



Brooks Road Landfill Public Liaison Committee In-Person Meeting

June 7, 2023



Brooks Road Landfill Site



Overview

- Ground Rules and PLC Objectives
- Site Update
- MECP Update
- Discussion of Landfill Life Expectancy
- Site Approvals
- Other Business





Ground Rules/ Objectives of Today's Meeting

Take the opportunity to be heard while respecting the viewpoints of others

Gain a deeper understanding of perspectives and opinions

Leave with a little more information than what you came in with

Ensure constructive dialogue that remains on topic

Begin and end on time



Purpose and Objectives of PLC

- PLC is a condition under the Environmental Compliance Approval (ECA)
- Function in accordance with the Terms of Reference for the PLC, as amended

“The PLC shall serve as a forum for dissemination, consultation, review and exchange of information regarding the operation of the landfill Site, including environmental monitoring, maintenance, complaint resolution, and new approvals or amendments to existing approvals related to the operation of this landfill Site.”

- PLC members and their roles
- PLC Meetings are open to the public and shall be held in public
- The PLC may hear deputations from any member of the public or interested agency pertaining to the Site and its operation



Review of Previous Minutes

- The March 2023 meeting minutes and presentation were posted to the Brooks Road Environmental website.
- Question/ Comments on Draft March 2023 Meeting Minutes?





Commitments from Previous Meeting

1. GHD to provide in advance of the next PLC meeting:
 - **Photos of leachate level transducer, information on how it works, and calibration details**
 - Groundwater quality criteria and results (from previous year)
2. BRE to identify where contaminated soil is coming from
3. Website will be updated with when food bank donation was made
4. MECP will provide confirmation of the Financial Assurance



↳ Introduction

The following provides a brief description of how the pressure transducer is downloaded at Brooks Landfill in Cayuga, Ontario.

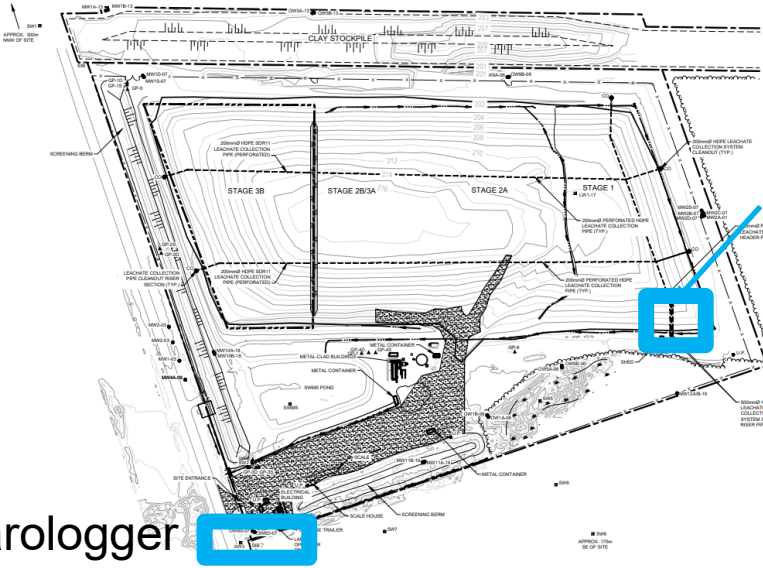
A pressure transducer (Levellogger) is installed within the leachate sump, located at the southeast side of the landfill, shown on the next page. The Levellogger within the leachate sump records a water level measurement every half-hour for long-term monitoring.

Additionally, a barometric pressure transducer (barologger) is installed within monitoring well OW8B-06. The barologger is secured above ground within the air. The barologger is used to compensate water levels obtained from the leachate sump for atmospheric pressure fluctuations.

The Levellogger and barologgers are downloaded at least monthly to monitor the leachate levels within the landfill.



↳ Leachate collection sump

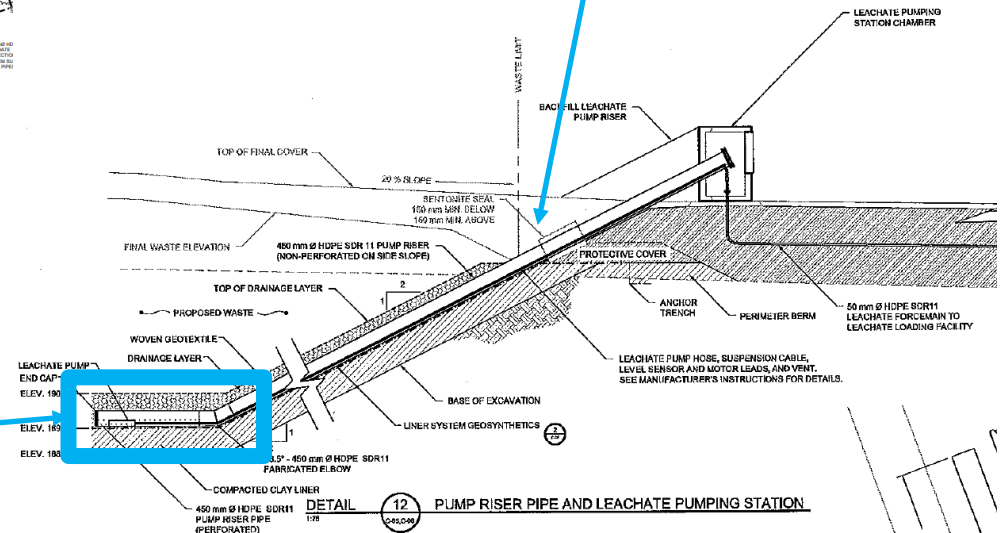


Barologger
in OW8B-06

Leachate
collection
sump

Leachate
collection
riser pipe

Leachate
collection
sump





① Retrieve Levelogger

Rods to guide logger to correct depth

Logger cable



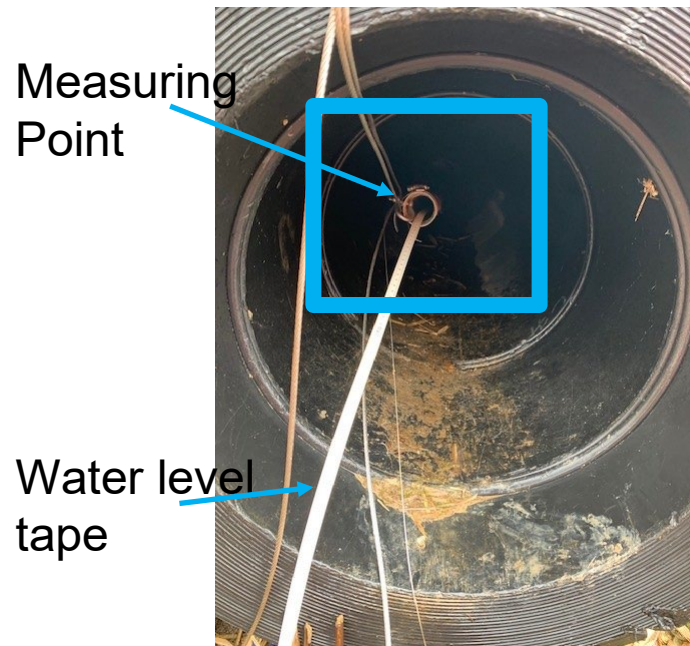
The Levelogger is retrieved from within the Sump. The Levelogger is attached to the end of a blue cable. Rods are used to guide the Levelogger to the bottom of the Sump.



The barologger is secured within OW8B-06 to the inside of the monitoring well casing. It does not need to be pulled from the bottom of the well.



② Sump leachate level



A water level measurement is collected from the leachate sump using a water level meter by completing the following:

- The water level meter is lowered down a white 1.5-inch diameter PVC riser until the water level meter reaches the water.
- A red light flashes and an audible noise is made when the tape reaches water
- The level is measured off the measuring tape on the water level meter.

The water level measured using the water level meter is used to manually measure the leachate level in the Sump (to 0.01 metre) in order to corroborate results from the Levelogger within the sump.

No water level measurement is collected at monitoring well OW8B-06 where the barologger is secured.



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Shallow Overburden

	RUC (Trigger Level)	Southern Portion of Site							
		OW1B-06		OW8B-06		MW11B-19		MW12B-19	
		5/10/2022	11/3/2022	5/9/2022	11/3/2022	5/9/2022	11/3/2022	5/10/2022	11/3/2022
General Chemistry									
Chloride (Cl)	121	35.2	358	178	144	10	22.7	31.2	--
Metals									
Boron (B)	1.11	< 0.100	0.114	0.935	0.814	0.479	0.418	< 0.100	--
Chromium (Cr)	0.022	< 0.00500	--	< 0.00500	--	< 0.00500	--	< 0.00500	--
Lead (Pb)	0.0022	< 0.000500	--	< 0.000500	--	< 0.000500	--	< 0.000500	--
PAHs									
Naphthalene	4.7	< 0.050	--	< 0.050	--	< 0.050	--	< 0.050	--
Phenanthrene	0.43	< 0.020	--	< 0.020	--	< 0.020	--	< 0.020	--
Pyrene	1.7	< 0.010	--	0.029	--	< 0.010	--	< 0.010	--
Benzo(a)pyrene	0.0053	< 0.0050	--	< 0.0208	--	< 0.0050	--	< 0.0050	--
VOCs									
Benzene	0.37	< 0.50	--	< 0.50	--	< 0.50	--	< 0.50	--
Ethylbenzene	0.79	< 0.50	--	< 0.50	--	< 0.50	--	< 0.50	--
Toluene	25.6	< 0.50	--	< 0.50	--	< 0.50	--	< 0.50	--

Notes:

- (1) General chemistry and metals results are expressed in mg/L and PAH and VOC results are expressed in µg/L.
- <0.001 The parameter was analyzed for but not detected at or above the method detection limit. The associated value is the method detection limit.
- RUC Reasonable Use Criteria.
- Concentration exceeds RUC.
- Not analyzed
- 41.4/44.1 Duplicate samples were submitted for analysis.
- U The analyte was analyzed for but not detected above the reported sample quantitation limit.
- NS Not sampled
- < 0.10 Method detection limit does not meet criteria.





Basal Overburden/Shallow Bedrock

	RUC (Trigger Level)	Southern Portion of Site							
		OW1A-06		OW8A-06		MW11A-19		MW12A-19	
		5/10/2022	11/3/2022	5/10/2022	11/3/2022	5/9/2022	11/3/2022	5/10/2022	11/3/2022
General Chemistry									
Chloride (Cl)	113	12.1	12.4	Dry	12	13	12.5	14.2	13.6
Metals									
Boron (B)	1.40	0.597	0.504	Dry	0.538	0.676	0.534	0.186	0.293
Chromium (Cr)	0.015	< 0.00500	--	Dry	--	< 0.00500	--	< 0.00500	--
Lead (Pb)	0.0029	< 0.000500	--	Dry	--	< 0.000500	--	0.897	1.43
PAHs									
Naphthalene	4.7	< 0.050	--	Dry	--	< 0.050	--	< 0.050	--
Phenanthrene	0.4	< 0.020	--	Dry	--	< 0.020	--	< 0.020	--
Pyrene	1.7	< 0.010	--	Dry	--	< 0.010	--	0.015	--
Benzo(a)pyrene	0.0053	< 0.0050	--	Dry	--	< 0.0050	--	< 0.0050	--
VOCs									
Benzene	0.37	< 0.50	--	Dry	--	< 0.50	--	< 0.50	--
Ethylbenzene	0.79	< 0.50	--	Dry	--	< 0.50	--	< 0.50	--
Toluene	25.6	< 0.50	--	Dry	--	< 0.50	--	< 0.50	--

Notes:

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Commitments from Previous Meeting

1. GHD to provide in advance of the next PLC meeting:
 - Photos of leachate level transducer, information on how it works, and calibration details
 - Groundwater quality criteria and results (from previous year)
2. **BRE to identify where contaminated soil is coming from**
 - Construction sites within the GTA via private depots/transfer stations and from local businesses in the Hamilton and Niagara areas.
3. **Website was updated to reflect Food Bank donation**
4. MECP will provide confirmation of the Financial Assurance

Cayuga Food Bank Donation

Brooks Road Environmental donates regularly to the Cayuga Food Bank.





Site Update - BRE





Site Update

Leachate and Effluent Hauling

- Hauling of treated effluent to the Haldimand County treatment plant continues
- Additional hauling of raw leachate to a licenced treatment plant if needed

Leachate Treatment Plant Maintenance (April)

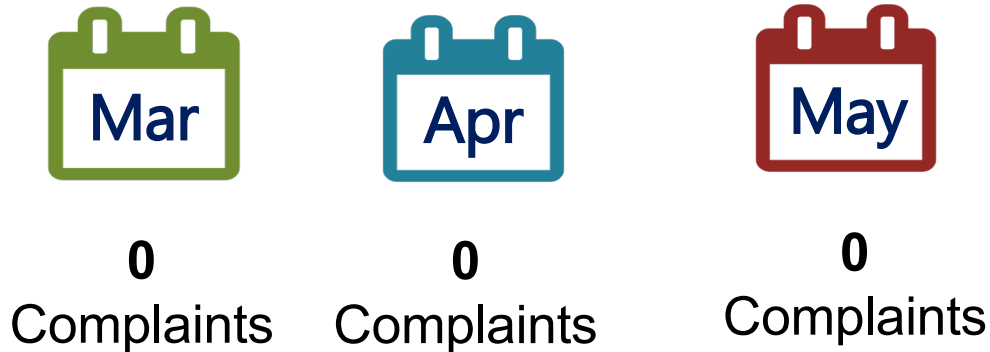
- Membrane intensive cleaning and chemical soak
- Aeration tank cleanout
- DAF unit cleaning

Opening discussion with the MECP regarding adding the DAF unit into the ECA (sewage works)





Odour Complaints Summary



Complaint Lines

Corporate: 416-966-1100

Site Specific: (888) 402-7368

On-site Office: 416-389-8876

MECP Spills Action: (800) 268-6060





Hauling and Leachate Level Update

- Effluent and Leachate Summary for March to May 2023:

Month	Volume (L)	Leachate Elevation (m)
March 2023	2,253,000	191.9
April 2023	1,164,000	194.0
May 2023	1,719,180	193.2
Total	5,136,180	-





Schedule "C" from ECA: target leachate elevation by date (highlighted in blue)

The following Schedule "C" forms part of this Approval

Schedule "C"

Table C1: Target leachate elevations to reach leachate elevation 191 m AMSL based on the date of March 27, 2020.

Date	Required Leachate Elevation (m AMSL)	Estimated Leachate Volume in Landfill (m ³)	Volume Removed in Excess of Generation (m ³)	Forecasted Leachate Generation Rate (m ³ /day)	LTS Discharge to Ditch (m ³ /day)	Required Average Excess Leachate Removal (m ³ /day)
March 27, 2020	198.5	40,000	-	44	45	0
March 27, 2021	196	28,000	12,000	44	45	32
March 27, 2022	193.8	18,000	10,000	42	45	24
March 27, 2023	192.1	10,000	8,000	44	45	21
March 27, 2024	191.3	4,000	6,000	45	45	16
March 27, 2025	191	2,000	2,000	49	45	9.5
March 27, 2026	191	2,000	0	33	45	0



Schedule "D" from ECA: target leachate elevation by capacity (estimated target elevation in blue based on tonnage and volume estimates)

The following Schedule "D" forms part of this Approval

Schedule "D"

Table D1: Capacity-Based Target Leachate Elevations

Estimated Landfilled Volume (m ³)	Required Leachate Elevation (m AMSL)
680,000	197.9
710,000	197.4
740,000	196.8
770,000	196.2
800,000	195.7
830,000	195.1
860,000	194.5
890,000	193.9
920,000	193.4
950,000	192.8
980,000	192.2
1,010,000	191.7
1,040,000	191.1
1,045,065	191.0



Landfill Life Expectancy

- ~100,000 m³ capacity remaining based on annual survey (Dec 20, 2022)
- Remaining capacity varies based on waste type, compaction, tonnage received, and consolidation of existing waste within the landfill.
 - Based on these factors, the estimated average remaining landfill life expectancy is ~ 1 year.





MECP Update



Brooks Road Landfill Site



Site Approvals – EA & ECA



Brooks Road Landfill Site



Site Approvals – EA

- BRE are in the middle of an Environmental Screening process to add additional capacity by 100,000 m³. The approved footprint is expected to change as a result of the increase capacity
- The Environmental Screening is being conducted in accordance with the planning and design process outlined in Ontario's "*Guide to Environmental Assessment Requirements for Waste Management Projects*".
- The results of the Study will be documented in an Environmental Screening Report, which will be released for review to the public, Indigenous communities, and government agencies.
- Consultation activities are planned throughout the Screening Process (Public Open House #1 occurred in late June, 2022) and will be advertised via direct and/or electronic mail, in the local newspaper, and on the project website (www.brenvironmental.com). Tentatively, the next Open House is planned for summer 2023.



Other Business/ Next Meeting

- The proposed PLC Meetings for 2023 are as follows:
 - Wednesday March 22, 2023
 - Wednesday June 7, 2023
 - Wednesday November 1, 2023
- Today's presentation along with the meeting minutes will be posted on the Brooks Road Environmental website

