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Staff Report PW2022-021

Title of Report: PW2022-021 Proton Landfill Monitoring Report 2020 2021
Department: Public Works
Branch: Waste Resources and Diversion Management
Council Date: April 6, 2022

Recommendation:

Be it resolved that Council receive Staff Report PW2022-021 for information.

Background:

The Proton Landfill Site Monitoring Report (2020/2021) has been compiled by GM BluePlan Engineering as per Environmental Compliance Approval (ECA) Number A262301. The report has also been submitted to Mr. Ian Mitchell, the District Manager at the Ministry of the Environment, Conservation and Parks (MECP), Owen Sound District Office.

The Proton Landfill has been closed since 2007, with the continuation of groundwater, surface water and methane gas monitoring programs annually.

Staff Comments:

The Proton Landfill Site Monitoring Report (2020/2021) Sections 7, 8 and 9, Potential Impacts Due To Landfill Gas Production, Conclusions and Recommendations, (Attachment #1).

The conclusions include:

Potential Impacts Due To Landfill Gas Production concludes that methane gas measurements have been measured above the lower explosive limit and measured up to 36% by volume, however the migration distance is considered to be in the range of 20 meters from LW1, there is a separation distance from all structures of more than 100 meters, and the risk for off-site methane gas migration is not considered to be a concern.

The Conclusions indicate that the ground water flow is generally to the northeast from the landfill footprint within the low-lying wetland area and would likely become part of the shallow groundwater system, and it is reasonable to expect that there would be limited impacts to the deeper groundwater system. Within the landfill mound, the overall decrease in concentrations at well OW3 indicates the landfill is past its peak contaminating period, and the ground water quality should continue to improve with time.

Surface water quality monitoring indicates there is no evidence of impacts to surface water related to the leachate-impacted groundwater to the tributary.

Recommendations for the Proton site include continuation of visual site inspections, and water quality and gas monitoring programs. The groundwater and surface water quality parameters include the following for sampling as revised by the MECP correspondence received dated April 17, 2019 for; conductivity, pH, alkalinity, hardness, barium, boron, calcium, iron, magnesium, manganese, potassium, sodium, chloride, sulphate, nitrate, nitrite, ammonia, total kjeldahl nitrogen, total dissolved solids, dissolved organic carbon, total phosphorous and field temperature.

Financial Implications:

There are no further financial implications to these reports received at this time. Monitoring programs are included in the WRDM Operational Budget.

Communications & Community Action Plan Impact:

Goal 5 - Upgrading our "Hard Services"

Action 5: The residents and businesses of Southgate recognize our linear services - roads, bridges, water and sewer works, for example - to be a fundamental purpose of municipal government. This infrastructure needs to be serviceable and sustainable so that our businesses and communities can thrive and grow.

Concluding Comments:

Staff recommends that Council receive Staff Report PW2022-021 for information.

Respectfully Submitted,

Dept. Head: *Original Signed By*
Jim Ellis, Public Works Manager

CAO Approval: *Original Signed By*
Dave Milliner, CAO

Attachments:

- Attachment # 1 - Monitoring Report (2020/2021) Proton Landfill Site Sections 7, 8 & 9, Potential Impacts Due To Landfill Gas Production, Conclusions & Recommendations & Proton Landfill Site Plan