



Staff Report

Operations Department

Report To: Committee of the Whole
Meeting Date: September 16, 2019
Report Number: CSOPS.19.072
Subject: Leachate Management Quarterly Update – September 2019
Prepared by: Jeffery Fletcher, Manager of Solid Waste and Special Projects

A. Recommendations

THAT Council receive Staff Report CSOPS.19.072, entitled “Leachate Management Quarterly Update – September 2019” for their information.

B. Overview

Town Council requested, on February 7, 2019, that Staff provide regular quarterly updates on the progress of the leachate management project. This Report provides the update to end of August 2019 on associated technical memos.

C. Background

To determine the long-term solution for leachate management, the Town completed a Municipal Class Environmental Assessment in July 2017, which after studying various options, the preferred solution as determined by the study findings and adopted by Town Council was pumping leachate from the Disposal Site to the Thornbury Wastewater Treatment Plant (TWWTP).

A February 2019 Staff Report (CSPW.19.021) provided additional background information on leachate management to Council. During budget deliberations Council directed Staff to proceed with examining specific components of the leachate management design.

Staff have executed a change in scope with the project engineering consultant to reallocate funds from final design, tender and contract administration and construction monitoring tasks. The following new tasks have been identified to examine:

- Leachate and septage pre-treatment, pumping and transport;
- Leachate attenuation and retention;
- Hydro connection and groundwater pumping at landfill;
- Clarksburg servicing;
- Forcemain break monitoring; and

- Re-initiation of project and justification to Town Council.

This staff report will provide an update on findings and developments to date. Also included, as Attachment 1, is a graph showing monthly leachate haulage from 2016 to mid-August in 2019. The table below summarizes hauled leachate showing the peak month for each year and the total for each year.

Year	Peak Month (Cubic Metres)	Total (Cubic Metres)
2016	6,420 (March)	25,061
2017	4,735 (May)	25,459
2018	1,744 (March)	10,934
2019 (Jan-Aug)	1,422 (May)	5,403

D. Analysis

Leachate and Septage Management

A draft technical memo was received from the project consultant (MTE) on Aug 1, 2019. This memo outlined alternatives for septage receiving including receiving at the landfill and pumping to the Thornbury Plant with leachate. The memo has identified that adding septage to the leachate forcemain has a high potential for fouling, even with pre-treatment, due to the long length of the forcemain combined with the relatively small pipe diameter. A septage receiving station at the landfill would also require the related equipment to be installed in a separate heated structure. The related equipment and building has a high estimated capital cost (\$0.9 to \$1.7 million) and depending on the technology selected and the level of pre-treatment. Land needs also become a significant hurdle for some technology options.

The memo concludes that a new septage receiving station would be better located and completed in combination with the Craighleith Wastewater Plant headworks upgrade. This upgrade is scheduled for 2022 construction and preliminary design next year.

Leachate Attenuation and Retention

The project consultant has also conducted further investigation into retention of leachate to provide equalization for the flow of leachate to the Thornbury Plant. The technical memo provided concludes that a lined storage pond is required to effectively manage storm events.

The existing cell has a stone drainage layer that in theory has storage for less than 1,000 m³ of leachate. A one day, one in one hundred year storm requires a volume of 2,000 m³. And a ten year storm requires 1,400 m³. Operation of the cell has identified that hauling leachate has

constraints. The volume of leachate that can be hauled to the Plant on a daily basis is limited. Pre-treatment, hauling times and the amount of leachate the Plant can accept on a daily basis do not, at times, allow enough movement of leachate. As a result the leachate level in the cell moves into the waste and creates higher strength and higher odour leachate. Staff's conclusion is that even if leachate continues to be managed via truck haulage a retention pond will be required to adequately deal with melt and storm events.

MTE recommends that further preliminary design of the equalization pond be advanced to confirm cost (current estimate \$300,000 to \$400,000) and feasibility.

Forcemain Break Monitoring

The submitted technical memo recommends that the most feasible option for leak detection and location would be the installation of pressure sensor monitors. Sensors would be located at the beginning and end and additional sensors at the two creek crossings. This configuration will help to identify breaks with a loss of pressure and also do so at critical locations.

Hydro Connection

Town Staff have investigated the extension of hydro at the landfill related to moving away from diesel powered pre-treatment and water pumping. A new connection layout has been provided by HydroOne for a single phase central meter located near the landfill active area.

In discussions with HydroOne it was identified that any future need for 3 phase power would best be routed within the proposed forcemain easement. The closest available 3 Phase is located on Grey Road 40 and upgrades to poles and lines along Grey Road 13 to the Disposal Site would be a significant expense and in the order of \$1 million.

Town Staff has asked MTE to develop a cost for 3 phase hydro installation within the proposed easement in combination with the forcemain installation.

Town Staff are proceeding with the single-phase extension in combination with the proposed odour reduction system (Odomatic). Given the status of the leachate management solution investigation, Staff propose to put a pre-treatment system in-place that will be less temporary and reduce operator time and safety conflicts.

Leachate Management Pre-Design

Staff will continue to update Council on the development of the pre-design work areas outlined above and feasibility of tying into Clarksburg servicing. This additional investigation will culminate in a report and presentation to Council. It is anticipated Council will provide direction to Staff regarding how the design should proceed and a new scope of engineering will be developed for incorporation into the 2020 Town Capital Budget.

E. The Blue Mountains Strategic Plan

Goal #5: Ensure Our Infrastructure is Sustainable

Objective #2 Avoid Unexpected Infrastructure Failure and Associated Costs and Liability

F. Environmental Impacts

None at this time.

G. Financial Impact

Leachate Management Pre-Design

The scope change related to Council's request to further examine leachate routes and design elements has reallocated \$86,000 from the existing Leachate Forcemain Design Project Engineering budget. No new funds have been created to complete this work, funds will be reallocated from unspent sections to complete work on the six priority works areas described in the Background Section of this Report.

H. In Consultation With

Sam Dinsmore, Deputy Treasurer/Manager of Accounting and Budgets

I. Public Engagement

The topic of this Staff Report has not been subject to a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. Comments regarding this report should be submitted to Jeffery Fletcher, managersolidwaste@thebluemountains.ca.

J. Attached

Attachment 1 – Hauled Leachate 2016 -2019

Respectfully submitted,

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Manager of Solid Waste and Special Projects

Shawn Everitt, CAO

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