



AGENDA MEMORANDUM *Streets & Stormwater Department*

Workshop Meeting Date: October 14, 2019

To: City Council
Through: Charles T. Chapman IV, City Manager
From: Monique Barnhart, Project Coordinator & Public Outreach
Gregg Strakaluse, P.E. - Director
Date: October 2, 2019

SUBJECT

Presentation regarding the 2019 Stormwater Lakes Management Plan Update and the Spring Lake Restoration Assessment Study

BACKGROUND

Much of the City's stormwater system relies on retention ponds for water quality and flood protection. These retention ponds, which are commonly called lakes, improve water quality by allowing stormwater runoff from properties and streets to collect and temporarily hold. Additionally, healthy biological systems within these lakes can improve stormwater quality by removing pollutants such as nutrients (fertilizers, leaves, berries, etc.) and bacteria that are carried from upland areas. Stormwater retention ponds have been identified as one of the most effective pollutant removal methods for stormwater. They can also be designed as a waterfront amenity for communities. Over time, the pollutants from urban lands accumulate, and the ponds and lakes become less effective as treatment systems. At the April 4, 2012 City Council meeting, the Department presented the City's first Lake Management Plan which outlined a tier structure for restoring and improving lakes throughout the City. The twenty-eight stormwater lakes that had been historically cataloged were classified into the following tiered system:

- **Tier I – City-controlled Lakes**
 - Controlled by fee simple ownership or Plat dedication, acceptance, and historical use and maintenance.
- **Tier II – High Priority Pollutant Loading Lakes**
 - Lakes privately owned (or of undetermined ownership) and receiving stormwater from both public and private lands.
- **Tier III – Remaining Inventoried Lakes**
 - Lakes privately owned (or of undetermined ownership) but not receiving stormwater from public lands.
- **Tier IV – Non-Inventoried Lakes**
 - All other lakes within the City.

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In 2013, the City began implementing the Lake Management Plan by restoring Lake Manor (#22). Restoration and improvements included dredging over 16,000 cubic yards of sand, muck, and debris within the lake, the replacement of exotic non-native vegetation with native vegetation and aquatic plants, increased flood protection, and the development of a more productive wetland ecosystem. The improvements were completed in 2015 and positive results in water quality have been noted. The absence of any recorded algae blooms in the lake since 2015 is another indication of the lake's restored ability to efficiently contain and assimilate pollutant loading from upland stormwater.

In September 2017, the Department presented an agreement with a consultant to design and permit a Lake 19 restoration project. This Tier I lake is located along the southside of 15th Avenue North. At the meeting City Council inquired about the condition of Lake 19 as it compared to other lakes within the City that may have more need of restoration from the perspective of lake health and pollutant loading to receiving water bodies. Staff noted that lake ownership issues did not provide clear indication that the City may initiate such projects or incur the necessary public funding on what may be private property. Discussions concluded with direction to staff to complete the Stormwater Master Plan Update (SWMP).

2018 Update to the Stormwater Master Plan

The Stormwater Master Plan was updated in 2018 and made the following recommendations of lakes:

- Update the 2012 Lake Management Plan with lake restoration and maintenance priorities, as related to pollutant issues at each lake, and develop funding alternatives, including partnership opportunities, that could assist with implementing projects at lakes.
- Develop watershed sub-basin plans that seek to maximize treatment of stormwater in lakes to improve water quality while providing a higher level of service as it relates to flood protection.
- Increase natural shoreline vegetation and construction of littoral shelves.
- In partnership with lakefront property owners, seek to maximize the use of lake aeration systems and implement floating islands.

DRAFT 2019 Update to the Stormwater Lakes Management Plan

Shortly after the adoption of the SWMP, staff initiated a 2019 update to the Stormwater Lakes Management Plan with the following goals:

1. Review existing stormwater lake assessment data;
2. Update the stormwater lakes water and sediment quality database;
3. Incorporate a citizen survey to gather information from adjacent property owners regarding the health and status of the lakes;
4. Re-prioritize lake restoration need based on lake impairments and impacts to downstream waterbodies. In 2012, lake tiers were based on ownership and then prioritized based on impairment data collected up to 2011;
5. Provide updated recommendations, best management practices, and funding strategies.

The Draft 2019 Update to the Stormwater Lakes Management Plan has been developed with the assistance of Wood Environment & Infrastructure Solutions, Inc. (Wood) and is included with this memorandum. The draft plan will be presented in detail at the workshop via a PowerPoint presentation.

Spring Lake Restoration Assessment Report - 2019

Just prior to the start of the lakes management plan update, staff began working with Wood to address several questions as they pertain to Spring Lake (#11). Spring Lake is a 4.9-acre stormwater detention pond located near the center of the City. Spring Lake was identified in the 2012 Lake Management Plan as a high priority pollutant loading lake; however, the lake does not have a clear ownership. While the City maintains historical rights to send stormwater from upland areas to the lake and by way of the public stormsewer system, ownership of the land underlying the water of the lake lies with some other person(s), heir, or other entity. Over time, vast quantities of stormwater have flow through the land, forming the lake, and depositing pollutants.

During the FY18-19 budget workshop, City Council allocated \$50,000 for a comprehensive report related to Spring Lake. The goals of that report are to:

1. Delineate the watershed for Spring Lake;
2. Define all properties within the watershed and their individual drainage contribution to Spring Lake;
3. Provides recommendations for restoration approaches and the logistics for a dredge project;
4. Evaluate the options available to the City for developing a revenue source for a restoration project and possibly ongoing maintenance.

The Spring Lake Restoration Assessment Report is included with this memorandum. The report will be presented in detail after the updated Lakes Management Plan at the workshop via a PowerPoint presentation.

POINTS OF THOUGHT APPLIED TO LAKE MANAGEMENT PLANNING

1. There are over 350-acres of lakes (stormwater ponds) within the City. Many are privately owned and maintained by specific owners such as golf courses and gated communities. Lakes have an important role in stormwater management and as a community amenity that can increase a property's value.
2. A lake is truly defined by its watershed and the properties within that watershed.
3. Dredging, filling, and constructing over lakes is regulated by the City of Naples Code of Ordinance Section 52-92 (c) and (e) Water Resources Generally.
4. Some lake systems (such as golf course and gated communities) in the City are also regulated by the South Florida Water Management District. These State regulations address stormwater discharge quantities and water quality volume requirements, among other things.
5. There are twenty lakes that have received stormwater from public areas for decades. Five of those lakes are fully controlled by the City. While rights have been established for lakes to hold and receive public stormwater at fifteen lakes, the ownership and responsibility to control has been a question at each.

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6. "Dominion and control" is a legal term that enables a person or entity to take constructive possession of tangible property when that person or entity exercises a level of control over the area in which the property is found. There is potential application for the City to exercise 'dominion and control' of certain lakes where ownership interests have expired by virtue of bankruptcy, death or unidentifiable heirs. For some of the 15 lakes, the City may be able to demonstrate that it has exercised a level of control over a lake and surrounding rights-of-way and therefore, could consider exercising dominion and control.
7. Some of the fifteen lakes have individuals designated by others to collect donations which are used to treat lakes in a variety of methods. These methods are typically promoted by lake maintenance companies and product suppliers. Some methods have little to no scientific data or conclusions on effectiveness and impact to the environment. There is little regulation in this area other than the City's Code Section 42-5 that prohibits the discharge of pollutants to waterways. Additionally, Florida Statutes Section 487.051(2) prohibits municipalities from adopting laws pertaining to the use of pesticides, including aquatic herbicides. However, the State does regulate the use of these products and may work with municipalities to regulate use further.
8. A limited survey of lakefront property owners demonstrates a general concern for the health of lakes by residents. Most respondents indicated that they would be interested in supporting or participating in activities that improve water quality in the lake.
9. A variety of methods for raising funds for lake restoration and maintenance are provided within the report. Taxing Districts and Assessment Districts may be considered as the most equitable methods for properties within a drainage basin served by a lake.

POLICY CONSIDERATIONS

1. Should the City participate in lake maintenance and restoration activities when public stormwater passes through a lake that is privately owned or where ownership is unclear?
2. Considering the City's role in providing flood protection to the community and improving water quality for the protection of the environment, should the City take lead on managing lake maintenance and restoration activities where dominion and control may be established?
3. Should Citywide lake maintenance activities be regulated more stringently, where only products with substantial peer-reviewed scientific evidence demonstrating positive results without detrimental impacts to the environment are allowed for use, and when not in conflict with State statute?
4. City Council may consider directing staff to provide an analysis where a Taxing District, Special Assessment District, or increase in the Stormwater Utility Fee might be considered for funding lake restoration projects and maintenance activities?
5. Staff recommends moving forward with Lake #19 for restoration design in FY19-20 and restoration construction in FY21-22, unless accelerated. Alternatively, City Council might consider deferring this recommendation and, instead, directing staff to develop a restoration and maintenance program (with funding options) for the highest priority lake based on the 2019 Updated Lake Management Plan?

CONSISTENCY WITH CITY PLANNING EFFORTS

- Update to the Stormwater Master Plan
- Conservation Future Land Use Element 4-e
- Conservation & Coastal Management Element 5
- Public Facilities & Water Resources Element Policy 3-2