

# TOWN OF LAKE PARK

CYCLE 4 YEAR 1

MS4 ASSESSMENT PLAN

# TABLE OF CONTENTS

1 - Town of Lake Park Assessment Program	1
1.1 - Assessment Program Objective	1
1.2 - Assessment Program Components	1
2 – Water Quality Monitoring Plan	2
2.1 – Description	2
2.2 – Monitoring Sites	2-4
3 – Pollutant Loading Estimate Plan	5
4 – Evaluation and Response Plan	5-6

## **1 – TOWN OF LAKE PARK ASSESSMENT PROGRAM**

### **1.1 - Assessment Program Objective**

The purpose of this assessment program is to provide information for the Town of Lake Park to determine the overall effectiveness of its Stormwater Management Program (SWMP) in reducing stormwater pollutant loadings from its Municipal Storm Sewer System (MS4) to receiving water bodies.

Phase 1 MS4 Monitoring Plans are required to meet the following goals:

- A. Identify areas, that can be targeted for corrective action, that have a potential for water quality problems related to stormwater runoff. The corrective actions include, but are not limited to, non-structural BMP's (i.e. trash collection, street sweeping, public education), structural BMP's, and retrofits.
- B. Measure the effectiveness of stormwater pollution reduction measures, such as BMP's, that have or will be implemented.
- C. For specific outfalls, or watersheds, document pollutant loadings and/or trends in pollutant loadings.

### **1.2 - Assessment Program Components**

As required by the MS4 Permit, the following components make up this Assessment Program:

- A. Water Quality Monitoring Plan – The plan identifies local sources where urban stormwater adversely affects surface water resources.
- B. Pollutant Loading Estimate Plan – The plan is intended to estimate the Pollutant Loading, from the MS4 contributing area, based on BMP's and land use.
- C. Evaluation and Response Plan – The plan is intended to propose a plan of action to be taken based on the results of the Water Quality Monitoring Plan and Pollutant Loading Estimate Plan. The Plan will be used for the following.
  - 1. Analyze trends in Pollutant Loading from the MS4.
  - 2. Analyze trends in water quality that discharge from the MS4.
  - 3. Identify areas of the MS4 to be targeted for corrective measures and loading reduction.

## **2 – WATER QUALITY MONITORING PLAN**

### **2.1 – Description**

Utilizing DEP approved lab Pace Laboratories, sampling at four locations will take place four times per year for six test parameters, including Chlorophyll-A, Dissolved Oxygen (DO), Total Phosphorus (TP), Total Nitrogen (TN), Total Suspended Solids (TSS) and Turbidity. In-situ grab samples will be obtained following a rain event, of 0.75 inches or greater, at low tide if possible, to avoid tidal effects.

The water quality sampling is intended to be ambient data on Lake Park freshwater discharges. Flow weighted sampling is not collected in that it is insufficient for estimating site specific Event Mean Concentrations (EMC's)

### **2.2 – Monitoring Sites**

Monitoring sites were selected to accurately represent the different types of zoning districts located in the Town. The majority of the Town's MS4 is under tidal effect. To avoid sampling tidal influenced water, and due to the outfalls being submerged, samples will be taken upstream of the Major Outfall at the nearest available drainage structure. Samples will be taken at low tide if possible. Monitoring locations are illustrated in the Location Map below as a yellow dot. Contributing drainage areas are approximate.

Locations 1, 2 and 3 are in the Peninsular Region where FDEP has adopted numeric nutrient values for Chlorophyll-A, TN and TP concentrations. The Chlorophyll-A (max. of 20 ug/l), TN ( max. of 1.54 mg/l) and TP (max of 0.12 mg/l), will be helpful in identifying a potential nutrient impairment. Location #4 is in the South Florida Canal Region where there are no numeric criteria for TN and TP. The Chlorophyll-A criteria is a maximum of 20 ug/l.

#### Location 1 (Representative of Residential District)

148 Data Palm Drive – Basin 12, Structure #103. Google Earth: 26°47'41.25"N, 80°3'22.30W

Samples pulled from 60" RCP outflow

Major Outfall #12 on the Major Outfall Map

Land Use: Residential, Business, Public (Parks, Marinas, School)

Contributing Drainage Area = 275 Ac (Residential)

Contributing Drainage Area = 19 Ac (Business)

Contributing Drainage Area = 20 Ac (Public – Parks, Marinas, School)

Total Contributing Drainage Area = 314 Ac

Location 2 (Representative of Residential and Business District/State Highway)

301 Federal Hwy – Basin 12, Structure #131A. Google Earth: 26°47'41.93"N, 80°3'13.85"W

Samples pulled from 60" RCP outflow

Major Outfall #12 on the Major Outfall Map

Land Use: Residential, Business

Contributing Drainage Area = 10 Ac (Residential)

Contributing Drainage Area = 7 Ac (Business)

Total Contributing Drainage Area = 17 Ac

Location 3 (Representative of Residential District)

1406 Flagler Blvd – Basin 15, Structure #35A. Google Earth: 26°48'17.43"N, 80°4'5.63"W

Samples pulled from 36" RCP outflow

Major Outfall #15 on the Major Outfall Map

Land Use: Residential, Business

Contributing Drainage Area = 75 Ac (Residential)

Contributing Drainage Area = 5 Ac (Business)

Total Contributing Drainage Area = 80 Ac

Location 4 (Representative of Campus Light Industrial and Commercial)

Intersection of Congress Ave. and Watertower Road (Southeast Corner) – Basin 26, Structure unnamed. Google Earth: 26°48.1'1.67" N, 80°5'4.21" W.

Samples pulled from 96" RCP outflow

Major Outfall #22 on the Major Outfall Map.

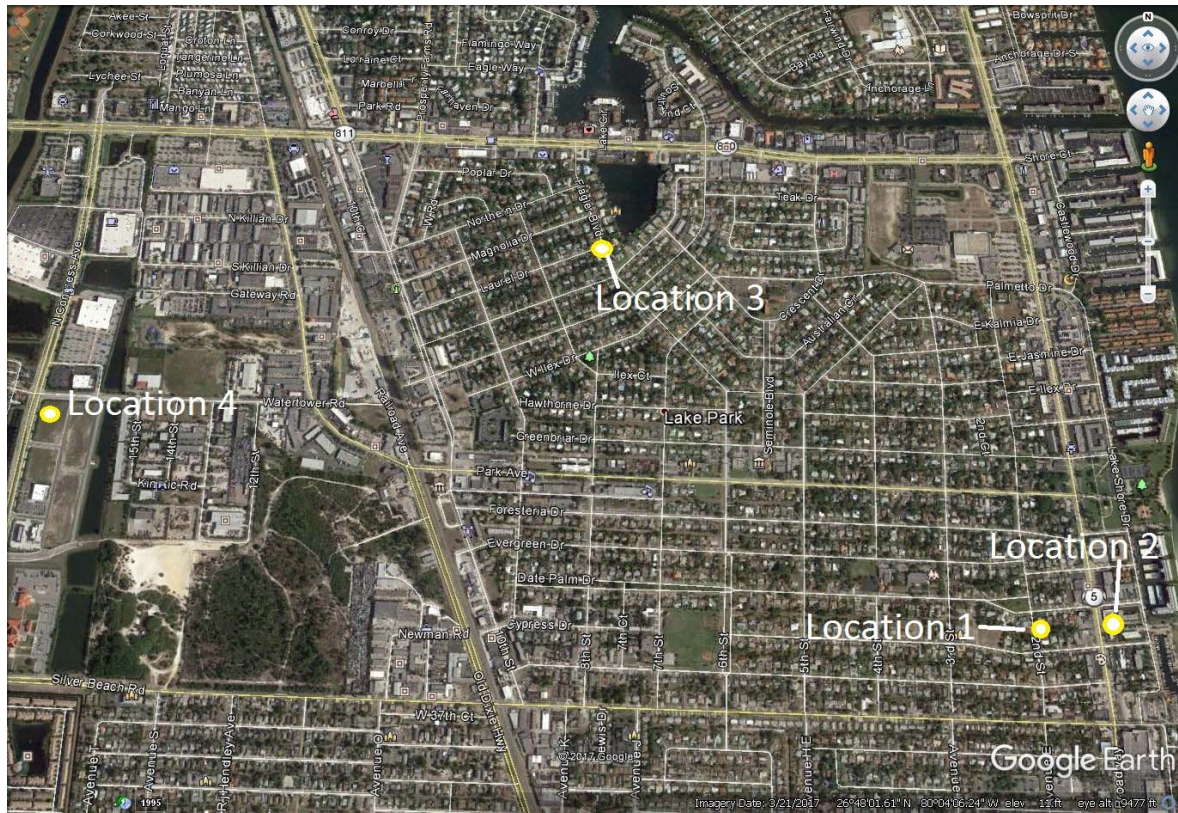
Land Use: Campus/Light Industrial/Commercial, Business

Contributing Drainage Area = 64 Ac (Campus/Light Industrial/Commercial).

Contributing Drainage Area = 3 Ac (Business).

Total Contributing Drainage Area = 67 Ac.

## Location Map:



### **3 – POLLUTANT LOADING ESTIMATE PLAN**

The Palm Beach County MS4 permittee group will be developing pollutant loading estimates during the third year of this permit cycle, using the SIMPLE protocol. In order to provide each permittee with pollutant loading estimates that reflect their respective MS4 areas, the group effort will provide the loading estimates “by MS4,” in addition to “by watershed” (as was done in past permit cycles). Prior to Year 3, the Town of Lake Park will participate in this effort by reviewing its MS4 contributing areas to each receiving water and will provide updated information on the area extents and the land uses. In addition, any water quality best management practices (BMPs) that are in place within the MS4 area, will be identified.

As required by the MS4 Permit, pollutant load estimates are to be developed once during each Permit cycle for the following parameters; Biochemical Oxygen Demand (BOD), Copper (Cu), Total Nitrogen (TN), Total Phosphorus (TP), Total Suspended Solids (TSS), Zinc (Zn). The Palm Beach County MS4 permittee group’s estimated pollutant loading results will be given to each permittee for use in their individual assessment report.

The Town will use the land use based pollutant loading estimates, provided by the group, to determine an estimate of the current pollutant loading. Pollutant loading reductions will be subtracted from the estimates provided. Based upon BMP’s, currently in place, pollutant load reductions will be estimated. Therefore, when future estimates are made, and possible reduction measures or BMP’s, are put into place estimated pollutant loadings will reflect the reductions.

### **4 – EVALUATION AND RESPONSE PLAN**

After the Assessment Program is approved by FDEP, possibly during year 2 of the Permit cycle, the Town will compile the information available for the identified monitoring locations. The Town will begin sample collection and analysis, at the frequency provided in the Assessment Program, for new monitoring locations. The first annual report on the Assessment Program will be concurrent with the Year 3 Annual Report Form (March 2020).

Results of water quality monitoring will be available annually and past data will be compared with the most recent year’s data with respect to the Town’s MS4 discharge and affected receiving water bodies. A summary of the water quality monitoring data, with respect to the Town’s MS4, will be developed and included in the Assessment Annual Report.

Pollutant loading estimates, developed during year 3 of the Permit cycle, will be reviewed and adjusted based on the Town’s Stormwater Management Programs. The effectiveness

of the Town's Program will be made based on two assessments. The Assessment Program Annual Report will include a discussion of the comparison.

Receiving water bodies reports, graphs and trending, for various parameters as presented in the Joint Annual Report, will be reviewed and a discussion will be included in the Town's Annual Assessment Report.

Based on the data from the water quality monitoring and the pollutant loading estimates, the Town will make a determination if one portion of the MS4 should be targeted for additional loading reduction efforts or additional pollutant control measures.