Town of Lantana
MS4 Permit No. FLS000018-004
Part V. – Monitoring Requirements; Sub-part A. – Assessment Program

Assessment Program Objective

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

Assessment Program Components

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

A. **A Water Quality Monitoring Plan** – The water quality monitoring plan is intended to identify local sources where urban stormwater is adversely affecting surface water resources
B. **A Pollutant Loading Estimate Plan** – The pollutant loading exercise is to estimate the Pollutant Loading from the MS4 contributing area, based on land uses and BMPs
C. **An Evaluation and Response Plan** – The response plan is the plan of action to be taken based on the results from A. and B. and will be used to:
    1. evaluate trends in pollutants loading from the MS4
    2. evaluate trends in water quality (of discharge from the MS4)
    3. identify portions of the MS4 to be targeted for loading reduction/corrective action

Part A – Water Quality Monitoring Plan

Currently, the joint NPDES program in Palm Beach County collects ambient water quality data at several monitoring sites based on the location of major outfalls and TMDL's within the County. For the Water Quality Monitoring Plan, the Town of Lantana is proposing to use the ambient water quality data provided by the joint program from site LWL13.

Monitoring Locations

Since the Town of Lantana does not own any major outfalls within the MS4, the one (1) monitoring station located within the Town's MS4 that collects data for the joint program has been selected. Even though the Town does not have a major outfall at this location, this monitoring station (LWL13) does monitor an existing outfall that is owned by Palm Beach County and is downstream of two minor outfalls owned by the Town and another major outfall owned by Palm Beach County that discharge into the Town of Lantana's MS4 area. The following table identifies this monitoring station, along with relevant information about the location.

MS4 Monitoring Stations Table

Monitoring Station Number	Location Description	Latitude/ Longitude	Receiving Water Body	Verified Impaired?	Adopted TMDL?
LWL13	This former DEP station (28010783) is located at the Ocean Ave Causeway in Lantana, on south side of the bridge, West of the ICW and East of the Marina and public boat ramp.	263502.55 / 800246.14	Lake Worth Lagoon (Central Segment)	Yes Chlorophyll-a, Total Phosphorus	No

Sampling Method

Palm Beach County Environmental Resource Management (ERM) performs the sampling at monitoring station LWL13. This site is sampled and initially analyzed in-situ by ERM staff using a multi-parameter water quality-monitoring instrument. Water samples are collected, preserved and stored according the DEP's Standard Operating Procedures. Quality assurance / quality control measures include pre-cleaned equipment blanks, field-cleaned equipment blanks, field spikes, and the collection of duplicate samples.

Further analysis of samples from all ERM-monitored sites is conducted by an independent laboratory under contract with ERM.

The parameters sampled at monitoring station LWL13 are shown in the table below. Since the Lake Worth Lagoon Central Segment is impaired for nutrients (Total Phosphorus), this will be the parameter used as part of the Town of Lantana's Assessment. Trend graphs and historical data will be evaluated for this site.

Parameters and Sampling Table

Monitoring Station #	Monitoring Parameters	Type of Monitoring	Collection Method	Sampling Frequency
LWL13	Arsenic	Ambient Water Quality	Grab Samples	Quarterly
LWL13	Cadmium	Ambient Water Quality	Grab Samples	Quarterly
LWL13	Chlorophyll-a	Ambient Water Quality	Grab Samples	Monthly
LWL13	Copper	Ambient Water Quality	Grab Samples	Quarterly
LWL13	Dissolved Oxygen	Ambient Water Quality	Grab Samples	Monthly
LWL13	Lead	Ambient Water Quality	Grab Samples	Quarterly
LWL13	Nitrogen, Ammonia	Ambient Water Quality	Grab Samples	Monthly
LWL13	Nitrogen, Nitrate-Nitrite	Ambient Water Quality	Grab Samples	Monthly
LWL13	Nitrogen, Total	Ambient Water Quality	Grab Samples	Monthly
LWL13	pH	Ambient Water Quality	Grab Samples	Monthly
LWL13	Phosphorous, Orthophosphate	Ambient Water Quality	Grab Samples	Monthly
LWL13	Phosphorous, Total Kjeldahl	Ambient Water Quality	Grab Samples	Monthly
LWL13	Salinity	Ambient Water Quality	Grab Samples	Monthly
LWL13	Specific Conductivity	Ambient Water Quality	Grab Samples	Monthly
LWL13	Temperature	Ambient Water Quality	Grab Samples	Monthly
LWL13	Turbidity	Ambient Water Quality	Grab Samples	Monthly
LWL13	Zinc	Ambient Water Quality	Grab Samples	Quarterly

The location of the monitoring station to be used in this Assessment Program is shown in ***Figure 1*** below.

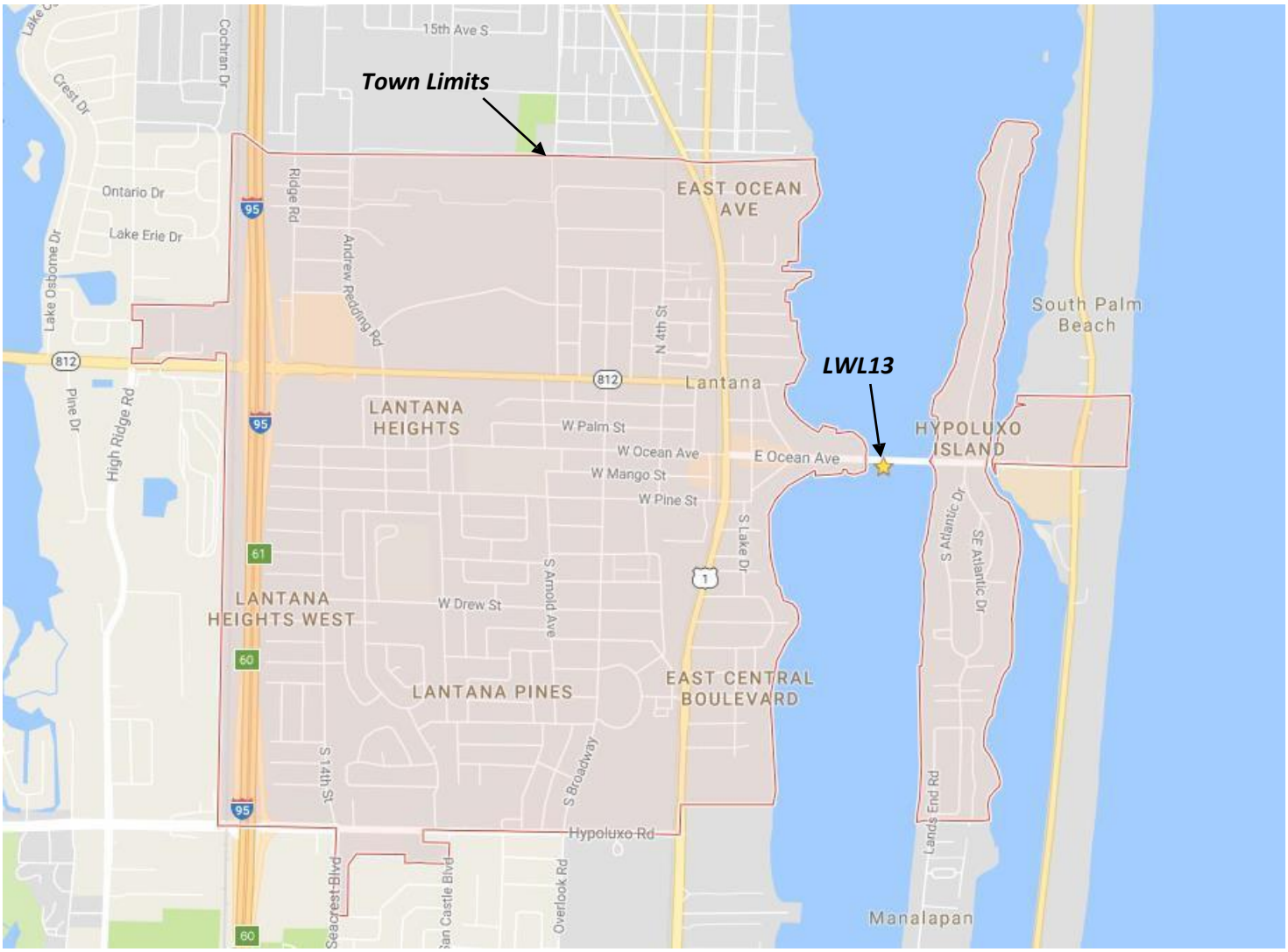

Figure 1: Town of Lantana Assessment Program – Monitoring Station Location LWL13

Part B – Pollutant Loading Estimate Plan

The Palm Beach County MS4 permittee group will be developing pollutant loading estimates during the 3rd 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 Lantana 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 located therein. In addition, any water quality best management practices (BMPs) that are in place within the MS4 area, will be identified, along with their geospatial extent.

Information on the pollutant load estimates and event mean concentration values for various land uses is reported in the group's Joint Annual Report (Year 3).

The group's estimated pollutant loading results will be provided to the Town of Lantana for use in this assessment effort.

To determine a practical estimate of the current pollutant loading, the Town of Lantana will use the land use based pollutant loading estimates provided by the group as the starting point from which pollutant load reductions will be subtracted. The pollutant load reductions will be estimated based on the BMPs that have been put in place within the MS4 contributing areas. In this way, when future estimates are done, and potentially additional reduction measures or BMPs are put in place, the estimated pollutant loading will reflect the reductions.

Part C – Evaluation and Response Plan

Once the Assessment Program is approved by FDEP, presumably sometime during Year 2 of the permit cycle, the Town of Lantana will extract sampling information for site LWL13 from prior joint annual reports for use moving forward. The first annual report on the Assessment Program will be concurrent with the Year 3 Annual Report Form (March 2020).

Water quality monitoring results will be available annually, and the most recent year's data will be compared to that which came before, with respect to sampling site LWL13, which monitors the Lake Worth Lagoon within the Town's MS4. A summary of the water quality monitoring data, with respect to our MS4 will be developed and included in Assessment Program Annual Report.

The pollutant loading estimates developed during Year 3 of the permit cycle will be reviewed and adjusted based on the Town's Stormwater Management Programs (litter control, public education, etc.).

Receiving water trending reports/graphs for nutrients (Total Phosphorus), as presented in the Joint Annual Report, will be reviewed, and a discussion will be included in Town of Lantana's Annual Assessment Report.

Based on the data from the water quality monitoring and the pollutant loading estimates, an effort will be made to determine if one portion of the MS4 should be targeted for additional loading reduction efforts, or additional pollutant control measures.