



Subject: *Lantz Lagoon Desludging Plan*
To: Executive Committee
Date Prepared: December 2, 2024
Related Motions: n/a
Prepared by: Jesse Hulsman, Director of Infrastructure & Operations
Approved by: Kim Ramsay, Chief Administrative Officer

Summary

In September 2024, Staff reported a summary of the Capacity Study work completed by RV Anderson, including Staff comments. It was flagged that a follow up report, specifically on desludging would return to Council as cost estimates were still being worked on at that point.

As mentioned in the initial report, the desludging plan is recommended to begin prior to the expiry of the current Approval to Operate, which is March 24, 2026. Staff received an estimate of approximately \$2,500,000 to desludge all three (3) cells of the Lantz Lagoon. Where this is the first time sludge has ever been removed from the lagoon, Staff are recommending the work be completed in phases to limit the risk of unknowns, starting with Cell 1.

Staff recommend that Phase 1 is completed this coming winter season (2024/25) to limit the risk of odor complaints and to capitalize on off-construction season pricing. The anticipated budget for this work is \$350,000.

Financial Impact Statement

Total desludging cost is estimated to be \$2,500,000.

Phase 1 (cell 1) (2024/25) recommended spend/budget of \$350,000.

There is \$1.14 million currently available in the De-sludge Reserve.

Recommendation

Staff are recommending to proceed with Phase 1 of desludging this current fiscal leveraging existing money from reserves, and to budget Phase 2 of desludging for next fiscal year.

Recommended Motion

Move that the Infrastructure & Operations Committee recommend that Council amend Capital Project 24-033 “Sludge Management Infrastructure - Lantz Lagoon” to have \$350,000 for cell 1 approved for fiscal 2024-25 and \$600,000 for cell 2 approved for fiscal 2025-26, funded from the “De-Sludge Reserve” fund and with an updated amount of \$1,550,000 for cell 3 be listed in Fiscal year 2026/27 for further study with funding to be determined.

Background

In June 2024, Divtech was contracted to complete a sludge profile assessment of the Lantz Lagoon. Using new technology, they scanned the lagoon to complete the profile versus the historic method of physical probes to create estimates. The previous profile had been completed using the older approach in 2015.

The latest sludge profile has estimated sludge quantities per cell as follows;

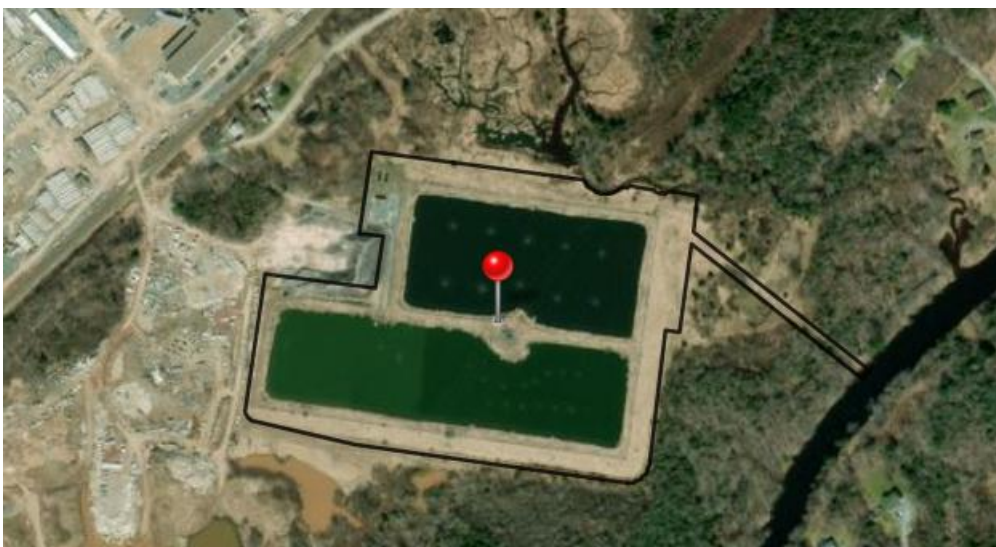
- Cell 1: 1805 cubic meters
- Cell 2: 3058 cubic meters
- Cell 3: 6594 cubic meters

The current Approval to Operate issued by the province through the Department of Environment and Climate Change is valid up to March 24, 2026. It is likely that the next approval will require a documented ongoing sludge management plan.

Discussion

Currently, the Municipality's only option for the lagoon is to have the sludge removed by mobile equipment and transported directly to landfill. This is due to the municipal property having inadequate land space to enable a phased approach of dewatering on site, or a phased management approach, which could be explored in the future for longer term process savings.

Current land ownership (visual via [Viewpoint.ca](https://viewpoint.ca));



Long term alternative methods for sludge management

There will need to be technical changes to the Lantz Lagoon to enable wastewater treatment for a growing population, as previously identified in the 2022 Dillon Consulting

study. That report used the baseline population served in 2020, 7,345 people, with a future estimated population of 20,879 people in 2050.

As per discussions with Planning staff, it is estimated that long-term population demands could surpass 30,000 people by the 2050 timeline, with adequate infrastructure available. In consideration, Staff have interpreted that all future plant expansion project options for the lagoon cells will require existing sludge accumulation to be removed and the set-up of a continuous sludge management program.

Timing

Staff had been searching for regional based vendors with the technical capability to desludge the lagoon. It is a unique site as there are cell depths of 40ft in some areas based on the historic use of the site before it became a lagoon. A new option emerged in May 2024 through a corporate merger, and Staff are now aware of at least one company able to functionally support the desludging.

The profile of the sludge has changed notably since the previous assessment in 2015. There were minimum depths in the range of 0.3m from the surface in Cell 1, identified in the June 2024 assessment, which flags an urgency to act on that cell as soon as possible.

Past reviews in 2022, explored dewatering over time through the use of geotube technology. That technique can take over a year for settling and currently there is not adequate land space available to operate that setup. Based on the June 2024 depth findings, Staff do not see this as a viable short-term option, but may be an option for ongoing sludge management in conjunction with a site expansion.

It should be mentioned that the de-sludging of the Lantz Lagoon has been discussed since the early 2000's where the initial reserve was established for de-sludging by putting away \$125,000/year for 8 consecutive years to support the work as it was anticipated those many years ago.

Alternatives

Wait for next fiscal

If the Municipality chooses to wait for next fiscal, it will likely result in higher prices and challenges with contractor availability. Costs could be controlled, which would result in less work accomplished for the same pricing if the costs per volume ended up being higher. With money available in reserve, Staff do not believe there are any advantages in waiting for a new fiscal year to begin.

Attachments

“Servicing Capacity - Staff recommendations post reviews” report from September 2024
Executive Committee