

Solid Waste Management Services' Participation in the South London Air Monitoring Network

Date: February 23, 2021

To: Infrastructure and Environment Committee

From: General Manager, Solid Waste Management Services

Wards: All

SUMMARY

This report seeks Council direction for Solid Waste Management Services to join in the Ministry of the Environment, Conservation and Parks, London District Office (Ministry) *South London Air Monitoring Network (Network)* pilot project, which will monitor odour and weather patterns at the City of Toronto's (City) Green Lane Landfill. The *Network* pilot project utilizes technology to monitor and visualize any odour emissions of surrounding participating facilities, in an effort to identify and distinguish between any sources of odour and better predict any odour trajectories.

The City's participation in the *Network* pilot project will enable staff to have access to real-time data and to log historical data related to any odours from Green Lane Landfill. Implementation will require procurement of air monitoring equipment and software, and installation of air monitors and a weather station on Green Lane Landfill property.

This report provides an overview of the *Network* pilot project and benefits of participation, the types of data collected and how it will be used and implementation details at Green Lane Landfill.

RECOMMENDATIONS

The General Manager of Solid Waste Management Services recommends that:

1. City Council direct Solid Waste Management Services to participate in the South London Air Monitoring Network, a regional pilot project of the Ministry of the Environment, Conservation and Parks.

FINANCIAL IMPACT

Participation in the pilot project will require the procurement of air monitoring equipment, a weather station and software. The 2021 Solid Waste Management Services Division Operating Budget holds sufficient funds to accommodate this procurement with an estimated value of approximately \$284,000 over a three year period, with one optional one year period estimated at \$91,000, for a total estimated value of \$375,000. Costs for 2021 were not built into the operating budget but can be accommodated and will be added to the operating budget 2022 onwards as required. Table 1 below identifies the estimated yearly breakdown in costs.

Table 1 – Estimated Yearly Costs of an Air Monitoring System at Green Lane Landfill.

Year	Item	Estimated Cost
2021	Installation of Equipment	\$11,000
	Annual Fee*	\$91,000
2022	Annual Fee	\$91,000
2023	Annual Fee	\$91,000
2024	Annual Fee (Option Year)	\$91,000
TOTAL		\$375,000

*Annual fee includes leasing of the equipment, software, maintenance and customer support

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

This report presents a new initiative. There are no past City Council or Committee decisions related to the implementation of an air and odour monitoring system in and around Green Lane Landfill.

COMMENTS

The Ministry initiated a *Network* pilot project in 2019 after observing air monitoring technology in use at a London area waste facility and has been engaging with local municipalities and industry to extend invitations to participate. Stakeholders that decide to participate are required to cover their portion of costs to implement the monitoring technology system. Current participants include the City of London's W12A Landfill and two waste industries, StormFisher Environmental Ltd. and Convertus, both in London, Ontario.

The Ministry first approached the City to join the *Network* pilot project in January 2020. Green Lane Landfill is not in close proximity to the other participants. However, there is interest from the Ministry in the City's participation due to the potential for any odour

complaints resulting from operations at Green Lane Landfill, as well as the City's regional proximity to existing participants. The City's participation would also assist in better understanding any odour impacts on its local First Nations communities to Green Lane Landfill. An overview of the current odour abatement operations at Green Lane Landfill, including the number of complaints received in the last five years, can be found in Attachment 1.

In July 2020, Solid Waste Management Services staff met with the Assistant Deputy Minister, Drinking Water and Environmental Compliance Division, Ministry of the Environment Conservation and Parks, and Solid Waste Management Services staff confirmed that participation in the *Network* pilot project would require City Council authorization. The Ministry formally sent a letter of request seeking City participation in the *Network* pilot project on December 17, 2020.

Benefits of Participation in the *Network* Pilot Project

It is recommended that Solid Waste Management Services participate in the Ministry's *Network* pilot project through the implementation of an odour monitoring system at Green Lane Landfill. This new system will be implemented in conjunction with the current odour abatement operations at Green Lane Landfill as outlined in Attachment 1. Benefits of participation are anticipated to include:

- The opportunity for the City to take a leadership role together with the Ministry and other participating facility owners to monitor and address any odour issues that arise;
- The ability to respond to any odour complaints by better understanding and identifying odour intensity and trajectories;
- The potential, in the longer term, to improve performance and optimize operations to assist with mitigating any odours as a result of increased data monitoring and analysis including identifying further opportunities to develop or expand initiatives such as additional flares or landfill gas utilization; and
- The opportunity for the City to share information regarding its operations and support building relationships with the local communities surrounding Green Lane Landfill and with the Ministry's London District Office, through demonstrating measures of due diligence.

Collection and Use of Data in the *Network* Pilot Project

The *Network* pilot project aims to collect data that will help the Ministry and participants monitor and visualize potential odour issues, improve engagement with stakeholders and optimize facility operations by finding areas for potential improvement.

As the *Network* pilot project is a new initiative, the validation of data collected from current participants is in progress and ongoing. At the onset of implementation for each participant, initial validation is conducted through investigations to determine the best

suited locations to place the air monitoring equipment. Once in place, evaluation of the data is conducted in the initial stages to determine if any adjustments need to be made and can be re-evaluated at any time.

The Ministry is seeking to utilize data from participants to help monitor and visualize any odour conditions and any potential community impacts and to then cross reference the data with incoming odour complaints received by the facility owners/operators and the Ministry. Their intention is to move any odour investigations away from potentially subjective observations to more data-based determinations that will be available through the *Network* pilot project.

The Ministry's Draft Project Charter for the *Network* pilot project (see Attachment 2) states that participation will not impact current operational compliance and any odour abatement processes in place at Green Lane Landfill. It also states that it is expected that participants monitor and visualize the data collected to help determine if any odours are present, and to use the predictive modelling functionality to determine how any odours events may occur.

The intent is that access to the data from participants can be requested by and made available to local and interested stakeholders and would not be available to the general public. It is Solid Waste Management Services' understanding that determination of access to the data is open for discussion with the Ministry and has the potential to change as the project progresses. This access would include viewing odour data geographically and also some historical data. Any requests for summary reports of data (inclusive of requests from the Ministry) will be coordinated through City staff as it relates to the Green Lane Landfill. It should be noted that this new access to data may impact how any odour complaints are received (i.e. may result in an increased quantity of complaints or requests for access to data).

Providing access among participants may assist in identifying the source of any odour if there is a complaint and thereby identifying the participant whose facility may be causing the odour.

Implementation of the *Network* Pilot Project at Green Lane Landfill

Upon approval of participation in the *Network* pilot project, City staff will proceed with procurement of the air monitoring equipment and software technology. In order to align with the commitments of other participants, and in order to allow adequate time for implementation, adjustment and evaluation periods, staff will pursue Solid Waste Management Services participation in the *Network* pilot project for a three year period with the option to extend for one additional one-year period. Involvement in the project will be subject to technology availability in the area as there are known gaps in existing infrastructure for data connections and limitations in cellular service providers and this may affect data transmission from the equipment to the software.

City staff will work with the service provider for the air monitoring equipment and the Ministry to develop an implementation plan for the air monitoring system. In addition to the air monitoring equipment and software technology, an advanced weather station is

required to capture high quality data for accurate modelling. All equipment would be leased from the service provider, rather than owned by the City. Monitoring equipment may be located on the Green Lane Landfill property line and consideration will also be given to expand to the buffer lands surrounding the landfill. The equipment placed on the property line will likely report any odours on a frequent basis; placing the equipment in the buffer lands will assist in tracking any odours that are travelling beyond the property line. Monitoring equipment may also be considered for locations closer to communities where the majority of odour complaints are generated.

Implementation of the air monitoring system is not anticipated to have an effect on existing Environmental Compliance Approvals.

Next Steps

Solid Waste Management Services staff will proceed with the procurement of the air monitoring equipment and software and will work with the Ministry and the service provider to develop an implementation plan for the air monitoring system at Green Lane Landfill.

CONTACT

Darryl Yaworski, Director, Transfer Stations and Landfill Operations, Solid Waste Management Services, Telephone: 416-392-2447, Fax: 416-392-3722, Email: Darryl.Yaworski@toronto.ca

Angela Doyle, Senior Project Manager, Policy, Planning and Outreach, Solid Waste Management Service, Telephone: 416-338-8263, Fax: 416-392-4754, Email: Angela.Doyle@toronto.ca

SIGNATURE

Matt Keliher
General Manager
Solid Waste Management Services

ATTACHMENTS

Attachment 1 – Odour Abatement Operations at Green Lane Landfill

Attachment 2 – London Odour Network Draft Project Charter