



To: Chair and Members
Engineering and Public Works Committee

From: Stephanie Mack
Director, Waste Management and Environmental Services

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Date: May 17, 2023

Subject: Environmental Monitoring and Remediation Projects – 2023 Update

Report: PW-6-2023-5

Recommendation

This report is provided for information.

Origin

This report serves to provide an update on continued environmental monitoring and remediation work undertaken in 2022 at historic municipal waste sites under The District Municipality of Muskoka's (District) responsibility.

For many sites, environmental monitoring programs are a requirement outlined in the Environmental Compliance Approvals (ECAs) issued by the Ministry of the Environment, Conservation and Parks (MECP). The District also voluntarily monitors additional closed sites without ECAs and, in addition, is advancing remediation works. The District's environmental monitoring program is part of a commitment to mitigate historic waste practices in Muskoka which continue to have unfortunate environmental consequences.

Background

The District is responsible for one (1) active and 33 closed landfill sites as well as ten (10) transfer stations and four (4) waste depot sites. There are also a number of new depots under development to support the bin site transition.

For reference, a full listing and details on the closed/historical waste sites are provided for reference as Schedule A.

History of Responsibility for Waste Sites

On January 1, 1996, all waste management powers were transferred to the District as several Area Municipalities had either faced or were about to face a waste disposal crisis. This resulted in the District assuming responsibility for 17 active waste management sites. These sites were located across all Area Municipalities.

On June 16, 2014, as outlined in [report PW-6-2014-1](#), the District assumed ownership and responsibility of all municipally-owned closed waste disposal sites within the District under [resolution R65/2014-PW](#), as amended and adopted by Muskoka District Council – adding 20 sites to the waste management portfolio.

Over 2017 and 2018, D-4 assessments, under the Province's D-4 Land Use On or Near Landfills and Dumps Planning Guideline, were completed on the municipal sites uploaded in 2014. [Report PW-10-2018-6](#) outlined remedial actions required for sites with unresolved adverse impacts – namely the Medora, Old Glen Orchard, and Housey's Rapids closed landfills.

Additionally, in 2019 [report PW-7-2019-6](#) ([resolution R35/2019-PW](#)) directed staff to complete investigations on a significant number of privately-owned waste sites to verify their existence, location and footprint of the waste as well as to establish history of any municipal use. Staff were also directed to complete D-4 assessments on additional sites that had disposed of municipal garbage to potentially reduce their D-4 influence areas. Upon review of the sites, staff have determined there are 32 private sites with unknown history and seven (7) sites with a history of municipal use. Report PW-7-2019-6 also outlined that the District was to initiate discussions with neighboring municipalities regarding sites located in their jurisdiction with influence areas impacting properties within the District's boundaries.

Environmental Monitoring

Many of the closed waste sites pose complex environmental challenges and require significant resources (staff, consulting expertise, budget, etc.) to understand and address groundwater, surface water and landfill gas impacts.

The District retains an environmental consultant to complete regular environmental monitoring on 15 waste management sites throughout the District which includes groundwater, surface water, stormwater, and landfill gas monitoring. These monitoring results provide insight on potential site impacts and are summarized in reports submitted to the MECP annually. Submission of annual monitoring and/or operational reports are a requirement outlined in ECAs for 14 sites in the District portfolio. Given the environmental impacts, the District also submits two (2) additional reports voluntarily for the Chaffey closed landfill in Huntsville and the Old Glen Orchard site in Muskoka Lakes.

The current monitoring program is extensive – consisting of 291 groundwater wells, 126 surface water stations, 47 landfill gas probes, four (4) leachate stations, and four (4) stormwater stations. The frequency of sampling is site-dependent but can vary from

annually to quarterly. In some cases, additional post-closure monitoring is required in addition to the routine program. The results of each sampling event are reviewed to ensure compliance and, when required, contingency plans are enacted. Any program modification recommendations are noted in the annual reports for consideration to be implemented in the following year's sampling program.

For sites with active operations, an additional requirement is to provide a summary of the on-site activities throughout the year; for the active landfill, this includes a landfill capacity assessment. This data is incorporated into the annual reports submitted to the MECP. In addition, the closed landfill properties are inspected at least once annually by staff to ensure compliance. Signage, fencing, environmental conditions are part of the District inspection protocol. These inspections are due diligence as the MECP also inspects these sites to ensure compliance.

Analysis

2022 Annual Environmental Monitoring

The 2022 annual monitoring reports were provided to the MECP as required – 12 submitted by March 30 and two (2) submitted by May 1. Two (2) additional reports will be submitted in June. Many of the reports outline on-going impacts of the historic sites to groundwater and surface water and, in addition, challenges with landfill gas. Staff continue to meet with our consulting team and the MECP to discuss and review work plans and prioritize work at these sites. The work plan and priorities for 2023 are discussed further below.

Annual monitoring reports are public information and available for the public to review upon request.

2022 Remediation Projects

Remediation projects have been undertaken at various historic waste management sites since the last Committee update. Staff note the complex nature of this work as many of the sites left to address have garbage on municipal road allowances and/or private property. The MECP requires that where there is municipal garbage, the property either be cleaned-up by the District or properties be designated as landfills, registered on title and monitored. The best path forward for each site is assessed on a case-by-case basis in consultation with the MECP, the District's consulting team, Area Municipalities and private property owners. Highlights from 2022 include:

Port Carling Closed Landfill, Muskoka Lakes – on-going remediation work continues at the Port Carling closed site. The Hazelwood Trail was closed in September 2022 for additional clean up efforts that started in 2021. There remains additional work at this site to address remaining waste along the trail, potentially covering some problematic areas and addressing offsite waste.

Watt Closed Landfill, Muskoka Lakes – District staff removed exposed waste and applied cover and grass seed in areas here work was completed. Appropriate signage

was posted to control access and provide information. Watermark Environmental (Watermark) were retained to prepare a report outlining the actions completed. This report was submitted to the MECP.

Brackenrig Closed Landfill, Muskoka Lakes – site work included removing exposed waste, applying cover and spreading grass seed on areas where waste was removed. Signage was posted as required to provide information. Watermark completed a report on outlining the actions completed which was submitted to the MECP as follow-up.

Ullswater Closed Landfill, Muskoka Lakes – the District was able to complete remediation work in summer 2022, ahead of scheduled 2023 efforts. This included removing exposed waste, applying cover and grass seed in areas and posting signage. Watermark prepared a report outlining actions which was submitted to the MECP.

North Waseosa Closed Landfill, Huntsville – this is a complex site to address as the District does not currently own the property where there is waste. Given this, staff are working with the Town of Huntsville to transfer a portion of road allowance where there is garbage – essentially creating proper boundaries of a new closed waste site. District staff are also consulting with a private property owner as there is additional garbage on their property. Work at this site includes delineation of the waste footprint and surveying to ensure that all waste is on the “new site” and potential negotiations with the property owner.

2023 Priorities

Through MECP/staff site inspections and consultant recommendations, a long-term plan was developed to prioritize and address outstanding requirements at various sites under District responsibility. District staff have met with the MECP to discuss and present this path forward resulting in a mutually agreeable approach. Priorities for 2023 are highlighted below:

Rosewarne Landfill (East), Bracebridge – a comprehensive study is planned for the Rosewarne Landfill site including investigating options to extend the life of the active landfill in addition to options for future disposal capacity. Addressing impacts of offsite landfill gas from the closed Rosewarne Landfill (East) will be part of this study.

Eveleigh Landfill, Muskoka Lakes – the District retained a new consultant, AECOM, in 2022 to complete a feasibility study for options to manage leachate collection and disposal and address impacts to groundwater and surface water from the closed landfill. Furthering this project is a priority in 2023 and staff will continue to work with AECOM, Watermark and the MECP on the best approach to address issues at this site.

Beiers Landfill, Gravenhurst – in 2022, additional gas probes were advanced to investigate the potential for offsite landfill gas impacts. Better understanding site conditions is critical prior to advancing final capping of this site which will be a significant capital investment. The District/Watermark will be consulting with neighbouring property owner(s) and the MECP over the next year in addition to completing additional monitoring.

Address exposed waste – as discussed above, further remediation is required at the Port Carling Closed Landfill following the 2022 clean-up efforts. Additionally, exposed waste is required to be removed and/or covered at the Wood, Wood South, Windermere, Brunel, Foot's Bay, and Minett Closed Landfill sites. Given the number of sites to address, a staggered approach has been planned for these sites with completion scheduled through to 2024.

Address offsite waste – as noted above, several landfills uploaded to the District in 2014 have waste extending onto Area Municipal roadway allowances or private property outside of the District's ownership – or are entirely on non-District property. The District has procured professional services related to delineation of the waste footprint, surveying and property appraisal. Priority sites with offsite garbage include the North Waseosa site, Port Carling, and Windermere.

Private waste sites – as noted above and directed by District Council, Azimuth Environmental has been procured to complete investigations of private waste sites identified in report PW-7-2019-6; this project is set to span from 2023 through to 2025. This study will be undertaken in two parts – a desk-top study to investigate 32 private sites and, secondly, more intensive background and D-4 investigations on seven (7) sites where there is a history of municipal garbage being disposed. The D-4 assessments will investigate the impact of the waste sites on abutting and adjacent properties. With respect to the sites within neighboring townships, the District has initiated and will continue discussions with those respective Area Municipalities.

Financial Considerations

The annual environmental monitoring program is funded from the 2023 Solid Waste Operating Budget. For 2023, \$330,805 (excluding HST) has been allocated to this work.

The cost to complete more intensive site investigations and remediation projects varies from site to site. These projects are funded through the Solid Waste Management Capital Budget. The District reviews the required expenses annually during the budget process to ensure funds are available to complete all planned projects. Since 2014, expenditures for these sites total \$4,188,554 funded from the Capital Budget. As outlined in the 10-year Capital forecast for Solid Waste, works related to the Closed and Historic Landfills (such as capping and remediation projects) are estimated to total over \$10,000,000.

Climate Change Implications

The District assesses climate implications in all staff reports using the Clean Air Partnership's '[Municipal Climate Lens Tool](#)' to consider climate impacts or benefits associated with any project, program or initiative. The following is a summary of the results.

Municipal Climate Lens Tool	Results
Mitigation	GHG impact has been considered
Temperature	There are no Temperature impacts associated with this report
Precipitation	There are no Precipitation impacts associated with this report

Climate Considerations Summary: Any major remediation projects require equipment to complete which result in greenhouse gas (GHG) emissions. Leaving the sites in their current condition, however, poses risk to public and environmental health.

Communications

Annual monitoring reports, action plans, summaries of remedial activities, and study results will continue to be provided to the MECP. Updates will be provided to the Engineering and Public Works Committee on an annual basis, or as required.

Strategic Priorities

This report supports the following [District of Muskoka Strategic Priorities](#):

- Natural Environment s1.6;
- Governance s2.2; and
- Community s5.2.

Respectfully submitted,

Emily Rammler, Compliance Specialist
Stephanie Mack, P.Eng., Director, Waste Management and Environmental Services;
and
James Steele, P.Eng., Commissioner of Engineering and Public Works.

Table A.1: Listing of waste management sites assumed by the District of Muskoka in 1996 (17 in total)

Site Name	Type of Waste Site	Municipality	Property Ownership	ECA Number(s)	Annual Monitoring/ Reporting to MECP
Rosewarne LF/TS	Closed Landfill (Rosewarne East) Active Landfill (Rosewarne West) Active Transfer Station	Town of Bracebridge	District	A510204	ECA requirement
Beiers (Gravenhurst) LF/TS	Closed Landfill Active Transfer Station	Town of Gravenhurst	District	A510303 A510307 A510309	ECA requirement
Stisted (Huntsville) LF/TS	Closed Landfill Active Transfer Station	Town of Huntsville	District	A510410	ECA requirement
Baxter LF/TS	Closed Landfill Active Transfer Station	Township of Georgian Bay	District	A510501	ECA requirement
Eveleigh LF/TS	Closed Landfill Active Transfer Station	Township of Muskoka Lakes	District	A510735 A510738 A510742	ECA requirement
Franklin (Dwight) LF/TS	Closed Landfill Active Transfer Station	Township of Lake of Bays	District	A510610 A510604	ECA requirement
Freeman (Tower Rd) LF/TS	Closed Landfill Active Transfer Station	Township of Georgian Bay	District	A510505	ECA requirement
McLean (Baysville) LF/TS	Closed Landfill Active Transfer Station	Township of Lake of Bays	District	A510602	ECA requirement
Ridout LF/TS	Closed Landfill Active Transfer Station	Township of Lake of Bays	District	A510605 A510613	ECA requirement
Sinclair LF/TS	Closed Landfill Active Transfer Station	Township of Lake of Bays	District	A510611 A510612	ECA requirement

Table A.1: Listing of waste management sites assumed by the District of Muskoka in 1996 (17 in total) *continued*

Site Name	Type of Waste Site	Municipality	Property Ownership	ECA Number(s)	Annual Monitoring/ Reporting to MECP
Leonard M Roi Landfill	Closed Landfill	Township of Georgian Bay	NDMNRF (Road Allowance)	A510506	voluntary monitoring, no report submitted
Port Sydney Landfill	Closed Landfill	Town of Huntsville	District	A510405	voluntary monitoring, no report submitted
Muldrew Lake Disposal Site	Closed Landfill	Town of Gravenhurst	District	A510306 A510310	
Honey Harbour Road Depot	Active Waste Depot	Township of Georgian Bay	Georgian Bay	1283-6NBVTM	ECA requirement – operations report only
South Gibson Road Depot	Active Waste Depot	Township of Georgian Bay	MNR (Road Allowance)	1280-6SNRNW	ECA requirement – operations report only
Twelve Mile Bay Road Depot	Active Waste Depot	Township of Georgian Bay	District	8782-6SNPV6	ECA requirement – operations report only
Huntsville (Madill) Household Hazardous Waste TS	Active Depot (Hazardous Waste Collection)	Town of Huntsville	Huntsville	A740129	ECA requirement – operations report only

Note:

LF – Landfill, TS – Transfer Station

Table A.2: Listing of closed landfills uploaded to the District in 2014 (20 in total)

Site Name	Municipality	Property Ownership	ECA Number(s)	Annual Monitoring/ Reporting to MECP
Brackenrig Dump	Township of Muskoka Lakes	District	A510704	
Brunel Dump	Town of Huntsville	Huntsville (Road Allowance)	A510404 A510406	monitoring, internal closed site report
Chaffey Landfill	Town of Huntsville	District	A510402	voluntary annual monitoring and report submitted
Draper Landfill	Town of Bracebridge	District	A510203	monitoring, internal closed site report
Finlayson Landfill	Township of Lake of Bays	District	A510603	monitoring, internal closed site report
Foot's Bay Dump	Township of Muskoka Lakes	Muskoka Lakes	A510708	monitoring, internal closed site report
Housey's Rapids Landfill	Town of Gravenhurst	District	A510302 A510312	monitoring, internal closed site report
Medora Landfill	Township of Muskoka Lakes	Muskoka Lakes	A510709 A510734 A510741	voluntary annual monitoring, no report submitted
Minett Landfill	Township of Muskoka Lakes	District	A510714 A510728	
North Waseosa Landfill	Town of Huntsville	Huntsville (Road Allowance)	A510401	monitoring, internal closed site report
Old Glen Orchard Landfill	Township of Muskoka Lakes	District	A510716	voluntary annual monitoring and report submitted

Table A.2: Listing of closed landfills uploaded to the District in 2014 (20 in total) *continued*

Site Name	Municipality	Property Ownership	ECA Number(s)	Annual Monitoring/ Reporting to MECP
Port Carling Dump	Township of Muskoka Lakes	District	A510706	monitoring, internal closed site report
Sparrow Lake Landfill	Town of Gravenhurst	District	A510311	monitoring, internal closed site report
Uffington Landfill	Town of Bracebridge	District	A510201 A510210	monitoring, internal closed site report
Ullswater Dump	Township of Muskoka Lakes	District	A510710	monitoring, internal closed site report
Vankoughet Landfill	Town of Bracebridge	District	A510209 A510216	monitoring, internal closed site report
Watt Dump	Township of Muskoka Lakes	Muskoka Lakes	A510711 A510733	
Windermere Dump	Township of Muskoka Lakes	Muskoka Lakes (Roadway Allowance)	A510713	monitoring, internal closed site report
Wood Dump	Township of Muskoka Lakes	Muskoka Lakes	A510703	
Wood South (Walker's Point) Dump	Township of Muskoka Lakes	Muskoka Lakes	A510712 A510729	

Note:

Site names are as reflected in MECP inspection reports

Table A.3: Listing of waste management sites the District was directed to investigate in 2019 (41 in total)

Site Name	Type of Waste Site	Municipality	Property Ownership
7 private waste with a history of municipal use	closed landfills	various	private
32 private Sites with unknown history	various	various	private
2 municipal waste sites in neighbouring townships with influence areas within District boundaries	various	various	municipal