

Department of Public Works  
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**MEMORANDUM**

**TO:** The Honorable Mayor and Members of City Council

**VIA:** Robert N. Geis, Deputy City Manager

**FROM:** Eric J. Martin, P. E., Director of Public Works *EJM*  
Michael D. Barber, Director of Parks, Recreation and Tourism

**DATE:** August 20, 2019

**SUBJECT:** Algae Remediation in Lakeside Park Lake

Recently, concerned residents in the South Norfolk neighborhood of Chesapeake have reported the appearance of algae growth in the lake at Lakeside Park on Bainbridge Blvd. The appearance and odor produced by this algae, coupled with recent media reports chronicling potential dangers of some forms of toxic algae to people and pets, raised alarm among South Norfolk residents. The Department of Parks, Recreation and Tourism requested the assistance of the Department of Public Works in the investigation and remediation of algae in the lake, as well as to provide information that would help explain the situation at Lakeside Park to our residents.

Answers to the provided questions come via Barbara Brumbaugh, the Environmental Program Manager for the Department of Public Works:

**Is the lake part of the local drainage system?**

Yes, the lake provides drainage for a section of the South Norfolk neighborhood. A map of the area is attached, blue dotted lines and blue dots represent drainage pipes and structures. This drainage system is outlined in the attached PDF document.

**Do natural waters flow through the lake?** Not typically. During an unusually high tide some natural water could enter the lake from the Elizabeth River via Scuffletown Creek.

**Do its waters flow to the Elizabeth River?**

Yes, flow is to Scuffletown Creek, which is part of the Elizabeth River.

**What steps have been taken to resolve the algae in the lake this year?**

There have been three chemical treatments to control the algae so far this year, and another one is scheduled for Aug. 30. Given the extent of the algae problem, the City is pursuing some additional lake sampling to try to figure out the source of the excess nutrients and identify the type(s) of algae.



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**When we hear "it's been treated," what does that mean, exactly? What treatments are being used?**

Komeen liquid herbicide and Cutrine Plus granular treatment herbicide.

**What has been done to resolve algae blooms in years past?**

The lake was last treated with an herbicide two years ago.

**How does the city manage its lakes? Is there a biologist or pond treatment specialist who takes care of them all?**

The lakes located within Chesapeake are actually stormwater treatment facilities. They collect stormwater runoff and pollutants from roads, parking lots, yards, driveways, rooftops, etc. The City inspects these facilities routinely. Problems with algae or other nuisance aquatic vegetation are managed on a case by case basis, utilizing a lake management contractor. The City relies on residents to comply with the City Stormwater Management Ordinance and keep pollutants out of the storm drainage system by taking actions such as: managing fertilizer properly and not over-fertilizing; picking up pet waste; keeping grass clippings and yard debris out of the storm drains; not feeding geese or other wildlife, and keeping all pollutants away from ditches and storm drains.

**Why aren't all lakes all over Chesapeake covered in algae?**

Algae grows and thrives when the conditions are favorable, which is typically when there are excess nutrients in the lake, the water temperature is elevated (summer months), the lake is shallow and sunlight is able to penetrate to the bottom (algae needs sunlight to grow) , and there is very little movement in the water.

**How have lake maintenance practices changed over the years?**

The City has recently taken a more proactive approach to controlling algae and other nuisance aquatic vegetation and has developed a Lake Management Program specifically to address nuisance aquatic vegetation which may clog or negatively impact the City's stormwater collection and drainage system.

**Has the Lakeside Park lake water been tested for toxicity?**

No. There are many species of algae, most of them are not harmful. At this time, the City does not believe that the algae at Lakeside Park is harmful.

**Are there plans to test the lake water?**

Yes, for potential nutrient sources and further identification of the algae species. This will help determine if additional or different types of treatment are warranted.

**Is this the same toxic blue-green mold that is killing dogs?**

We cannot provide a definitive answer at this time, but what we've seen is not consistent with the toxic blue-green algae that has been reported in the news recently. What we know at this time is that the lake contains duckweed and a filamentous type algae.

**What is happening with the fountain? Do we have algae because the fountain is broken, or is the fountain broken because we have algae?**

The fountain is getting clogged with algae. . Fountains are generally decorative features and do not circulate or aerate the large volumes of water necessary to significantly impact water quality, nor eliminate or prevent algae.

**Are additional fountains going to be installed?**

The City will evaluate measures such as additional solar aerators or bubblers to improve water quality. The first step however is to reduce / eliminate the heavy nutrient flow into the lake that is contributing to the excessive algae and aquatic plant growth.

**Some residents have reported a foul odor. What could be causing that?**

Dead and decaying algae will produce an unpleasant odor. There was also a recent Hampton Roads Sanitation District sanitary sewer spill on the west side of Bainbridge Blvd. that may have contributed to odor issues. The spill was cleaned up.

**When do you expect the lake to be clear again?**

We're hopeful that we'll start seeing improvement very soon, and another treatment is scheduled for the end of August.

**What additional measures is the City considering?**

Based on the success (or not) of nutrient source reduction and chemical treatment, the City may consider other measures such as a lake drawdown to dewater the lake, dry out the bottom and interrupt the growth of bottom rooted aquatic vegetation. Dredging to increase lake depth and volume is a long term possibility but requires additional engineering study and significant funding to implement.

Given that the stormwater management facilities (i.e., lakes and ponds) around the City mostly accept drainage from private property, the City has little to no control over nutrient levels which lead to algae growth. It blooms very quickly when the conditions are favorable and it is difficult to eliminate. Most of it is not harmful and will resolve on its own, although it doesn't look attractive.

Treatment with herbicides must be completed in stages so that there is no harm to fish or other aquatic animals in the process by over-treating with herbicides. The stormwater lakes and ponds around the City are not intended for recreational use, and the City recommends that residents avoid primary contact with the water, particularly when there is algae growth.

EJM/MDB

Attachment: Lakeside Park Drainage.pdf

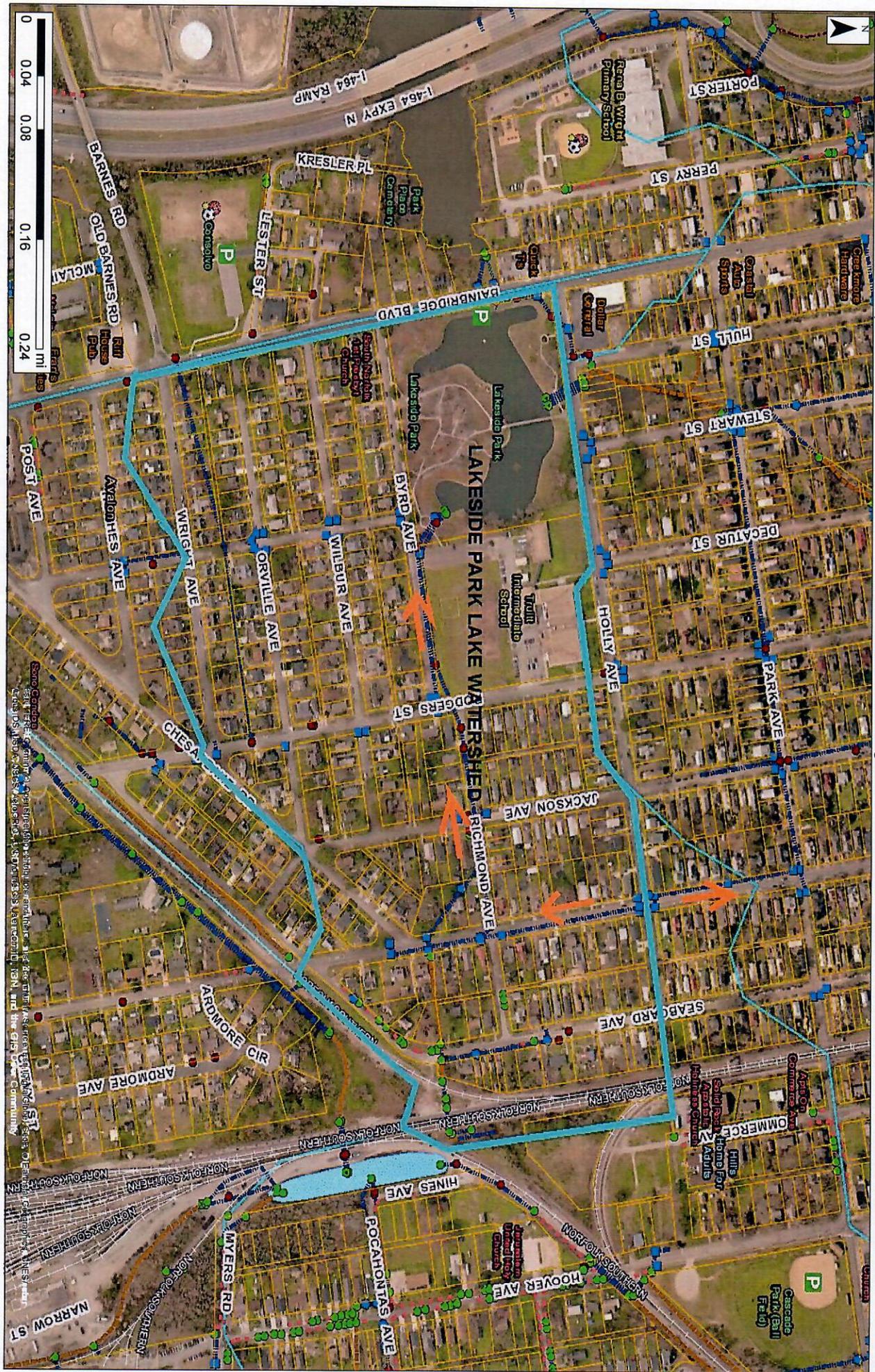
cc: Suzy Loonam, Publisher, [HistoricSouthNorfolk.com](http://HistoricSouthNorfolk.com)  
Vicki Josue, South Norfolk Civic League  
James E. Baker, City Manager  
Heath Covey, Director, Public Communications  
Barbara Brumbaugh, Environmental Program Manager  
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1 inch = 376 feet



Lakeside Park Drainage

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