

Tabb Lakes Dredging Project  
Lake 1 South End  
Dredged July 2018

Information below is a synopsis of the process undertaken by the Tabb Lakes Board of Directors (BOD) and Committee members to complete the dredging project for the southern portion of Lake 1.

Based on continued evidence of areas of our lakes filling in, the BOD commissioned a third Bathymetric and Sediment Survey which was completed in June 2015. The results, along with information from the previous two studies done in 2000 and 2004, along with the obvious visual analysis, showed that the sediment buildup at the south end of Lake 1 by the park bench was forming a dam that was hindering the natural stormwater flow of Lake 2 into Lake 1. This dam would potentially cause flooding around lake 2 and degrade the health of Lake 2 due to water stagnation. The BOD authorized Lou Lafrenaye to explore the option of dredging the impacted area.

Our analysis showed that approximately 150 ft by 25 ft area at the southern end of Lake 1 needed to be dredged. The buildup of organic matter occurred due to the numerous trees on the west bank of the area dropping leaves, needles, and branches into the lake along with the significant drainage from the open cement swale perpendicular to the lake near the observation pier. Unlike other areas in Tabb Lakes, the open cement swale allowed significant amount of additional leaves, needles and debris to wash into the lake filling in this particular area over the years. Since the outflow point was next to the pier, it unfortunately contributed to trapping some of the debris in the area. It was estimated that sediment buildup was up to 6 feet deep in the deepest area.



Fortunately, the west bank of Lake 1 is HOA property so access to the area was under the jurisdiction of the BOD. In early 2016, a scope of work was developed for the project and approved by the BOD. This document along with photos of the specific area to be dredged and other supporting information can be found on our Tabb Lakes website document section under TLHA Lakes Information Library.

We contacted the York County Department of Public Works for guidance. We were advised that a permit would be needed if any dredging was done hydraulically. Mechanical dredging would not require a permit if done properly. They recommended we contact both the Corp of Engineers (COE) and Department of Environmental Quality (DEQ) to determine if any permits were required from them.

Both the COE and DEQ were contacted. Later, members of the BOD and Lou met with the representative from the COE's on site and explained the situation and dredging project. They stated

that we would not need a permit due to the size and scope of the work that would restore the area to its previous state. A DEQ representative was contacted electronically. Again, they did not require a permit as the scope of work specifically stated that the dredging project was to return the area to its previous condition back in 2000. The data we provided from our previous sediment studies in 2000 and 2004 helped in obtaining these decisions from the DEQ and COE.

Identifying a vendor for this essentially small-scale dredging project became more difficult than expected. Most commercial dredging companies are large scale operations that dredged river waterways and bays. We contacted Solitude Lake Management, the company we use to manage our lakes, for advice and recommendation. They indicated that they could not help us. After a number of months searching, three vendors were contacted by e-mail. One never responded. Longhill Excavating Inc. indicated they wanted to bid on the project but would never respond to follow-up request to meet on site. Lake Services, Inc. was the only company to contact us and set up an on-site review. On 27 Oct 2016, Lou Lafrenaye, Bill Keplesky, and Rob Cox met with Dayton Black from Lakes Services Inc. to review the requirements. Due to the narrow width of the lake, the depth could not be dredge to the requested 8 ft level due to the potential cave in of the banks. They estimated closer to 6 ft deep was possible. We discussed dredging methods such as hydraulic verses mechanical. The only option was mechanical due to the limited size of the operating area, lack of dewatering area, and complexity of the hydraulic process. Mr. Black explained the details of the preparation and process that would be used. An excavator with a 60 ft arm (effective reach of 45 ft.) would be used to load the organic "mud" in dump trucks with sealed beds (to capture water since the waste would not be dewatered on site) and dumped and dewatered at another location. They would obtain the dumping permits in a local area.

One of the necessary requirements was to remove the trees and the pier along the west bank. This was necessary as the trees were continually dropping needles, leaves, and branches into the lake area and the excavator required clearance to dredge the area. It was also decided that the pier would be removed. The pier would interfere with the dredging process, it had deteriorated over time and was no longer safe (rotting wood and damaged rails), plus it was catching debris washed down from the cement swale. Lake Services stated that they could remove the pier as part of the project.

On May 16, 2017, Lake Services submitted a formal bid of \$31,750 for the project. The BOD approved the bid, notified the local home owners in the area, and provided an article in the newsletter notifying HOA members of the project. The plan was to begin dredging in the spring 2018 after the tress were removed for access to the area. At the request of Lake Services Inc, a Norfolk District Regulatory Office Pre-Application and/or Jurisdictional Waters Determination Request Form was completed by the BOD and submitted to the COE in Sept 2017. Lake Services Inc. provided a Certificate of Liability Insurance document to the HOA BOD prior to the start of the project.

Earlier in 2016, three tree removal companies were contacted and provided bids to remove the tress on the west bank of the area to be dredged. Ash Tree Service was the lowest bidder. Once the dredging project was approved, the BOD scheduled the removal of the trees, which was completed in May 2018.



In late June 2018, Lake Services Inc prepared the area for use of heavy equipment and the excavator. On July 5th, they began mechanically dredging the end of Lake 1. Using an excavator with an extended boom, they removed roughly 450 cubic yards of material that accumulated over the years. To provide some perspective, the contractor removed over 6 ft of debris at the deepest sections that had accumulated over the years. This brought the lake depth back down to close to the original design levels shown in the 2000 and 2004 bathymetric studies. These studies are on file on our HOA website. A total of 41 dump truck loads were removed. Each dump truck had to have sealed beds to prevent supersaturated organic “muck” from draining out while transporting the watery material to the disposal site. The pier was removed as part of the project. Once completed, the area used by the heavy equipment was re-graded back to its original condition. Total cost was \$31,700 for the dredging portion of the project.



The project was completed as planned. At this point, no trees will be allowed to grow back on the west bank to reduce future debris buildup. The BOD is currently obtaining bids to plant shrubbery and other ornamental plants along the exposed bank to improve the appearance of the area since it is a HOA common area.

The Bathymetric and Sediment Studies done in 2000, 2004, and 2015 along with other information on the dredging project can be found on the Tabb Lakes website document section under TLHA Lakes Information Library. Website is: <https://www.tabblakes.org/index.php/tlha-documents>

Before and After Pictures:



Submitted by Lou Lafrenaye