

Town of Juno Beach
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 Juno Beach 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 locations of major outfalls and TMDL's within the County. For the Water Quality Monitoring Plan, the Town of Juno Beach is proposing to use the ambient water quality data provided by the joint program.

Monitoring Locations

The joint program does not have a sampling site within the MS4. For the Assessment Program, the Town has selected the monitoring station 11 located 1.7± miles south of the Town's MS4, and monitoring station 30 located 3.0± miles north of the Town's MS4 which collect data for the joint program, as shown in Figure 1. The Town has chosen to use Station 30 for the Assessment Program as it is assumed that when the tide is running out of intracoastal waterway, the water will run north toward the monitoring station 30 and south toward monitoring station 11. Thus, this sampling site should provide data as to any stormwater pollutants specific to the Town of Juno Beach's MS4. The following table identifies these monitoring stations, along with relevant information about each location.

MS4 Monitoring Stations Table

Monitoring Station Number	Location Description	Latitude/ Longitude	Receiving Water Body	Verified Impaired?	Adopted TMDL?
11	Located near the Parker Bridge on US Hwy 1	26°49"53.7' -80°03"36.5'	Lake Worth Lagoon	N	N
30	ICW -SR 706	26°56"02' -80°05"03'	ICCW Above Royal Palm Bridge	N	N

[Sampling Method](#)

Palm Beach County Environmental Resource Management (ERM) performs the sampling at monitoring station 11. Loxahatchee River District (LRD) performs the sampling at monitoring station 30.

The parameters sampled at the monitoring stations 11 & 30 are shown in the table below. Since nutrients appear to a major concern for impairment in water bodies in the State of Florida, total nitrogen and total phosphorous will be the parameters used by the Town for their Assessment Program. 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
11 & 30	Chlorophyll-a	Ambient	Grab	Monthly
11 & 30	Dissolved Oxygen	Ambient	Grab	Monthly
11 & 30	Nitrogen, Ammonia	Ambient	Grab	Monthly
11 & 30	Nitrogen, nitrate + nitrite	Ambient	Grab	Monthly
11 & 30	Nitrogen, Total	Ambient	Grab	Monthly
11 & 30	Nitrogen, Total Kjeldahl	Ambient	Grab	Monthly
11 & 30	pH	Ambient	Grab	Monthly
11 & 30	Phosphorus, orthophosphate	Ambient	Grab	Monthly
11 & 30	Phosphorus, Total	Ambient	Grab	Monthly
11 & 30	Salinity	Ambient	Grab	Monthly
11 & 30	Specific Conductivity	Ambient	Grab	Monthly
11 & 30	Temperature	Ambient	Grab	Monthly
11 & 30	Total Suspended Solids	Ambient	Grab	Monthly
11 & 30	Turbidity	Ambient	Grab	Monthly

The location of the monitoring stations to be used in this Assessment Program, are shown in Figure 1 below.

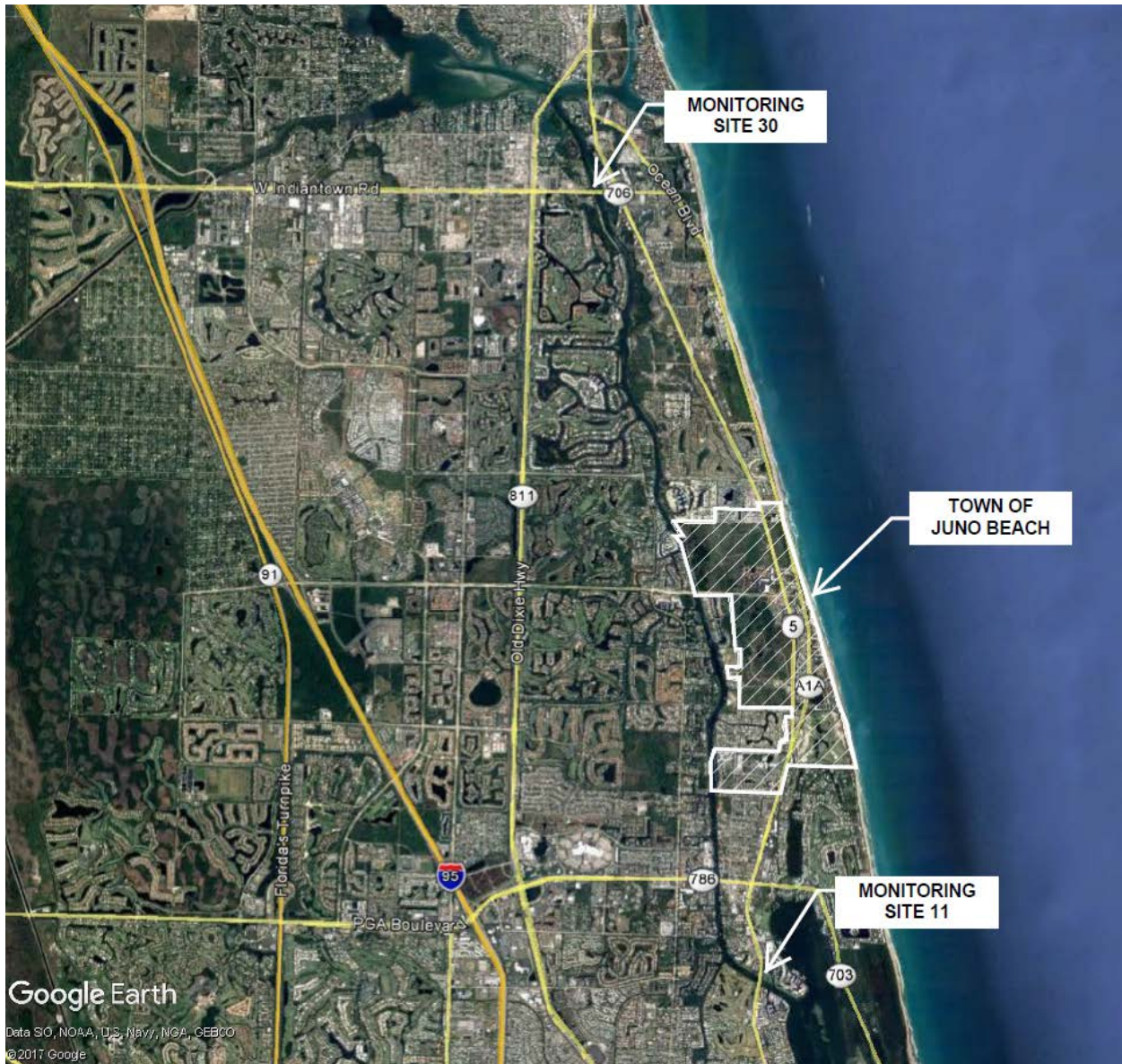


FIGURE 1

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 Juno Beach 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 Juno Beach for use in the assessment effort.

To determine a practical estimate of the current pollutant loading, the Town of Juno Beach 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, Town of Juno beach will extract sampling information for sites 11 and 30 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 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 the Town of Juno Beach'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.