## **Operational Project Monitoring Plan**

For

### **PROJECT NAME**

**(Y)** 

## 10/18/2022

10/24/2022

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### SFWMD-FIELD-OMP-038-10

## **Table of Contents**

1.0	Project Organization3					
2.0	Project Description3					
	2.1	L Project Introduction and Background				
	2.2	Sampling Mandate(s)4				
	2.3	Project Objectives	6			
		2.3.1 Modification or Termination Conditions	6			
3.0	Geog	raphic Location	6			
	3.1	Regional Area	6			
	3.2	Station Location and Access	6			
		Table 1: PROJECT Y Surface Water Monitoring Stations and GPS Coordinates	7			
		Figure 1: PROJECT Y Station Locations	9			
4.0	Field	Activities	.10			
	4.1	Monitoring Frequencies and Parameters Collected	.10			
		Table 2: PROJECT Y Station Frequency and Parameter TESTS	10			
	Project Specific Guidelines	.10				
4.3 Grab Sampling Procedures						
	4.4	Field Parameters	.11			
	4.5 Field Quality Control Requirements1					
4.6 Autosampler Collection						
	4.7	Sample Submission	.12			
5.0	Data	Data Quality Objectives (DQOs)12				
	5.1	Data Usage and Reporting	.12			
	5.2	Data Quality	.12			
	5.3	Completeness Target	.13			
6.0	Data	Data and Records Management1				
	6.1	Contract Deliverables	.13			
	6.2	Data and Record Storage	.13			
7.0	References14					
8.0	Revisions and Modifications15					
Append	dix 1: 9	Station Requirements by Mandate	.16			

### 1.0 Project Organization

The following documents define the procedures used by South Florida Water Management District (SFWMD or District) Water Quality Monitoring (WQM) Section personnel to meet the Florida Department of Environmental Protection's (FDEP or Department) Quality Assurance (QA) Rule, Florida Administrative Code (F.A.C.) 62-160, and should be referred to for details on key personnel and relevant responsibilities.

- Overall project organization and responsibilities -
  - SFWMD Water Quality Bureau (WQB) and Applied Sciences Bureau (ASB) Quality Management Plan (QMP).
- Field activity and data validation responsibilities -
  - SFWMD Water Quality Monitoring Section's (WQM) Quality Manual (QM), Field Sampling Manual (FSM), and applicable Standard Operating Procedures (SOP).
- Laboratory analysis and data validation responsibilities -
  - SFWMD Analytical Service's (AS) Chemistry Laboratory Quality Manual (CLQM) and applicable SOPs.

### 2.0 Project Description

### 2.1 Project Introduction and Background

This document serves as a reference for surface water quality monitoring for the Lake Okeechobee Limnetic Zone Monitoring Program (Project Y) which began in 1972. The project is divided into two zones primarily as a function of the workload required to sample all the monitoring stations within Lake Okeechobee. The project zones are the northern and southern zone with requiring approximately one day to complete per month resulting in two complete sampling days a month during the dry season (November – April) and requiring approximately two days to complete per month resulting in four complete sampling days a month during the wet season (May – October). Project Y originally included 17 sampling locations and was increased to 28 sampling locations spread across the lake as of March 1, 2020. The guidance contained herein will assist in maintaining consistency in sampling locations, parameter lists and frequencies as well as providing documentation of the project scope and an ongoing historical perspective. The operational plan for this project contains detailed station locations and brief descriptions of the mandate and/or permit required monitoring at each station.

Lake Okeechobee is one of the most dominant hydrologic features of the State of Florida. The lake is at the core of the Kissimmee-Okeechobee-Everglades (KOE) ecosystem, which extends from Lake Kissimmee in the north, central part of the state, to the Everglades and Florida Bay in the south. The lake is surrounded by a 140 mile levee system that is intercepted by a network of canals whose inflows and outflows are entirely controlled (with the exception of Fisheating Creek) by a system of pump stations and spillways. The major structures are either operated by South Florida Water Management District (SFMWD or District) or the U.S. Army Corps of Engineers (ACOE). This system allows for

the lake's hydrologic regulation and dictates flood control management in the southern portion of the state.

This water body has numerous ecological and human related uses. It is a vital ecological resource for more than a dozen state or federally listed species of flora and fauna and a principal stop-over for migratory birds traveling the Atlantic flyway. Lake Okeechobee is a Class I primary drinking water source for 75,000 people, as well as a secondary source for the Southeastern coast's estimated population of 6 million people. Lake Okeechobee also has an economic and cultural connection to the generations of South Floridians who have based their lives around it. The lake sustains prominent commercial and recreational fisheries and it is essential to the irrigation of crop industries that are of national importance.

### 2.2 Sampling Mandate(s)

Station locations, sampling frequencies, and parameters are dictated by the mandate and/or permits governing this project (Appendix 1). Appendix 2 details the mercury and other toxicants monitoring program as required by Permit. There is no CMP(s) associated with this project.

The Y project is mandated by the Northern Everglades and Estuaries Protection Program (NEEPP) 373.4595(3)(a)2, whose primary goal is to improve and protect the water quality (specifically phosphorus load reductions) and quantity in the Lake Okeechobee, Caloosahatchee River, and St. Lucie River watersheds (NEEPP, 373.4595, Florida Statutes).

Under NEEPP, the District in partnership with the Florida Department of Environmental Protection (FDEP) and Florida Department of Agriculture and Consumer Services (FDACS) has established Research and Water Quality Monitoring Programs (RWQMP) for each watershed to evaluate water quality to the estuaries. Among other requirements, the Program directs the coordinating agencies to (NEEPP, 373.4595(2) (a)-(g), Florida Statutes):

- Analyze all available existing water quality data regarding total phosphorus in the watershed;
- Conduct an assessment of the water volumes and timing from the watershed and the timing and volume of water delivered to the estuaries;
- Determine the relative contribution of phosphorus from all identifiable sources and all primary and secondary land use;

- Develop a water quality baseline to represent existing conditions for total phosphorus;
- Develop a water quality model that reasonably represents the phosphorus dynamics of the watershed and incorporates an uncertainty analysis associated with model predictions;
- Evaluate the feasibility of alternative nutrient reduction technologies (including sediment traps, canal and ditch maintenance, aquaculture, bioenergy conversion processes, and algal or other biological treatment technologies);
- Monitor long-term ecological changes; and
- Measure compliance with water quality standards for total phosphorus.

The level of monitoring required for the RWQMP is not specified in NEEPP; projects, stations, frequencies, and parameters collected are at the discretion of the District and are based upon the needs of the data end-users and available funding.

In response to the Governor's Executive Order 19-12 (signed January 10, 2019) to expedite nutrient reductions in the Northern Everglades, the District's Applied Sciences Bureau and Everglades and Estuaries Protection Bureau (EEP) recommended an expansion of the District's water quality monitoring network. Specifically, the Bureaus' recommendations are intended to:

- 1. Measure progress of individual restoration projects toward attaining specific goals and maintaining compliance with FDEP and USACE permit requirements;
- 2. Monitor non-point source contributions to assess long-term trends in water quality;
- 3. Evaluate necessary modifications to the Watershed Construction Projects to help achieve water quality standards;
- 4. Support FDEP with system wide monitoring to measure compliance with water quality standards and progress toward achieving nutrient load goals in BMAPs; and
- 5. Support science-based recommendations for hydrologic and ecologic improvements.

On August 8, 2019 the SFWMD governing board voted to expand the water quality monitoring within the Northern Everglades and Lake Okeechobee geographical area. As part of this water quality monitoring expansion, 11 additional stations (Table 1/Figure 1) have been added to the Y project bringing the new total to 28 stations, along with changes to the sampling frequencies and parameters (Table 3). The network provides for scientific data representative of pollutant sources which will support progress by Blue-Green Algae Task Force (BGATF) and FDEP to achieve Total Maximum Daily Loads (TMDL's) under BMAPs. Data will be used to evaluate trends, identify water quality issues, measure potential impacts of activities to SFWMD projects/works, provide insight on selection of appropriate technologies/projects/solutions, and comply with Section 373, Florida Statutes, which declares that the governing board shall take into account cumulative impacts on water resources and manage those resources in a manner to ensure sustainability and to minimize degradation caused by discharge of stormwater.

### 2.3 Project Objectives

The primary objective of this monitoring project is to estimate the effects of long term phosphorus loads coming into Lake Okeechobee and identify trends on the internal cycling of total phosphorus and other water quality variables over time within the lake's pelagic zone. The water quality data obtained under this program will be used to establish nutrient budgets for Lake Okeechobee and will also be used to assess compliance with the in-lake TMDL established by FDEP. This monitoring also fulfills some of the monitoring requirements of NEEPP.

### 2.3.1 Modification or Termination Conditions

The monitoring described herein will continue as required by the mandate(s) listed in Section 2.2 and Appendix 1. Conditions for modification or termination of the project are detailed in the mandate(s) specifying the conditions of the project.

### 3.0 Geographic Location

### 3.1 Regional Area

PROJECT Y is located within five counties that includes Okeechobee, Hendry, Glades, Palm Beach and Martin (Figure 1).

### 3.2 Station Location and Access

Monitoring stations are depicted in Figure 1 with locations described in Table 1.

All samples are taken from a boat with long range and rough condition capabilities. Boats are usually launched from Okee-Tantie boat ramp in Okeechobee County. Numerous other ramps are available as needed. Sample stations will be navigated to using Global Positioning System (GPS). When the situation arises, samples have been collected via airboat and float helicopter due to extreme low water levels during drought conditions.

Station	Latitude	Longitude	Description		
Station	(ddmmss.sss)	(ddmmss.sss)	Description		
CLV10A	265457.881	803728.785	1000 yds. offshore of structure Culvert 10A		
KISSR0.0	270828.683	805045.601	Mouth of the Kissimmee River on the north side of Lake Okeechobee.		
L001	270820.010	804736.230	Instrument platform at north end of Lake Okeechobee 4 ½ miles south of Taylor Creek Locks (S-193).		
L004	265839.662	804234.494	East side of Lake Okeechobee, west of Port Mayaca bridge.		
L005	265724.229	805820.586	Instrument platform on the northwest end of Lake Okeechobee.		
L006	2649121.210	804658.210	Instrument platform at the south end of Lake Okeechobee.		
L007	264612.004	804703.659	South end of Lake Okeechobee 3 ¼ miles south of L006.		
L008	265725.604	805330.092	L008 is about 4 ½ miles due east of L005.		
LZ2	271123.121	804940.943	South of municipal pier on the north side of Lake Okeechobee.		
LZ25A	264440.000	804609.000	South Bay, 2.5 miles east-northeast of Ritta Island.		
LZ30	264749.097	805136.341	Potable water supply intake for the city of Clewiston in Lake Okeechobee near the southwest side of Lake Okeechobee.		
LZ40	265406.534	804720.409	South central Lake Okeechobee at instrument tower.		
PALMOUT	264956.610	805633.180	South end of Observation Island at the edge of marsh on the west side of Lake Okeechobee, one mile north of Uncle Joe's Pass.		
PELBAY3	264627.021	804229.802	North end of Pelican Bay, which is east of Kreamer Island, near the south end of Lake Okeechobee.		
POLE3S	264401.164	805024.285	One mile west of Ritta Island and north of S-3 on Lake Okeechobee.		
POLESOUT	270217.513	805506.746	Edge of marsh about 2 miles east of Indian Prairie Canal on the northwest side of Lake Okeechobee.		
RITTAE2	264345.031	804724.409	East side of Rita Island at south end of Lake Okeechobee.		
Expanded Monitoring Stations					
POLESOUT1	270132.487	805356.740	Open water station approximately 3.5 miles east of Indian Prairie Canal on northwest side of Lake Okeechobee.		

## Table 1: PROJECT Y Surface Water Monitoring Stations and GPS Coordinates

#### PROJECT Y Monitoring Plan SFWMD-FIELD-MP-038-10 10/18/2022 Page 8 of 17

Station	Latitude (ddmmss.sss)	Longitude (ddmmss.sss)	Description
POLESOUT2	270033.282	805249.810	Open water station approximately 6.5 miles east of Indian Prairie Canal on northwest side of Lake Okeechobee.
POLESOUT3	265936.299	805159.735	Open water station approximately 7.5 miles east of Indian Prairie Canal on northwest side of Lake Okeechobee.
PALMOUT1	265023.923	805511.613	South end of Observation Island approximately 1.5 miles east of the marsh on the southwest side of Lake Okeechobee.
PALMOUT2	265057.718	805335.318	South end of Observation Island about 3 miles east of the marsh on the southwest side of Lake Okeechobee.
PALMOUT3	265133.956	805208.596	South end of Observation Island about 4.8 miles east of the marsh on the westside of Lake Okeechobee.
NCENTER	270517.178	804444.948	Open water stationon the north side of Lake Okeechobee about 5 miles west of structure S135.
NES135	270630.265	804129.177	Open water station on the northeast side of Lake Okeechobee about 1 mile offshore west of structure S135.
EASTSHORE	270247.662	803908.150	Nearshore station on the northeast side of Lake Okeechobee about 4.5 miles north of structure 308C.
NES191	271112.733	804601.165	Open water station on the north side of Lake Okeechobee located nearshore west of structure S191.
KBARSE	270456.085	804848.277	Open water station on the northwest side of Lake Okeechobee about 5 miles southeast from the Mouth of the Kissimmee River.

The standard positional goal for station coordinates is detailed in the Establishing & Verifying Water Quality Monitoring Station Registration SOP (SFWMD-FIELD-SOP-031). The coordinates are relative to NAD83 HARN horizontal datum.



Figure 1: PROJECT Y Station Locations

#### 4.0 Field Activities

### 4.1 Monitoring Frequencies and Parameters Collected

All monitoring parameters, frequencies of collection and locations are listed in Table 2. Some analytes may be reported by the lab that are not requested by the project.

Station	Collection Method	Frequency	Parameter TESTS
All	Grab	Monthly (M) (Nov – Apr) Twice Per Month (TPM) (May – Oct)	Alkalinity (ALKA), Ammonia (NH4), Calcium (CA), Chlorophlls (CHL-N), Chlorides (CL), Color (COLOR), Magnesium (MG), Nitrites (NO2), Nitrates-Nitrites (NOX), Nitrates (NO3), Orthophosphate (OPO4), Potassium (K), Silica (SIO2), Sodium (NA), Sulfates (SO4) Total Nitrogen (TN), Total Phosphorus (TP), Total Suspended Solids (TSS), Turbidity (TURB), Volatile Suspended Solids (VSS)
	In-situ Grab		Dissolved Oxygen (DO), pH, Secchi Depth, Specific conductance (SCOND), Temperature (TEMP), Total Depth
CLV10A, LZ30, KISSR.O, POLESOUT, LOO5, PALMOUT LZ2, RITTAE2	Grab	M (Nov – Apr) TPM (May – Oct)	Algal Quantitative ID, Algal Dominate ID, Algal Toxins. (FDEP). Split samples for Algal Quantitative ID, Algal Dominate ID are collected and sent to SFWMD Lab
EASTSHORE, KBARSE, L001, L004, L006, L007, L008, LZ25A, LZ40, NCENTER, NES135, NES191, PALOUT1, PALMOUT2, PALMOUT3, PELBAY3, POLES3S, POLESOUT1, POLESOUT2, POLESOUT3	Grab	TPM (May – Oct)	Algal Toxins, Algal Dominate ID (FDEP)

### 4.2 Project Specific Guidelines

All surface water grab samples are collected on the upstream side of any structure at a depth of 0.5 meters unless collection of a representative sample is inhibited by vegetation and/or other conditions. If an alternative sampling location is required, a consultation with a Science Technician Supervisor and/or the Field Project Manager (FPM) must take place prior to the sampling being collected; this action must be documented in the field notes.

Project Y research parameters included microcystin, and quantitative phytoplankton identification and enumeration at six (6) fixed stations (CLV10A, KISSR0.0, L005, LZ2, LZ30,

and POLESOUT). Microcystin was analyzed by the SFWMD laboratory starting in 2005 until February 2020, using an Enzyme Linked Immunosorbent Assay (ELISA) method; quantitative identification samples were contracted to an outside Lake and River Ecosystems Section (LARE) consultant.

In March of 2020, SFWMD Routine BGA (SFWMD-FIELD-SOP-019-06) monitoring was expanded and enhanced. The number of fixed BGA monitoring stations were expanded from six (6) to nine (9) during the off-season (NOV-APR), and to thirty-two (32) during the on-season (MAY-OCT). Sampling frequency also increased during the on season, from monthly to biweekly. All BGA samples are analyzed by FDEP for Algal Toxins and Algal Dominate ID. Algal Toxins include Anatoxin-a, Cylindrospermopsin, Desmethyl microcystin LR, Microcystin LA, Microcystin LF, Microcystin LR, Microcystin LW, Microcystin LY, Microcystin RR, Microcystin WR, Microcystin YR. Nine (9) of the stations are also analyzed by FDEP for quantitative phytoplankton identification and enumeration (i.e. Algal Quantitative ID). Currently, 8 samples collected on Lake Okeechobee for Algal Quantitative ID are split between the LARE consultant and the FDEP laboratory. Microcystin analysis by ELISA has been discontinued at the SFWMD laboratory, in favor of the Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS) method at the FDEP laboratory.

Phytoplankton samples are collected by split sampling (WQM FSM Field Quality Control Blanks) with the FDEP toxins and Algal ID samples to ensure samples collected are from the same source. Samples collected for FDEP are sent to the FDEP lab in Tallahassee while samples collected for the Lakes and Rivers Section are sent to the SFWMD lab for the purpose of taxonomic comparison for two (2) years so any bias can be determined between labs.

Algal Toxins are combined in Compliance Monitoring Tracking System (CMT) as a group, but reported individually in DBHDYRO, the CMT test name is Algal Toxins and the CMT test number is 1017. Algal Dominate ID and Algal Quantitative ID data are loaded to Everglades Research Database Process (ERDP), the CMT test numbers are 1018 and 1019, respectively.

### 4.3 Grab Sampling Procedures

Sample collection for this project follows the procedures and requirements found in the *Grab Sampling Protocol* section of the WQM FSM. Project-specific deviations are detailed in Section 4.2.

### 4.4 Field Parameters

The collection of field parameters follows the procedures and requirements outlined in the *Instrument Calibration and Field Measurements* section of the WQM FSM. Project-specific deviations are detailed in Section 4.2.

### 4.5 Field Quality Control Requirements

Field quality control requirements shall follow the procedures found in the *Field Quality Control Measurements and Requirements* section of the WQM FSM. Project-specific deviations are detailed in Section 4.2.

#### 4.6 Autosampler Collection

There is no requirement for the use of autosamplers for this project.

### 4.7 Sample Submission

If the District laboratory is to be used, samples are transported to the laboratory and submitted for analyses in accordance with the requirements specified in the WQM FSM. Samples are submitted to the laboratory on the same day as collection or via courier the following day. Sample acceptance criteria are detailed in Section 6 of the CLQM. If samples are submitted to another laboratory it must meet the contract laboratory requirements as specified in Section 5.2 below.

### 5.0 Data Quality Objectives (DQOs)

### 5.1 Data Usage and Reporting

The data from this project are compiled and are summarized in an annual report in accordance with the conditions outlined in the mandates named in Appendix 1.

### 5.2 Data Quality

All monitoring described herein meet the requirements conveyed in the FDEP's QA Rule, 62-160 F.A.C. The District has adopted a uniform set of DQOs following criteria detailed within the *Analytical Methods and Default QA/QC Targets* table of the CLQM.

Field parameter DQOs are described in the *Field Instrument Minimum Accuracy Requirements* table found in the *Instrument Calibration and Field Measurements* section of the FSM. The most recent version of the FSM details the specific field testing DQOs at the time of sample collection.

Samples are analyzed according to the provisions within the FDEP QA Rule, 62-160 F.A.C. and the CLQM. The most recent version of the CLQM details DQOs at the time of sample collection for each specific laboratory analysis. Data are qualified in accordance with the FSM, CLQM and applicable data validation SOPs.

Contract laboratories must be certified through the National Environmental Laboratory Accreditation Program (NELAP) for the submitted samples' analyses, and the DQOs for those analyses must meet or exceed the District laboratory's DQOs (*sensu* CLQM). Analyses performed by contract laboratories must comply with DQOs derived with the assistance of the District Laboratory Manager and/or Data Validation Unit Section Leader and specified in this monitoring plan.

### 5.3 Completeness Target

The completeness target (i.e., the number of samples successfully collected and analyzed, as a percentage of those that were planned) has been set at 95% annually for this project. Sampling attempts shall be included in the completeness target. At times samples will not be able to be collected due to no flow or low water conditions, unsafe station conditions, equipment malfunction, station maintenance, tropical storms/hurricanes or other unforeseen problems that might affect sample collection and/or quality. If samples cannot be collected on an attempt, collectors shall document the sample as a "NOB" to indicate an attempt was made and/or the sample could not be collected for the documented reasons.

### 6.0 Data and Records Management

The District evaluates data in accordance with the data quality objectives stated in the District's FSM and CLQM. All data submittals shall conform to existing District guidelines. Contract laboratory data shall be submitted to the District in the ADaPT format or other format as requested by the District.

### 6.1 Contract Deliverables

Contract laboratory and/or field data and documentation are submitted to the District in the ADaPT format and/or another format as requested by the District. The Contract laboratory shall evaluate the data in accordance with the DQOs defined in the FSM and/or CLQM. All contract field and laboratory data and documentation submittals shall conform to existing FSM, CLQM, applicable SOPs and/or other formats as requested by the District.

### 6.2 Data and Record Storage

After the data validation process, all data and records are maintained so that end users can retrieve and review information relative to a sampling event. Field records are maintained in accordance with the *Archive Records Storage and Retention* SOP (SFWMD-FIELD-SOP-022). All analytical data and specified metadata are sent to the DBHYDRO database for long-term storage and retrieval.

The District shall maintain master copies of field and laboratory generated records. It is the responsibility of the District to maintain both records of current and historical methodologies and operating procedures so that at any given time the conditions that were applied to a sampling event can be evaluated.

Field records storage protocols are outlined in the *Archive Records Storage and Retention* (SFWMD-FIELD-SOP-022). Corrections of field data or records must follow the applicable WQM *Correction of Field Records SOP* (SFWMD-FIELD-SOP-032) and the FSM. Corrections to data in DBHYDRO must follow *Data Investigations and Corrections* (SFWMD-DVS-SOP-010).

#### 7.0 References

- FDEP (Florida Department of Environmental Protection). Quality Assurance Rule, 62-160 Florida Administrative Code (F.A.C.). April 16, 2018.
- SFWMD (South Florida Water Management District). *Archive Records Storage and Retention*, SFWMD-FIELD-SOP-022, Water Quality Monitoring Section
- SFWMD (South Florida Water Management District). *Chemistry Laboratory Quality Manual (CLQM)*, SFWMD-LAB-QM-2022-001 or most current effective version. Analytical Services Section.
- SFWMD (South Florida Water Management District). *Correction of Field Records*, SFWMD-FIELD-SOP-032, Water Quality Monitoring Section
- SFWMD (South Florida Water Management District). *Field Sampling Manual (FSM)*, SFWMD-FIELD-FSM-001, Water Quality Monitoring Section.
- SFWMD (South Florida Water Management District). *Field Quality Manual (QM)*, SFWMD-FIELD-QM-001, Water Quality Monitoring Section.
- SFWMD (South Florida Water Management District). *Data Investigations and Corrections*, SFWMD-DVS-SOP-010, Data Validation Services Unit.
- SFWMD (South Florida Water Management District). *Station Registration*, SFWMD-FIELD-SOP-031, Water Quality Monitoring Section
- SFWMD (South Florida Water Management District). *Water Quality and Applied Sciences Bureaus Quality Management Plan (QMP),* SFWMD-QS-QM-001. Applied Sciences and Water Quality Bureaus.

#### 8.0 **Revisions and Modifications**

Version	Date	Section	Notes		
01	10/06/2009	Table 2	Dropped station LZ25 RITAEAST, RITAWEST, PELMID as they are no longer accessible due to vegetation growth. Added LZ25A, RITTAE2, RITTAW3, PELBAY3		
	05/09/2011	Section 3.3	Elimated TOTCA, TOC, and DOC due to Monitoring Reductions		
02		3.4, 4.2, Table 2, Figure 2, Table 3	Delete Stations 3RDPTOUT, L002, L003, LZ42, LZ42N, PLN2OUT, RITTAW3, STAKEOUT and TREEOUT due to Monitoring Reductions		
		5.1, Table 3	Added Microcystin and Phytoplankton to parameter list at the equest of Lakes and Rivers Section		
02	11/01/2012	All	Monitoring Plan updated to conform o Operational WQ Monitoring Plan Template		
03	11/04/2013	Table 1	Update GPS position for station PALMOUT		
04	06/04/2014	Table 1	Reformate GPS Table		
		Table 2, Appendix 1	Change TKN to TN due to Total Nitrogen laboratory method changed		
07	04/09/2019	All	Monitoring Plan updated to conform to Operational WQ Monitoring Plan Template		
08	05/05/2020	All	Updated Expanded Monitoring stations. Frequencies and parameters. Updated Mandate Table and language.		
09	08/18/2021	All	Annual review and update of OMP. KM		
10		All	Annual review and update of OMP. KM		
	10/13/2022	Table 2, Appendix 1	Remove monthly split sample collection for USGS.		

# Appendix 1: Station Requirements by Mandate

Mandate	Station	Collection Method	Frequency	Parameters TESTS
Northern Everglades and Estuary Protection Plan, (NEEPP) Chapter	All	Grab	Monthly (M)	Alkalinity (ALKA), Ammonia (NH4), Calcium (CA), Chlorophylls (CHL-N), Chlorides (CL), Color (COLOR), Potassium (K), Magnesium (MG), Nitrite (NO2), Nitrate (NO3), Nitrate-Nitrite (NOX), Orthophosphate (OPO4), Silica (SIO2), Sodium (NA), Sulfate (SO4) Total Nitrogen (TN), Total Phosphorus (TP), Total Suspended Solids (TSS), Turbidity (TURB), Volatile Suspended Solids (VSS)
575.4595 F.S.		In-situ Grab	М	Dissolved Oxygen (DO), pH (PH), Specific Conductance (SCOND), Temperature (TEMP), Secchi Depth, Total Depth
	All	Grab	Twice Per Month (TPM) (May – Oct)	ALKA, CA, CHL-N, CL, COLOR, K, MG, NA, NH4, NO2, NO3, NOX, OPO4, SIO2, SO4, TN, TP, TSS, TURB, VSS
		In-situ Grab	TPM (May – (Oct)	DO, PH, SCOND, TEMP, Secchi Depth, Total Depth
	CLV10A, L005, LZ30, PALMOUT, KISSR.O, Z2, POLESOUT, RITTAE2	Grab	M (Nov – April) TPM (May – Oct)	Algal Toxins, Comprehensive Algal ID
Order 19-2	EASTSHORE, L007, LZ40, PALMOUT2, KBARSE, L008, NCENTER, PALMOUT3, L001, LZ25A, NES135, PELBAY3, L004, POLES3S, NES191, POLESOUT1, POLESOUT2, POLESOUT3, PALMOUT1, L006	Grab	TPM (May – Oct)	Algal Toxins, Dominate Algal (FDEP)

PROJECT Y Monitoring Plan SFWMD-FIELD-MP-038-10 10/18/2022 Page 17 of 17