	2 shoreline seines 2 offshore seines 3 trawls	2 shoreline seines 2 offshore seines 3 trawls	2 shoreline seines 2 offshore seines 3 trawls	2 shoreline seines 2 offshore seines 3 trawls	2 shoreline seines 2 offshore seines 3 trawls	2 shoreline seines 2 offshore seines 3 trawls	24 shoreline seines 24 offshore seines 36 trawls
Ichthyoplankton and other Zooplankton	6 estuarine (AR1 – AR6)	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	2 hauls/ stratum	144 hauls
Hydrology/ Water Quality	Temperature, conductivity and salinity (bottom and surface) at a site to near Buckhorn Creek.													
Vegetation/Habitat	Entire reporting unit										Polygon mapping & shoreline survey[1]			1
	One 8-km stratum										SAV survey[2]			1

[1] Conducted once every three years (Fall 2011 (WY 2012), Fall 2014 (WY 2015), etc.).

[2] Conducted once every five years (WY 2011, WY2016, etc.).

5.0 HBMP Data Quality and Management

Data quality and effective data management are critical components of all monitoring programs. Given the complexity of the HBMP, meeting data quality and management objectives is crucial for effective and accurate data collection and interpretation. HBMP data management activities including data collection, handling, evaluation, verification, validation, and reporting are described briefly in this section. The HBMP organizational chart is shown in Figure 5.1.1.

Additional information and specific procedures for sample collection and analysis are provided in the HBMP Quality Assurance and Quality Control Plan-Version 2.1 (PBS&J, 2008).

5.1. Data Quality Objectives

An important goal of the HBMP is the development of data quality objectives (DQOs) that are integrated with environmental data collection activities. Data quality objectives are statements that describe in precise quantitative terms the level of uncertainty that can be associated with collected environmental data, and as such provide insight into the level of certainty that can be applied without compromising the intended use of the data. Use of data quality objectives also provides statistical criteria that can aid the design of sampling strategy elements, balancing costs, and/or resource constraints.

Typically, DQOs are best developed by those identified as potential users of the data. In the absence of specific decision criteria, and the wide variety of potential uses to which the HMBP data may eventually be applied, the initial set of target DQOs are based on professional judgment, and are intended only to provide a starting point for a long-term, iterative DQO process. Consequently, these preliminary DQOs do not necessarily constitute definitive rules for accepting or rejecting results, but rather provide guidelines for continued improvement. Several iterations of the DQO process may be required as potential HBMP data users further define their specific needs.

During the collection of data under the HBMP, it is extremely important to both control and determine measurement error to the greatest extent possible. Measurement quality objectives (MQOs) are established for each sampling field method and laboratory analysis procedure. MQOs essentially represent data quality objectives based on internal and external controls (variability) associated with each type of data measurement. As such, they can be used to establish criteria for data acceptability until reliable error bounds are established for each measured response variable. As data are accumulated during the HBMP, error rates associated with each measurement are established and refinement of the initial target DQOs can be accomplished to determine the need for modifications to the sampling design and/or quality assurance/quality control (QA/QC) plan.

Initial measurements of data quality objectives for each of the various parameters can be expressed in terms of goals for accuracy, precision and completeness. These preliminary MQOs are based on estimates of the anticipated data quality, including the instrument manufacturer's specifications, sampler experience, and/or data collected during other similar studies. In general,

DQOs or MQOs are used to establish five aspects of data quality: representativeness, completeness, comparability, accuracy and precision. The MQOs are used along with both field and laboratory measurements to develop quality control criteria and to set the bounds of acceptable measurement error.

5.1.1. Representativeness

Representativeness is defined as "the degree to which the data accurately and precisely represent a characteristic of a population parameter, variation of a property, a process characteristic, or an operational condition" (Stanley and Verner, 1985). The concept of representativeness within the context of the biological monitoring program refers to the ability of the sampling effort to accurately and precisely characterize the selected environmental indicators effectively both temporally and spatially.

The design of the sampling program and the location of sampling sites provide the primary focus for defining the "representativeness" of population estimates for each reporting unit and strata. The HBMP employs a probability sampling approach that samples resources in proportion to their abundance and distribution to obtain unbiased estimates of resource characteristics and variability. The probability sampling approach applies systematic sampling to facilitate characterizations of spatial patterns and to encourage geographic coverage.

Once unbiased quantitative information on the kinds, extent, condition and distribution of resources and associated estimates of uncertainty are known, a baseline of the status of existing conditions is established. This baseline information is used to develop criteria for identifying "representativeness", the processes and magnitude of change associated with natural variation, and changes observed over time.

The data quality attribute of "representativeness" applies not only to the overall sampling design, but also to individual measurements and samples obtained during all temporal and spatial aspects of the monitoring effort. Holding time requirements for different types of samples ensure that analytical results are representative of conditions at the time of sampling; these requirements are specified for individual indicators. In addition, the use of QA/QC samples, which are similar in composition to samples being measured, provides estimates of precision and bias that are representative of sample measurements. Therefore, as a general program objective, the types of QA samples (i.e., performance evaluation material) used to assess the quality of analytical data will be as representative as possible of the natural samples collected during the project with respect to both composition and concentration.

5.1.2. Completeness

Completeness is defined as "a measure of the amount of data collected from a measurement process compared to the amount that was expected to be obtained under the conditions of measurement" (Stanley and Verner, 1985). All study elements within the HBMP have established completeness goals of 100% for each of the various indicators being measured. However, given the probability-based sampling design being employed, failure to achieve this

goal will not preclude the within-year or between-year assessment of ecosystem condition. The major consequence of having less than 100% complete data from all expected stations is a relatively minor loss of statistical power in the areal estimate of condition. The 100% completeness goal is established in an attempt to derive the maximum statistical power from the present sampling design. Based on the experience of other monitoring programs, failure to achieve this goal usually results from the field staff's inability to sample at some stations due to logistical barriers such as insufficient depth, impenetrable substrate, or adverse weather conditions. In the limited number of instances where these conditions may be encountered, extensive efforts will be made to re-locate the station or re-sample the station at a later date. In this way, the field personnel must always strive to achieve the 100% completeness goal. In addition, established protocols for tracking samples during shipment and laboratory processing will be followed to minimize data loss following successful sample collection.

5.1.3. Comparability

Comparability is defined as "the confidence with which one data set can be compared to another" (Stanley and Verner, 1985). Comparability of reporting units and calculations, database management processes, and interpretative procedures must be assured if the overall goals of the HBMP monitoring program are to be realized. A goal of the HBMP program is to generate extensive documentation to ensure that all future efforts can be made comparable. All field and laboratory methods are described in detail and available to all field personnel and analytical laboratory staff. In addition, the comparability of laboratory measurements will be established and monitored through duplicates and/or the use of field split and duplicate performance evaluation samples. The sampling design for each of the HBMP study elements has been made flexible enough to allow for analytical adjustments, if necessary, to ensure data comparability.

5.1.4. Accuracy and Precision

The term "accuracy", is used synonymously with the term bias within this QA/QC plan, and is defined as the difference between a measured value and the true or expected value.

Precision, by comparison, is defined as the degree of mutual agreement among individual repeated measurements. Collectively, accuracy and precision can provide an estimate of the total error or uncertainty associated with any individual measured value (Kirchner, 1983; Hunt and Wilson, 1986; Taylor, 1987). Measurement quality objectives for the various indicators are expressed separately as goals for both accuracy and precision. Accuracy and precision goals may not be definable for all parameters due to the nature of the measurement type. In order to evaluate the MQOs for accuracy and precision, various QA/QC samples will be collected and analyzed for most data collection activities.

5.2. Data Precision and Accuracy

General considerations for ensuring the precision and accuracy of field measurements and analytical laboratory results are described briefly below. Specific procedures are provided in the HBMP Quality Assurance and Quality Control Plan-Version 2.1 (PBS&J, 2008).

5.2.1. Field Measurements

Duplicate sets of field measurements are to be taken once per reporting unit per sampling day. These values (i.e., temperature, pH, DO, conductivity) will be documented as duplicates in the field notebooks and specifically used for determinations of instrument/sampling precision.

Measurements of accuracy will be based on QA/QC checks of standards at the end of each sampling event.

The precision of field measurements will be determined using the statistic "Relative Percent Difference" (RPD).

$$RPD = \{(|R1-R2|)/[(R1+R2)/2]\} \times 100$$

Where:

R1 = value of sample

R2 = value of sample duplicate

The RPD will be calculated for each duplicated pair of observations. The average or mean RPD is calculated by the formula:

$$\text{Mean}_{RPD} = \text{Sum (RPDs)} / n$$

where n = number of duplicate pairs

The standard deviation of the mean will be used to quantify precision measurements. The standard deviation of the mean is calculated by:

$$s^2_{RPD} = [\text{Sum}(X_i^2) - (\text{Sum}(X_i)^2/n)] / (n-1)$$

Where:

X_i = each calculated RPD

n = number of duplicate pairs

Hence:

$$s_{RPD} = (S^2_{RPD})^{1/2}$$

The s_{RPD} will be calculated for the previous 20 duplicates for each *in situ* field parameter. Based on such duplicate pairs, control and warning limits for precision will be calculated. Standard protocol is to define the "Control Limit" as 2 times the $s_{RPD,}$ with the "Warning Limit" as 3 times the s_{RPD}. Using these procedures, control and warning charts can be generated to flag observations that exceed either Warning and/or Control Limits.

5.2.2. Method Detection Limits

For Method Detection Limits (MDLs), reagent-grade water is used to prepare a laboratory standard in a concentration range 1 to 5 times the estimated MDL of the specific compound of interest. If the estimated MDL is found to be correct, then seven aliquots of the standard are analyzed using the complete analytical method. The following calculations are then used to determine the MDL, and the Practical Quantification Limit (PQL).

In accordance with EPA procedures listed in 40 CFR 136 Appendix B, the MDL and PQL are determined by the following:

where: SD = standard deviation of 7 replicate measurements
MDL = 3.14 times the SD
PQL = 12 times the SD

MDLs are required to be recalculated when there are substantial changes in either the instrumentation or technique used.

5.3. HBMP Data Management

General considerations for HBMP data management (data sources, database management, and data verification) are described briefly below. Specific procedures are provided in the HBMP Quality Assurance and Quality Control Plan-Version 2.1 (PBS&J, 2008).

5.3.1. Data Sources

The HBMP is comprised of a number of separate and unique sampling efforts being conducted by each of the various members of the Project Team (see Figure 5.1.1). Certain members of the Project Team have ongoing, standardized data handling processes and verification and data storage methodologies (Florida Fish and Wildlife Research Institute, Terra Environmental, and the University of South Florida). For this reason, the initial steps: 1) logging of field and laboratory records, 2) data checking steps, 3) data review; and 4) internal QA/QC documentation, will follow the existing established protocols and will address the particularly unique criteria of each of these study elements. Raw hard copy data will be permanently maintained, and after being visually form checked for errors, will be entered into electronic format using appropriate protocols and multiple levels (both visual and automated) of checks to assure that all data quality goals are satisfied.

Some of the data used by the HBMP are provided by external sources. Examples include daily river flows, withdrawal rates, rainfall, other meteorological data, aerial photos and GIS data that are obtained on a relatively routine basis. In addition, the majority of the data to be used in assessing the status of Hillsborough Bay will come from external sources, such as EPCHC, FWRI, and SWFWMD. The schedule for retrieval of data from other sources varies based on data availability from the data provider.

Data transfer formats will be defined in consultation with the data providers. Care will be taken to ensure that all data received will be appropriately documented, to the greatest extent possible. This documentation will include definitions of variables and variable codes, units of measure, methods, and spatial definition of samples (e.g., latitude and longitude of sampling point). When possible, cross-comparisons of these data and the data collected by the HBMP will be made as an additional quality assurance check.

Historical data from other sources will also be used in the analysis of the HBMP data. The HBMP data management process will support data retrieval and documentation from all of these

other sources to ensure the data from these sources are correctly linked with the primary HBMP data sources.

5.3.2. Database Management

The HBMP data are housed within a relational Microsoft Access database. Data for each reporting element (water quality, fish, plankton, etc.) are stored in a series of tables that are relational to each other and separate from the other reporting elements. Export of data from Access to other software applications such as Excel (or other spreadsheets), SAS, and HTML for Internet applications will be facilitated through the use of this standardized data application. The use of a relational database ensures that many different data types can be effectively linked using common variable names and values.

Data from each HBMP study element, as well as other outside sources (SWFWMD, USGS, EPCHC, etc.), will have appropriately organized primary keys in order to properly link the data tables and retain the relational integrity of the data. Examples of primary key variables include, but are not be limited to: sampling group, date, time, reporting unit, stratum/substratum, and station location (such as river kilometer). Typically, the data for a given HBMP program element will be aggregated by year and month within the data set.

The "condition field" of all HBMP data which has been entered, checked through at least two steps for errors, and received the application of any necessary reduction methodologies (dilutions, calculations of species numbers, etc.) will remain designated as "raw" until undergoing further steps in the data validation protocol.

5.3.3. Data Verification

Following the entry, logging, and checking of all "raw" data, error and range checking procedures for data verification purposes will be performed. During the verification process, specific data conditions will be noted using appropriate "data qualifier" designations. Standard DEP/EPA data qualifier codes will be used, as needed, in the appropriately identified database field. Only after all such appropriate levels of data validation have been completed, will the "condition field" within each specific data record be changed from "raw" to "verified". Only the database manager and his/her designees will have read/write abilities at this level. All other database users will be provided with read-only access to data that has been listed as "raw" and is in the verification process. Any errors and/or other changes of data made between the "raw" and "verified" status must be fully explained in the appropriate "note field," and a permanent written record of any such changes will be maintained by the QA/QC Officer.

Cross comparison of "verified" data from the different HBMP elements allows further, subsequent, "validation" of each specific data entry. Final review of the data in this Verified Data Set will also include any other cross comparisons, for example, between field and laboratory data, or between taxonomic experts. Only after final QA/QC review of each specific subset of data (monthly for water quality, quarterly for most other project study elements) will the QA/QC Officer update the "verified" status of the data to "validated". Only under unusual circumstances will data not designated as "validated" be made available for general

dissemination. The QA/QC Officer, after final review with the appropriate specific project leaders, will be responsible for applying the final "data qualifier" and "data flags" within the database. These will be used to inform the end-users of the data of any problems that may have been found to exist in the data that could not be reconciled during the verification and validation checks of the data. In addition to the standard "data qualifiers", three levels of "data flags" will be used in a separate data field. These include:

- **accepted** - this type of designation will be used to designate data that has successfully met all established QA/QC protocols, procedures and standards. ***End users should encounter few, if any, difficulties utilizing data with this designation***.

- **rejected** - this designation will be used to indicate data that did not meet a significant element of the established QA/QC protocols, procedures or standards. Specific notes within the database will explain all such designations (i.e., chlorophyll *a* filters were not appropriately frozen and arrived at the Laboratory in an unacceptable condition). ***End users should never use any data with such a designation.***

- **provisional** - such data was collected, passed almost all of the required QA/QC protocols, but failed some minor QA/QC procedure or standard. Such problems will be noted in the database (i.e., the water chemistry sample for color was analyzed 1 hour outside its required hold time). ***Even though such values have a high probability of being representative of actual conditions, such data should probably be used with caution.***

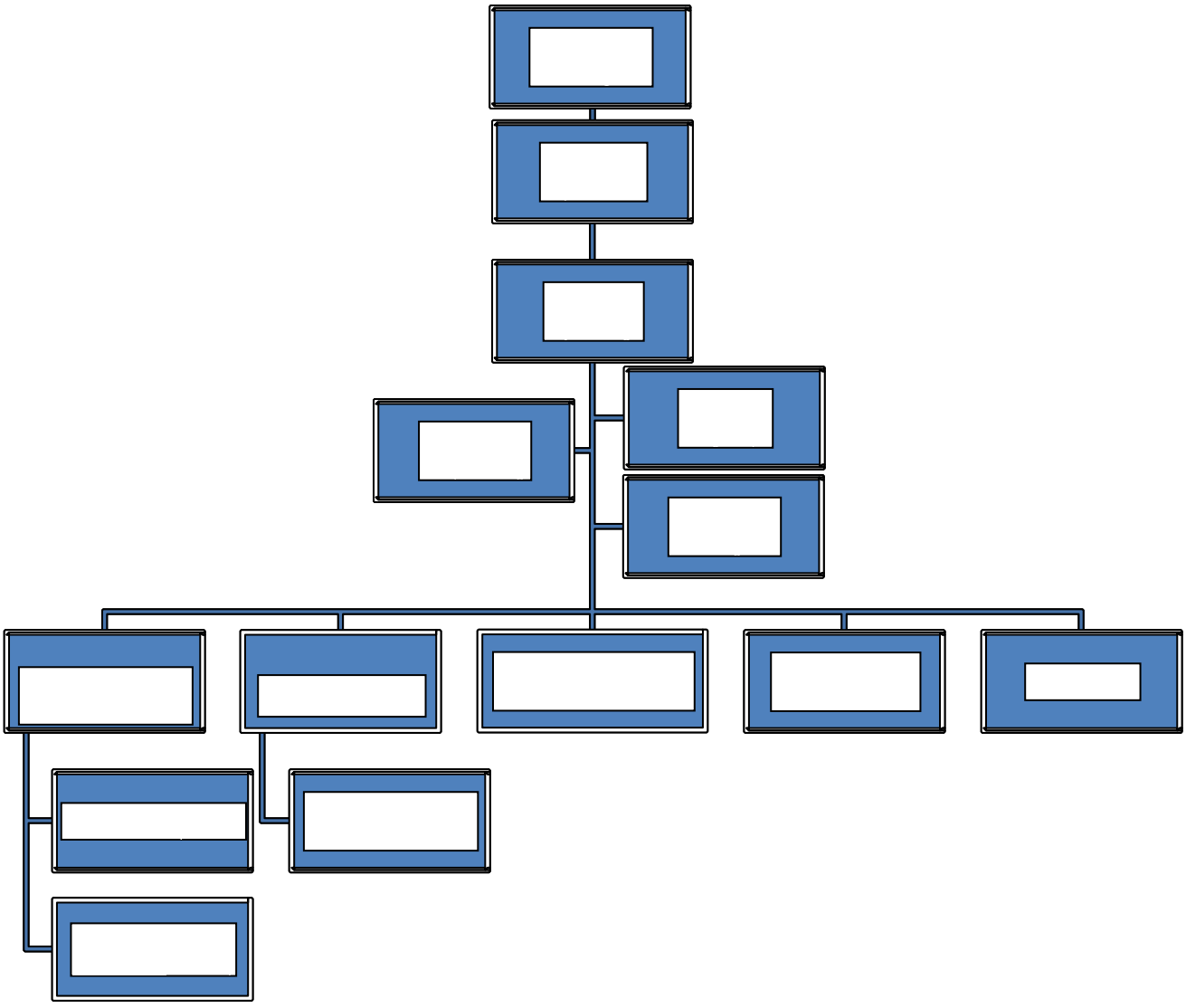

Figure 5.1.1. HBMP Organizational Chart

6.0 HBMP Reporting and Future Program Modifications

This section provides a brief summary of the HBMP reporting process and potential refinements to the program. The HBMP was intended to be routinely modified based on field conditions and the ongoing evaluation of HBMP data; recommendations are provided in HBMP reports and discussed at Annual Meetings. Previous modifications based on requests by the District and other stakeholders, logistical issues during implementation, and HBMP data evaluations are provided in Appendix A. All modifications approved by the District through July 2010 and incorporated into the program are provided in this section. It is anticipated that additional modifications will be made in the future to ensure cost-effective and appropriate monitoring relative to the objectives of the HBMP.

6.1. Reporting

The Southwest Florida Water Management District water use permits require that the HBMP results be submitted to SWFWMD in one of two report types: Annual Data Reports, and multi-year Interpretive Reports currently required once every five years for the TBC/Hillsborough River and once every three years for the Alafia River. General report requirements and methods used for data analysis are described briefly below.

6.1.1. TBC/Hillsborough River HBMP

Southwest Florida Water Management District (SWFWMD) Water Use Permit 2011796.002 for the Tampa Bypass Canal (TBC) and Hillsborough River requires that the HBMP results be submitted to SWFWMD annually in one of two types of reports. During most years, Tampa Bay Water is required to submit a HBMP Annual Report which includes all raw data collected by the HBMP for the preceding October 1st through September 30th water year. The permit requires an HBMP Annual Report in tabular form with text limited to an explanation of variable names and a description of any problems encountered or important observations made during the monitoring year. Once every five years (in July 2010, July 2015, July 2020, and July 2025), Tampa Bay Water is required submit a multi-year HBMP Interpretive Report.

The permit states the interpretive report will include comprehensive analyses of data collected by the HBMP and relevant data collected by other entities. These analyses are to be qualitative and/or quantitative and meant to evaluate the interactions of hydrologic conditions and withdrawals on streamflow, nutrient loading, salinity distributions, and the response of related water quality and biological variables in the lower Hillsborough River below the Tampa Dam, TBC, Palm River, and McKay Bay. The HBMP Interpretive Reports also include an appendix that provides tables of raw data collected by the HBMP during the previous water year thus fulfilling the requirement of the annual report for that year.

6.1.2. Alafia River HBMP

SWFWMD Water Use Permit 2011794.01 for the Alafia River states that HBMP reports will be submitted to the District according to the time frame established in the final approved HBMP plan. The periodic cycle for these reports will include yearly data reports and periodic

interpretive reports. The 1999 HBMP design (PBS&J, 2000) established a schedule for interpretive reports after Water Year 2003 and Water Year 2005 (July 2004 and 2006 respectively). A three year interval for interpretive reports (July 2009, July 2012, July 2015, etc.) was proposed during the Water Year 2006 annual meeting and subsequently approved by SWFWMD.

The Alafia River water use permit requires the submission of an annual data report of all raw data collected during the past water year. These reports are to be in tabular form with text limited to an explanation of variable names and a description of any problems encountered or important observations made during the monitoring year. The water use permit describes the required interpretive reports as including comprehensive analyses of all data collected to date that specifically address the objectives of the HBMP. It also states that qualitative and quantitative analyses shall be presented to evaluate the interactions of hydrologic conditions and withdrawals on streamflow, inundation of the river channel and its floodplain, nutrient loading, salinity distributions in the estuary, and the response of related water quality and biological variables. Like the Hillsborough/TBC interpretive reports, the Alafia River interpretive reports must also include an appendix that provides raw data collected by the HBMP during the previous water year in order to fulfill the requirement for the annual data report for that year.

6.2. Data Analysis

HBMP annual data reports and interpretive reports have used a number of methods to report and analyze data. Several of the most common are described briefly below.

6.2.1. Descriptive Statistics and Time Series

The HBMP has used descriptive statistics and descriptive time series to characterize all rainfall, hydrological, water quality and biological data. These data have also been compared to same day and lagged flow terms to ascertain relationships between these parameters and flow. Standard diversity measurements have been used to characterize and compare biological data. In addition, the first and last occurrences of organisms by distance up the river have been calculated and analyzed for particular groupings and other patterns.

6.2.2. HBMP Elements / Indicators

Since 2001, the HBMP has reviewed the characteristics and patterns of numerous physical, chemical, and biological parameters collected and/or analyzed by the HBMP, Minimum Flows Determination efforts, or similar programs in the HBMP study area. These programs have identified a subset of parameters/indicators that appear to be most useful in describing conditions and potential changes within the study area. These parameters shared certain characteristics. One of the most important characteristics was that the parameter/indicator was present and can be measured with sufficient frequency and/or in sufficient numbers to be statistically significant. The rivers and bays in the study area experience natural seasonal variations, so season absences of useful parameters are to be expected. However, parameters/indicators that are not present in sufficient frequency or numbers during at least part of the year have typically not been useful in

assessing status or trends within the rivers and bays of interest. HBMP parameters by monitoring element, potential effects of withdrawals, and SWFWMD MFL resources of concern are shown in Table 6.2.1.

Table 6.2.1 HBMP Elements/Indicators and SWFWMD MFL Resources of Concern

Element / Indicator	Potential Withdrawal Effects	MFL Resource of Concern/ Management Goals	Approved Design Modification[1]
Hydrology/Water Quality			
Salinity	↑ salinity	Maintain river bottom areas within appropriate salinity zones for the protection of benthic macro-invertebrate communities. Maintain suitable salinity regime for oysters	Added recorders/ fixed stations (2001)
Dissolved Oxygen	↑ or ↓ dissolved oxygen	Determine changes in low DO concentrations	Discontinued recorders (2004)
Chlorophyll-a	↑ or ↓ chlorophyll-a	Determine changes in distribution and probability of high chlorophyll-a	--
Specific Conductance	↑ specific conductance	--	--
Temperature	↑ or ↓ temperatures	--	--
pH	↑ pH values	--	--
Secchi Disk Depth	↑ or ↓ Secchi disk depth	--	--
Light Transmission	↑ or ↓ light transmission	--	--
Stream Flow	↓ streamflows	--	--
Water Level	↓ water elevations (upper river)	--	--
Color	↓ color	--	--
Total and Dissolved Organic Carbon	↓ TOC, ↓ DOC	--	Discontinued (2004)
Total Suspended Solids	↑ or ↓ TSS	--	--
Biotic Indicators			
Benthic Macroinvertebrates	Δ species composition, abundance, distribution; seasonal, archive, Alafia inset stratum	Maintain river bottom areas within appropriate salinity zones for the protection of benthic macroinvertebrate communities. Maintain suitable salinity regime for oysters	Redistributed sampling (2008)
Ichthyoplankton/ Zooplankton	Δ species composition, abundance, distribution	Protect nursery function by maintaining distribution and abundance of important fish and invertebrate taxa	Redistributed sampling (2008)
Adult/Juvenile Fishes	Δ species composition, abundance, distribution	Protect nursery function by maintaining distribution and abundance of important fish and invertebrate taxa	Added stratum Alafia River Delta (2005); redistributed sampling (2008)

Water-Dependent Birds	Δ species composition, abundance, distribution		Discontinued McKay Bay (2004); added Alafia Banks (2005-2008)
Habitat			
Emergent Vegetation	Δ species composition, abundance, distribution	Maintain surface isohaline locations within ranges that protect distribution of low-salinity shoreline vegetation communities	Eliminated Alafia fixed station (2008); reduced frequency (2004)
Submerged Vegetation	Δ species composition, abundance, distribution		Decreased frequency (2001)
Sediment Grain Size and Organic Matter			--
Note 1. Approved change from initial HBMP design (see Appendix A).			

6.2.3. HBMP Biotic Parameters of Interest

A large number of fish and invertebrate species in various life stages have been collected during the duration of the HBMP. Only a small number of these occur with sufficient frequency and abundance to allow for meaningful analyses. Even smaller subsets appear to have potential direct or indirect relationships to river flow. The species and groups that have been most informative in HBMP analyses to-date for the TBC/McKay Bay, the lower Hillsborough River and the lower Alafia River are listed in Tables 6.2.2-6.2.4.

Table 6.2.2 HBMP Key Biotic Indicators: TBC and McKay Bay

Fish
- Anchoa mitchilli (bay anchovy)
- Farfantepenaeus duorarum (pink shrimp)
- Floridichthys carpio (goldspotted killifish)
- Mugil cephalus (striped mullet).

Plankton
- Anchoa mitchilli juveniles (bay anchovy)
- Americamysis almyra (opossum shrimp)
- Mnemiopsis mccradyi (comb jelly)
- decapod zoeae (crab larvae).

Benthos
- Laonereis culveri
- Grandidierella bonnieroides
- Mytilopsis leucophaea
- Tagelus plebeius
- Edotea triloba.

Table 6.2.3 HBMP Key Biotic Indicators: Lower Hillsborough River

Fish
- Anchoa mitchilli (bay anchovy)
- Menidia spp. (silversides)
- Microgobius gulosus (clown goby)
- Trinectes maculatus (hogchocker)
- Psuedotaxon "freshwater obligates" (combined genera Notropis (shiners), Lepomis (sunfishes), Notemigonus (shiners), Ameirus (catfishes), and Labidesthes (silversides))
- Palaemonetes pugio (daggerblade grass shrimp).

Plankton
- Americamysis almyra (opossum shrimp)
- Clytia spp. (hydromedusa)
- decapod zoeae (crab larvae)
- Mnemiopsis mccradyi (comb jelly)
- Anchoa mitchilli juvenile stage (bay anchovy)
- Trinectes maculatus postflexion larvae (hogchoker).

Benthos
- Stenonineiris martini
- Laonereis culveri,
- Capitella capitata species complex
- Corbicula fluminea
- Grandidierella bonnieroides.

Table 6.2.4 HBMP Key Biotic Indicators: Lower Alafia River

Fish
- Anchoa mitchilli (bay anchovy)
- Callinectes sapidus (blue crab)
- Leiostomus xanthurus (spot)
- Menidia spp. (silversides)
- Sciaenops ocellatus (red drum).

Plankton
- Anchoa mitchilli
- Brevoortia smithi
- Cynoscion arenarius
- Gobiesox strumosus
- Trinectes maculatus
- Order Mysidacea (mysid shrimps)
- Americamysis almyra
- Acartia tonsa
- Edotea triloba
- Mnemiopsis mccrady
- Palaemonetes pugio.

Benthos
- Chironomus spp.
- Corbicula fluminea (Asian clam)
- Cyathura polita (Isopoda)
- Edotea triloba (Isopoda)
- Grandidierella bonnieroides
- Laeonereis culveri (Culver's sandworm)
- Mytilopsis leucophaeata (dark false mussel)
- Polymesoda carolinae (Carolina marsh clam)
- Polypedilum halterale group larvae (Diptera)
- Tagelus plebeius (stout razor clam).

Vegetation

Mangrove Swamp
Needlerush
Needlerush/Leather Fern
Wetland Hardwood Forest
Mixed Herbaceous Wetland
Cattail
Brazilian Pepper
Needlerush/Cattail
Wetland Coniferous
Forest
Common Reed, Sawgrass, Cordgrass
Popash/Willow

6.2.4. Center of Abundance

Center of abundance (COA) statistics describe the average position of occurrence for a given taxon over the sampling time period. For the linear riverine reporting units that are divided into spatial strata along a gradient, the COA can be described in terms of river kilometer (Rkm). Center of abundance was calculated by weighting the location of occurrence by the number of organisms of the given species collected at that location.

6.2.5. Abundance Weighted Salinity

Abundance weighted salinity (AWS) is a statistic that describes the salinity range in which a given taxon is found to be most abundant. Abundance weighted salinity weights the salinity at each sample collection site by the number or density of organisms of the given species collected at that location.

6.2.6. Dissolved Oxygen and Chlorophyll-a Thresholds and Exceedances

Water quality data collected by the HBMP to date have been used to develop logistic regression models to evaluate the potential effects of Tampa Bay Water withdrawals on water quality (dissolved oxygen and chlorophyll-a) within the HBMP reporting units. These models predict the probability of a sample being in exceedance of a threshold value. The exceedance thresholds used were obtained from independent scientific studies by the SWFWMD, the University of South Florida, and the Tampa Bay Estuary Program (TBEP). These studies were based on data from HBMP rivers and other tidal streams in southwest Florida. These models have been validated with additional data for successive interpretive reports.

6.2.7. Hydrodynamic Models

The HBMP has applied hydrodynamic models developed by the District for minimum flows analyses and other assessments of flow-related changes in estuarine systems. For HBMP analyses, these models have been applied to compare baseline and withdrawal scenarios. The first scenario uses actual, observed river flows that occurred downstream of the withdrawal locations to model daily conditions along the entire length of the reporting units during the periods in question. The second scenario adds the daily volumes of water diverted by Tampa Bay water to the observed river flows to "reconstruct" the flows that would have occurred in the absence of Tampa Bay Water operations. Modeled salinity conditions using observed flows have been compared to modeled salinity conditions using reconstructed flows to estimate the daily effect of Tampa Bay Water operations on water quality conditions and salinity regimes in the reporting units.

6.3. Potential Future Program Modifications

In an effort to improve the utility of information generated by the HBMP to detect potential effects of changes in flow on the five reporting units, several minor modifications to HBMP elements have been proposed. These were described in the Alafia River 2009 Year 10

Interpretive Report and the TBC/Hillsborough River 2010 Year 10 HBMP Interpretive Report, and discussed at the 2009 and 2010 HBMP Annual Meetings. The recommended modifications are summarized in the following sections.

6.3.1. Annual Reporting

As discussed at the 2010 HBMP Annual Meeting, current routine annual data reporting requires significant resources that may be better utilized. There was consensus that current HBMP reporting requirements be reviewed with the District and revised as appropriate.

6.3.2. Hydrology/Water Quality

The continuous salinity recording station below Buckhorn Springs on the Alafia River is located on a former speed zone sign piling that is becoming increasingly unstable. In Water Year 2008, the District gave approval to relocate this station just upstream or downstream of the current location. Suitable speed zone pilings are present just upstream of the Buckhorn Springs location. A long-term, EPCHC maintained continuous recorder location is also located just downstream of Buckhorn Springs. In the near future, this station may be relocated to the upstream location or data from the ECPHC station may be used for this HBMP data collection effort.

6.3.3. Benthic Macroinvertebrate Sampling (Special Studies)

Based on HBMP data collected to-date and numerous evaluations completed by Tampa Bay Water, the Southwest Florida Water Management District, the University of South Florida and others, the utility of the benthic program for detecting potential changes associated with Tampa Bay Water's permitted withdrawals has been limited. HBMP modifications that maintain or increase the ability of the benthic monitoring element to detect changes related to withdrawals for public supply while maintaining or reducing costs would be a valuable modification to the current program.

Suggested possible changes to the benthic invertebrate sampling element of the HBMP include:

- Concentrating benthic sampling effort in the Alafia River to improve statistical power
- Using seasonal index periods to characterize the benthos community as an alternative sampling strategy to the current design which requires year-round sampling
- Utilizing benthic taxa collected during sampling for the plankton element to characterize potential withdrawal-related changes in benthic indicators.

Each of these changes and supporting analyses are described briefly below. It is anticipated that the results of studies described below will be used in a re-evaluation of the entire benthos sampling program design that will be completed and presented at the 2011 or 2012 HBMP Annual Meeting.

6.3.3.1. Redirected Alafia River Sampling

As a result of statistical power analyses conducted in 2008, the Alafia River fish sampling program was modified after Water Year 2008. The power analyses concluded that the number of trawl samples in the upper river strata containing only one species or no individuals at all was making it difficult for the sampling program to detect statistically significant changes of a 15% magnitude. As a result, trawl sampling was concentrated in the mid to lower river strata where models predicted the most salinity fluctuations as a result of withdrawals. This was accomplished by discontinuing upstream trawl samples and increasing mid and lower strata trawl samples accordingly.

The power analyses also concluded that Alafia River samples with only a single species present or no benthic macroinvertebrates were reducing the benthic sampling program's ability to measure a statistically significant 15% change, suggesting that the Alafia River benthic program might be improved by concentrating sampling effort. Samples could be concentrated by shifting them out of the upper and lower strata into the middle strata where the greatest salinity changes are predicted. Samples could also be concentrated by shifting samples to certain "index period" months when withdrawals might have the greatest potential effect on benthic macroinvertebrates. The probability of collecting a benthic sample with just one species or with no organisms is greater in some months. This characteristic of the Alafia River will need to be taken into account if samples are concentrated in time and/or space.

6.3.3.2. Benthos Sampling Design Re-Evaluation

The results of preliminary analyses (Janicki Environmental, 2009) suggest that if the HBMP goal is to optimize the benthic element for statistical power to detect inter-annual differences in means for common community metrics, a sampling window incorporating months between December and May would yield the highest power in general. This time period tended to have higher CPUE, higher diversity and a lower frequency of null catches. This time period also coincides with recruitment windows for many estuarine dependent fish species of commercial and recreational value that prey on benthic taxa.

6.3.3.3. Compare Benthic and Zooplankton Samples

As discussed at the 2010 HBMP Annual Meeting, several macroinvertebrate groups collected in the plankton sampling effort are reported as grouped taxa and not identified to lower taxonomic levels. Many of these taxa also occur in the benthic samples.

It is possible that plankton sampling alone might be sufficient to provide information on that portion of the benthic community that is most susceptible to changes in flow and withdrawal. Alternatively, analyses may reveal that certain benthic taxa could be identified to a higher taxonomic level than currently utilized. These analyses could also determine if a coordinated plankton and benthic sampling program should be utilized.

For this special study, archived samples collected under the ichthyoplankton element would be selected, specific lumped taxa would be analyzed to lower taxonomic levels, and the occurrence

of macroinvertebrate taxa in the plankton and benthic samples would be evaluated relative to the objectives of the HBMP.

Field sampling of benthic populations would continue as specified under the current HBMP. However, these samples would be archived in alcohol for potential future sorting and taxonomic identification pending the results of additional analyses on archived plankton samples. It is anticipated that the results of these additional taxonomic analyses can be completed in time for presentation at the 2011 HBMP annual meeting.

6.3.4. Fish and Freshwater Inflows (SWFWMD Study)

The District has discussed re-evaluating existing fish versus river flow and salinity regressions using HBMP data collected since the original regressions were created five or more years ago. The District has recently initiated a new project to examine the applicability of using fish abundance and diversity to establish minimum flows and levels for southwest Florida coastal rivers. This study is meant to identify the strengths and weaknesses of the current approaches to establishing "fish-flow" relationships, identify confounding effects that may affect the relationships between fish and freshwater inflows, explore new techniques to identify effects of freshwater flows on fish populations, and identify new analytical tools.

This study will examine fish responses to changes in flow near the ranges typically observed during Tampa Bay Water operations. While the effects of changes in river flow on estuarine fish have been studied by a number of researchers, many of these efforts examined changes in flow much greater than those possible under the Tampa Bay Water operating regimes. Therefore, although not specifically performed for the HBMP, the results of this study may be important for re-evaluation of the HBMP fish and/or plankton sampling elements.

6.3.5. Habitat / Vegetation

Analysis of vegetation mapping data from Water Years 2003, 2006 and 2009 found very small changes in vegetation coverage. These changes could not be related to the relatively large natural changes in flow and salinity that occurred during this 6-year period. Changes in flow and salinity as a result of Tampa Bay Water operations are much smaller than those that occur as a result of natural variation in rainfall. If vegetation mapping cannot detect a change as a result of natural variations in flow, vegetation mapping is highly unlikely to be able to detect changes as a result of Tampa Bay Water operations. The next vegetation mapping event is not scheduled to occur until 2012, but the monitoring program may be better served by redirecting this effort towards additional direct measures of impact such as continuous water quality recorders. At a minimum, extending the vegetation mapping to a once per 6-year cycle is recommended.

7.0 HBMP Programmatic Criteria

As discussed in previous sections of this document, the overall purpose and scope of the HBMP extend beyond just data acquisition, analysis and reporting. The HBMP also incorporates programmatic criteria that have been included to ensure that the permitted withdrawals are consistent with District rules throughout the lifetime of the permits.

In the context of the HBMP, the term programmatic criteria refers to: 1) the criteria by which unacceptable environmental impacts are determined; and 2) the process by which appropriate management responses to detected conditions that constitute or could potentially lead to adverse environmental impact are determined and implemented. Important components of these criteria include established minimum flows and levels for lower Hillsborough River, Tampa Bypass Canal and Alafia River; specific HBMP objectives for each waterbody included as special conditions in WUPs for the Tampa Bypass Canal/Hillsborough River and Alafia River Water Supply Projects; and ongoing assessment of HBMP data to identify and evaluate any detected hydrobiological changes attributable to the permitted withdrawals, and appropriate management actions.

7.1. Background

In addition to other requirements, Water Use Permit (WUP) applicants must demonstrate that the proposed withdrawals meet the following Southwest Florida Water Management District (District or SWFWMD) conditions for issuance related to potential environmental impacts (40D-2.301, F.A.C.):

> *(b) Will not cause quantity or quality changes that adversely impact the water resources, including both surface and groundwater*
> *(c) Will not cause adverse environmental impacts to wetlands, lakes, streams, estuaries, fish and wildlife or other natural resources*
> *(g) Will not significantly induce saline water intrusion.*

The District's Basis of Review for WUPs for withdrawals from natural streams (Section 4.2.c) also requires that the following specific performance standards be met:

> *a. Flow rates shall not deviate from the normal rate and range of fluctuation to the extent that water quality, vegetation, and animal populations are adversely impacted in streams and estuaries.*
> *b. Flow rates shall not be reduced from the existing level of flow to the extent that salinity distributions in tidal streams and estuaries are significantly altered as a result of withdrawals.*
> *c. Flow rates shall not deviate from the normal rate and range of fluctuation to the extent that recreational use or aesthetic qualities of the water resource are adversely impacted.*

To provide ongoing reasonable assurance that District performance standards would be met, special conditions of the TBC/Hillsborough River and Alafia River project WUPs required the development and implementation of the HBMP as described in previous chapters of this document. General HBMP objectives are to collect data on the spatial and temporal

characteristics of environmental indicators including salinity regimes, water quality and biotic integrity (PBSJ, 2000).

Inherent in District rules is the recognition that surface water withdrawals are linked to potential changes in: 1) salinity patterns; 2) associated water quality constituents; and 3) biological communities. This potential linkage can be summarized conceptually as follows:

Freshwater Inflows
⇩
Salinity and Associated Water Quality Indicators
⇩
Biotic and Habitat Indicators

It should be noted, however, that while freshwater withdrawals may have a direct and instantaneous physical effect on salinity patterns, the effects of freshwater withdrawals on other water quality constituents and biological communities in particular, are typically indirect and complex. Such indirect impacts are mediated by physical and chemical changes or processes, and are typically manifested on longer time scales (e.g., days, months, seasons or years).

For example, a reduction in freshwater inflows may result in increased salinities within the geographic range of a population of a particular benthic organism; but if the changed salinity still remains within the salinity tolerance range of the organism, the abundance and distribution of the organism will likely not be affected. However, if that same change in salinity results in increased density stratification, which in turn leads to hypoxic conditions on the bottom, the abundance and distribution of the organism could be affected.

In addition to linkage between freshwater withdrawals and biological communities, the District performance standards also link adverse impact to:

- A significant deviation from natural or historic conditions
- A significant degradation of conditions necessary to support economically important activities such sport and commercial fishing, and water-dependent recreation and aesthetics.

7.2. Minimum Flows and Levels

At the time of initial HBMP development, limited standards or specific criteria were available for evaluating freshwater withdrawal-related changes to estuarine systems, or determining significant impacts to these systems. Since implementation of the HBMP in 2000, the District has developed and adopted Minimum Flows and Levels (MFLs) for the lower Hillsborough River, Tampa Bypass Canal and Alafia River as required by the Florida Legislature (SWFWMD 2004, 2006 and 2008). MFLs are based on technical evaluations that determine critical flows and the amount of water that can be withdrawn without causing unacceptable impacts to the ecology

of natural systems, recreational use or aesthetic qualities of these waterbodies (SWFWMD, 2008).

MFL documents prepared for each waterbody describe the purpose and background of the MFL, and provide descriptions of the physical and hydrologic characteristics of the waterbody and watershed, including river and spring flows, withdrawals, and river/channel morphology, sediments, and habitats. These documents also provide extensive analyses of freshwater inflows and relationships to important parameters and characteristics that were used to establish the MFLs, including:

- Tides and freshwater inflows and water levels and residence time, and results of hydrodynamic models developed for these estuarine systems
- Freshwater inflows and water quality constituents including salinity, dissolved oxygen, nutrients and chlorophyll-a
- Freshwater inflow and biological characteristics, including phytoplankton, benthic macroinvertebrates, mollusks, oysters, zooplankton and fishes.

MFL documents describe how these relationships were determined and used to examine the effects of reduced freshwater inflows on the hydrological and biological components of each system. For each system, baseline periods were identified and methods for evaluating flow reduction scenarios were selected. To determine minimum flow thresholds, resources of concern were identified along with appropriate identification of acceptable levels of change that do not result in unacceptable impacts to the ecology or other resources. Important considerations for the resources of concern included the following:

- Maintaining appropriate salinity zones for benthic macroinvertebrate communities, oysters, shoreline vegetation, and fish and invertebrates
- Minimizing the probability of hypoxia (dissolved oxygen concentrations <2.5 mg/L); specifically, examining the distribution and probability of low dissolved oxygen concentrations resulting from changes in flow
- Minimizing the probability of excessive chlorophyll-a concentrations, specifically examining the distribution and probability of high chlorophyll-a resulting from changes in flow.

Using the relationships between freshwater inflows and metrics for various resources of concern, the District identified water quality and biological resources of each waterbody that were particularly sensitive to flow reductions during periods of low flow. In addition to salinity changes during these periods, residence times typically increase in these waterbodies, potentially leading to large phytoplankton blooms, dissolved oxygen impacts and/or increases in abundance of non-desirable predators.

MFLs for the lower Hillsborough River, the Tampa Bypass Canal and the Alafia River were developed by the District based on the considerations described above over a multi-year process and have been adopted in District rules (40D-8, F.A.C.). Each of these is described briefly in the following sections.

7.2.1. TBC MFL

The Minimum Flow (MFL) for the Tampa Bypass Canal (TBC) was adopted in 2006. For the TBC, the District determined that establishment of an MFL was not appropriate due to designated flood control purpose and use of the TBC (SWFWMD, 2004), and an MFL of 0 cfs at Structure 160 was ultimately adopted. MFL analyses completed by the District evaluated relationships between flow and salinity, DO, and biota and concluded that no defensible technical basis exists for an MFL (SWFWMD, 2005). District technical analyses and conclusions for TBC MFL studies were confirmed by independent scientific per review (Powell et al., 2005).

In general, stratification is common in the TBC, but salinity was relatively insensitive to flow. Hypoxia was prevalent, but statistical analyses suggested that flow accounted for less than 50% of the variation in hypoxia. Overall, high flows in the TBC result in greater ecological effects than insufficient flows. High flows caused prolonged low salinity conditions, vertical stratification and hypoxia.

In addition to flood control and regional drinking water supply, the TBC is used to augment the Hillsborough River reservoir for the City of Tampa water supply and to meet requirements of the lower Hillsborough River MFL as discussed below.

7.2.2. Lower Hillsborough River MFL

The revised Minimum Flow (MFL) for the Lower Hillsborough River was established in November 2007. This MFL requires a 20 cfs (~13 mgd) flow at the base of the City of Tampa dam during the July 1 - March 31 time period and 24 cfs (~15.5 mgd) from April 1 - June 30, with an adjustment if there are lower than normal flows in the upper river.

In order to meet MFL requirements when water is not available to flow over the dam, a Recovery Strategy was adopted by the District along with the MFL identifying activities and milestones to be achieved in accordance with the time schedule specified (40D-80.073(8), F.A.C.). Sources of water to be used to meet the MFL include:

- Sulfur Springs discharge: 10 cfs (~6.46 mgd) to the base of the City of Tampa dam
- TBC pool: up to 7.1 mgd (~11 cfs) from the middle pool discharged to the Hillsborough River through S-161 and pumped to the base of the dam; up to 7.1 mgd from the middle pool to the dam through a pipeline to be constructed by 2013.
- Morris Bridge Sink Project: up to 3.9 mgd (~6.03 cfs) from Morris Bridge Sink to the TBC middle pool or 3.9 mgd from the TBC lower pool to the middle pool if available, then discharge to the Hillsborough River through S-161 and pumped to the base of the dam.

- The TBC middle pool and Morris Bridge Sink/TBC lower pool sources have specific operational and performance criteria identified as well as transmission pipeline construction components (40D-80.073(8), F.A.C.).

Additional potential MFL augmentation sources include Blue Sink based on cost/benefit and feasibility analyses to be completed, and other sources as identified in the future. Monitoring and evaluation for the MFL and Recovery Strategy are performed by the City of Tampa and the District with an annual implementation evaluation and report completed by the District.

The Lower Hillsborough River MFL was based on analyses presented in Lower Hillsborough River Low Flow Study Results and Minimum Flow Recommendation (SWFWMD, 2006). District technical analyses and conclusions for Lower Hillsborough River MFL studies were confirmed by independent scientific per review (Montagna, et al., 2007).

The primary water quality and ecological condition affected by freshwater inflows at the base of the dam is salinity, although tides and other factors (e.g., stormwater, winds, and salinity in Tampa Bay) complicate this relationship. In addition to analyses of existing data and modeling, Lower Hillsborough River and related Sulphur Springs MFL studies included a series of experimental water releases conducted to evaluate the effect of changes in flow on water quality parameters. These studies concluded that the effect of flow changes (in the low flow range) on salinity generally decrease as a function of increasing distance from the dam and depth in the water column.

Principal components analysis (PCA) performed on biological sampling results identified four salinity ranges utilized by invertebrates. The findings for benthic macroinvertebrate community structure showed that a distinct group of these organisms occur in river habitats with salinity in the range of <5 ppt. However, there was a high degree of species overlap among adjacent salinity zones and few estuarine species were identified as requiring a single salinity zone. Because some invertebrate species are restricted to the lower salinity range, maintaining an essentially permanent area of the lower river with a salinity of <5 psu would provide habitat for those predominantly oligohaline and fresh water species, assuming other habitat requirements are also present.

The creation of a < 5 psu salinity zone was chosen as the principal ecological criterion on which to establish minimum flows for the LHR. Juvenile stages of important estuarine dependent fish species concentrate in oligohaline waters. Benefits (in terms of provision of low salinity habitat) accruing from fresh (or nearly fresh) water inputs at the dam are most pronounced near the dam, with the magnitude of the effect diminishing downstream. For a given discharge rate, the strongest effects are realized nearest the dam and decrease incrementally downstream.

7.2.3. Lower Alafia River MFL

The minimum flow (MFL) rule for the lower Alafia River was established in 2009. This MFL was defined as not more than a 19% reduction of daily flows with a low-flow threshold of 120

cfs. Similar to other MFLs in southwest Florida, the District used the percent-of-flow method for the Lower Alafia River to determine the amount of water that can be withdrawn without causing

unacceptable impacts to the ecology or other water resources (SWFWMD, 2008). District technical analyses and conclusions for Lower Alafia River MFL studies were confirmed by independent scientific per review (Powell et al., 2008).

The Alafia River MFL document provides extensive analyses of freshwater inflows and relationships to important parameters and characteristics that were used to establish the MFL, including:

- Tides and freshwater inflows and water levels and residence time, including results of a hydrodynamic model developed for the lower river
- Freshwater inflows and water quality constituents including salinity, dissolved oxygen, nutrients, and chlorophyll-a
- Freshwater inflow and biological characteristics, specifically phytoplankton, benthic macroinvertebrates, mollusks, oysters, zooplankton, and fishes.

The MFL document describes how these relationships were determined and used to examine the effects of reduced freshwater inflows on the hydrological and biological components of the Lower Alafia River. First, a baseline period was identified and a method for developing flow reduction scenarios was selected. Second, resources of concern were identified along with appropriate identification of acceptable levels of change that do not result in unacceptable ecological impacts to habitat metrics.

The important considerations for the resources of concern included the following:

- Maintaining appropriate salinity zones for benthic macroinvertebrate communities, oysters, shoreline vegetation, and fish and invertebrates
- Minimizing the probability of hypoxia (dissolved oxygen concentrations <2.5 mg/L); specifically, the distribution and probability of low dissolved oxygen concentrations resulting from changes in flow
- Minimizing the probability of excessive chlorophyll-a concentrations; specifically, the distribution and probability of high chlorophyll-a resulting from changes in flow.

Using the relationships between freshwater inflows and the habitat metrics of the various resources of concern, the District found that the water quality and biological resources of the lower river were particularly sensitive to flow reductions during periods of low flow. During these periods, residence times increase within the lower river, potentially leading to large phytoplankton blooms and increases in abundance of non-desirable predators.

The effects of the MFL on metrics identified for the resources of concern were examined using hydrodynamic modeling and regression relationships between freshwater inflows and biological metrics. Regression models were used to predict changes in abundances of different life stages and size classes of fish and invertebrate species due to reduced freshwater inflows to the lower river. The results of these analyses indicated that the 19% reduction and the low-flow threshold would not result in unacceptable reductions in abundance, and most notably would not reduce the median abundance of juvenile red drum more than the 15% threshold identified.

Hydrodynamic modeling was used to examine changes in bottom areas of salinity zones important to benthic macroinvertebrates. Regression models were used to examine changes in surface isohalines that would affect wetland shorelines, and to predict shifts in geographic centers of abundance for key fish and invertebrate species. The combined results indicated that the minimum flows based on the abundance of key fish and invertebrate species would also prevent significant harm to the other resource characteristics. Logistic regression analyses were performed to predict the increased probability of low dissolved oxygen and high chlorophyll-a concentrations in response to reduced flows, indicating that the recommended minimum flows would not result in significant harm to the lower river, with only very small changes in probability of the occurrence of undesirable conditions.

7.3. WUP Requirements

To provide ongoing reasonable assurance that District performance standards would be met, special conditions of the TBC/Hillsborough River and Alafia River project WUPs required the development and implementation of the HBMP as described in previous chapters of this document. The general objectives of the HBMP are to collect data on the spatial and temporal characteristics of environmental indicators including salinity regimes, water quality and biotic integrity (PBSJ, 2000). Specific HBMP objectives related to ongoing compliance with District performance criteria are also provided in each WUP as listed in the following sections.

7.3.1. Tampa Bypass Canal Water Supply Project

Water Use Permit 20011796.002 for the Tampa Bypass Canal (TBC)/Hillsborough River Water Supply Project authorizes Tampa Bay Water to divert water from the Hillsborough River and withdraw water from Tampa Bypass Canal according to the schedule provided in the permit. This permit requires that Tampa Bay Water continue to implement the approved TBC/Hillsborough River HBMP in order to address the following objectives:

- Use baseline conditions to compare the effects of the permitted water use upon streamflow rates, salinity distributions, and selected water quality and biologic variables within the lower Hillsborough River below the Tampa Dam, TBC, Palm River and McKay Bay.

- Monitor diversions from the Hillsborough River and withdrawals from the TBC at the withdrawal points and evaluate streamflow data for the lower Hillsborough River at the Tampa Dam, and the TBC at the District's flood control Structures 160 and 162.

- Evaluate the ecological relationships of the lower Hillsborough River below the Tampa Dam, TBC, Palm River and McKay Bay to freshwater flows.

- Monitor selected water quality and biologic variables related to freshwater flow in order to determine if the ecological characteristics of the lower Hillsborough River below the Tampa Dam, TBC, Palm River and McKay Bay change over time.

- Determine the relative effect of permitted diversions and withdrawals on any ecologic changes that may occur in the lower Hillsborough River below the Tampa Dam, TBC, Palm River and McKay Bay.

- Determine if these withdrawals cause or significantly contribute to any unacceptable adverse environmental impacts to the natural resources of the lower Hillsborough River below the Tampa Dam, TBC, Palm River and McKay Bay due to changes in freshwater flows. The HBMP shall identify criteria that will be used to determine unacceptable adverse environmental impacts to the resources.

- Coordinate with appropriate agencies that have or are currently collecting data that can be incorporated into the HBMP to avoid duplication of effort and to facilitate the most efficient use of resources.

HBMP data collection activities that meet these objectives are described in Section 3.

7.3.2. Alafia River Water Supply Project

Water Use Permit 2011794.01 for the Alafia River authorizes Tampa Bay Water to withdraw water from the Alafia River at Bell Shoals Road according to the schedule provided in the permit. The original water use permit (Permit 2011794.00) required Tampa Bay Water to develop and implement an HBMP for the Alafia River. The permit specified that the HBMP address the following objectives:

- Establish baseline conditions prior to permitted use for streamflow rates, salinity distributions, and selected water quality and biological variables within the Alafia River and its estuary.

- Monitor withdrawals from the Alafia River at the withdrawal point and evaluate streamflow data for the river at all applicable locations.

- Evaluate the ecological relationships of the Alafia River and its estuary to freshwater flows.

- Monitor selected water quality and biological variables related to freshwater flow in order to determine if the ecological characteristics of the river and its estuary change over time.

- Determine the relative effect of permitted withdrawals from the Alafia River on any ecologic changes that may occur in the river and its estuary.

- Determine if these withdrawals cause or significantly contribute to any unacceptable environmental impacts that the river and its estuary exhibit as a result of changes in freshwater flows.

- Coordinate with appropriate agencies that have or are currently collecting data that can be incorporated into the HBMP to avoid duplication of effort and to facilitate the most efficient use of resources.

HBMP data collection activities to meet these objectives are described in Section 4.

7.4. HBMP Programmatic Criteria

Participants in the original HBMP design reached consensus that the HBMP would provide adequate data to detect potentially adverse hydrobiological changes in the HBMP reporting units. Participants also noted that the HBMP would need to determine if any observed hydrobiological changes were the result of natural variation or the permitted freshwater withdrawals. To address this need, it was concluded that HBMP data could also be used to support the enhancement of various predictive models that could be used to determine the incremental effects of the permitted withdrawals on any changes in freshwater inflows.

As required by specific conditions of the Water Use Permits, one of the goals of the HBMP design process was to identify criteria that will be used to determine unacceptable environmental impacts to the resources of concern. Given the above described considerations, the HBMP design group attempted to identify these criteria, as they specifically relate to the Tampa Bypass Canal and Alafia River Water Supply Projects. These criteria were described as follows:

> *A detected change, supported by statistical inference or a preponderance of evidence, from the pre-operational abundance, distribution, species composition, or species richness of biological communities of concern in the Lower Hillsborough River, Lower Palm River/TBC, McKay Bay, or Lower Alafia River reporting units that can be attributed to reductions in freshwater inflows caused by the permitted surface water withdrawals.*

The above described criteria were recommended by the HBMP design group for use in determining what conditions might constitute an unacceptable environmental impact with respect to the permitted withdrawals. The HBMP design group noted that conditions meeting the above recommended criteria for unacceptable environmental impact could be detected, measured and described in many different ways. A few examples are discussed below:

- Significant dislocation of an ecologically significant species distribution - a "center of population" (either abundance or frequency) statistic has been used in the HBMP to

assess the distribution of adult and young fish, and benthos relative to river location. Other related measures of distribution dislocations may also be applicable for the HBMP.

- Elimination or reduced abundance of a "desirable" species - the elimination, or a significant reduction in the abundance, of a "desirable" (e.g., economically or ecologically important) species within a reporting unit would likely be considered an unacceptable environmental impact. Measures of species composition and abundance for critical biological indicators are included in the HBMP.

- Significant change in species richness or similar measure of community balance.

- Significantly increased abundance of an "undesirable" species that could consume or out-compete desirable species - the converse of the above described scenario. Measures of species composition and abundance for biological indicators are included in the HBMP. As introduced exotic or nuisance species often occur in ecosystems due to factors unrelated to stress caused by fresh water withdrawals, any significant increases in exotic or nuisance species would require additional evaluation.

Given the potentially infinite measures of unacceptable environmental impact, it was the general consensus of the HBMP design group that specific programmatic criteria or thresholds not be developed for every indicator. Rather, the HBMP design group recommended the application of a consensus-based process to evaluate whether unacceptable environmental impact has occurred, or is in the process of occurring (PBS&J, 2000).

The second HBMP interpretive analyses (PBS&J, 2006) summarized the assessment of unacceptable environmental impact as a series of ten progressive questions. These questions are:

1. What were the daily flows in each reporting unit during the study period, and how did these flows compare to the historical flow record?

2. What were the daily Tampa Bay Water withdrawals from each reporting unit during the study period, and how did these withdrawals affect daily flows?

3. What was the observed intra- and inter-annual variation in salinity in each reporting unit during the study period?

4. What portion of the observed intra- and inter-annual variation in salinity was attributable to Tampa Bay Water withdrawals?

5. How did observed changes in salinity attributable to changes in flow compare to the predicted salinity vs. flow relationships used during the WUP process?

6. What was the observed intra- and inter-annual variation in chlorophyll-a and dissolved oxygen in each reporting unit during the study period?

7. What portion of the observed intra- and inter-annual variation in chlorophyll-a and dissolved oxygen was attributable to Tampa Bay Water withdrawals?

8. What was the observed intra- and inter-annual variation in the species composition, abundance and spatial/temporal distribution of key biotic indicators in each reporting unit during the study period?

9. To what extent did variation in flow or flow-related variables (e.g., salinity) affect the intra- and inter-annual variation in the species composition, abundance and spatial/temporal distribution of key biotic indicators?

10. To what extent did the variation in flow or flow-related variables attributable to Tampa Bay Water withdrawals affect the intra- and inter-annual variation in the species composition, abundance and spatial/temporal distribution of key biotic indicators?

If observed changes in the intra- and inter-annual variation in the species composition, abundance and spatial/temporal distribution of key biotic indicators are identified as clearly attributable to Tampa Bay Water withdrawals, the next analytical step would be to determine if these changes constituted an unacceptable environmental impact.

7.5. HBMP Management Responses

The final step for reasonable assurance in meeting District standards involves the identification of appropriate management actions or remedial measures to be taken if adverse environmental impacts are detected, although no particular management actions are specifically identified. However, waiting until an adverse environmental impact has occurred to initiate appropriate management actions or remedial measures reduces the opportunity to adequately protect resources that may be at risk. Therefore, proactive resource management is needed to protect the resources of concern in the potentially affected water bodies.

The initial HBMP design included an appropriate sequence of management actions that should be initiated if conditions are observed that could potentially lead to, or are consistent with, the above described criteria for unacceptable environmental impact. The following management actions, listed sequentially in order of increasing intensity, are recommended for consideration under the HBMP:

- Data QA/QC Audit - This action would involve the performance of a concentrated QA/QC audit to determine if the detected change was the result of laboratory problems, data entry errors, violation of sampling protocols, etc.

- Data Comparison (Correlates) - This action would involve a review of data correlates (e.g., specific conductance is a correlate to salinity) to determine if there is more than one line of evidence reflecting the detected change.

- Determination of the magnitude and ecological importance of the detected change.

- Assessment of the degree of statistical certainty for an observed change to determine the likelihood that the observed change was due to chance alone (e.g., *alpha* error).

- Assessment based on combined results for magnitude of change and probability that the change is due to chance alone. If both the detected change and the degree of certainty are low, then a less intense management response would be appropriate including increased or directed sampling efforts. If the detected change is considered to be moderate or large and the degree of certainty is high (e.g., low alpha), then a more intense management response may be indicated. If the detected change is relatively large, but the degree of certainty is low (e.g., high alpha), then a less intense management response may be appropriate.

- HBMP Special Meeting - If the data review and comparison indicates that a detected change is not due to quality control problems and is reflected in multiple lines of evidence, the next step would involve convening a special HBMP meeting. The purpose of the meeting would be to discuss the data review and comparison findings with all HBMP participants to determine additional steps to refine the understanding of the magnitude and extent of the detected change. Additional data analyses or a redirected and focused sampling effort to better define the detected change would be recommended as appropriate.

- Redirected Sampling Effort - This action would involve conducting more focused supplemental sampling and/or additional studies (e.g., controlled withdrawal/flow experiments) in the affected reporting units with the objective of gaining a better understanding of the detected change. The additional data collected from this effort could then be subjected to previous steps as appropriate. This action would determine if detection of the change is repeatable under a more focused sampling program. Although this step could be valuable, it may not be necessary for a redirected sampling effort to be conducted for all hydrobiological changes detected by the HBMP.

- Modified Withdrawal Schedules - Modified freshwater withdrawal schedules could include provisional or temporary reductions in withdrawal rates, or modifications to the schedules such that greater withdrawals would occur during high flows, but lesser withdrawals would occur during low flows. Another alternative would be the development of an optimization schedule whereby the highest withdrawal rates would occur in the river source with the greatest harvestable flows at any given time. Given the regional need for additional water supplies, a permanent reduction in the total permitted withdrawal volumes would likely be viewed as the most intense response to detected adverse impact.

As noted, consideration and application of these recommended management actions would vary with the specific hydrobiological changes and statistical measures of certainty involved.

However, this approach meets the need for reasonable assurance as well as the overall objectives of the HBMP.

Appendices

APPENDIX A
Previously Authorized HBMP Design and Programmatic Modifications

Design of the Alafia River/Tampa Bypass Canal HBMP began in May 1999. The HBMP was designed in a series of workshops and subcommittee meetings attended by regulatory agency and local government representatives, and other stakeholders. A final HBMP design document was completed in late 1999 (PBS&J, 2000).

HBMP field sampling was initiated in April 2000, and continued implementation of the HBMP has been required under special conditions for the renewed and modified water use permits for these regional public water supply projects. The HBMP was intended to be routinely modified based on field conditions and the ongoing evaluation of HBMP data.

In the ten years since the acceptance of the final HBMP design by both the design group and the Tampa Bay Water Board, several minor modifications have been made to the HBMP. These modifications were in response to requests by the District and other stakeholders, logistical problems encountered during early implementation, and the sampling modifications identified based on evaluations of HBMP data.

Potential modifications to improve the monitoring program have been provided in HBMP annual and multi-year interpretative reports, and discussed at Annual HBMP Meetings. All modifications approved by the District through July 2010 and incorporated into the program are listed below.

1. Spatial Strata

Discontinued Sampling in Alafia River Stratum AR8

In 2000, Alafia River stratum AR8 was found to be inaccessible on nearly all tides. This portion of the river is also physically different than the lower river and would have required different benthic, fish, and plankton sampling methods than the lower river. As a result, stratum AR8 was deleted from the monitoring program with District approval after the first few months of program implementation. The sampling effort scheduled for AR8 was transferred to the other freshwater stratum (AR7), also with District approval.

2. Hydrology/Water Quality

Added Fixed-Location Water Quality Sample Stations

In Water Year 2001, three additional fixed-location water quality monitoring stations were added at the request of the District. One additional fixed-location water quality sampling station was added at the mouth of the Alafia River and one at the mouth of the Hillsborough River at existing EPCHC sampling sites. A third fixed station was added at the upstream side of the S160 dam. This station is only sampled when there is flow over S160. These stations were meant to describe upstream and downstream boundary inputs (by downstream flow or incoming tide) to the reporting units.

Discontinued Total Organic Carbon and Dissolved Organic Carbon

Total organic carbon and dissolved organic carbon sampling was discontinued in the Alafia River, TBC and McKay Bay at the end of Water Year 2004 (September 2004). There was consensus at the 2004 Annual Meeting to discontinue the sampling and analysis of TOC and DOC as part of the HBMP because the HBMP had generated a considerable amount of data for dissolved and total organic carbon in these systems and additional data was not necessary.

Discontinued Continuous Dissolved Oxygen Sensors

Dissolved oxygen (DO) probes on the Sligh Avenue and Columbus Avenue continuous recorder stations in the Hillsborough River reporting unit were deactivated during Water Year 2004. There was consensus at the 2004 Annual Meeting that DO measurements at these stations could be discontinued. This consensus was based on the belief that the data collected under long-term deployments of membrane-based, dissolved oxygen measurement equipment did not have the precision to detect the small changes predicted as a result of withdrawals.

3. Biota

Completed McKay Bay and TBC Oyster and Mollusk Surveys

Oyster and mollusk surveys were conducted in McKay Bay and the TBC as special studies completed in 2005 and 2008. These studies included a bathymetric and oyster bar survey (PBS&J, 2005), and mapped the distribution and assessed the health of oysters and other mollusks (Janicki Environmental, 2008).

Discontinued Avian Surveys near McKay, Added Avian Study near Alafia

There were significant variations in natural flow from 2000 to 2004 including some of the highest and lowest flow on record. However, there was no relationship between flow and bird observations collected during this period. Based on data collected from 2000 to 2004, HBMP annual meeting participants concluded that the ability to link changes in bird communities to flow and salinity changes associated with the surface water projects was tenuous at best. As a result, bird sampling in the ponds area was eliminated in Water Year 2005, and a redesigned Alafia area sampling was implemented.

Completed Avian Special Study at Alafia Banks

In Water Year 2005, surveys included quantification of foraging effort by select benthic feeding indicator species as part of an approved HBMP special study. No relationship between flow and bird populations were observed during this sampling, and all bird sampling in the Alafia Banks was discontinued at the end of Water Year 2008 with District approval. Since relationships between the large natural variations in Alafia River flow and bird populations could not be detected, it was determined that it would be difficult or impossible to detect variations in bird populations as a result of withdrawals.

Added Expanded Fish Sampling in Hillsborough Bay Adjacent to the Alafia River

The HBMP was designed to characterize baseline conditions, and detect hydrobiological changes, in the river estuaries of the Alafia, Hillsborough and Palm Rivers, and McKay Bay. Although Hillsborough Bay was a defined reporting unit in the HBMP, it was the consensus of the Focus Group that hydrobiological changes associated with the permitted withdrawals would first be detected in the rivers long before any potential cumulative impacts in Hillsborough Bay were realized. Therefore, the HBMP Focus Group did not recommend additional sampling of Hillsborough Bay. Rather, they concluded that data currently being routinely collected by others (e.g., EPCHC and FWRI) would likely be adequate to assess changes in water quality, benthos and fish communities in Hillsborough Bay.

At the 2004 Annual Meeting, FWRI staff pointed out that the FIM sampling effort was not intended to make annual inferences regarding fish population changes in Hillsborough Bay, and suggested that if it is desirable to make annual inferences regarding potential cumulative impacts on fish communities, the

sampling intensity of the FIM program would need to be increased. There was agreement among the meeting participants that the original assumptions regarding the initial detection of changes related to surface water withdrawals in the river estuaries still held true, but that the adequacy of sampling activities in Hillsborough Bay should be evaluated further. As a result of re-evaluating the adequacy of existing monitoring programs to address the issues of concern in Hillsborough Bay, additional fish sampling stations were added as a special study to the HBMP in Water Year 2005. The stations are located near the mouth of the Alafia River (referred to as the Alafia River Delta stratum).

After several years of data collection in the delta area, power analyses conducted by Janicki Environmental found that this sampling did not have sufficient power to detect a 25% change in community indices in the Alafia River Delta stratum. This sampling is divided into two spatial strata, an inner stratum at the mouth of the river, and an outer stratum more distant from the river. FWRI staff suggested that the power of this sampling could be improved by concentrating sampling in the inner stratum. This sampling program was redesigned to consist of seven samples per year, all of which are taken in the inner stratum. This recommendation was approved by the District and implemented at the beginning of Water Year 2009.

Redistributed Benthic and Fish Sampling Effort in the Alafia River, Hillsborough River, and Tampa Bypass Canal

Power analysis conducted by Janicki Environmental found that the relatively high number of catches with no organisms greatly reduced the analytical power of trawls in the upper Alafia River and Hillsborough River strata and the majority of the TBC. In order to address this issue, FWRI staff recommended that all fish trawl samples originally conducted in Alafia and Hillsborough Rivers strata 4 and 5 be shifted to downstream to strata 1, 2, and 3 (see Tables 3.7.1 and 4.7.1). FWRI staff believed shifting trawls to the downstream strata would improve the analytical power of sampling in the downstream strata. Seine sampling would remain unchanged and would still be conducted the upstream strata. This recommendation was approved by SWFWMD and implemented at the beginning of Water Year 2009.

The majority of the TBC is comprised of areas where large numbers of zero fish and benthic catches occur. As a result, fish sampling was stopped in the TBC beginning in Water Year 2009. Benthic sampling upstream of the US 41 bridge was stopped at the same time. The District believed that benthic habitat conditions in the short stretch of the TBC downstream of the US41 Bridge might be more indicative of McKay Bay than the TBC and requested that benthic sampling be continued below US41.

4. Habitat/Vegetation

Reduced Frequency of Alafia SAV Surveys

In October 2001, the District approved an additional program modification based on data collected during Water Year 2001. This modification changed the frequency of submerged aquatic vegetation surveys in the Alafia River from once per year to once every five years. This change was initiated after SAV was found in only one location (the mouth of a spring discharge) in the Alafia River during the first SAV sampling event. It was felt that annual monitoring was not warranted given the lack of SAV in baseline conditions.

Reduced Frequency of Vegetation Mapping

At the 2004 Annual Meeting, SWFWMD staff agreed that the required interval for vegetation polygon mapping could be lengthened and suggested that once every three years in concert with the submittal of

comprehensive interpretive reports would be appropriate. This change was initiated because no significant changes had been observed in the 2000, 2001, 2002, and 2003 mapping events even though there had been large natural variation in flow. The last mapping occurred in Water Year 2009. The next mapping is scheduled to occur in the Fall of Water Year 2012.

Discontinued Alafia Fixed-Station Vegetation Sampling

Fixed-station vegetation sampling on the Alafia River was discontinued at the end of Water Year 2008 with District approval. Analyses of data collected from 2001 to 2007 were unable to detect changes in vegetation as a result of the large variation of inter-annual flows during this period. As a result, it was unlikely that this monitoring could have detected changes as a result of Tampa Bay Water operations. This monitoring effort was confounded by the fact that vegetation in areas most likely to be influenced by salinity changes as a result of withdrawals consisted of narrow fringe marshes adjoining residential properties. These areas contained large amounts of invasive exotic and nuisance vegetation and were subject to many forms of disturbance aside from those that might be caused by Tampa Bay Water operations.

5. Reporting

Modified Interpretive Report Schedule/Frequency

The frequency of interpretive report submittals was discussed at the May 2003 HBMP Annual Meeting. Interpretive reports were originally required to be submitted every five years. This 5-year interval included a mid-term, interpretive report submitted in year 3 of each five-year evaluation period, and a comprehensive interpretive report submitted in year 5 of each five-year evaluation period. At the May 2003 Annual Meeting, Tampa Bay Water proposed that the interpretive report submittal schedule be modified such that comprehensive interpretive reports are submitted every three years. Each comprehensive interpretive report would summarize HBMP findings of the previous two years, as well as compare these findings to the HBMP and baseline periods of record. Representatives from the SWFWMD and other meeting participants agreed with this proposed schedule. The first HBMP Interpretive Report was submitted to the District on July 2003 and the second in July 2006. The HBMP reporting the Alafia River and other reporting units was split with the most recent TBC/Hillsborough water use permit. The TBC/Hillsborough interpretive reports are now submitted at five-year interval. The last report was submitted in 2010 and the next report is due in July 2015. The Alafia Interpretive Report remains on a three-year interval. The last report was submitted in 2009. Under the current schedule, the fourth Alafia Interpretive Report will be submitted in July 2012.

APPENDIX B
HBMP and HBMP-Related Documents

HBMP Program Documents

PBS&J, 2008. TBC/Alafia River HBMP Quality Assurance Project Plan v2.1. Prepared for Tampa Bay Water, Clearwater, Florida.

PBS&J, 2002. TBC/Alafia River HBMP Quality Assurance Project Plan v1.1. Prepared for Tampa Bay Water, Clearwater, Florida.

PBS&J, 2000. TBC/Alafia River Water Supply Projects HBMP (Design Document) (September). Prepared for Tampa Bay Water, Clearwater, Florida.

SWFWMD Minimum Flows and Levels and Related Documents

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Janicki Environmental, Inc., 2005. Alafia River Isohaline Regression Models. Prepared by Janicki Environmental for the Southwest Florida Water Management District.

Janicki Environmental, Inc., 2005. Technical Memorandum: Tampa Bypass Canal/McKay Bay Regression Results. Prepared by Janicki Environmental for the Southwest Florida Water Management District.

Janicki Environmental, Inc., 2007. Development of Analytical Tools for Quantifying Minimum Flows in Southwest Florida Tidal Rivers Based Upon Benthic Macroinvertebrate Communities. Report prepared for the Southwest Florida Water Management District. Brooksville, Florida.

MacDonald, T.C., Peebles, E.B., M.F.D. Greenwood, R.D. Matheson, and R.H. McMichael, 2005. Freshwater inflow effects on fishes and invertebrates in the Hillsborough River estuary. Joint report of the Florida Fish and Wildlife Conservation Commission and the University of South Florida College of Marine Science submitted to the Southwest Florida Water Management District. Brooksville, Florida.

MacDonald, T.C., 2007. Written communication - Letter from the Florida Fish and Wildlife Conservation Commission to the Southwest Florida Water Management District regarding identification of hatchery-reared and wild juvenile red drum in the Lower Alafia River and revision of regressions to predict the abundance of juvenile red drum as a function of freshwater inflow.

Matheson, R.E., M.F.D. Greenwood, T.C. MacDonald, R.H. McMichael, 2005. Assessment of Relationships Between Freshwater Inflow and Populations of Fish and Selected Macroinvertebrates in the Lower Alafia River, Florida. Report prepared by the Florida Fish and Wildlife Research Institute for the Southwest Florida Water Management District. Brooksville, Florida.

Montagna, P., G.L. Powell and J.N. Boyer, 2007. Scientific Peer Review of the Lower Hillsborough River Low Flow Study Results and Minimum Flow Recommendation. Prepared for the Southwest Florida Water Management District, Brooksville, Florida.

Mote Marine Laboratory, 2003. An investigation of relationships between freshwater inflows and benthic macroinvertebrates in the Alafia River estuary. Report prepared by Mote Marine Laboratory for the Southwest Florida Water Management District, Brooksville, Florida.

Peebles, E.B., 2002. An Assessment of the Effects of Freshwater Inflows on Fish and Invertebrate Habitat Use in the Alafia River Estuary. Report prepared by the University of South Florida College of Marine Science for the Southwest Florida Water Management District. Brooksville, Florida.

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Peebles, E.B., 2005. Review of Feeding Habits of Juvenile Estuarine-Dependent Fishes and Blue Crabs: Identification of Important Prey. Report prepared by the University of South Florida College of Marine Science for the Southwest Florida Water Management District. Brooksville, Florida

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HBMP Interpretive and Related Reports

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PBS&J, 2010. TBC/Hillsborough River HBMP Water Year 2010 Year 10 Interpretive Report (July). Prepared for Tampa Bay Water, Clearwater, Florida.

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Janicki Environmental, Inc., 2006. Tampa Bypass Canal Water Supply Project (Including Hillsborough River Water Source) Water Use Permit Modification: Volume II - Environmental Analysis Report (October). Prepared for Montgomery Watson Harza, Tampa, Florida.

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English, D.C., R.W. Kitsmiller, and E.B. Peebles, 2007. Bio-Optical Properties of the Tidal Alafia River; Comparisons with Bay Anchovy Distribution. Report prepared by the USF College of Marine Science for Tampa Bay Water (draft in preparation, March 2007).

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Wessel, M., et al., 2008. Relationships between Freshwater Flows, Nutrient Loading, Chlorophyll-a and benthic macroinvertebrates in the Alafia River (draft). Prepared for Tampa Bay Water, Clearwater, Florida.

HBMP Benthic Invertebrates

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PBS&J, 2005. McKay Bay Bathymetric and Oyster Bar Survey (March). Prepared for Tampa Bay Water, Clearwater, Florida.

HBMP Fish (Adult/Juvenile), Ichthyoplankton/Zooplankton, Birds

Janicki Environmental Inc., 2004. Extending the Tampa Bay Water HBMP Fish Sampling Effort into Hillsborough Bay, Tech Memorandum: Evaluation of Potential Monitoring Program Design Additions (December). Prepared for Tampa Bay Water, Clearwater, Florida.

Janicki Environmental Inc., 2004. Relationships between Freshwater Inflow and Fish Communities in the Lower Alafia River (May). Prepared for Tampa Bay Water, Clearwater, Florida.

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Janicki Environmental, Inc., 2009. Examining the Relationship between Freshwater Flows, Nutrient Loads, Chlorophyll a Concentrations and the Spatial and Temporal Distribution of Zooplankton in the Lower Alafia River (October). Prepared for Tampa Bay Water, Clearwater, Florida.

PBS&J, 2008. Technical Memorandum: HBMP Special Study Bird Foraging and Benthic Prey (draft TM). Prepared for Tampa Bay Water, Clearwater, Florida.

Peebles, E.B., 2004. An Analysis of Fish and Invertebrate Data Related to the Establishment of Minimum Flows for the Tampa Bypass Canal. Report prepared by the University of South Florida College of Marine Science for the Southwest Florida Water Management District. Brooksville, Florida.

Wessel, M., 2008. Fish Community Response to Inflow Variations in Two Impounded and One Unimpounded Tidal Tributary to Tampa Bay, Florida (manuscript submitted to Environmental Indicators).

Exhibit D
Tampa Bay Water Alafia
Hydrologic Monitoring Sites

TBW ALAFIA HYDROLOGIC MONITORING SITES

PERMITTEE ID	LAT/LONG	WATER BODY	PARAMETER	FREQUENCY
AR-BS	275129/821614	Alafia at Bell Shoals	Stage	Continuous
AR-L	275209/821225	Alafia at Lithia	Stage/Streamflow	Continuous
BS	275329/821810	Buckhorn Springs	Spring Discharge	Weekly
LS	275150/821349	Lithia Springs	Spring Discharge	Weekly
LSM	275158/821351	Lithia Springs Major	Spring Discharge	Weekly

Notice of Rights

ADMINISTRATIVE HEARING

1. You or any person whose substantial interests are or may be affected by the District 's intended or proposed action may request an administrative hearing on that action by filing a written petition in accordance with Sections 120.569 and 120.57, Florida Statutes (F.S.), Uniform Rules of Procedure Chapter 28-106, Florida Administrative Code (F.A.C.) and District Rule 40D-1.1010, F.A.C. Unless otherwise provided by law, a petition for administrative hearing must be filed with (received by) the District within 21 days of receipt of written notice of agency action. "Written notice" means either actual written notice, or newspaper publication of notice, that the District has taken or intends to take agency action. "Receipt of written notice" is deemed to be the fifth day after the date on which actual notice is deposited in the United States mail, if notice is mailed to you, or the date that actual notice is issued, if sent to you by electronic mail or delivered to you, or the date that notice is published in a newspaper, for those persons to whom the District does not provide actual notice.

2. Pursuant to Subsection 373.427(2)(c), F.S., for notices of intended or proposed agency action on a consolidated application for an environmental resource permit and use of sovereignty submerged lands concurrently reviewed by the District, a petition for administrative hearing must be filed with (received by) the District within 14 days of receipt of written notice.

3. Pursuant to Rule 62-532.430, F.A.C., for notices of intent to deny a well construction permit, a petition for administrative hearing must be filed with (received by) the District within 30 days of receipt of written notice of intent to deny.

4. Any person who receives written notice of an agency decision and who fails to file a written request for a hearing within 21 days of receipt or other period as required by law waives the right to request a hearing on such matters.

5. Mediation pursuant to Section 120.573, F.S., to settle an administrative dispute regarding District intended or proposed action is not available prior to the filing of a petition for hearing.

6. A request or petition for administrative hearing must comply with the requirements set forth in Chapter 28.106, F.A.C. A request or petition for a hearing must: (1) explain how the substantial interests of each person requesting the hearing will be affected by the District's intended action or proposed action, (2) state all material facts disputed by the person requesting the hearing or state that there are no material facts in dispute, and (3) otherwise comply with Rules 28-106.201 and 28-106.301, F.A.C. Chapter 28-106, F.A.C. can be viewed at www.flrules.org or at the District's website at www.WaterMatters.org/permits/rules.

7. A petition for administrative hearing is deemed filed upon receipt of the complete petition by the District Agency Clerk at the District's Tampa Service Office during normal business hours, which are 8:00 a.m. to 5:00 p.m., Monday through Friday, excluding District holidays. Filings with the District Agency Clerk may be made by mail, hand-delivery or facsimile transfer (fax). The District does not accept petitions for administrative hearing by electronic mail. Mailed filings must be addressed to, and hand-delivered filings must be delivered to, the Agency Clerk, Southwest Florida Water Management District, 7601 Highway 301 North, Tampa, FL 33637-6759. Faxed filings must be transmitted to the District Agency Clerk at (813) 367-9776. Any petition not received during normal business hours shall be filed as of 8:00 a.m. on the next business day. The District's acceptance of faxed petitions for filing is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation, available for viewing at www.WaterMatters.org/about.

JUDICIAL REVIEW

1. Pursuant to Sections 120.60(3) and 120.68, F.S., a party who is adversely affected by District action may seek judicial review of the District's action. Judicial review shall be sought in the Fifth District Court of Appeal or in the appellate district where a party resides or as otherwise provided by law.

2. All proceedings shall be instituted by filing an original notice of appeal with the District Agency Clerk within 30 days after the rendition of the order being appealed, and a copy of the notice of appeal, accompanied by any filing fees prescribed by law, with the clerk of the court, in accordance with Rules 9.110 and 9.190 of the Florida Rules of Appellate Procedure (Fla. R. App. P.). Pursuant to Fla. R. App. P. 9.020(h), an order is rendered when a signed written order is filed with the clerk of the lower tribunal.

GENERAL COUNSEL'S REPORT

May 19, 2026

Discussion: Action Item: Affirm Governing Board Committee Actions

The Governing Board has established four committees for conducting District business: the Finance/Outreach & Planning Committee; the Operations, Land, & Resource Monitoring Committee; the Regulation Committee; and the Resource Management Committee. Each committee is a committee of the whole with all Governing Board members serving as committee members.

The Governing Board, sitting as a committee, considers and takes action on discussion agenda items during each Governing Board meeting. In order to clarify for the record that the Governing Board has taken action, the actions taken by the committees will be presented to the Board for affirmation.

Staff Recommendation:
Affirm the actions taken by the Governing Board Committees.

Presenter:
Christopher A. Tumminia, General Counsel, Office of General Counsel

COMMITTEE/LIAISON REPORTS

May 19, 2026

Discussion: Information Item: Environmental Advisory Committee

Staff Recommendation:
This item is for the Board's information only, and no action is required.

Presenter:
Josh Gamblin, Board Member

EXECUTIVE DIRECTOR'S REPORT

May 19, 2026

Discussion: Information Item: Executive Director's Report

Staff Recommendation:
This item is for the Board's information only, and no action is required.

Presenter:
Brian J. Armstrong, P.G., Executive Director

CHAIR'S REPORT

May 19, 2026

Discussion: Information Item: Chair's Report

Staff Recommendation:
This item is for the Board's information only, and no action is required.

Presenter:
John Mitten, Chair

CHAIR'S REPORT

May 19, 2026

Discussion: Information Item: Employee Milestones

Staff Recommendation:
This item is for the Board's information only, and no action is required.

Presenter:
John Mitten, Governing Board Chair

May 2026 Milestones

Years of Service	Seniority Date	Preferred Full Name	Position Title	Office Location	Bureau
10	05/09/2016	Lance Calaverne	Field Operations Supervisor	Brooksville	Operations
10	05/31/2016	Leonard Rodriguez	Well Driller Assistant	Brooksville	Data Collection
20	05/15/2006	Chris Reed	Land Management Manager	Brooksville	Land Resources