2025 Annual Monitoring Report
Sand Bay Waste Transfer Station
Environmental Compliance Approval No. A361111

Prepared for:
The Corporation of the Municipality of Hastings Highlands
P.O. Box 130
33011 Highway No. 62
Maynooth, ON K0L 2S0

Prepared by:
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Kingston, ON K7K 1Z7

Project Number: 250253-02
March 25, 2026

BluMetric.ca

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1 Introduction

This report provides a summary and analysis of environmental monitoring activities at the Sand Bay Waste Transfer Site (WTS), near Combermere, Ontario. The location of the WTS, as shown in Figure 01 is herein referred to as the "Site".

This report is prepared in accordance with Condition (6) of the Environmental Compliance Approval (ECA) A361111 for the Site, issued May 18, 2017, a copy of which is included in **Appendix A-1**.

The report covers all work and activities carried out for the period from January 1 to December 31, 2025. The report includes both the environmental monitoring and sampling program as well as details relating to Site operations, including observations of and quantities transferred from the Waste Transfer (WT) areas at the Site in 2025. BluMetric Environmental Inc. (BluMetric®) was retained by The Municipality of Hastings Highlands (MHHs or Municipality) to conduct the 2025 environmental monitoring and sampling program and prepare the 2025 Annual Report.

The intent of this report is to be consistent with the general requirements of the Ontario Ministry of Environment, Conservation and Parks (MECP) document titled; Monitoring and Reporting for Waste Disposal Sites (WDS), Groundwater and Surface Water: Technical Guidance Document (MOE, November 2010), referred to as the "WDS Technical Guidance". The Monitoring and Screening Checklist from the WDS Technical Guidance has been completed and is included as **Appendix B** of this report. The screening checklist was completed with the Operational Status set as "closed" as the WDS is closed although the WTS operated throughout 2025.

1.1 Location

The Sand Bay WTS is located north of Highway #62 and is accessed from Kamaniskeg Lake Rd., via the Site access road. The civic address is 16 Runnals Lane, Combermere, Ontario. The Sand Bay WTS has a total site area of 2.65 hectares (ha) and is located in a former sand pit on Part of Lot 28, Concession 7 of the former Township of Bangor, now part of the Municipality of Hastings Highlands (MHH).

The facility layout, topography (2017), road network, and Site features are shown on Figure 02 – Site Plan. The Site includes the former 0.67 ha waste footprint which received final cover in 2017; the former waste footprint is currently used for waste transfer activities. There is a 30 m buffer surrounding the waste footprint, most of which is on Crown Land. A small portion of the buffer area to the east is located on municipally owned land.

1.2 Ownership and Key Personnel

The facility is operated by the MHHs, with the Municipal office located in Maynooth, Ontario. The property is owned by the Crown and administered by the Ministry of Natural Resources (MNR). The MNR leases the property to MHHs for use as a WDS/WTS under a Land Use Permit (LUP). The current Land Use Permit (LUP) for the Site is No. 1634-10041-90 dated June 1, 2016. The LUP identifies the correct geographic location of the Site and is in effect until May 31, 2026. A copy of the LUP is provided in **Appendix A-2**. This land use permit will need to be renewed during the 2026 monitoring period.

The facility's operational representative is responsible for all activities on-site. The Site contact is David Stewart and the Competent Environmental Practitioner (CEP) for both groundwater and surface water is S'rana Scholes, of BluMetric. Ms. Scholes is a Professional Engineer as designated by Professional Engineers of Ontario (PEO).

Contact information is outlined in Table 1.

Table 1: Contact Information

Role	Name	Address	Phone Number	Email
Site Owner/ Contact	CAO, MHHs – David Stewart	P.O. Box 130 33011 Highway No. 62, Maynooth, ON, K0L 2S0	(613) 338-2811 x. 233	dstewart@hastingshighlands.ca
CEP	Senior Environmental Engineer - BluMetric – S'rana Scholes, P.Eng.	3B-209 Frederick Street, ON N2H 2M7	(877)-487-8436 x218	sscholes@blumetric.ca

1.3 Description and Development of the WTS

The waste disposal area at the Site was closed in 2017 and the Site now operates only as a WTS. In addition to domestic waste, the Sand Bay WTS includes recycling bins for metal, plastic, paper/cardboard products, as well as segregated areas for scrap metal, bulky waste, and tires. The Site is also approved to accept household batteries in a closed container for transfer and refrigerant appliances. Historically, the Ontario Electronic Stewardship (OES) has approved the Sand Bay WTS for the collection of Waste Electrical and Electronic Equipment (WEEE) wastes. Regulations came into effect in 2020 with respect to this material, now referred to as Electrical and Electronic Equipment (EEE). The new regulation with respect to EEE falls under the Resource Recovery and Circular Economy Act, 2016, and the regulation was filed on September 21, 2020.

1.4 Monitoring and Reporting Program Objectives and Requirements

The objectives of the monitoring and reporting program for 2025 are to identify and mitigate impacts to the environment caused by the historical municipal solid WDS and the current WTS. The monitoring and reporting program has been developed with these objectives in mind. In addition, the monitoring and reporting program are designed to adhere to the MECP's WDS Technical Guidance and the ECA for the Site.

2 Physical Setting

2.1 Geology

2.1.1 Surficial Geology

The surficial geology of the area is described as glaciofluvial outwash deposits of gravel and sand (Map 2556, MNDM, 1991). Monitoring well logs, provided in **Appendix C**, for the two monitoring wells on-site confirm that the overburden is sand with amount of gravel increasing with depth and is over 8 m in thickness. The Site is located adjacent to an aggregate pit used by the Municipality.

2.1.2 Bedrock Geology

The Sand Bay WTS is located within the Grenville geological province, on Precambrian bedrock. Bedrock is described as Felsic igneous rocks such as granite and gneisses (Map 2544, MNDM, 1991).

Well records provided by the MECP were reviewed in 2025; one well record was identified within 500 m of the Site. The well record indicates bedrock was encountered at an approximate depth of 36 m below ground surface (mbgs) and the well depth is 55 mbgs. A cottage/trailer park area is known to be located just over 500 m northwest of the disposal area. A satellite image shows a residence located within 500 m to the southeast of the Site. The well associated with this house is 92 m deep in granitic type bedrock.

Based on the geology, surface water features, and historical data, groundwater within the aquifer is assumed to flow northwest towards Kamaniskeg Lake.

2.2 Surface Water Features

Kamaniskeg Lake is located approximately 730 m northwest of the WTS and Bennett Lake is located approximately 700 m south of the WTS. A review of topographical mapping indicates that all surface water eventually flows towards Kamaniskeg Lake (the largest surface water feature in the area). The WTS surface topography slopes away from the WTS in a south- southwest direction. No surface water features are present to the immediate southwest in the direction of surface water flow.

3 Description of Monitoring Program

3.1 Site Inspections and Operations Monitoring

Site visits to the Sand Bay WTS were conducted on April 24, 2025, and October 20, 2025. In general, the site was in good to excellent condition. The detailed site checklists are provided in **Appendix D.**

There were no observations of concern for the Site visit on April 24, 2025. During the Site visit on October 20, 2025, the only item of note was that the metals pile was becoming large and should be removed.

Select photographs taken during the Site visits are provided at the end of the text following the tables and figures.

3.2 Monitoring Locations, Frequency and Monitoring Parameters

3.2.1 Groundwater Monitoring

In accordance with the ECA, semi-annual (spring and fall) groundwater monitoring and sampling is required. Two on-site groundwater monitoring wells, SB1-03 and SB2-03 (installed in 2003) were monitored for groundwater flow and quality. SB1-03 and SB2-03 were drilled to a bottom depth of 11.6 mbgs and 8.1 mbgs, respectively. Both monitoring wells are screened in a medium grained sand overburden unit. Table 2 summarizes the GPS coordinates and location descriptions of the groundwater monitoring wells. Monitoring well logs are included in **Appendix C**.

Table 2: Groundwater Monitor Well Details

Sample Location	Northing[1]	Easting[1]	Elevation[2] (TPVC)	Location Description
SB1-03	5026738	290701	100.783	66 m northwest of the closed waste disposal area
SB2-03	5026721	290684	98.416	30 m northwest of the closed waste disposal area

Notes:

[1] UTM Zone 18, NAD 83

[2] Elevation data is geodetic based on a site survey conducted in the fall of 2015.

During the spring and fall 2025 monitoring events, the conditions of groundwater monitoring wells were inspected. Any repairs, such as new locks, labels or well caps, were made as necessary. Watertight casings and seals remain in place at all monitors to ensure that surface water or foreign materials cannot enter groundwater monitoring wells. All groundwater monitoring wells are fitted with a vermin proof cap to meet the requirements of Ontario Regulation 903 and are locked to provide protection against vandalism and are in line with industry best practices.

The suite of chemical parameters in the groundwater monitoring program at the Site is outlined in Table 3.

Table 3: Groundwater Quality Monitoring Parameters

Category	Parameters
Organic Parameters	Dissolved Organic Carbon (DOC)
Inorganic Parameters	Nitrate, Ammonia, Chloride, Major Ions (Sodium, Potassium, Calcium, Magnesium, Sulphate, Alkalinity)
Soluble Metals	Iron, Chromium, Copper, Lead, Cadmium, Boron, Barium, Aluminum, Beryllium, Cobalt, Manganese, Molybdenum, Nickel, Silicon, Silver, Strontium, Thallium, Titanium, Vanadium, Zinc
Physical/Chemical Parameters	pH, Conductivity, Total Dissolved Solids (TDS), Chemical Oxygen Demand (COD)

Monitoring wells SB1-03 and SB2-03 were dry during both monitoring events in 2025. Historically these wells have been dry, and this continued in 2025. Since groundwater elevation data was not available for 2025, the hydraulic gradient and groundwater flow direction could not be determined. Formal permission was requested in 2022 to decommission the groundwater wells due to consistently dry conditions since they were installed in 2003, and the absence of apparent WDS impacts in surface water quality as stated by the MECP in **Appendix A-3** and **Appendix A-4**. The MECP responded by email in June 2023 and indicated that monitoring wells should continue to be monitored in early spring after freshet for another five years (i.e., until 2028).

3.2.2 Surface Water Monitoring

Historically, surface water has not been collected at the Site. As part of the ECA Amendment to convert to a WTS, three surface water locations were requested by the MECP to be established on the intermittent creek northwest of the Site. This sampling was to confirm that there are no surface water impacts from the Site. Based on the analytical results from the annual surface water sampling events conducted in the spring from 2017 to 2020 (provided in **Appendix E**), the MECP confirmed that surface water sampling was no longer required as of 2021. Evidence of this approval is provided in **Appendix A-3** and **Appendix A-4**. The three former surface water sampling stations are shown on Figure 02 and are described in Table 4 for information purposes only.

Table 4: Former Surface Water Monitoring Locations

Location	Northing[1]	Easting[1]
SB-SW1	5026967	290636
SB-SW2	5026820	290535
SB-SW3	5026862	290356

Note:

[1] UTM Zone 18, NAD 83, collected with a handheld GPS unit, accuracy +/-5 m.

3.2.3 Landfill Gas Monitoring

The primary gas present at landfill sites is methane. Methane cannot cause an explosion unless it accumulates to a concentration above its lower explosive limit (LEL) in an enclosed area. The LEL for methane is 5% in air. Ontario Regulation 232/98 methane concentration limits are:

- Less than 2.5% methane gas (25,000 parts per million [ppm], LEL=50%) in the subsurface at the property;
- Less than 1.0% methane gas (10,000 ppm, LEL-20%) in an on-site building, or its foundation; and
- Less than 0.05 % methane gas (500 ppm, LEL=1%) in a building, or its foundation, which is located off-site.

Routine landfill gas monitoring within any buildings or structures is required at the Sand Bay WTS.

3.3 Monitoring Procedures and Methods

3.3.1 Groundwater Monitoring

All groundwater monitors were dry during both sampling events in 2025. Groundwater monitoring wells were checked using a Solinst water level tape.

3.3.2 Landfill Gas Monitoring

There are no sampling valves, ports, or vapour monitors on-site. Gas monitoring using an RKI Eagle gas monitor was conducted at the on-site Attendant's building and from the two on-site monitoring wells during both sampling events in 2025. Gas monitoring measurements from the building are collected by inserting the intake of the gas monitoring equipment through a small hole or gap within the structures while the structure remains closed. Gas monitoring measurements from the groundwater monitoring wells are collected by inserting the intake of the gas monitoring equipment under the cap of the monitoring well prior to removal of the cap and by keeping the best seal possible around the cap and gas equipment intake.

4 Monitoring Results

4.1 Landfill Gas Monitoring

Gas readings collected on April 24, 2025, recorded 0 ppm at SB1-03 and 0 ppm at SB2-03. Gas readings collected on October 20, 2025, recorded 0 ppm at SB1-03 and 0 ppm at SB2-03. Gas

readings collected from the Attendant's building were 15 ppm on April 24, 2025, and 0 ppm on October 20, 2025.

5 Assessment, Interpretation, and Discussion

5.1 Landfill Gas Monitoring

The RKI Eagle gas monitoring results for 2025 were less than 15 ppm at all locations, indicating methane gas concentrations are well below concentrations of concern (10,000 ppm) for the subsurface, buildings, and structures on-site.

6 On-Site Operations

6.1 Site Operations

The Sand Bay WTS currently collects waste in covered waste bins (8 cubic yards). The waste is periodically picked up and transferred to one of the other WDS operated by the MHHs.

The Site has segregated collection areas for scrap metal, tires, large bulky items (couches and mattresses), electronic waste and a recycling transfer station (8 cubic yard bin) for household blue box recyclable containers (aluminum cans, metal cans, plastic bottles) and fibre (paper and cardboard). The Municipality implemented a clear bag policy in October 2014, updated in 2019 to facilitate increased waste diversion in an effort to extend the operational life of their municipal landfill sites. The clear bag policy applies to recyclable waste.

6.2 Annual Waste Summary

The annual recycling (R) and waste (W) tonnages for 2024 and 2025, excluding the segregated materials discussed in Section 6.2.1, are tabulated in Table 5. Tonnages for waste and recycled goods are monitored to ensure that recyclables are not being disposed of in landfills. Based on the assumed recycling values for the entire year, it is estimated a total of 24.2% of residential waste, excluding the segregated materials discussed in Section 6.2.1, was recycled in 2025. There were 3070 waste bags deposited at the Sand Bay WTS in 2025. Waste tonnage calculations assumed a density of 15 kg/bag (MHHs).

Table 5: Annual Recycling and Waste Tonnages

Q1		Q2		Q3		Q4		Total Tonnes	
2024									
R	**W**	**R**	**W**	**R**	**W**	**R**	**W**	**R**	**W**
2.17	6.9	2.6	10.5	6.0	18.8	4.0	7.9	**14.8**	**44.1**
2025									
R	**W**	**R**	**W**	**R**	**W**	**R**	**W**	**R**	**W**
1.52	5.0	3.0	11.9	4.3	21.7	2.5	8.1	**11.3**	**46.7**

Based on these reported quantities, the mass of recyclables collected in 2025 is approximately 23% less than in 2024. The amount of waste increased approximately 5.9% since 2024. The Municipality should continue to record daily and weekly waste and recycling quantities for the Site.

6.2.1 Summary of Segregated Materials Removal

Segregated materials are collected at each of the nine WDS/ WTS in the Municipality of Hastings Highlands. At Sand Bay WTS, 3 tires were collected in 2025. No electronic waste, batteries, scrap metal, or bulky items (e.g., couches or mattresses) were collected in 2025.

6.3 Annual Complaints, Rejected Wastes, and Emergencies Summary

There were no documented complaints, rejected waste, or emergency situations reported for the Site in 2025.

7 Summary Statements, Conclusions, and Recommendations

The following summary statements, conclusions and recommendations are based on the results of the 2025 monitoring program:

7.1 Site Operations

- Site observations indicate that the conversion, closure, and set-up of the WTS at the Site have resulted in a very well organized, tidy WTS with a reduction of wind-blown litter.
- Accounts of public concerns and/or complaints and emergency situation occurrences with regard to the Sand Bay WTS and the Municipality's response to each should continue to be recorded and kept on file.
- There were no documented complaints or rejected waste at the Sand Bay WTS and there were no emergency situations in 2025.

- Clean brush and lumber have been historically accepted at the Site, however upon conversion to the WTS, clean brush is no longer accepted.
- Public Education with respect to waste reduction and recycling should be an on-going effort by the Municipality.
- The Municipality should continue to record daily and weekly waste and recycling quantities for the Site.
- As the last topographic survey of the site was conducted in 2017, it is recommended that a new topographic drone survey be conducted in 2026.
- The Land Use Permit No. 1634-10041-90 dated June 1, 2016, that allows for use of the land as a WTS is in effect until May 31st, 2026. This permit will need to be renewed for continued Site operation.

7.2 Groundwater

- It is likely that precipitation or snow-melt infiltrates quickly into the ground due to the high permeability of medium sand, moves downwards until it reaches the impermeable granite and then discharges into local surface water bodies.
- Groundwater quality should continue to be monitored in early spring after freshest until 2028 and the MECP will be informed if groundwater is encountered in the monitoring wells.
- The analytical parameters in Table 3 are sufficient for 2026, should groundwater be sampled.

7.3 Surface Water

- No recommendations as surface water monitoring is no longer conducted at the Site.

7.4 Landfill Gas

- The RKI Eagle gas monitoring results for 2025 were less than 15 ppm at all monitoring locations for both spring and fall sampling events, indicating that methane gas concentrations are well below the concentrations of concern as identified above for the subsurface, buildings and structures on-site.
- Landfill gas should continue to be monitored at the on-site structures during the semi-annual monitoring events.

8 Limiting Conditions

The conclusions presented in this report represent our professional opinion and are based upon the work described in this report and any limiting conditions in the terms of reference, scope of work, or conditions noted herein.

The findings presented in this report are based on conditions observed at the specified dates and locations, the analysis of samples for the specified parameters, and information obtained for this project. Unless otherwise stated, the findings cannot be extended to previous or future site conditions, locations that were not investigated directly, or types of analysis not performed.

BluMetric Environmental Inc. makes no warranty as to the accuracy or completeness of the information provided by others, or of conclusions and recommendations predicated on the accuracy of that information.

This report has been prepared for The Corporation of the Municipality of Hastings Highlands. Any use a third party makes of this report, any reliance on the report, or decisions based upon the report, are the responsibility of those third parties unless authorization is received from BluMetric Environmental Inc. in writing. BluMetric Environmental Inc. accepts no responsibility for any loss or damages suffered by any unauthorized third party as a result of decisions made or actions taken based on this report.

Respectfully submitted,
BluMetric Environmental Inc.

Nathan Wilson, B.A.Sc.
Engineering Intern

LICENSED PROFESSIONAL ENGINEER
S.A. SCHOLES
100009732
03/25/2026
PROVINCE OF ONTARIO

S'rana Scholes, B.A.Sc., P.Eng.
Senior Environmental Engineer

9 References

BluMetric Environmental Inc., 2022 Annual Monitoring Report Sand Bay Waste Transfer Station Environmental Compliance Approval No. A361111. March 2023.

Groundwater Information Network, 2023. http://gw-info.net/

Ministry of the Environment (MOE), Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water-Technical Guidance Document, November 2010.

Ministry of the Environment, Conservation and Parks (MECP), Map: Well records, December 2023.

Ministry of Northern Development and Mines (MNDM), Map 2544, 1991.

Ministry of Northern Development and Mines (MNDM), Map 2556, 1991.

Figures



LEGEND

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

PROPRIETARY INFORMATION MAY NOT BE REPRODUCED OR DIVULGED WITHOUT PRIOR WRITTEN CONSENT OF BLUMETRIC ENVIRONMENTAL INC.

DO NOT SCALE DRAWING.
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0 — 1250 — 2500
Meters — 1:50000

THIS SCALE TO BE USED TO OBTAIN APPROXIMATE DIMENSIONS FOR INFORMATION

N W E S

CLIENT

Municipality of Hastings Highlands

PROJECT

Sand Bay Waste Transfer Site

TITLE

SITE LOCATION MAP

BluMetric™ Environmental

The Tower - The Woolen Mill
4 Cataraqui Street,
Kingston, Ontario, K7K 1Z7
TEL: (613) 531-2725
FAX: (613) 531-1852
Email: info@blumetric.ca
Web: http://www.blumetric.ca

PROJECT #	DATE
250253-02	2026-01-16

DRAWN	CHECKED	DWG NO.	REV
EB	NW	01	0

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LEGEND

MWSB1-03 — **MONITORING WELL LOCATIONS**

FORMER SURFACE WATER SAMPLING LOCATION

EXISTING SITE PROPERTY BOUNDARY (PA MILLER, 2013)

30 m BUFFER AROUND DEPOSITED WASTE AND EAST PROPERTY BOUNDARY

FINAL LANDFILL FOOTPRINT

MUNICIPAL PROPERTY (CONCESSION 7, LOT 29)

TREELINE

NOTES:

BACKGROUND IMAGERY CAPTURED JULY 27, 2017 (PRE-CLOSURE)

Measured footprint is 0.67 ha (BluMetric, 2015)

GPS Coordinates:

1. **Main Entrance: 290699E, 5026603N**
2. **Southwest Corner:290679E 5026714N**

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

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0 — 50 — 100
Meters — 1:2000

N / W / E / S

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CLIENT

Municipality of Hastings Highlands

PROJECT

Sand Bay Waste Transfer Site

TITLE

SITE PLAN

The Tower - The Woolen Mill
4 Cataraqui Street,
Kingston, Ontario, K7K 1Z7
TEL: (613) 531-2725
FAX: (613) 531-1852
Email: info@blumetric.ca
Web: http://www.blumetric.ca

PROJECT #	DATE
250253-02	2026-01-16

DRAWN	CHECKED	DWG NO.	REV
EB	NW	02	0

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Site Photographs



Photo 1: Front signage – April 24, 2025



Photo 2: Front signage and secure gate – April 24, 2025



Photo 3: Waste and recycling collection bins – April 24, 2025



Photo 4: Vegetated mound – April 24, 2025



Photo 5: Tire recyclables – April 24, 2025



Photo 6: Metal and steel recyclables – April 24, 2025



Phot 7: Bulk waste – April 24, 2025



Photo 8: Electronic waste and Attendant's Building– April 24, 2025



Photo 9: Front signage – October 20, 2025



Photo 10: Front signage and front gate – October 20, 2025



Photo 11: Waste and Recycling collection bins – October 20, 2025



Photo 12: Vegetated mound – October 20, 2025



Photo 13: Tire recyclables – October 20, 2025



Photo 14: Metal and steel recyclables – October 20, 2025



Photo 15: Bulk waste – October 20, 2025

Appendix A

A-1 Environmental Compliance Approval

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER A361111
Issue Date: May 18, 2017

The Corporation of the Municipality of Hastings Highlands
33011 Highway 62 N
Post Office Box, No. 130
Maynooth, Ontario
K0L 2S0

Site Location: Sand Bay WDS
16 Runnalls Lane
Lot Part of 28, Concession 7
Hastings Highlands Municipality, County of Hastings

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

the use and operation of 0.67 hectare waste disposal/transfer site within a total site area of 2.65 hectares.

For the purpose of this environmental compliance approval, the following definitions apply:

- *"Approval"* means this Environmental Compliance Approval and any Schedules to it, including the application and supporting documentation listed in Schedule "A";
- *"Director"* means any *Ministry* employee appointed in writing by the Minister pursuant to section 5 of the EPA as a Director for the purposes of Part II.1 of the *EPA;*
- *"District Manager"* means the District Manager of the local district office of the *Ministry* in which the *Site* is geographically located;
- *"EPA"* means *Environmental Protection Act* , R.S.O. 1990, c. E. 19, as amended;
- *"Ministry"* means the Ontario Ministry of the Environment and Climate Change;
- *"NMA"* means *Nutrient Management Act* , 2002, S.O. 2002, c. 4, as amended;
- *"Operator"* means any person, other than the *Owner's* employees, authorized by the *Owner* as

having the charge, management or control of any aspect of the *Site* and includes its successors or assigns;

- *"Owner"* means any person that is responsible for the establishment or operation of the *Site* being approved by this *Approval,* and includes the Corporation of the Municipality of Hastings Highlands and its successors and assigns;

- *"OWRA"* means the *Ontario Water Resources Act* , R.S.O. 1990, c. O.40, as amended;

- *"PA"* means the *Pesticides Act* , R.S.O. 1990, c. P-11, as amended;

- *"Provincial Officer"* means any person designated in writing by the Minister as a provincial officer pursuant to Section 5 of the *OWRA,* Section 5 of the *EPA,* Section 17 of the *PA,* Section 4 of the *NMA,* or Section 8 of the *SDWA;*

- *"Refrigerant Appliances"* means household appliances which use, or may use refrigerants, and which include, but is not restricted to, refrigerators, freezers and air-conditioning systems;

- *"Regional Director"* means the Regional Director of the local Regional Office of the *Ministry* in which the *Site* is located;

- *"Regulation 347"* means Regulation 347, R.R.O. 1990, made under the EPA, as amended;

- *"Regulation 903"* means Regulation 903, R.R.O. 1990, made under the *OWRA,* as amended;

- *"SDWA"* means *Safe Drinking Water Act,* 2002, S.O. 2002, c. 32, as amended;

- *"Site"* means the entire waste disposal site, including the buffer lands, and contaminant attenuation zone at Sand Bay WDS, 16 Runnalls Lane, Lot Part of 28, Concession 7, Hastings Highlands Municipality (former Bangor Township), County of Hastings; and

- *"Trained Personnel"* means personnel knowledgeable in the following through instruction and/or practice:
    - relevant waste management legislation, regulations and guidelines;
    - major environmental concerns pertaining to the waste to be handled;
    - occupational health and safety concerns pertaining to the processes and wastes to be handled;
    - management procedures including the use and operation of equipment for the processes and wastes to be handled;
    - emergency response procedures;
    - specific written procedures for the control of nuisance conditions;
    - specific written procedures for refusal of unacceptable waste loads; and
    - the requirements of this *Approval.*

"Transfer Station" means the infrastructure comprising of roll off bins, containers and designated areas for large items as described in documents in Schedule "A".

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL

Compliance

(1) The *Owner* and *Operator* shall ensure compliance with all the conditions of this *Approval* and shall ensure that any person authorized to carry out work on or operate any aspect of the *Site* is notified of this *Approval* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

(2) Any person authorized to carry out work on or operate any aspect of the *Site* shall comply with the conditions of this *Approval.*

In Accordance

(3) Except as otherwise provided by this *Approval,* the *Site* shall be designed, developed, built, operated and maintained in accordance with the documentation listed in the attached Schedule "A".

Interpretation

(4) Where there is a conflict between a provision of any document listed in Schedule "A" in this *Approval,* and the conditions of this *Approval,* the conditions in this *Approval* shall take precedence.

(5) Where there is a conflict between the application and a provision in any document listed in Schedule "A", the application shall take precedence, unless it is clear that the purpose of the document was to amend the application and that the *Ministry* approved the amendment.

(6) Where there is a conflict between any two documents listed in Schedule "A", the document bearing the most recent date shall take precedence.

(7) The conditions of this *Approval* are severable. If any condition of this *Approval,* or the application of any condition of this *Approval* to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this *Approval* shall not be affected thereby.

Other Legal Obligations

(8) The issuance of, and compliance with, this *Approval* does not:

(a) relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement; or

(b) limit in any way the authority of the *Ministry* to require certain steps be taken or to require the *Owner* and *Operator* to furnish any further information related to compliance with this *Approval.*

Adverse Effect

(9) The *Owner* and *Operator* shall take steps to minimize and ameliorate any adverse effect on the natural environment or impairment of water quality resulting from the *Site,* including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.

(10) Despite an *Owner, Operator* or any other person fulfilling any obligations imposed by this *Approval* the person remains responsible for any contravention of any other condition of this *Approval* or any applicable statute, regulation, or other legal requirement resulting from any act or omission that caused the adverse effect to the natural environment or impairment of water quality.

Change of Ownership

(11) The *Owner* shall notify the *Director,* in writing, and forward a copy of the notification to the *District Manager,* within 30 days of the occurrence of any changes in the following information:

(a) the ownership of the *Site;*

(b) the *Operator* of the *Site;*

(c) the address of the *Owner or Operator;* and

(d) the partners, where the *Owner or Operator* is or at any time becomes a partnership and a copy of the most recent declaration filed under the *Business Names Act* , R. S. O. 1990, c. B.17, shall be included in the notification.

(12) No portion of this *Site* shall be transferred or encumbered prior to or after closing of the *Site* unless the *Director* is notified in advance and sufficient financial assurance is deposited with the *Ministry* to ensure that these conditions will be carried out.

(13) In the event of any change in ownership of the *Site,* other than change to a successor municipality, the *Owner* shall notify the successor of and provide the successor with a copy of this *Approval,* and the *Owner* shall provide a copy of the notification to the *District Manager* and the *Director.*

Registration on Title Requirement

(14) Prior to dealing with the property in any way, the *Owner* shall provide a copy of this *Approval* and any amendments, to any person who will acquire an interest in the property as a result of the dealing.

(15) (a) If the *Site* is patented, the *Owner* shall, within three (3) years of receiving the patent for the land occupying the waste disposal site, submit to the *Director* a completed Certificate of Requirement which shall include:

(i) a plan of survey prepared, signed and sealed by an Ontario Land Surveyor, which shows the area of the *Site* where waste has been or is to be deposited at the *Site;*
(ii) proof of ownership of the *Site;*
(iii) a letter signed by a member of the Law Society of Upper Canada or other qualified legal practitioner acceptable to the *Director,* verifying the legal description provided in the Certificate of Requirement;
(iv) the legal abstract of the property; and
(v) any supporting documents including a registerable description of the *Site.*

(b) Within fifteen (15) calendar days of receiving a Certificate of Requirement authorized by the *Director,* the *Owner* shall:
(i) register the Certificate of Requirement in the appropriate Land Registry Office on the title to the property; and
(ii) submit to the *Director* and the *District Manager,* written verification that the Certificate of Requirement has been registered on title.

Inspections by the Ministry

(16) No person shall hinder or obstruct a *Provincial Officer* from carrying out any and all inspections authorized by the *OWRA,* the *EPA,* the *PA,* the *SDWA* or the *NMA,* of any place to which this *Approval* relates, and without limiting the foregoing:
(a) to enter upon the premises where the approved works are located, or the location where the records required by the conditions of this *Approval* are kept;
(b) to have access to, inspect, and copy any records required to be kept by the conditions of this *Approval;*
(c) to inspect the *Site,* related equipment and appurtenances;
(d) to inspect the practices, procedures, or operations required by the conditions of this *Approval;* and
(e) to sample and monitor for the purposes of assessing compliance with the terms and conditions of this *Approval* or the *EPA,* the *OWRA,* the *PA,* the *SDWA* or the *NMA.*

Information and Record Retention

(17) (a) Except as authorized in writing by the *Director,* all records required by this *Approval* shall be retained at the *Site* for a minimum of two (2) years from their date of creation.

(b) The *Owner* shall retain all documentation listed in Schedule "A" for as long as this *Approval* is valid.

(c) All monthly summary reports of waste records collected are to be kept at the *Site* until they are included in the Annual Report.

(d) The *Owner* shall retain employee training records as long as the employee is working at the *Site.*

(e) The *Owner* shall make all of the above documents available for inspection upon request of *Ministry* staff.

(18) The receipt of any information by the *Ministry* or the failure of the *Ministry* to prosecute any person or to require any person to take any action under this *Approval* or under any statute, regulation or other legal requirement, in relation to the information, shall not be construed as:

(a) an approval, waiver, or justification by the *Ministry* of any act or omission of any person that contravenes any term or condition of this *Approval* or any statute, regulation or other legal requirement; or

(b) acceptance by the *Ministry* of the information's completeness or accuracy.

(19) The *Owner* shall ensure that a copy of this *Approval,* in its entirety and including all its Notices of Amendment, and documentation listed in Schedule "A", are retained at the *Site* at all times.

(20) Any information related to this *Approval* and contained in *Ministry* files may be made available to the public in accordance with the provisions of the Freedom of Information and Protection of Privacy Act, RSO 1990, CF-31.

2. SITE OPERATION

Operation

(1) The *Site* shall be operated and maintained at all times including management and disposal of all waste, in accordance with the *EPA, Regulation 347,* and the conditions of this *Approval.* At no time shall the discharge of a contaminant that causes or is likely to cause an adverse effect be permitted.

Signage

(2) A sign shall be posted and maintained at the *Transfer Station* in a manner that is clear and legible, and shall include the following information:

(a) the name of the *Transfer Station* and *Owner;*
(b) this *Approval* number;
(c) the name of the *Operator;*
(d) the normal hours of operation;
(e) the allowable and prohibited waste types;
(f) a telephone number to which complaints may be directed;
(g) a twenty-four (24) hour emergency telephone number (if different from above); and
(h) a warning against dumping outside the *Transfer Station.*

(3) The *Owner* shall install and maintain signs to direct vehicles to appropriate areas.

(4) All waste storage containers at the *Transfer Station* shall have a label or sign clearly identifying the contents.

Vermin, Vectors, Dust, Litter, Odour, Noise and Traffic

(5) The *Site* shall be operated and maintained such that the vermin, vectors, dust, litter, odour, noise and traffic do not create a nuisance.

(6) If at any time noise and vibration nuisances are generated at the *Transfer Station,* resulting in complaints received by this *Ministry* and validated by a Provincial Officer, the *Owner* shall take remedial action immediately.

Burning Waste Prohibited

(7) Burning of waste at the *Site* is prohibited.

Hours of Operation

(8) Waste shall only be accepted from the public during the following time periods:

Summer (May long weekend to Thanksgiving Day)
Saturday : 12:00 p.m. - 5:00 p.m.
Tuesday : 7 a.m. - 12:00 p.m.

Winter (Thanksgiving Day to May long weekend)
Saturday : 12:00 p.m. - 5:00 p.m.

(9) Waste transfer from the Site and operation of on-site equipment for site preparation and

closing activities shall only be conducted from 7 a.m. to 7 p.m. Monday to Friday.

(10) With the prior written approval of the *District Manager,* the time periods may be extended to accommodate seasonal or unusual quantities of waste.

Site Security

(11) No waste shall be received, processed or removed from the *Site* unless a site supervisor or an attendant is present and supervises the operations during operating hours. The *Site* shall be closed when a site attendant is not present to supervise landfilling operations.

(12) The *Transfer Station* shall be operated and maintained in a safe and secure manner. During non-operating hours, the *Site* entrance and exit gates shall be locked and the *Site* shall be secured against access by unauthorized persons.

3. EMPLOYEE TRAINING

(1) A training plan for all employees that operate any aspect of the *Site* shall be developed and implemented by the *Owner* or the *Operator.* Only *Trained Personnel* shall operate any aspect of the *Site* or carry out any activity required under this *Approval.*

4. COMPLAINTS RESPONSE PROCEDURE

(1) If at any time the *Owner* receives complaints regarding the operation of the *Site,* the *Owner* shall respond to these complaints according to the following procedure:

(a) The *Owner* shall record and number each complaint, either electronically or in a log book, and shall include the following information: the nature of the complaint, the name, address and the telephone number of the complainant if the complainant will provide this information and the time and date of the complaint;

(b) The *Owner,* upon notification of the complaint, shall initiate appropriate steps to determine possible causes of the complaint, proceed to take the necessary actions to eliminate the cause of the complaint and forward a formal reply to the complainant; and

(c) The *Owner* shall complete and retain on-site a report written within one (1) week of the complaint date, listing the actions taken to resolve the complaint and any recommendations for remedial measures, and managerial or operational changes to reasonably avoid the recurrence of similar incidents.

5. EMERGENCY RESPONSE

(1) All Spills as defined in the *EPA* shall be immediately reported to the **Ministry's Spills**

Action Centre at 1-800-268-6060 and shall be recorded in the log book as to the nature of the emergency situation, and the action taken for clean-up, correction and prevention of future occurrences.

(2) In addition, the *Owner* shall submit, to the *District Manager* a written report within three (3) business days of the emergency situation, outlining the nature of the incident, remedial measures taken, handling of waste generated as a result of the emergency situation and the measures taken to prevent future occurrences at the *Site.*

(3) All wastes resulting from an emergency situation shall be managed and disposed of in accordance with *Reg. 347.*

(4) All equipment and materials required to handle the emergency situations shall be:
- (a) kept on hand at all times that waste handling is undertaken at the *Site;* and
- (b) adequately maintained and kept in good repair.

(5) The *Owner* shall ensure that the emergency response personnel are familiar with the use of such equipment and its location(s).

6. INSPECTIONS, RECORD KEEPING AND REPORTING

Daily Log Book

(1) A daily log shall be maintained in written or electronic format and shall include the following information:
- (a) the type, date and time of arrival, hauler, and quantity (tonnes) of all waste received and transferred;
- (b) Quantities and destination of each type of waste shipped from the *Site;*
- (c) a record of litter collection activities and the application of any dust suppressants;
- (d) a record of the daily inspections; and
- (e) a description of any out-of-service period of any control, disposal or monitoring facilities, the reasons for the loss of service, spills at the *Site* and action taken to restore and maintain service.

(2) Any information requested, by the *Director* or a *Provincial Officer,* concerning the *Site* and its operation under this *Approval,* including but not limited to any records required to be kept by this *Approval* shall be provided to the *Ministry,* upon request.

Daily Inspections and Log Book

(3) An inspection of the entire *Site* and all equipment on the *Site* shall be conducted each day the *Site* is in operation to ensure that: the *Site* is secure; that the operation of the *Site* is not causing any nuisances; that the operation of the *Site* is not causing any adverse effects on the environment and that the *Site* is being operated in compliance with this

Approval. Any deficiencies discovered as a result of the inspection shall be remedied immediately, including temporarily ceasing operations at the *Site* if needed.

(4) A record of the inspections shall be kept in a daily log book that includes:
- (a) the name and signature of person that conducted the inspection;
- (b) the date and time of the inspection;
- (c) the list of any deficiencies discovered;
- (d) the recommendations for remedial action; and
- (e) the date, time and description of actions taken.

(5) A record shall be kept in the daily log book of all refusals of waste shipments, the reason(s) for refusal, and the origin of the waste, if known.

Annual Report

(6) A written report on the development, operation and monitoring of the *Site,* shall be completed annually (the "Annual Report"). The Annual Report shall be submitted to the *District Manager,* by March 31st of the year following the period being reported upon.

(7) The Annual Report shall include but not be limited to the following information:

- (a) the results and an interpretive analysis of the results of all leachate, groundwater, surface water and landfill gas monitoring, including an assessment of the need to amend the monitoring programs;
- (b) an assessment of the operation and performance of all facilities, the need to amend the design or operation of the *Site,* and the adequacy of and need to implement the contingency plans;
- (c) site plans showing the existing contours of the *Site;* the progress of final cover, vegetative cover, and any intermediate cover application; facilities existing, added or removed during the reporting period; and site preparations and facilities planned for installation during the next reporting period;
- (d) calculations of the volume of final cover deposited or placed at the *Site* during the reporting period;
- (e) a summary of the weekly, maximum daily and total annual quantity (tonnes) of waste and recyclables received and transferred;
- (f) a summary of any complaints received and the responses made;
- (g) a discussion of any operational problems encountered at the *Site* and corrective action taken;
- (h) any changes to the Design and Operations Report and the Closure Plan that have been approved by the *Director* since the last *Annual Report;*
- (i) a report on the status of all monitoring wells and a statement as to compliance with *Ontario Regulation 903;* and
- (j) any other information with respect to the *Site* which the *District Manager* may require from time to time.

7. TRANSFER STATION DESIGN AND OPERATION

Approved Waste Types

(1) Only municipal waste as defined under *Reg.* 347 being solid non-hazardous shall be acceptedat the *Site* for transfer.

(2) Notwithstanding condition 7 (1) above the *Owner* may accept household batteries in a closed container for transfer.

Service Area

(3) Only waste that is generated within the boundaries of the Municipality of Hastings Highlands may be accepted at the *Site.*

Design, Operation and Maintenance Report

(4) The Design, Operation and Maintenance of the *Transfer Station* shall be in accordance with the documents in Schedule "A".

(5) The Design, Operations and Maintenance Report shall be retained at the *Site,* kept up to date through periodic revisions, and made available for inspection by *Ministry* staff. Changes to the Design, Operations and Maintenance Report shall be submitted to the *Director* for approval.

(6) The *Owner* shall ensure that:
- (a) all bins and waste storage areas are clearly labelled;
- (b) all lids or doors on bins shall be kept closed during non-operating hours and during high wind events; and
- (c) if necessary to prevent litter, waste storage areas shall be covered during high winds events.

(7) The *Owner* shall provide a segregated area for the storage of *Refrigerant Appliances* so that the following are ensured:
- (a) all *Refrigerant Appliances* have been tagged to indicate that the refrigerant has been removed by a licensed technician. The tag number shall be recorded in the log book and shall remain affixed to the appliance until transferred from the *Site;* **or**
- (b) all *Refrigerant Appliances* accepted at the *Site,* which have not been tagged by a licensed technician to verify that the equipment no longer contains refrigerants, are stored segregated, in a clearly marked area, in an upright position and in a manner which allows for the safe handling and transfer from the *Site* for removal of refrigerants as required by O.Reg. 189; and

(c) all *Refrigerant Appliances* received on-site shall either have the refrigerant removed prior to being transferred from the *Site* or shall be shipped off-site only to facilities where the refrigerants can be removed by a licensed technician in accordance with O.Reg. 189.

(8) The *Owner* shall transfer waste and recyclable materials from the *Site* as follows:
(a) recyclable materials shall be transferred off-site once their storage bins are full;
(b) scrap metal shall be transferred off-site at least twice a year;
(c) tires shall be transferred off-site as soon as a load for the contractor hired by the *Owner* has accumulated or as soon as the accumulated volume exceeds the storage capacity of its bunker; and
(d) immediately, in the event that waste is creating an odour or vector problem.

(9) Collection, storage and transfer of Waste Electrical and Electronic Equipment shall be in accordance with the documents in the Schedule "A". If there is any discrepancy between the guideline titled "Collection Site Organizing & Operating Waste Electrical and Electronic Equipment (WEEE) Guidebook" dated November 2012 as amended prepared by Ontario Electronic Stewardship and the documents in Schedule "A", the guideline shall take precedence.

8. LANDFILL MONITORING

Landfill Gas

(1) The *Owner* shall ensure that any buildings or structures at the *Site* contain adequate ventilation systems to relieve any possible landfill gas accumulation to prevent methane concentration reaching the levels within its explosive range. Routine monitoring for explosive methane gas levels shall be conducted in all buildings or structures at the *Site,* especially enclosed structures which at times are occupied by people.

Compliance

(2) The *Site* shall be operated in such a way as to ensure compliance with the following:

(a) Reasonable Use Guideline B-7 for the protection of the groundwater at the *Site;* and

(b) Provincial Water Quality Objectives included in the July 1994 publication entitled *Water Management Policies, Guidelines, Provincial Water Quality Objectives,* as amended from time to time or limits set by the *Regional Director,* for the protection of the surface water at and off the *Site.*

Surface Water and Groundwater

(3) The *Owner* shall monitor surface water and ground water in accordance with the monitoring programs outlined in documents listed in the attached Schedule "A".

(4) A certified Professional Geoscientist or Engineer possessing appropriate hydrogeologic training and experience shall execute or directly supervise the execution of the groundwater monitoring and reporting program.

Groundwater Wells, Monitors and Contingency Plans

(5) The *Owner* shall ensure that all groundwater monitoring wells which form part of the monitoring program are properly capped, locked and protected from damage.

(6) Any groundwater monitoring well included in the on-going monitoring program that is damaged shall be assessed, repaired, replaced or decommissioned by the *Owner,* as required.

(a) The *Owner* shall repair or replace any monitoring well which is destroyed or in any way made to be inoperable for sampling such that no more than one regular sampling event is missed.

(b) All monitoring wells which are no longer required as part of the groundwater monitoring program, and have been approved by the *Director* for abandonment, shall be decommissioned by the *Owner,* as required, in accordance with *O.Reg. 903,* to prevent contamination through the abandoned well. A report on the decommissioning of the well shall be included in the Annual Report for the period during which the well was decommissioned.

(7) Should impacts from the waste site be observed, the *Owner* shall establish details of a trigger mechanisms and contingency plan for surface water and groundwater quality in consultation with the *District Manager* for the purpose of initiating investigative activities into the cause of increased contaminant concentrations.

(8) In the event of a confirmed exceedance of a site-specific trigger level relating to leachate mounding or groundwater or surface water impacts due to leachate, the *Owner* shall immediately notify the *District Manager,* and an investigation into the cause and the need for implementation of remedial or contingency actions shall be carried out by the *Owner* in accordance with the approved trigger mechanisms and associated contingency plans.

(9) If monitoring results, investigative activities and/or trigger mechanisms indicate the need to implement contingency measures, the *Owner* shall ensure that the following steps are taken:

(a) The *Owner* shall notify the *District Manager,* in writing of the need to implement contingency measures, no later than 30 days after confirmation of the exceedances;

(b) Detailed plans, specifications and descriptions for the design, operation and maintenance of the contingency measures shall be prepared and submitted by the *Owner* to the *Director* for approval; and

(c) The contingency measures shall be implemented by the *Owner* upon approval by the *Director.*

(10) The *Owner* shall ensure that any proposed changes to the site-specific trigger levels for leachate impacts to the surface water or groundwater, are approved in advance by the *Director* via an amendment to this *Approval.*

Changes to the Monitoring Plan

(11) The *Owner* may request to make changes to the monitoring program(s) to the *District Manager* in accordance with the recommendations of the annual report. The *Owner* shall make clear reference to the proposed changes in a separate letter that shall accompany the annual report.

(12) Within fourteen (14) days of receiving the written correspondence from the *District Manager* confirming that the *District Manager* is in agreement with the proposed changes to the environmental monitoring program, the *Owner* shall forward a letter identifying the proposed changes and a copy of the correspondences from the *District Manager* and all other correspondences and responses related to the changes to the monitoring program, to the *Director* requesting the *Approval* be amended to approve the proposed changes to the environmental monitoring plan prior to implementation.

(13) In the event any other changes to the environmental monitoring program are proposed outside of the recommendation of the annual report, the *Owner* shall follow current *Ministry* procedures for seeking approval for amending the *Approval.*

9. CLOSURE PLAN

(1) The closure plan titled "Sand Bay Waste Disposal Site, Closure Plan" dated April 2016 is hereby approved.

(2) The *Site* shall be closed in accordance with the closure plan as approved by the *Director.*

(3) This landfill is now closed and no waste shall be accepted for disposal at the *Site.*

SCHEDULE "A"

1. Site Plan entitled "Provisional Certificate No. A361111, Lot 28, Conc. 7, Township of Bangor, Hastings County, dated October 22, 1979.

2. Letter from J.W. Tooley to R.M. Sears, Clerk - Treasurer, dated August 29, 1974.

3. Environmental Compliance Approval Application dated April 14, 2016 and signed by Pat Pilgrim, the Corporation of the Municipality of Hastings Highlands, including the attached supporting documentation.

4. The closure plan titled "Sand Bay Waste Disposal Site, Closure Plan" dated April 2016 prepared by BluMetric Environmental Inc.

5. Report Titled "Sand Bay, Waste Transfer Station, Design an Operations Plan" dated April 2016 prepared by BluMetric Environmental Inc.

6. Letter dated March 27, 2017 from Iris O'Connor, P.Eng., BluMetric Environmental Inc. to Ministry of the Environment and Climate Change, Environmental Approvals Branch.

The reasons for the imposition of these terms and conditions are as follows:

- The reason for Conditions 1(1), (2), (4), (5), (6), (7), (8), (9), (10), (17), (18) and (19) is to clarify the legal rights and responsibilities of the *Owner* and *Operator* under this *Approval.*

- The reasons for Condition 1(3) are to ensure that the *Site* is designed, operated, monitored and maintained in accordance with the application and supporting documentation submitted by the *Owner,* and not in a manner which the *Director* has not been asked to consider.

- The reasons for Condition 1(11) are to ensure that the *Site* is operated under the corporate name which appears on the application form submitted for this *approval* and to ensure that the *Director* is informed of any changes.

- The reasons for Condition 1(12) are to restrict potential transfer or encumbrance of the *Site* without the approval of the *Director* and to ensure that any transfer of encumbrance can be made only on the basis that it will not endanger compliance with this *Approval.*

- The reason for Condition 1(13) is to ensure that the successor is aware of its legal responsibilities.

- The reasons for Conditions 1(14) and (15) are that the Part II.1 *Director* is an individual with authority pursuant to Section 197 of the Environmental Protection Act to require registration on title and provide any person with an interest in property before dealing with the property in any way to give a copy of the *Approval* to any person who will acquire an interest in the property as a result of the dealing.

- The reason for Condition 1(16) is to ensure that appropriate Ministry staff has ready access to the Site for inspection of facilities, equipment, practices and operations required by the conditions in this *Approval.* This Condition is supplementary to the powers of entry afforded a Provincial Officer pursuant to the *Act,* the *OWRA,* the *PA,* the *NMA* and the *SDWA.*

- Condition 1 (20) has been included in order to clarify what information may be subject to the *Freedom of Information Act.*

- The reason for Conditions 2(1) to 2(3) inclusive is to specify the approved areas from which waste may be accepted at the *Site* and the types and amounts of waste that may be accepted for disposal at the *Site,* based on the *Owner's* application and supporting documentation.

- The reasons for Conditions 2(4), 2(8) and 6(3) are to ensure that the *Site* is operated, inspected and maintained in an environmentally acceptable manner and does not result in a hazard or nuisance to the natural environment or any person.

- The reason for Conditions 2 (5), 2(6) and 2(7) is to ensure that users of the *Site* are fully aware of important information and restrictions related to *Site* operations and access under this *Approval.*

- The reasons for Condition 2(9) are open burning of municipal waste is unacceptable because of concerns with air emissions, smoke and other nuisance effects and due to the potential fire hazard.

- The reasons for Condition 2(10), 2(11) and 2(12) are to specify the hours of operation for the landfill site and a mechanism for amendment of the hours of operation, as required.

- The reason for Condition 3(1) is to ensure that the *Site* is supervised and operated by properly trained staff in a manner which does not result in a hazard or nuisance to the natural environment or any person.

- The reason for Condition 4(1) is to ensure that any complaints regarding landfill operations at this *Site* are responded to in a timely and efficient manner.

- Conditions 5(1) and 5(2) are included to ensure that emergency situations are reported to the Ministry to ensure public health and safety and environmental protection.

- Conditions 5(3), 5(4) and 5(5) are included to ensure that emergency situations are handled in a manner to minimize the likelihood of an adverse effect and to ensure public health and safety and environmental protection.

- The reason for Conditions 6(1) and 6(2) is to ensure that accurate waste records are maintained to ensure compliance with the conditions in this *Approval* (such as fill rate, site capacity, record keeping, annual reporting, and financial assurance requirements), the *EPA* and its regulations.

- The reason for Conditions 6(4) and 6(5) is to ensure that detailed records of *Site* inspections are

recorded and maintained for inspection and information purposes.

- The reasons for Conditions 6(6) and 6(7) are to ensure that regular review of site development, operations and monitoring data is documented and any possible improvements to site design, operations or monitoring programs are identified. An annual report is an important tool used in reviewing site activities and for determining the effectiveness of site design.

- The reason for Conditions 7(1) to 7(3) is to specify the approved areas from which waste may be accepted at the *Site* and the types and amounts of waste that may be accepted at the *Site* for processing and transfer, based on the *Owner's* application and supporting documentation.

- The reason for Conditions 7(4) to 7(9) inclusive is to ensure that the *Transfer Station* is operated in a manner which does not result in a nuisance or a hazard to the health and safety of the environment or people.

- Reasons for Condition 8(1) are to ensure that off-site migration of landfill gas is monitored and all buildings at the *Site* are free of any landfill gas accumulation, which due to a methane gas component may be explosive and thus create a danger to any persons at the *Site.*

- Condition 8(2) is included to provide the groundwater and surface water limits to prevent water pollution at the *Site.*

- Conditions 8(3) and 8(4) are included to require the Owner to demonstrate that the *Site* is performing as designed and the impacts on the natural environment are acceptable. Regular monitoring allows for the analysis of trends over time and ensures that there is an early warning of potential problems so that any necessary remedial/contingency action can be taken.

- Conditions 8(5) and 8(6) are included to ensure the integrity of the groundwater monitoring network so that accurate monitoring results are achieved and the natural environment is protected.

- Conditions 8(7) to 8(10) inclusive are added to ensure the *Owner* has a plan with an organized set of procedures for identifying and responding to potential issues relating to groundwater and surface water contamination at the *Site's* compliance point.

- Conditions 8(11), 8(12) and 8(13) are included to streamline the approval of the changes to the monitoring plan.

- The reasons for Condition 9 are to ensure that final closure of the *Site* is completed in an aesthetically pleasing manner, in accordance with *Ministry* standards, and to ensure the long-term protection of the health and safety of the public and the environment.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). A361111 issued on April 2, 1980

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of the Environmental Protection Act
Ministry of the Environment and Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

* **Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 18th day of May, 2017

Dale D. Gable

Dale Gable, P.Eng.
Director
appointed for the purposes of Part II.1 of the *Environmental Protection Act*

Municipality of Hastings Highlands

RECEIVED
MAY 31 2017

RM/
c: Area Manager, MOECC Belleville
c: District Manager, MOECC Kingston - District
Iris O'Connor, BluMetric Environmental Inc.

Appendix A

A-2 Land Use Permit

Ontario

Land Use Permit

Public Lands Act

File: (MAY)

RECEIVED
JUL 7 - 2017

Permit No.
LUP1634-1004190

Use shaded areas for corrections.

Name of Applicant/Permittee (insert Corporate Name if Applicant is "Limited" or "Incorporated")	Area Code	Telephone No.
Municipality of Hastings Highlands	613	338-2811

As Trustee for

Postal Address of Applicant/Permittee
33011 Hwy. 62 P.O. Box 130

City, Town or Village	Prov./State	Country	Postal Code
Maynooth	ON	Canada	KOL 2SO

Location of Land

Lot	Concession/Block No.	Geographic Township	Municipality
28	7	BANGOR	HASTINGS HIGHLANDS M

U.T.M. Grid	Geographic Location	Area in ha.
Zone 18 E. 290725 N. 5026716	Kamaniskeg Lake, Sand Bay Waste Disposal Site.	8.60

As per sketch and description which is attached to the original permit for this site and forms part of this permit. A copy of this sketch and description is on file at the District Office and available for inspection by the applicant at any time during normal business hours.

Improvement Type	Sales Tax I.D. Number
WASTE DISPOSAL, GARBAGE	R124668666

Fee(s) and Period of Land Use

Amount Due	Annual Fee (subject to adjustment)	Permit Effective Date	Permit Termination Date
$752.02	$515.50 + $67.02 (HST)	Jun 1, 2016	May 31, 2026

Note: Terms and Conditions applicable to all Land Use Permits are on the reverse side of this form.

Terms and Conditions applicable to this permit

MINISTRY OF NATURAL RESOURCES
RECEIVED
JUN 26 2017
BANCROFT, ONTARIO

Purpose

Waste Disposal Site

Sub-Purpose
Dump

Applicant's certification

I certify that the information given herein is true and complete, and that I have read, fully understand, and agree to comply with all of the terms and conditions set out in this permit and that I am of the age of majority. I agree that this is the complete agreement between the parties hereto.

Signature of Applicant (Incl. Corporation Official): x [signature]
Date Signed: May 30/17

Corporation Use Only

I have authority to bind the herein-named Corporation

Initials and Surname of Corporation Official (Please Print)	Signature of Corporation Official	Position
P PILGRIM	x [signature]	CAO / Clerk

Ministry Approval

Under authority of the Regulations under the Public Lands Act, this Land Use Permit is hereby issued to the above applicant, subject to all terms and conditions contained herein and no other, and these shall be the exclusive terms and conditions applicable to the use of this land.

Signature of MNRF Official	Date Signed	Cash Register Validation or Receipt No.	Amount Paid
[signature]	06/28/2017		$752.02

Personal information on this form is collected under authority of the Public Lands Act and will be used for the administration of that Act. Questions about this information should be directed to the local MNRF Office, whose address and telephone number appear in the Ontario Government Telephone Directory.

1620(95-03)

Return all parts of this form to the District/Area Office for authorization.

Terms and Conditions

It is agreed by the parties hereto that:

1. This Land Use Permit gives the permittee only the right to use the described site for the purpose specified in this permit and does not convey any right, title or interest in the land or in any trees standing, growing or being on the permit area, or in any minerals, sand, gravel or similar materials, in, on, or under the land. Use of any such materials, unless authorized herein, must have separate written approval from the MNRF Official. Without limiting the generality of the foregoing, this agreement is a Land Use Permit and is not a Grant, Licence of Occupation, or Lease of Land.

2. (i) A permittee is an occupier under the Trespass to Property Act and the Occupier's Liability Act and shall take such care as in all circumstances of the case is reasonable to see that persons entering on the premises, and the property brought on the premises by these persons, are reasonably safe while on the premises;
   (ii) Any posting of signs or notices pursuant to the Trespass to Property Act and the Occupier's Liability Act, on the land use permit area, shall be subject to prior approval of the issuing officer;
   (iii) The permittee agrees to remove all signs or notices on termination of the permit, or at the direction of the issuing officer.

3. Any building, structure, or works, erected or to be erected on the site, or any alteration, renovation, enlargement or reconstruction of improvements, including any land improvements or alterations whatsoever, must be approved by a MNRF official and any other applicable agencies or authorities. The application to the MNRF Official for approval must contain a written description of the work and the permittee's evaluation of the cost of work.

4. The permittee will maintain the site in a clean, sanitary and fire-safe condition in accordance with any applicable Acts or municipal by-laws, and dispose of all garbage in an approved waste disposal site.

5. Access to the site, and quality of that access, is strictly the responsibility of the permittee. A work permit must be obtained from the MNRF Official prior to the construction of any road or other access facilities. The Crown reserves the right to enter and inspect the site and the right of access for Crown purposes.

6. If the term of this Land Use Permit is longer than one year, the permittee will pay the prescribed annual fee, which is subject to change, at the beginning of each year of the term. The MNRF Official may terminate this permit if the fee is not paid by the due date.

7. The permittee will pay any municipal or other taxes that may be levied against the property, in the manner prescribed by the taxing authority.

8. The permittee covenants to indemnify and forever save and keep harmless the Crown, its officer, servants and agents from and against any and all claims, demands, suits, actions, damages, loss, cost or expenses arising out of any injury to persons including death, or loss or damage to property of others which may be or be alleged to be caused by or suffered as a result of or in any manner associated with the exercise of any right or privilege granted to the permittee by this Land Use permit.

9. This Land Use Permit shall not be assigned or transferred, mortgaged or pledged.

10. This permit will automatically terminate, and all rights of the permittee will expire, on the stated termination date, or on the death or bankruptcy of the permittee, or on the winding up or dissolution of the permittee's affairs. This condition cannot be waived by the Crown and, if further use of the land is desired, an application for a new Land Use Permit must be submitted.

11. The MNRF Official may refuse to issue a new permit, or may, upon sixty (60) days written notice or such further period of time as the MNRF Official prescribes, revoke or cancels an existing permit when:
   (i) the permittee has violated any condition or provision of this permit;
   (ii) the hereby authorized land use comes into conflict with a new or revised land zoning plan; or
   (iii) it is, in the opinion of the MNRF Official or the Crown, considered to be in the public interest so to do.
   It is, hereby agreed that any decision, made by the MNRF Official or the Crown pursuant to this condition, is final.

12. Upon expiry, cancellation, revocation or other termination of this Land Use Permit:
   (i) Unless an MNRF Official orders otherwise, all improvements, property or other assets remaining on the site automatically become the property of the Crown and the Crown has no obligation whatsoever to pay compensation therefor;
   (ii) The permittee will at the MNRF Official's request, remove the improvements, property or other assets from the site, and leave the site in a clean and safe condition, restored as much as possible to it's original state except where the requirement to restore has been waived in writing by the MNRF Official;
   (iii) Where the permittee fails to remove the improvements, property or other assets from the site and/or fails to restore the site to a clean and safe condition, within a reasonable time, the permittee will pay to the Ministry any costs incurred by the Ministry in, disposing of or destroying the said improvements, property or other assets pursuant to subject 24(5) of the Public Lands Act, and/or restoring the site to a clean and safe condition.

13. The permittee acknowledges and confirms that:
   (i) upon termination of this permit, the decision to issue a new permit is at the sole discretion of the MNRF Official, and the permittee has no right to, nor reasonable expectation for, the issuance of a new permit based on prior use of the land;
   (ii) the successive issuance of any permit or permits for the use of the land described herein will not create any future rights or interests whatsoever in the land;
   (iii) should any improvements whatsoever be made to or on the land, this will not confer upon the permittee any right to use the land other than within the terms of this permit, nor will it give the permittee any right to an expectation of future permits;
   (iv) no additional terms and conditions to this permit, if inserted on the face hereof, shall alter, vary, qualify, or diminish the terms and conditions set out on this page;
   (v) there are no other representations, warranties or conditions between the Crown and the permittee, for the use of this land.

KAMANISKEG DUMP SITE
BANGOR TWP

LAND USE PERMIT

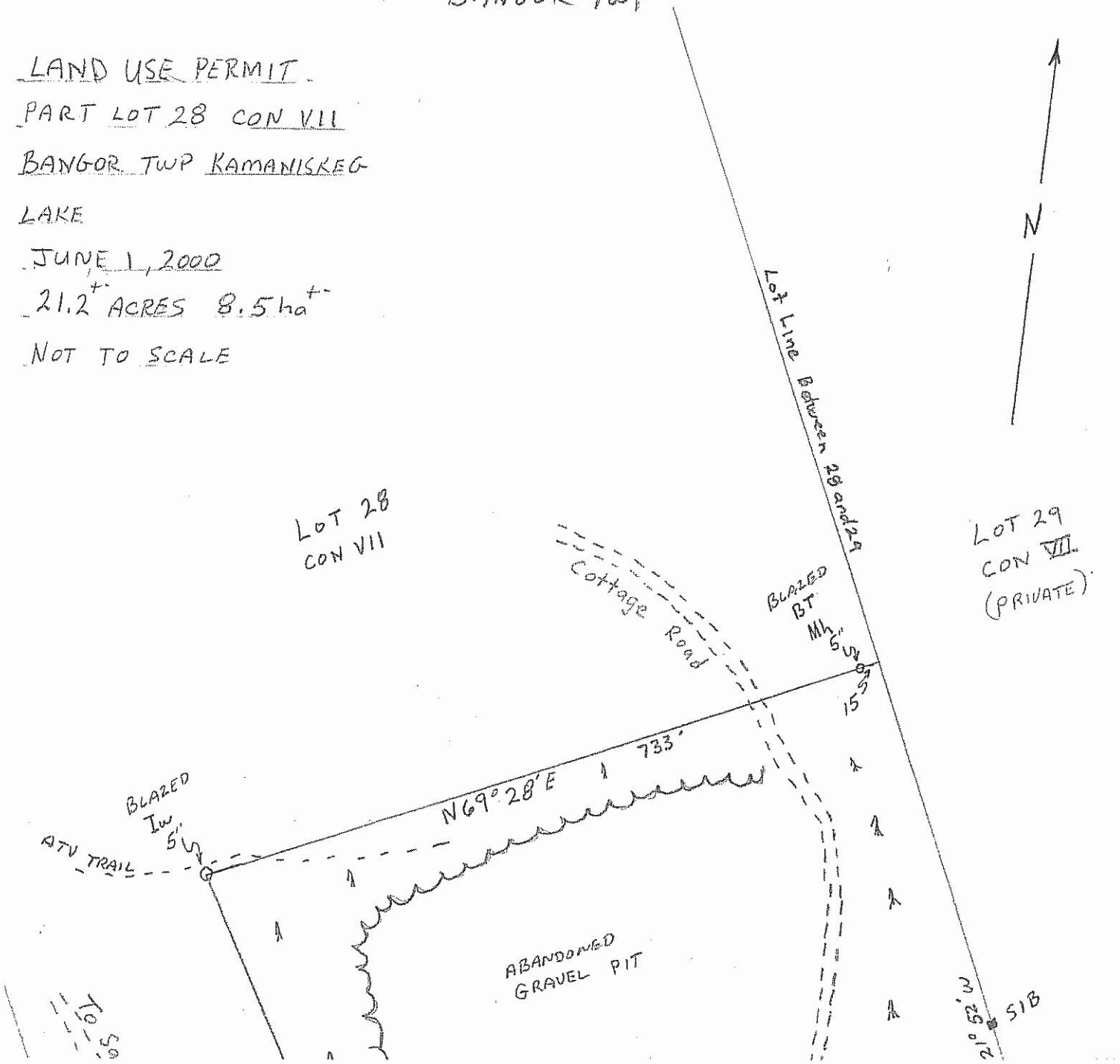
PART LOT 28 CON VII

BANGOR TWP KAMANISKEG LAKE

JUNE 1, 2000

21.2 +- ACRES 8.5 ha +-

NOT TO SCALE



Appendix A

A-3 MECP Technical Review for Surface Water 2019 Report

Ministry of the Environment, Conservation and Parks
Eastern Region
1259 Gardiners Road, Unit 3
Kingston ON K7P 3J6
Phone: 613.549.4000
or 1.800.267.0974

Ministère de l'Environnement, de la Protection de la nature et des Parcs
Région de l'Est
1259, rue Gardiners, unité 3
Kingston (Ontario) K7P 3J6
Tél: 613 549-4000
ou 1 800 267-0974

Ontario

M E M O R A N D U M

November 17, 2020

TO: Jon Morrish
Sr. Environmental Officer
Belleville District Office
Eastern Region

FROM: Dana Cruikshank
Surface Water Specialist
Water Resources Unit
Eastern Region

RE: 2019 Annual Monitoring Report
Sand Bay Waste Transfer Station
16 Runnals Lane, Combermere, ON Pt. Lot 28, Conc. 7
Former Twp of Bangor, Municipality of Hastings Highlands
ECA#: A3611111
IDS Ref # 0527-AXYSGN

We have reviewed the above report dated March 2020 prepared by Blumetric Environmental with respect to surface water concerns only.

2018 Annual Monitoring Report

- The site is situated between Kamaniskeg Lake approximately 730 m northwest of Sand Bay WTS and Bennett Lake which is approximately 700 m south of the WTS.
- All area surface water eventually flows towards Kamaniskeg Lake
- The waste disposal area on the site was closed in 2017. The Sand Bay WTS collects waste in covered waste bins (8 cubic yard). The WTS has been approved for the collection of WEEE wastes.
- Waste is periodically picked up and transferred to one of the other WDS operated by the Municipality of Hastings Highlands
- Site monitoring visits were completed on May 9, 2019 and October 22, 2019.
    - Grass was observed to be well established on the closed waste mound on the south side of the site.
    - The site was in excellent condition.
- Surface water sampling occurred on May 9, 2018. Stations were dry in the fall.
- SB-SW1 is the background sampling location. Flow at SW1 was estimated to be 0.007 m^3/s. Visible flow occurred at SW2 and SW3 but was too low to measure with meter.

- Only pH which ranged from (5.36-5.69) for field measurements and from 6.06-6.13 for lab results exceeded the PWQO. These measurements are not likely due to the WTS/WDS.
- Both monitoring wells (SB103 and SB2023) were dry in 2019 for both monitoring events in 2019. These wells have been dry during each site visit since 2003.
- There is little difference in the water quality of the three stations with the downstream stations tending to have lower concentrations than background for a number of parameters.
- No evidence of surface water impacts from WTS/WDS were found.

Reviewer's Comments

The concentrations of most parameters at all three surface water sampling locations are very similar and indicate no signs of leachate contamination from Sand Bay WTS.

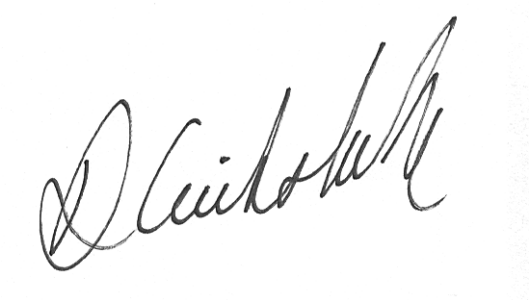
The low alkalinity and pH concentrations are the similar through all three sampling locations, therefore as stated by the report, they are likely due to natural occurrence from the upstream wetland.

The monitoring to date would indicate that Sand Bay WDS is not having any measurable impact on the intermittent stream or Kamaniskeg Lake.

Recommendations

1. Surface water sampling should be discontinued for 2021 unless the 2020 data indicates otherwise. The consultant can just forward an excel file of the historical surface water data for confirmation that 2020 sampling did not show any surface water concerns.

If you have any questions regarding the above comments or recommendations I would be pleased to discuss them with you.



Dana Cruikshank

Cc Thomas Guo
Cathy Chisholm
File SW-HA-HI-07-02-13-03-02 (unnamed creek)
File SW HA-HI-03-06 (Sand Bay WDS)

Appendix A

A-4 MECP Technical Review for 2022 Annual Monitoring Report

Allison Morrison

From: Morrish, Jon (MECP) <Jon.Morrish@ontario.ca>
Sent: June 26, 2023 2:17 PM
To: Denver Mayhew; David Stewart
Cc: Carolyn Miller
Subject: Sand Bay Waste Transfer Station - Review of 2022 Annual Report
Attachments: ftg-jm-Sand Bay 2018 AMR.pdf; 2022 Sand Bay WTS AMR.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hello again Denver/David,
Please find herein and attached the ministry's review comments (surface water and groundwater related) in relation to the 2022 Annual Monitoring Report, as well as the letter dated March 6, 2023, from BluMetric, requesting changes to the monitoring program, for the Sand Bay Waste Transfer Station. The March 6, 2023, letter addressed to the District Manager specifically requested permission to decommission the two groundwater monitoring wells (SB1-03 and SB2-03).

As noted in the attached memo pertaining to surface water (dated May 31, 2023), the ministry's reviewer is not opposed to eliminating the surface water monitoring at the Site. Therefore, upon written request to the District Manager (currently Cathy Chisholm) - in the next annual report, or anytime - we can formalize that change. Regardless, in the mean time, it is understood that the surface water monitoring is not continuing at this time.

With respect to groundwater, the reviewer (Mr. T. Guo), provided comments via email, as follows:

"Since the two monitoring wells continued to be dry in 2022, BluMetric recommended that:

- Formal permission is requested to decommission the groundwater wells due to consistency dry conditions since they were installed in 2003 and absence of apparent WDS impacts in surface water quality.

Given that groundwater quality has not been available until now, my memo to you dated April 6, 2020 still stands (attached). Furthermore, I recommend that the spring monitoring event take place in late March or early April (i.e. after freshet) so as to be able to collect groundwater sample."

The groundwater reviewer further clarified that the monitoring wells should continue to be checked in early spring, for another five years.

I trust that this all makes sense, but don't hesitate to contact me if you have any questions.

Thanks,
Jon

Jon Morrish, B.Sc., C.E.T.
Senior Environmental Officer / Provincial Officer
Ontario Ministry of the Environment, Conservation and Parks
Belleville Area Office
345 College Street East, Belleville, ON K8N 4A7
Tel: 613-848-0853

Ministry of the Environment, Conservation and Parks
Eastern Region
1259 Gardiners Road, Unit 3
Kingston ON K7P 3J6
Phone: 613.549.4000
or 1.800.267.0974

Ministère de l'Environnement, de la Protection de la nature et des Parcs
Région de l'Est
1259, rue Gardiners, unité 3
Kingston (Ontario) K7P 3J6
Tél: 613 549-4000
ou 1 800 267-0974

Ontario

M E M O R A N D U M

May 31, 2023

TO: Jon Morrish
Sr. Environmental Officer
Belleville District Office
Eastern Region

FROM: Dana Cruikshank
Surface Water Specialist
Water Resources Unit
Eastern Region

RE: 2022 Annual Monitoring Report
Sand Bay Waste Transfer Station
16 Runnals Lane, Combermere, ON Pt. Lot 28, Conc. 7
Former Twp of Bangor, Municipality of Hastings Highlands
ECA#: A3611111
ECHO Ref # 1-208263687

We have reviewed the above report dated March 2023 prepared by Blumetric Environmental with respect to surface water concerns only.

2022 Annual Monitoring Report

- The site is situated between Kamaniskeg Lake approximately 730 m northwest of Sand Bay WTS and Bennett Lake which is approximately 700 m south of the WTS.

- All area surface water eventually flows towards Kamaniskeg Lake.

- The waste disposal area on the site was closed in 2017. The Sand Bay WTS collects waste in covered waste bins (8 cubic yard). The WTS has been approved for the collection of WEEE wastes.

- Waste is periodically picked up and transferred to one of the other WDS operated by the Municipality of Hastings Highland.

- Site monitoring visits were completed on April 20, 2022 and October 19, 2022. The site was in excellent condition.

- A request is being made to decommission the groundwater wells because they have been consistently dry.

- Historically no surface water was collected at the site but as part of an ECA amendment three surface water stations were established and sampled from 2017-2020 to assess if any landfill impacts to surface water was occurring.

- Surface water monitoring was recommended to be discontinued in 2021 as no evidence of surface water impacts from WTS/WDS were found. No surface water sampling was conducted in 2021 or 2022.

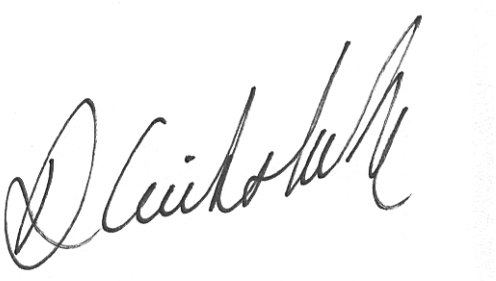
Reviewer's Comments

In my last review (2019 AMR) I concluded that the concentrations of most parameters at all three surface water sampling locations were very similar and indicated no signs of leachate contamination from Sand Bay WTS. The monitoring indicated that Sand Bay WTS was not having any measurable impact on the intermittent stream or Kamaniskeg Lake.

I therefore recommended that surface water sampling could be discontinued for 2021 unless the 2020 data indicates otherwise. The consultant supplied the 2020 data in an email dated November 18, 2020. There was only data for May of 2020 as all stations were dry in the fall sampling event. The consultant made a request to you that same date about removing surface water monitoring. I responded to your request the same day and agreed that the 2020 data showed no indication of leachate impact and confirmed that I wouldn't be opposed to eliminating surface water monitoring at Sand Bay WTS.

The 2022 report included my 2019 review but did not contain any correspondence from the District Manager approving the removal of the surface water monitoring program.

If you have any questions regarding the above comments or recommendations, I would be pleased to discuss them with you.



Dana Cruikshank

Ec: Thomas Guo (Groundwater reviewer)
Victor Castro (WRU Supervisor)
Cathy Chisholm (Acting District Manager)

Appendix B

Monitoring and Screening Checklist (MECP/MOE)

Appendix D-Monitoring and Screening Checklist
General Information and Instructions

General Information: The checklist is to be completed, and submitted with the Monitoring Report.
Instructions: A complete checklist consists of:
(a) a completed and signed checklist, including any additional pages of information which can be attached as needed to provide further details where indicated.
(b) completed contact information for the Competent Environmental Practitioner (CEP)
(c) self-declaration that CEP(s) meet(s) the qualifications as set out below and in Section 1.2 of the Technical Guidance Document.

Definition of Groundwater CEP:
For groundwater, the CEP must have expertise in hydrogeology and meet one of the following:
(a) the person holds a licence, limited licence or temporary licence under the *Professional Engineers Act*; or
(b) the person holds a certificate of registration under the *Professional Geoscientists Act, 2000* and is a practicing member, temporary, member or limited member of the Association of Professional Geoscientists of Ontario. O. Reg. 66/08, s. 2..
Definition of Surface water CEP:
A CEP for surface water assessments is a scientist, professional engineer or professional geoscientist as described in (a) and (b) above with demonstrated experience and post-secondary education, either a diploma or degree, in hydrology, aquatic ecology, limnology, aquatic biology, physical geography with specialization in surface water, and/or water resource management.

The type of scientific work that a CEP performs must be consistent with that person's education and experience. If an individual has appropriate training and credentials in both groundwater and surface water and is responsible for both areas of expertise, the CEP may then complete and validate both sections of the checklist.

Monitoring Report and Site Information	
Waste Disposal Site Name	Sand Bay WTS (former WDS)
Location (e.g. street address, lot, concession)	16 Runnals Lane, Combermere, ON Pt. Lot 28, Conc. 7
GPS Location (taken within the property boundary at front gate/ front entry)	290682 m E, 5026728 m N
Municipality	Former Township of Bangor
Client and/or Site Owner	Municipality of Hastings Highlands
Monitoring Period (Year)	2025
This Monitoring Report is being submitted under the following:	
Environmental Compliance Approval Number:	A336111
Director's Order No.:	
Provincial Officer's Order No.:	
Other:	

Report Submission Frequency	◉ **Annual** ○ **Other**		
The site is: **(Operation Status)**	○ **Open** ○ **Inactive** ◉ **Closed**		
Does your Site have a Total Approved Capacity?	◉ **Yes** ○ **No**		
If yes, please specify Total Approved Capacity	waste site closed	*Units*	
Does your Site have a Maximum Approved Fill Rate?	○ **Yes** ◉ **No**		
If yes, please specify Maximum Approved Fill Rate		*Units*	
Total Waste Received within Monitoring Period (Year)		*Units*	Tonnes
Total Waste Received within Monitoring Period (Year) *Methodology*	Estimated based on bag counts and estimated mass per bag, and Contractor's records.		
Estimated Remaining Capacity	0	*Units*	
Estimated Remaining Capacity *Methodology*			
Estimated Remaining Capacity *Date Last Determined*	Waste Disposal Site Closed, only acting as a WTS.		
Non-Hazardous Approved Waste Types	☒ Domestic ☐ Industrial, Commercial & Institutional (IC&I) ☐ Source Separated Organics (Green Bin) ☒ Tires	☒ Contaminated Soil ☐ Wood Waste ☒ Blue Box Material ☐ Processed Organics ☐ Leaf and Yard Waste	☐ Food Processing/Preparation Operations Waste ☐ Hauled Sewage Other: Provide any other approved waste types not listed here
Subject Waste Approved Waste Classes: Hazardous & Liquid Industrial *(separate waste classes by comma)*			
Year Site Opened *(enter the Calendar Year only)*	1971	**Current ECA Issue Date**	18-May-2017
Is your Site required to submit Financial Assurance?		○ **Yes** ◉ **No**	
Describe how your Landfill is designed.		◉ Natural Attenuation only ○ Fully engineered Facility ○ Partially engineered Facility	
Does your Site have an approved Contaminant Attenuation Zone?		○ **Yes** ◉ **No**	

If closed, specify C of A, control or authorizing document closure date:	Select Date

Has the nature of the operations at the site changed during this monitoring period?	○ **Yes** ◉ **No**
If yes, provide details:	
Have any measurements been taken since the last reporting period that indicate landfill gas volumes have exceeded the MOE limits for subsurface or adjacent buildings? (i.e. exceeded the LEL for methane)	○ Yes ◉ No

Groundwater WDS Verification:

Based on all available information about the site and site knowledge, it is my opinion that:

Sampling and Monitoring Program Status:

1) The monitoring program continues to effectively characterize site conditions and any groundwater discharges from the site. All monitoring wells are confirmed to be in good condition and are secure:	○ **Yes** ◉ **No**	No, existing monitoring wells are consistently dry.
2) All groundwater, leachate and WDS gas sampling and monitoring for the monitoring period being reported on was successfully completed as required by Certificate(s) of Approval or other relevant authorizing/control document (s):	○ **Yes** ○ **No** ◉ **Not Applicable**	If no, list exceptions below or attach information.

Groundwater Sampling Location	**Description/Explanation for change (change in name or location, additions, deletions)**	**Date**
SB1-03	Dry - no sample	Spring and fall 2025
SB2-03	Dry - no sample	Spring and fall 2025

3) a) Is landfill gas being monitored or controlled at the site?	◉ **Yes** ○ **No**	
If yes to 3(a), please answer the next two questions below.		
b) Have any measurements been taken since the last reporting period that indicate landfill gas is present in the subsurface at levels exceeding criteria established for the site?	○ **Yes** ◉ **No**	
c) Has the sampling and monitoring identified under 3(a) for the monitoring period being reported on was successfully completed in accordance with established protocols, frequencies, locations, and parameters developed as per the Technical Guidance Document:	◉ **Yes** ○ **No** ○ **Not Applicable**	If no, list exceptions below or attach additional information.

Groundwater Sampling Location	**Description/Explanation for change (change in name or location, additions, deletions)**	**Date**

4) All field work for groundwater investigations was done in accordance with standard operating procedures as established/outlined per the Technical Guidance Document (including internal/external QA/QC requirements) (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):	◉ **Yes** ○ **No**	

Sampling and Monitoring Program Results/WDS Conditions and Assessment:

5) The site has an adequate buffer, Contaminant Attenuation Zone (CAZ) and/or contingency plan in place. Design and operational measures, including the size and configuration of any CAZ, are adequate to prevent potential human health impacts and impairment of the environment.	◉ Yes ○ No		
6) The site meets compliance and assessment criteria.	◉ Yes ○ No		
7) The site continues to perform as anticipated. There have been no unusual trends/ changes in measured leachate and groundwater levels or concentrations.	◉ Yes ○ No	There have been no indications of impact from the site.	
1) Is one or more of the following risk reduction practices in place at the site: ***(a)*** **There is minimal reliance on natural attenuation of leachate due to the presence of an effective waste liner and active leachate collection/ treatment; or** ***(b)*** **There is a predictive monitoring program in-place (modeled indicator concentrations projected over time for key locations); or** ***(c)*** **The site meets the following two conditions (typically achieved after 15 years or longer of site operation):** ***i.*** **The site has developed stable leachate mound(s) and stable leachate plume geometry/concentrations; and** ***ii.*** **Seasonal and annual water levels and water quality fluctuations are well understood.**	○ Yes ◉ No	**Note which practice(s):**	☐ (a) ☐ (b) ☐ (c)
9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):	○ Yes ○ No ◉ Not Applicable		

Groundwater CEP Declaration:

I am a licensed professional Engineer or a registered professional geoscientist in Ontario with expertise in hydrogeology, as defined in Appendix D under Instructions. Where additional expertise was needed to evaluate the site monitoring data, I have relied on individuals who I believe to be experts in the relevant discipline, who have co-signed the compliance monitoring report or monitoring program status report, and who have provided evidence to me of their credentials.

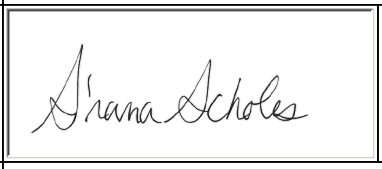
I have examined the applicable Certificate of Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended), and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to *ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories,* or as amended from time to time by the ministry.

If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature and will be rectified for the next monitoring/reporting period. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:

Recommendations:

Based on my technical review of the monitoring results for the waste disposal site:

◉ **No changes to the monitoring program are recommended** ○ **The following change(s) to the monitoring program is/are recommended:**	
◉ **No Changes to site design and operation are recommended** ○ **The following change(s) to the site design and operation is/ are recommended:**	

Name:	S'rana Scholes		
Seal:			
Signature:		**Date:**	25-Mar-2026
CEP Contact Information:	S'rana Scholes, B.A.Sc., P.Eng. Senior Environmental Engineer		
Company:	BluMetric Environmental Inc.		
Address:	209 Frederick St Unit 3B, Kitchener, ON N2H 2M7		
Telephone No.:	877-487-8436 x218	Fax No. :	
E-mail Address:	sscholes@blumetric.ca		
Co-signers for additional expertise provided:			
Signature:		**Date:**	Select Date
Signature:		**Date:**	Select Date

Surface Water WDS Verification:

Provide the name of surface water body/bodies potentially receiving the WDS effluent and the approximate distance to the waterbody (including the nearest surface water body/bodies to the site):

Name (s)	MECP confirmed that no surface water sampling is required. Formal permission has been requested to remove the surface water monitoring program.
Distance(s)	

Based on all available information and site knowledge, it is my opinion that:

Sampling and Monitoring Program Status:

1) The current surface water monitoring program continues to effectively characterize the surface water conditions, and includes data that relates upstream/background and downstream receiving water conditions:	◉ Yes ○ No	Not applicable, MECP confirmed that no surface water sampling is required.
2) All surface water sampling for the monitoring period being reported was successfully completed in accordance with the Certificate(s) of Approval or relevant authorizing/control document(s) (if applicable):	○ Yes ○ No ◉ **Not applicable (No C of A, authorizing / control document applies)**	If no, specify below or provide details in an attachment.

Surface Water Sampling Location	Description/Explanation for change (change in name or location, additions, deletions)	Date

3) a) Some or all surface water sampling and monitoring program requirements for the monitoring period have been established outside of a ministry C of A or authorizing/control document.	○ **Yes** ○ **No** ◉ **Not Applicable**	
b) If yes, all surface water sampling and monitoring identified under 3 (a) was successfully completed in accordance with the established program from the site, including sampling protocols, frequencies, locations and parameters) as developed per the Technical Guidance Document:	○ **Yes** ○ **No** ◉ **Not Applicable**	If no, specify below or provide details in an attachment.

Surface Water Sampling Location	**Description/Explanation for change (change in name or location, additions, deletions)**	**Date**

4) All field work for surface water investigations was done in accordance with standard operating procedures, including internal/external QA/QC requirements, as established/outlined as per the Technical Guidance Document, MOE 2010, or as amended. (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):	◉ **Yes** ○ **No**	Not applicable

Sampling and Monitoring Program Results/WDS Conditions and Assessment:

5) The receiving water body meets surface water-related compliance criteria and assessment criteria: i.e., there are no exceedances of criteria, based on MOE legislation, regulations, Water Management Policies, Guidelines and Provincial Water Quality Objectives and other assessment criteria (e.g., CWQGs, APVs), as noted in Table A or Table B in the Technical Guidance Document (Section 4.6):	◉ **Yes** ○ **No**

If no, list parameters that exceed criteria outlined above and the amount/percentage of the exceedance as per the table below or provide details in an attachment:

Parameter	Compliance or Assessment Criteria or Background	Amount by which Compliance or Assessment Criteria or Background Exceeded
e.g. Nickel	e.g. C of A limit, PWQO, background	e.g. X% above PWQO
Not applicable		.
6) In my opinion, any exceedances listed in Question 5 are the result of non-WDS related influences (such as background, road salting, sampling site conditions)?	○ **Yes** ◉ **No**	Not applicable

7) All monitoring program surface water parameter concentrations fall within a stable or decreasing trend. The site is not characterized by historical ranges of concentrations above assessment and compliance criteria.	◉ **Yes** ◯ **No**	
8) For the monitoring program parameters, does the water quality in the groundwater zones adjacent to surface water receivers exceed assessment or compliance criteria (e.g. , PWQOs, CWQGs, or toxicity values for aquatic biota (APVs)):	◯ Yes ◯ No ◯ Not Known ◉ Not Applicable	
9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):	◯ **Yes** ◯ **No** ◉ **Not Applicable**	

Surface Water CEP Declaration:

I, the undersigned hereby declare that I am a Competent Environmental Practitioner as defined in Appendix D under Instructions, holding the necessary level of experience and education to design surface water monitoring and sampling programs, conduct appropriate surface water investigations and interpret the related data as it pertains to the site for this monitoring period.

I have examined the applicable Certificate of Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended) and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to *ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories,* or as amended from time to time by the ministry.

If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature or will be rectified for future monitoring events. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:

Recommendations:

Based on my technical review of the monitoring results for the waste disposal site:

○ **No Changes to the monitoring program are recommended**	
◉ **The following change(s) to the monitoring program is/are recommended:**	MECP confirmed that no surface water sampling is required. Formal permission has been requested to remove the surface water monitoring program.
◉ **No changes to the site design and operation are recommended**	
○ **The following change(s) to the site design and operation is/are recommended:**	

CEP Signature	
Relevant Discipline	Environmental Engineer
Date:	25-Mar-2026
CEP Contact Information:	S'rana Scholes, B.A.Sc., P.Eng. Senior Environmental Engineer
Company:	BluMetric Environmental Inc.
Address:	209 Frederick St Unit 3B Kitchener, ON N2H 2M7
Telephone No.:	877-487-8436 x218
Fax No. :	
E-mail Address:	sscholes@blumetric.ca

Save As		**Print Form**

Appendix C

Monitoring Well Logs

Project No: KB1946-2

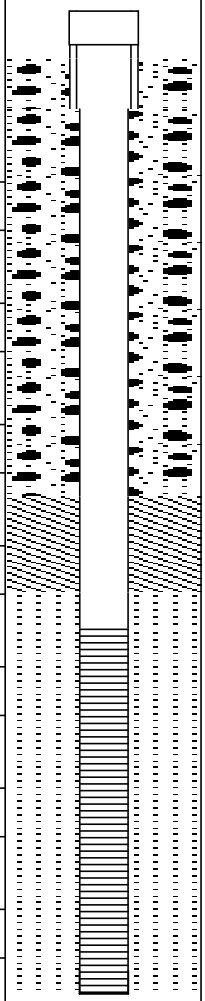
Project: Sand Bay WDS

Client: Municipality of Hastings Highlands

Site Coordinates: Zone 18 T North 5026738, East 290701

Log of Borehole: SB1-03

Field Personnel: B. M.

SUBSURFACE PROFILE				SAMPLE				WELL INSTALLATION	
Depth (ft / m)	Elevation	Symbol	Description	Number	Type	SPT N-Value	Recovery	Well Construction	Comments
0 / 0	100.16		Ground Surface						Steel locking protective cover and casing Stick-up: 0.62m
			Brown SAND, dry.						51mm (2") I.D. Sch. 40 PVC pipe
2 / 1				SS1	SS	11	17"		Native backfill
3 / 1									
4 / 1				SS2	SS	10	15"		
5 / 2									
14 / 4	95.59								
15 / 5			Brown SAND, dry.	SS3	SS	15	14"		
19 / 6	94.07								3/8" Bentonite holeplug
20 / 6			Brown SAND, dry.	SS4	SS	13	15"		
23 / 7									#3 Silica sand pack
24 / 7	92.54								
25 / 8			Brown SAND, dry.	SS5	SS	22	15"		
29 / 9									15' Slot 10 PVC screen (2")
30 / 9				SS6	SS	18	16"		
33 / 10									
36 / 11	88.89			SS7	SS	30	14"		
37 / 11	88.43		Brown SAND and GRAVEL, dry. Spoon refusal.						
42 / 13			End of Borehole						

Drill Method: 8" Hollow Stem Auger

Hole Size: 8" (205mm)

Drill Date: July 22/03

Datum: Elevation TPVC - 100.783 m

Checked by:

Sheet: 1 of 1

Project No: KB1946-2

Project: Sand Bay WDS

Client: Municipality of Hastings Highlands

Site Coordinates: Zone 18 T North 5026738, East 290701

Log of Borehole: SB2-03

Field Personnel: B. M.

SUBSURFACE PROFILE				SAMPLE				WELL INSTALLATION	
Depth (ft / m)	Elevation	Symbol	Description	Number	Type	SPT N-Value	Recovery	Well Construction	Comments
0 ft / 0 m	97.79		Ground Surface						Steel locking protective cover and casing
			Brown SAND, dry.						Stick-up: 0.63m
									51mm (2") I.D. Sch. 40 PVC pipe
				SS1	SS	16	10"		Native backfill
				SS2	SS	16	16"		3/8" Bentonite holeplug
				SS3	SS	18	14"		#3 Silica sand pack
				SS4	SS	18	15"		10' Slot 10 PVC screen (2")
8 ft / 2.5 m	90.17								
	89.71		Brown SAND, with broken rock pieces. Spoon refusal.						
			End of Borehole						

Drill Method: 8" Hollow Stem Auger

Hole Size: 8" (205mm)

Drill Date: July 23/03

Datum: Elevation TPVC - 98.416 m

Checked by:

Sheet: 1 of 1

Appendix D

Operation and Inspection Forms

SMALL LANDFILL
OPERATION AND INSPECTION FORM

Site Name: Sand Bay WDS, MHHs	**Date:** April 29, 2025	**Weather:** 5°C, sunny
Project #: 250253	**BluMetric Staff:** NW/BM	

Photographs of each item below should be collected during site visits.

OVERALL INSPECTION AND OPERATION REVIEW

❑ Signage in good condition	Yes ✓	No _
❑ ECA and emergency numbers on signage	Yes ✓	No _
❑ Hour of operation observed	Yes ✓	No _
❑ Site open under normal operating hours	Yes ✓	No _
❑ Perimeter fencing and gate in good condition	Yes ✓	No _
❑ Gate locked if closed	Yes ✓	No_

DESIGNATED WASTE AREA

❑ Working active/trench area (moderate size, daily cover, compacted)	Yes _	No _ } NA
❑ Designated waste areas are properly signed and easily accessed by public	Yes _	No _

RECYCLING OPERATION (if applicable)

❑ Proper signage and bins present	Yes ✓	No _
❑ Clearly signed	Yes ✓	No _
❑ Overall neat in appearance	Yes ✓	No _

SEGREGATED SCRAP PILES (metal, tires, brush, etc.)

❑ Metals neat and appropriate size	Yes ✓	No _
❑ Tires neat and appropriate size	Yes ✓	No _
❑ Bulky Items neat and appropriate size	Yes ✓	No _
❑ Brush pile neat and appropriate size	Yes _	No _ } Not accepted
❑ Construction debris neat and appropriate size	Yes _	No _

MONITORING WELL CONDITION

❑ Casing conditions (frost heave, lock, cap)	Yes ✓	No _
❑ Monitor condition (capped, vented)	Yes ✓	No _
❑ Wells clearly labeled (re-label as required)	Yes ✓	No _
❑ Well clearly visible (clear brush if necessary)	Yes ✓	No _

LANDFILL GAS MONITORING

❑ Conducted at structures	Yes ✓	No _
❑ Conducted at monitoring wells	Yes ✓	No _

REPAIRS: Provide details of repairs made or materials required for repairs upon next site visit:

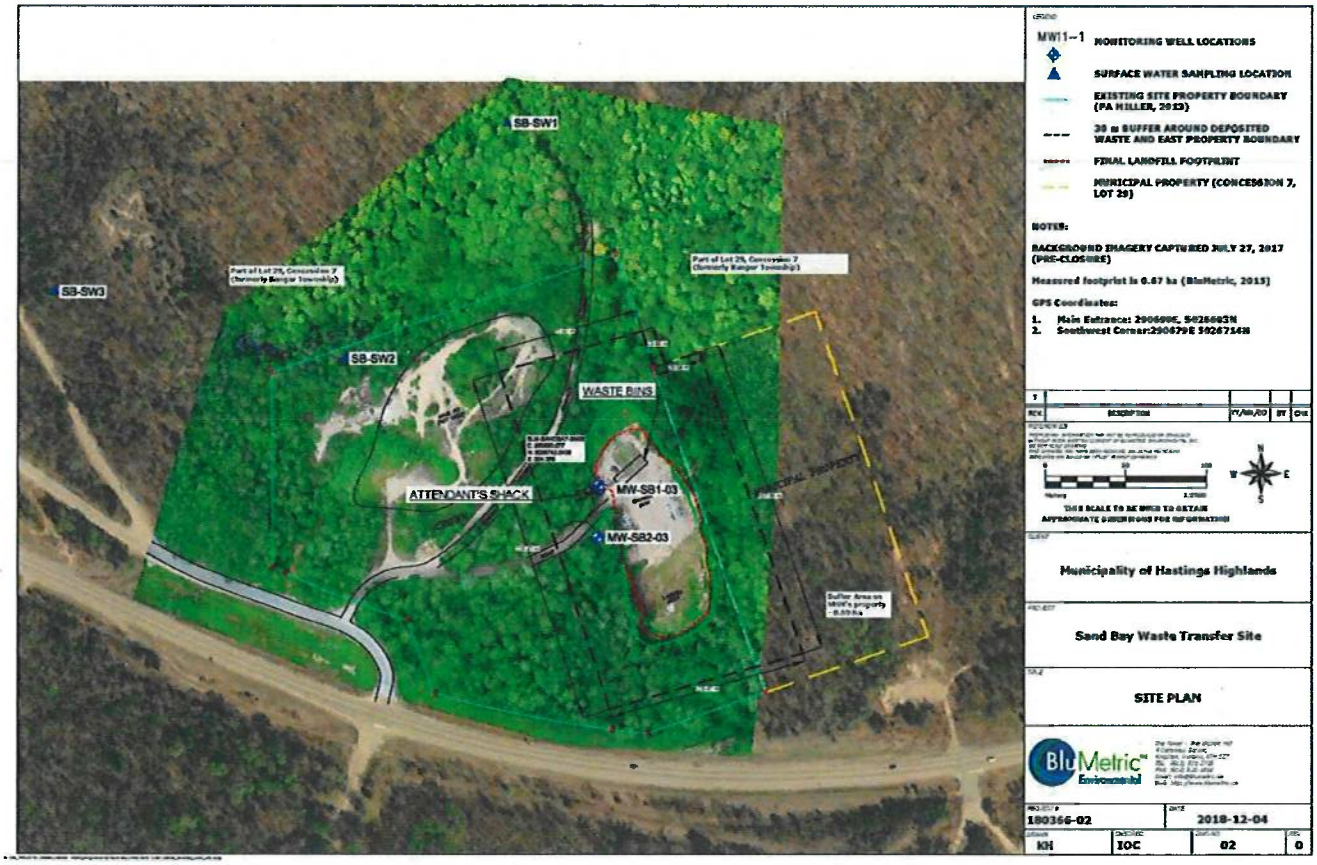
OBSERVATIONS OF PHYSICAL ENVIRONMENT: Please comment on any changes to the local environment (e.g. settling or slumping of waste/cover, new or altered drainage, presence of seeps, changes in vegetation cover, etc.)

This form is intended as a general reminder of information that should recorded during monitoring activities. The above information is a minimum guide. Any information deemed important should be recorded in the field notes for each site.

MOUND SURFACE CONDITIONS

❑	Any signs of erosion	Yes _	No ✓
❑	Vegetation established well	Yes ✓	No _
❑	Any signs of surface cracking due to gas	Yes _	No ✓
❑	Any signs of standing/ponded water	Yes _	No ✓
❑	Any signs of surface water blockages	Yes _	No ✓
❑	Any signs of seeps	Yes _	No ✓

Identify any remedial actions required:



Identify any changes to site layout on drawing and/or comment:

This form is intended as a general reminder of information that should recorded during monitoring activities. The above information is a minimum guide. Any information deemed important should be recorded in the field notes for each site.

SMALL LANDFILL
OPERATION AND INSPECTION FORM

BluMetric™ Environmental

Site Name: Sand Bay WDS, MHHs	Date: Oct 20, 2025	Weather:
Project #: 250253-02	BluMetric Staff: BM / DK	Rain 8°C

Photographs of each item below should be collected during site visits.

OVERALL INSPECTION AND OPERATION REVIEW

❑	Signage in good condition	Yes ✓	No _
❑	ECA and emergency numbers on signage	Yes ✓	No _
❑	Hour of operation observed	Yes ✓	No _
❑	Site open under normal operating hours	Yes _	No ✓
❑	Perimeter fencing and gate in good condition	Yes ✓	No _
❑	Gate locked if closed	Yes ✓	No _

DESIGNATED WASTE AREA

❑	Working active/trench area (moderate size, daily cover, compacted)	Yes _	No _	NA
❑	Designated waste areas are properly signed and easily accessed by public	Yes _	No _	Transfer site

RECYCLING OPERATION (if applicable)

❑	Proper signage and bins present	Yes ✓	No _
❑	Clearly signed	Yes ✓	No _
❑	Overall neat in appearance	Yes ✓	No _

SEGREGATED SCRAP PILES (metal, tires, brush, etc.)

❑	Metals neat and appropriate size	Yes ✓	No _	Getting large - should be removed
❑	Tires neat and appropriate size	Yes ✓	No _	
❑	Bulky Items neat and appropriate size	Yes ✓	No _	
❑	Brush pile neat and appropriate size	Yes _	No _	NA ✓
❑	Construction debris neat and appropriate size	Yes _	No _	NA ✓

MONITORING WELL CONDITION

❑	Casing conditions (frost heave, lock, cap)	Yes ✓	No _
❑	Monitor condition (capped, vented)	Yes ✓	No _
❑	Wells clearly labeled (re-label as required)	Yes ✓	No _
❑	Well clearly visible (clear brush if necessary)	Yes ✓	No _

LANDFILL GAS MONITORING

❑	Conducted at structures	Yes ✓	No _
❑	Conducted at monitoring wells	Yes ✓	No _

REPAIRS: Provide details of repairs made or materials required for repairs upon next site visit:

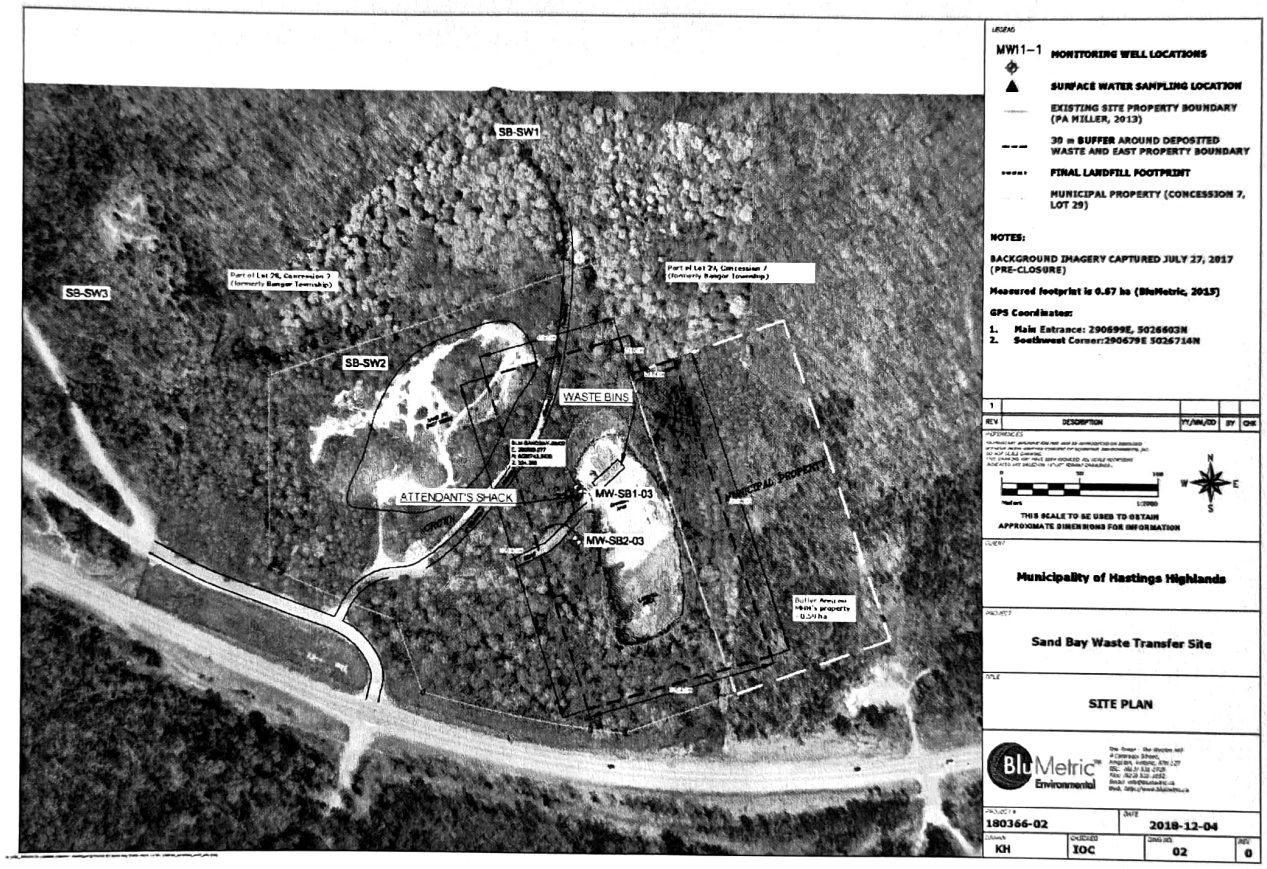
OBSERVATIONS OF PHYSICAL ENVIRONMENT: Please comment on any changes to the local environment (e.g. settling or slumping of waste/cover, new or altered drainage, presence of seeps, changes in vegetation cover, etc.)

This form is intended as a general reminder of information that should recorded during monitoring activities. The above information is a minimum guide. Any information deemed important should be recorded in the field notes for each site.

MOUND SURFACE CONDITIONS

❑	Any signs of erosion	Yes _	No ✓
❑	Vegetation established well	Yes ✓	No _
❑	Any signs of surface cracking due to gas	Yes _	No ✓
❑	Any signs of standing/ponded water	Yes _	No ✓
❑	Any signs of surface water blockages	Yes _	No ✓
❑	Any signs of seeps	Yes _	No ✓

Identify any remedial actions required:



Identify any changes to site layout on drawing and/or comment:

This form is intended as a general reminder of information that should recorded during monitoring activities. The above information is a minimum guide. Any information deemed important should be recorded in the field notes for each site.

Appendix E

Historical Surface Water Chemistry (2017 - 2020)

Historical Surface Water Chemistry

Parameter	Units	RDL	Table A WDS	Table B CWQG	ODWSOG	PWQO	SB-SW1 11-May-17	SB-SW1 08-May-18	SB-SW1 08-May-19	SB-SW1 11-May-20	SB-SW2 11-May-17	SB-SW2 08-May-18	SB-SW2 08-May-19	SB-SW2 11-May-20
General Inorganics														
Alkalinity, total	mg/L	5			30-500		9	7	6	7	6	8	7	6
Ammonia as N	mg/L	0.02					<0.02	0.07	<0.02	<0.02	<0.02	0.06	<0.02	<0.02
BOD_5	mg/L	5					<5	<5	<5	<5	<5	<5	<5	<5
COD	mg/L						10	<5	13	10	7	<5	<5	<5
Conductivity	uS/cm	2					28	23	24	30	27	26	26	33
pH	pH Units		6.0-9.0			6.5 - 8.5	7.27	**6.08**	**6.13**	6.81	6.96	**6.18**	**6.06**	**6.25**
Phenolics	mg/L	0.001	0.04	0.004		0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus, total	mg/L	0.02				0.03	0.03	0.03	0.02	<0.02	0.01	0.03	0.01	<0.02
Total Dissolved Solids	mg/L	20			500		28	44	68	34	26	34	42	24
Total Suspended Solids	mg/L	10					<10	<10	14	<10	<10	<10	<10	<10
Total Kjeldahl Nitrogen	mg/L	0.1					0.18	0.54	<0.10	0.38	0.12	0.22	<0.10	0.29
Total Hardness ($CaCO_3$)	mg/L						7.9	7.6	8	8.1	8.5	9.1	8.9	8.9
Anions														
Chloride	mg/L	0.1	180	128			0.33	0.35	0.3	0.37	0.36	0.37	0.34	0.45
Nitrate as N	mg/L	0.05		2.9			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrite as N	mg/L	0.05		0.06			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	0.1	100		500		4.66	3.19	3.89	4.17	4.95	3.64	4.07	4.7
Metals														
Arsenic	mg/L	0.003					<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium	mg/L	0.002	2.3				0.011	0.01	0.012	0.011	0.009	0.009	0.009	0.009
Boron	mg/L	0.010	3.55	1.500		0.2	<0.010	0.014	<0.010	<0.010	<0.010	0.011	<0.010	<0.010
Cadmium	mg/L	**0.0001**	0.00021	0.000017		0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	mg/L	0.003	0.064		0.05		<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Copper	mg/L	0.003	1			0.005	<0.002	<0.001	<0.001	0.004	<0.002	<0.001	<0.001	<0.002
Iron	mg/L	0.01				0.3	0.14	0.08	0.063	0.078	0.04	<0.01	<0.010	0.032
Lead	mg/L	0.001	0.002			0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001
Zinc	mg/L	0.005	0.089	0.03		0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005

NOTES:

Parameter is above Table A

Parameter is above Table B-CW **128**

Parameter is above ODWS

Parameter is above the PWQO

RDL/MDL - Method Detection Limit, MDL for cadmium is above Table A & B criteria

Historical Surface Water Chemistry

Parameter	Units	RDL	Table A WDS	Table B CWQG	ODWSOG	PWQO	SB-SW3 11-May-17	SB-SW3 08-May-18	SB-SW3 08-May-19	SB-SW3 11-May-20
General Inorganics										
Alkalinity, total	mg/L	5			30-500		6	7	8	7
Ammonia as N	mg/L	0.02					<0.02	0.05	<0.02	<0.02
BOD_5	mg/L	5					<5	<5	<5	<5
COD	mg/L						8	<5	<5	<5
Conductivity	uS/cm	2					27	25	26	34
pH	pH Units		6.0-9.0			6.5 - 8.5	7.01	**6.13**	**6.12**	**6.38**
Phenolics	mg/L	0.001	0.04	0.004		0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus, total	mg/L	0.02				0.03	0.01	0.03	0.01	<0.02
Total Dissolved Solids	mg/L	20			500		<20	54	38	28
Total Suspended Solids	mg/L	10					<10	<10	<10	<10
Total Kjeldahl Nitrogen	mg/L	0.1					0.13	0.24	<0.10	0.3
Total Hardness ($CaCO_3$)	mg/L						8.7	8.9	9.1	10.1
Anions										
Chloride	mg/L	0.1	180	128			0.41	0.36	0.32	0.38
Nitrate as N	mg/L	0.05		2.9			<0.05	<0.05	<0.05	<0.05
Nitrite as N	mg/L	0.05		0.06			<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	0.1	100		500		4.43	3.14	3.05	3.54
Metals										
Arsenic	mg/L	0.003					<0.003	<0.003	<0.003	<0.003
Barium	mg/L	0.002	2.3				0.015	0.013	0.014	0.016
Boron	mg/L	0.010	3.55	1.500		0.2	<0.010	<0.010	<0.010	<0.010
Cadmium	mg/L	**0.0001**	0.00021	0.000017		0.0002	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	mg/L	0.003	0.064		0.05		<0.003	<0.003	<0.003	<0.003
Copper	mg/L	0.003	1			0.005	<0.002	<0.001	0.002	<0.002
Iron	mg/L	0.01				0.3	0.06	<0.01	<0.010	0.159
Lead	mg/L	0.001	0.002			0.001	<0.001	<0.0001	<0.001	<0.001
Zinc	mg/L	0.005	0.089	0.03		0.02	<0.005	<0.005	<0.005	<0.005

NOTES:

Parameter is above Table A

Parameter is above Table B-CW 128

Parameter is above ODWS

Parameter is above the PWQO

RDL/MDL - Method Detection Limit, MDL for cadmium is above Table A & B criteria



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