Land Use Compatibility and Preliminary Air Quality and Odour Impact Study

Elfrida Community

Elfrida Community Builders Group Inc.

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SLR Project No.: 241.032028.00001

March 11, 2025

Revision: 0

Revision Record

Revision	Date	Prepared By	Checked By	Authorized By
0	March 11, 2025	D. Freeman A. Najjar	N. Taylor	N. Taylor D. Freeman

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Executive Summary

SLR Consulting (Canada) Ltd. (SLR), was retained by Elfrida Community Builders Group Inc. to conduct a Land Use Compatibility and Preliminary Odour Impact study focused on air quality and fugitive odour emissions related to the GFL Stoney Creek Regional Facility landfill site (“the Facility”).

The study has been completed in support of a proposed urban boundary expansion which includes over 1,200 hectares of land in the Elfrida neighbourhood of Hamilton (“the Project site”).

Based on the review of mixed odour data made available to the public and measurements collected, the Facility operations have the potential to generate detectable mixed odours beyond the limits of the property boundary.

The mixed odours were typically identified as objectionable and consist primarily of metallic and sulphurous odours. The mixed odours have primarily been detected relatively close to the Facility property boundary and in alignment with the predominant wind directions.

The odour information collected and reviewed for this report was observed from sidewalks and other publicly accessible areas. Weather conditions during the site visits were recorded in the field notes. Odour concentration at elevated receptors such as apartment buildings were not assessed.

The Facility is currently surrounded by low density residential uses and urban parks located closer to the Facility than the Project site. Therefore, the requirements associated with operating within the permissions of the Amended ECA are constrained by the current Urban Boundary and surrounding land uses.

The odour detections observed to date have been less than 1000 m from the Facility. In reviewing the location of the Project site, relative to Facility, only a small portion of the Project site lands are located within this potential Area of Influence.

Based on a review of local meteorology the majority of the Project site is buffered from the Facility emissions by existing sensitive receptors. Further, the winds with the potential to direct Facility emissions to the closest portions of the Project site are predicted to occur less than 10% of the time.

Based on the work completed to-date, the inclusion of the Project site lands into the Urban Boundary will not create a new condition for environmental compliance for the Facility.

Further, it is the opinion of SLR that residential uses are feasible on the Project site. For the small portion of the Project site that is located within the Area of Influence of the Facility, mitigation measures can be considered as follows.

To address the potential for future complaints, it is possible to use Warning Clauses and receptor based physical mitigation measures in the architectural design of the Project land structures that are located within 500 m of the Facility. The mitigation measures that may be considered include buffering of sensitive land uses, strategic location of fresh air intakes facing away from the Facility, installation of carbon and MERV rated filters, and if appropriate, positive pressurization of building features.

It is recommended that an additional air quality study be undertaken to evaluate the need for mitigation in relation to odour emissions from the Facility once more details are provided at the Project. Additional studies can be completed in conjunction with future planning applications, further along in the planning process.

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Acronyms and Abbreviations

D/T	Detection Threshold
ECA	Environmental Compliance Approval
ECO	Environmental Commissioner of Ontario
EPA	Ontario Environmental Protection Act
MECP	Ministry of the Environment, Conservation and Parks
MMAH	Ontario Ministry of Municipal Affairs and Housing
PPS	Provincial Planning Statement
QA/QC	Quality Assurance/Quality Control
ToR	Terms of Reference

1.0 Introduction

SLR Consulting (Canada) Ltd. (SLR), was retained by Elfrida Community Builders Group Inc. to conduct a Land Use Compatibility and Preliminary Odour Impact study focused on air quality and fugitive odour emissions related to the GFL Stoney Creek Regional Facility landfill site ("the Facility").

The study has been completed in support of a proposed urban boundary expansion which includes over 1,200 hectares of land in the Elfrida neighbourhood of Hamilton ("the Project site").

This assessment has been conducted in accordance with the Terms of Reference (ToR) prepared by SLR, dated January 17, 2025 and submitted to the City of Hamilton for review. A copy of the ToR is provided in Appendix A.

This preliminary assessment has considered air quality and odour and emissions from the Facility.

In this assessment, SLR has reviewed the surrounding land uses and the existing Facility with respect to the following guidelines:

- The Provincial Planning Statement;
- Ministry of the Environment, Conservation and Parks ("MECP") D-Series Guidelines;
- Environmental Commission of Ontario (ECO) Odour Policy Framework, 2010; and
- Ontario Regulation 419/05: *Air Pollution – Local Air Quality* and its associated air quality standards and assessment requirements.

The intent of this report is to identify any existing and potential land use compatibility issues and to identify and evaluate options to achieve appropriate design, buffering and/or separation distances between the surrounding sensitive land uses, including residential uses, and nearby Employment Areas and/or major facilities.

2.0 Description of Development and Surroundings

2.1 Proposed Development

The Project site includes the lands between Mud Street East and Golf Club Road in the north-south direction and between Upper Centennial Parkway and Hendershot Road/Second Road East in the east west direction. Additionally, the Project site includes the majority of the lands between Trinity Church Road and Regional Road 56 in the east-west direction and between Rymal Road East and Golf Club Road in the north-south direction.

The majority of the Project site is currently occupied by agricultural lands, with some commercial and residential uses.

The Project site is proposed to support a mixed-use residential community. At this early stage in the planning process, the site planning is incomplete, and designation of land uses within the Project site has not been established.

A location and context plan are provided in Figure 1.

2.2 Surroundings

Surrounding the Project site are residential uses to the west, and agricultural lands to the north, east and south. The southeast corner of the Facility property boundary is located approximately 130 m northwest of the northwest corner of the Project site.

2.3 Land Use Designations in the Area

The sections to follow outline the current land use designations under the City of Hamilton two Official Plans (OPs) and the City of Hamilton Zoning By-Law 05-200.

2.3.1 City of Hamilton Official Plan

The sections to follow outline the current land use designations under the City of Hamilton two Official Plans (OPs), the Urban Hamilton Official Plan (UHOP) adopted August 16, 2013, and the Rural Hamilton Official Plan (RHOP) adopted March 7, 2012.

An excerpt from the City of Hamilton Official Plan Maps for the area is provided in Figures 2a and 2b. The Project site is designated as Open Space, Rural and Agriculture. The Facility is designated as Neighbourhoods.

2.3.2 City of Hamilton Zoning By-Law 05-200

An excerpt from the City of Hamilton Zoning Map for the area is provided in Figure 3.
The Project site is currently a mix of following Zones:

- Highway Commercial (HC);
- Open Space (OS);
- Agricultural (A);
- Rural Industrial (MR);
- Existing Rural Industrial / Rural Industrial (E2);
- Rural Commercial (RC);
- Rural Residential (RR); and
- Small Scale Institutional (IS).

The Facility is Zoned Extractive Industrial ME-1.

3.0 Assessment Framework

The intent of this report is to identify any existing and potential land use compatibility issues and to identify and evaluate options to achieve appropriate design, buffering and/or separation distances between the surrounding sensitive land uses, including residential uses, and nearby Employment Areas and/or major facilities. Recommended measures intended to eliminate or mitigate negative impacts and adverse effects are provided.

The requirements of the Ontario planning regime are organized such that generic policy is informed by specific policy, guidance, and legislation, as follows:

- The Ontario Planning Act, Section 2.1 – sets the ground rules for land use planning in Ontario, whereby planning decisions have regard to matters of provincial interest including orderly development, public health, and safety; then
- The Provincial Planning Statement ("PPS") sets out goals – making sure adjacent land uses are compatible from a health and safety perspective and are appropriately buffered; then
- The MECP D-series of guidelines set out methods to determine if assessments are required (Areas of Influence, Recommended Minimum Separation Distances, and the need for additional studies); then
- MECP and Municipal regulations, policies, standards, and guidelines then set out the requirements of additional air quality studies and the applicable policies, standards, guidelines, and objectives to ensure that adverse effects do not occur.

3.1 Ontario Planning Act

The Ontario Planning Act is provincial legislation that sets out the ground rules for land use planning in Ontario. It describes how land uses may be controlled, and who may control them. "The purpose of the Act is to:

- provide for planning processes that are fair by making them open, accessible, timely and efficient;
- promote sustainable economic development in a healthy natural environment within a provincial policy framework;
- provide for a land use planning system led by provincial policy;
- integrate matters of provincial interest into provincial and municipal planning decisions by requiring that all decisions be consistent with the Provincial Planning Statement and conform/not conflict with provincial plans;
- encourage co-operation and coordination among various interests;
- recognize the decision-making authority and accountability of municipal councils in planning"[1]

Section 2.1 of the Ontario Planning Act describes how approval authorities and Tribunals must have regard to matters of provincial interest including orderly development, public health, and safety.

3.2 Provincial Planning Statement

The PPS "provides policy direction on matters of provincial interest related to land use planning and development. As a key part of the Ontario policy-led planning system, the Provincial Planning Statement sets the policy foundation for regulating the development and use of land. It also supports the provincial goal to enhance the quality of life for all Ontarians."

[1] https://www.ontario.ca/document/citizens-guide-land-use-planning/planning-act

The PPS is a generic document, providing a consolidated statement of the government policies on land use planning and is issued under section 3 of the Planning Act. Municipalities are the primary implementers of the PPS through policies in their local official plans, zoning by-laws and other planning related decisions.

The Province of Ontario approved PPS came into effect on October 20, 2024. Policy direction concerning land use compatibility is provided in the following sections of the PPS.

> "Policy 2.8.3: *In addition to Policy 3.5, on lands within 300 metres of employment areas, development shall avoid, or where avoidance is not possible, minimize and mitigate potential impacts on the longterm economic viability of employment uses within existing or planned employment areas, in accordance with provincial guidelines.*
>
> *Policy 3.5.1: Major facilities and sensitive land uses shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of major facilities in accordance with provincial guidelines, standards and procedures.*
>
> *Policy 3.5.2: Where avoidance is not possible in accordance with Policy 3.5.1, planning authorities shall protect the long-term viability of existing or planned industrial, manufacturing or other major facilities that are vulnerable to encroachment by ensuring that the planning and development of proposed adjacent sensitive land uses is only permitted if potential adverse affects to the proposed sensitive land use are minimized and mitigated, and potential impacts to industrial, manufacturing or other major facilities are minimized and mitigated in accordance with provincial guidelines, standards and procedures.*
>
> *Policy 5.1.1: Development shall be directed away from areas of natural or human-made hazards where there is an unacceptable risk to public health or safety or of property damage, and not create new or aggravate existing hazards*."

The goals of the PPS are implemented through Municipal and Provincial policies, as discussed below. Provided the Municipal and Provincial policies, guidelines, standards, and procedures are met, the requirements of the PPS will be met.

3.3 D-Series of Guidelines

The D-series of guidelines were developed by the MECP in 1995 as a means to assess Recommended Minimum Separation Distances and other control measures for land use planning proposals in an effort to prevent or minimize 'adverse effects' from the encroachment of incompatible land uses where a facility either exists or is proposed. D-series guidelines address sources including sewage treatment (Guideline D-2), gas and oil pipelines (Guideline D-3), landfills (Guideline D-4), water services (Guideline D-5) and industries (Guideline D-6).[2]

[2] https://www.ontario.ca/page/environmental-land-use-planning-guides

For this assessment, the applicable guideline is Guideline D-4 - *Land Use On or Near Landfills and Dumps*.

Sensitive Land Use is defined in the D-Series Guidelines as:

“A building, 'amenity area' or outdoor space where routine or normal activities occurring at reasonably expected times would experience 1 or more 'adverse effect(s)' from contaminant discharges generated by a nearby 'facility'. The 'sensitive land use' may be a part of the natural or built environment. Depending upon the particular 'facility' involved, a sensitive land use and associated activities may include one or a combination of:

I. residences or facilities where people sleep (e.g. single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.). These uses are considered to be sensitive 24 hours/day.

II. a permanent structure for non-facility related use, particularly of an institutional nature (e.g. schools, churches, community centres, day care centres).

III. certain outdoor recreational uses deemed by a municipality or other level of government to be sensitive (e.g. trailer park, picnic area, etc.).

IV. certain agricultural operations (e.g. cattle raising, mink farming, cash crops and orchards).

V. bird/wildlife habitats or sanctuaries.”

Adverse effect is a term defined in the Environmental Protection Act and “means one or more of

- impairment of the quality of the natural environment for any use that can be made of it,
- injury or damage to property or to plant or animal life,
- harm or material discomfort to any person,
- an adverse effect on the health of any person,
- impairment of the safety of any person,
- rendering any property or plant or animal life unfit for human use,
- loss of enjoyment of normal use of property, and
- interference with the normal conduct of business”.

3.3.1 Guideline D-4 Requirements

The D-4 Guideline restricts and controls land use in the vicinity of landfills and dumps. The guideline is applicable to proposals for land use on or near, operating, and non-operating landfills.

Landfill generated gases, particularly the migration of methane gas, are some of the factors listed for consideration. For land uses within 500 m of a fill area, an evaluation of the presence and impact of any adverse effects (e.g., nuisance to human) is required, and remedial measures must be taken, where necessary. A copy of the Guideline is provided in Appendix B.

There is no methodology specified by the D-series guidelines to evaluate the impact of odour nuisances.

4.0 GFL Facility

The Guideline D-4 potential Areas of Influence from the Facility in relation to the Project site are shown in Figures 4a and 4b.

In Ontario, facilities that emit significant amounts of contaminants to the environment are required to obtain and maintain an Environmental Compliance Approval ("ECA") from the MECP or submit an Environmental Activity and Sector Registry ("EASR"). ECAs/ EASRs within 1 km of the site were obtained from the MECP *Access Environment* website[3].

The GFL waste management Facility is located approximately 130 m northwest of the Project site. The Facility operates under MECP Amended ECA Number A181008, dated January 13, 2023. The Facility was issued a Provincial Officer's Order on April 10, 2024, associated, in part, with a requirement to control fugitive odour generation from the operations. Copies of the MECP permit and Provincial Officer's Order are provided in Appendix C.

Based on a review of available information, the Facility operating hours are Monday to Friday 7:00 am to 5:00 pm, and Saturdays and Sundays 8:00 am to 4:00 pm.

5.0 Preliminary Odour Impact Study of Stoney Creek Regional Facility

5.1 SLR Field Monitoring Program

In order to assess potential odour emissions from the Facility at this early stage in the planning process, SLR conducted a screening level odour monitoring program. The monitoring program included:

- The completion of five site visits undertaken over five different weekdays and at different two-hour intervals throughout the day. Site visits were not conducted during precipitation events.
- Where odours were identified, the nature, objectionability and strength of the odours (dilution thresholds) were measured using a handheld nasal olfactometer ("Nasal Ranger").
- Measurements were taken within the public domain in proximity to the landfill Facility.

Detailed quantitative air dispersion modelling using the MECP-approved US EPA AERMOD model was not completed in conjunction with the work.

[3] https://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/GoSearch.action

5.2 SLR Field Monitoring Program Equipment

A field olfactometer[4] was used by SLR personnel during sampling events to quantify the magnitude of the detected mixed odours in units referred to as a detection threshold ("D/T"). For example, a D/T value of 2 means that the sample needs to be diluted by a ratio of 2:1 to be at the level of one Odour Unit ("OU"). There are six D/T ranges available on the unit. <2 to 4 are generally considered faint odours, 7 to 15 are representative of moderate odours, and 30 to 60 are considered strong odours. The D/T values recorded during the site visits are converted to a 10-minute odour unit (OU) value using the averaging period conversion equation recommended by the MECP and based on Table 7-1 in the MECP Guideline A-10, entitled "Procedure for Preparing an ESDM Report[5]".

SLR personnel that conducted the field odour measurements have been subjected to odour sensitivity testing where their sense of smell is tested with the St. Croix Sensory Inc. Odour Sensitivity Testing Kits. The odour sensitivity tests provide an understanding of how tested personnel are representative of the average population. The nasal olfactometer used in this study was calibrated by St. Croix Sensory Inc. Calibration information pertaining Field Olfactometer and the sensitivity testing of the SLR Personnel used in the field program is provided in Appendix D.

5.3 SLR Quality Assurance/Quality Control

Detailed field notes were recorded throughout the program, including location, odour observations, odour measurements and meteorological conditions at the time of the site visit. A sample of a completed field note is provided in Appendix E.

5.4 Preliminary SLR Odour Monitoring Results

SLR personnel conducted a limited scope, five-day monitoring program for fugitive odour emissions from February 10, 2025 to February 20, 2025. The monitoring was completed using a nasal olfactometer to record observed odour dilution thresholds. To evaluate the potential influence of operating conditions, measurements were taken at different times on different weekdays throughout the monitoring period.

During each day, the perimeter of the Facility was monitored. When an odour was detected near the Facility property boundary, SLR personnel would retreat to a greater distance to evaluate the maximum distance away from the Facility at which the odour was detected.

The data from the weekly odour monitoring is summarized in Table 2.

[4] https://www.fivesenses.com/equipment/nasalranger/nasalranger/

[5] https://www.ontario.ca/document/guideline-10-procedure-preparing-emission-summary-and-dispersion-modelling-esdm-report#section-7

Based on a review of Table 2, the following is provided:

- 5 monitoring events were conducted;
- The majority of the maximum observed odour detections were less than 2 D/Ts;
- a D/T range of 2 to 4 was observed on 3 out of 5 sampling events;
- a D/T range of 4 to 7 was observed on 2 out of 5 sampling events;
- a D/T range of 7 to 15 was observed on 1 out of 5 sampling events;
- a D/T range of 15 to 30 was observed on 2 out of 5 sampling events;
- a D/T of greater than 30 was observed on 1 out of 5 sampling events;
- The majority of detection occurred within 100 m of the property boundary; and
- The furthest distance from the Facility that odour was detected was approximately 950 m.

5.5 External Data Reviews

5.5.1 Ministry of Environment, Conservation and Parks Facility Information

SLR recognizes that complaint history can be useful in evaluating land use compatibility. Therefore, SLR submitted a request related to complaint history with MECP through their Environmental Property Information (EPI) Program. The EPI results are provided in Appendix F. The EPI results for the Facility indicate that there are a variety of documents of interest. These documents include air permits, incident reports, and abatement and occurrence reports. SLR advanced an FOI request to review relevant reports. At the time of preparation of this report a response from the FOI requests had not been received.

5.5.2 GFL Annual Reporting

As required by the Amended ECA, the Facility is required to participate and support a Community Liaison Committee (CLC) through which information related to the operation of the Facility can be shared and comments on the operations from the public participants can be received. The Terms of Reference for the CLC are located in Schedule G of the Amended ECA.

Annual reports on the Facility operations are shared with the CLC and broader public through a dedicated web portal (https://gflstoneycreek.com/). To supplement the scoped odour monitoring program, SLR conducted a cursory review of the odour complaint information provided in the Annual Reports prepared by the Facility and available online[6]. A summary of the complaints information is provided in Table 1.

Based on a review of Table 1, Odour complaints increased substantially in 2023 over previous years, with the majority of complaints received in the fall season between September and November.

[6] https://gflstoneycreek.com/document-library

5.5.3 GFL Weekly Monitoring

In addition to the annual reports, the Facility has been conducting weekly monitoring for fugitive odour emissions since June 27, 2024. The weekly monitoring reports are also provided on the CLC website. Similar to the SLR monitoring program, the weekly monitoring was completed using a field olfactometer.

The data from the weekly odour monitoring is summarized in Table 3.

Based on a review of Table 3 the following is provided:

- 35 monitoring events have been conducted to date;
- The majority of the maximum observed odour detections were less than 2 D/Ts;
- a D/T range of 2 to 4 was observed on 8 out of 35 sampling events;
- a D/T range of 4 to 7 was observed on 2 out of 35 sampling events;
- a D/T range of 7 to 15 was not observed during the 35 sampling events;
- a D/T range of 15 to 30 was observed on 1 out of 35 sampling events;
- a D/T of greater than 30 was observed on 1 out of 35 sampling events;
- The majority of detection occurred within 100 m of the property boundary;
- The furthest distance from the Facility that odour was detected was approximately 540 m; and
- The majority of odour detections occurred during the Fall season and the months of September to November.

5.6 Meteorological Data

Surface wind data was obtained to generate a wind rose from data collected at the Hamilton Airport from 2015 through 2019, as shown in Figure 5. As can be seen in the wind rose, predominant winds are from the northeast and southwest quadrants, while winds from the northwest and southeast quadrants may be the least frequent.

Figure 6 provides an overlay of the wind rose on the Facility. Based on a review of Figure 6, the majority of the Project site is buffered from the Facility emissions by existing sensitive receptors. Further, the winds with the potential to direct Facility emissions to the closest portions of the Project site are predicted to occur less than 10% of the time.

6.0 Mixed Odour Criteria

There are a select few compounds that are provincially regulated from an odour perspective; however, there is no formal regulation with respect to mixed odours. Impacts from mixed odours produced by industrial facilities are generally only considered and regulated by the MECP in the presence of persistent complaints (ECO 2010)[7].

[7] Environmental Commissioner of Ontario (ECO, 2010), Review of Posted Decision: Developing an Odour Policy Framework, April 2010.

The MECP assesses mixed odours, in Odour Units, following draft guidelines. One odour unit (1 OU) has been used as a default threshold. This is the concentration at which 50% of the population will just detect an odour (but not necessarily identify/recognize or object to it). Recognition of an odour will typically occur between 3 and 5 odour units. The following factors may be considered:

- **Frequency** – How often the odour occurs. The MECP typically allows odours to exceed 1 OU with a 0.5 % frequency.
- **Intensity** – The strength of the odour, in odour units. 1 OU is often used in odour assessments in Ontario.
- **Duration –** How long the odour occurs.
- **Offensiveness** – How objectionable the odour is.
- **Location** – Where the odour occurs. The MECP assesses odours where human activity is likely to occur.

The MECP has decided to apply odour-based standards to locations “where human activities regularly occur at a time when those activities regularly occur,” which is generally accepted to be places that would be considered sensitive such as residences and public meeting places.

Based on a review of the scientific literature entitled "Protocols for Reliable Field Olfactometry Odor Evaluations”[8] the use of field Olfactometry achieved a 95% odour panel confidence for D/Ts less than 4. Some variability in odour panel confidence and field olfactometry was observed for D/Ts between 7 and 15. Further, this document outlines that eight US States use field olfactometry limits of 7-15 D/Ts for defining selected nuisance odour conditions.

7.0 Conclusions

Based on the review of mixed odour data made available to the public and measurements collected, the Facility operations have the potential to generate detectable mixed odours beyond the limits of the property boundary.

The mixed odours were typically identified as objectionable and consist primarily of metallic and sulphurous odours. The mixed odours have primarily been detected relatively close to the Facility property boundary and in alignment with the predominant wind directions.

The odour information collected and reviewed for this report was observed from sidewalks and other publicly accessible areas. Weather conditions during the site visits were recorded in the field notes. Odour concentration at elevated receptors such as apartment buildings were not assessed.

The Facility is currently surrounded by low density residential uses and urban parks located closer to the Facility than the Project site. Therefore, the requirements associated with operating within the permissions of the Amended ECA are constrained by the current Urban Boundary and surrounding land uses.

The odour detections observed to date have been less than 1000 m from the Facility.
In reviewing Figure 4a, only a small portion of the Elfrida Community Builders Group lands are located within this potential Area of Influence.

[8] https://www.fivesenses.com/media/Brandt%20et%20al-2011_ProtocolsForReliableFieldOlfactometry_ApplEngAG.pdf

Based on a review of Figure 6, the majority of the Project site is buffered from the Facility emissions by existing sensitive receptors. Further, the winds with the potential to direct Facility emissions to the closest portions of the Project site are predicted to occur less than 10% of the time.

Based on the work completed to date, the inclusion of the Project site lands into the Urban Boundary will not create a new condition for environmental compliance for the Facility.

8.0 Recommendations

Based on the monitoring completed to date, it is the opinion of SLR that residential uses are feasible on the Project site. For the small portion of the Project site that is located within the Area of Influence of the Facility, mitigation measures can be considered. Further, that inclusion of the lands into the Urban Boundary will not create a new condition for environmental compliance for the Facility.

To address the potential for future complaints, it is possible to use Warning Clauses and receptor based physical mitigation measures in the architectural design of the Project land structures that are located within 500 m of the Facility. The mitigation measures that may be considered include buffering of sensitive land uses, strategic location of fresh air intakes facing away from the Facility, installation of carbon and MERV rated filters, and if appropriate, positive pressurization of building features.

It is recommended that an additional air quality study be undertaken to evaluate the need for mitigation in relation to odour emissions from the Facility once more details are provided at the Project. Additional studies can be completed in conjunction with future planning applications, further along in the planning process.

9.0 Closure

Should you have any questions or concerns regarding our results, please do not hesitate to contact us.

Regards,

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10.0 References

Environmental Commissioner of Ontario (ECO, 2010), *Review of Posted Decision: Developing an Odour Policy Framework*, April 2010.

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1995), Guideline D-1: *Land Use Compatibility*

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1994), Guideline D-4: *Land Use on or Near Landfills and Dumps*

Ontario Ministry of the Environment, Conservation & Parks (MECP, 2008), *Technical Bulletin, Standards Development Branch, Methodology For Modelling Assessments Of Contaminants With 10-Minute Average Standards And Guidelines Under O. Reg. 419/05*, September 2016

Ontario Ministry of Municipal Affairs and Housing (MMAH, 2024). *Provincial Planning Statement*

Ontario Regulation 419/05 – *Local Air Quality.*

R. C. Brandt, M. A. A. Adviento-Borbe, H. A. Elliott, E. F. Wheeler, American Society of Agricultura and Biological Engineers, 2011, ISSN 0883-8542*, Protocols For Reliable Field Olfactometry Odor Evaluations*

Tables

Land Use Compatibility and Preliminary Air Quality and Odour Impact Study

Elfrida Community

Elfrida Community Builders Group Inc.

SLR Project No.: 241.032028.00001

March 11, 2025

Table 1: Summary of Annual Odour Complaints

Year	Number of Complaints Recived by Facility	Determined to be From Facility Operations	Season											
			Winter (Dec-Mar)			Spring (Apr-May)			Summer (June-August)			Fall (October-November)		
Month			December	January	February	March	April	May	June	July	August	September	October	November
2015	3	2			1			2						
2016	9	7					1	4		1	1	2		
2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2018	6	5					1	2	1		1			1
2019	7	4				1	1	1		1		1		2
2020	3	3					1	2						
2021	7	5					1					4		2
2022	5	5						2			3			
2023	170	164	5				2	4	5	7	15	88	39	5
Total	**210**	**195**	**5**	**0**	**1**	**1**	**7**	**17**	**6**	**9**	**20**	**95**	**39**	**10**
Seasonal Totals			**6**			**25**			**35**			**144**		

Notes

-- 2017 Report not available on-line

Table 2: Summary of Weekly Odour Detections - July 2024 to February 2025

	Number and Strength of Odour Detections					Approx Max. Detection Distance from Landfill Boundary (m)	Location of Maximum Detection
Date	D/T <2	D/T 2	D/T 4	D/T 15	D/T 30		
27-Jun-24	1					120	Centennial Pkwy
4-Jul-24	4					0	Property Boundary
9-Jul-24	**	**	**	**	**	**	**
23-Jul-24	**	**	**	**	**	**	**
30-Jul-24	7					0	Property Boundary
6-Aug-24	2					100	Dog Park
13-Aug-24	**	**	**	**	**	**	**
20-Aug-24	**	**	**	**	**	**	**
4-Sep-24	4					0	Property Boundary
12-Sep-24	**	**	**	**	**	**	**
17-Sep-24	3	1				200	Waterbridge/Trafalgar
24-Sep-24	4					120	Centennial Pkwy
1-Oct-24	7					200	Scarletwood/Bradshaw
8-Oct-24	3					90	Hedges
9-Oct-24	4					120	Centennial Pkwy
11-Oct-24	7					540	Sports Fields Parking Lot
15-Oct-24	2					120	Centennial Pkwy
22-Oct-24	4	2				200	Scarletwood/Bradshaw
29-Oct-24	2	1				200	Scarletwood/Bradshaw
5-Nov-24	6	1				200	Scarletwood/Bradshaw
12-Nov-24	14	1			1	200	Waterbridge/Trafalgar
19-Nov-24	3	1		1		100	Dog Park
26-Nov-24	6	2				100	Utter Place
3-Dec-24	**	**	**	**	**	**	**
10-Dec-24	3					0	Property Boundary
17-Dec-24	**	**	**	**	**	**	**
24-Dec-24	4	1				100	Dog Park
31-Dec-24	2					100	Dog Park
7-Jan-25	2					0	Property Boundary
14-Jan-25	2					120	Centennial Pkwy
21-Jan-25	2					100	Utter Place
28-Jan-25	4					0	Property Boundary
4-Feb-25			2			0	Property Boundary
11-Feb-25	2					0	Property Boundary
18-Feb-25	2		1			0	Property Boundary

Notes

** No Odours Detected

Table 3: Summary of SLR Collected Odour Data

	Number and Strength of Odour Detections						Approx Max. Detection Distance from Landfill Boundary (m)	Location of Maximum Detection
Date	D/T <2	D/T 2	D/T 4	D/T 7	D/T 15	D/T 30		
10-Feb-25	3	1	1				50	Centenial Pkwy/ Green Mountain Rd
12-Feb-25	1	1					125	Dog Park
14-Feb-25	2	1	1	1	1		220	Crafter Cres
18-Feb-25	1				1		50	Centenial Pkwy/ Green Mountain Rd
20-Feb-25	1					1	950	First Street

Figures

Land Use Compatibility and Preliminary Air Quality and Odour Impact Study

Elfrida Community

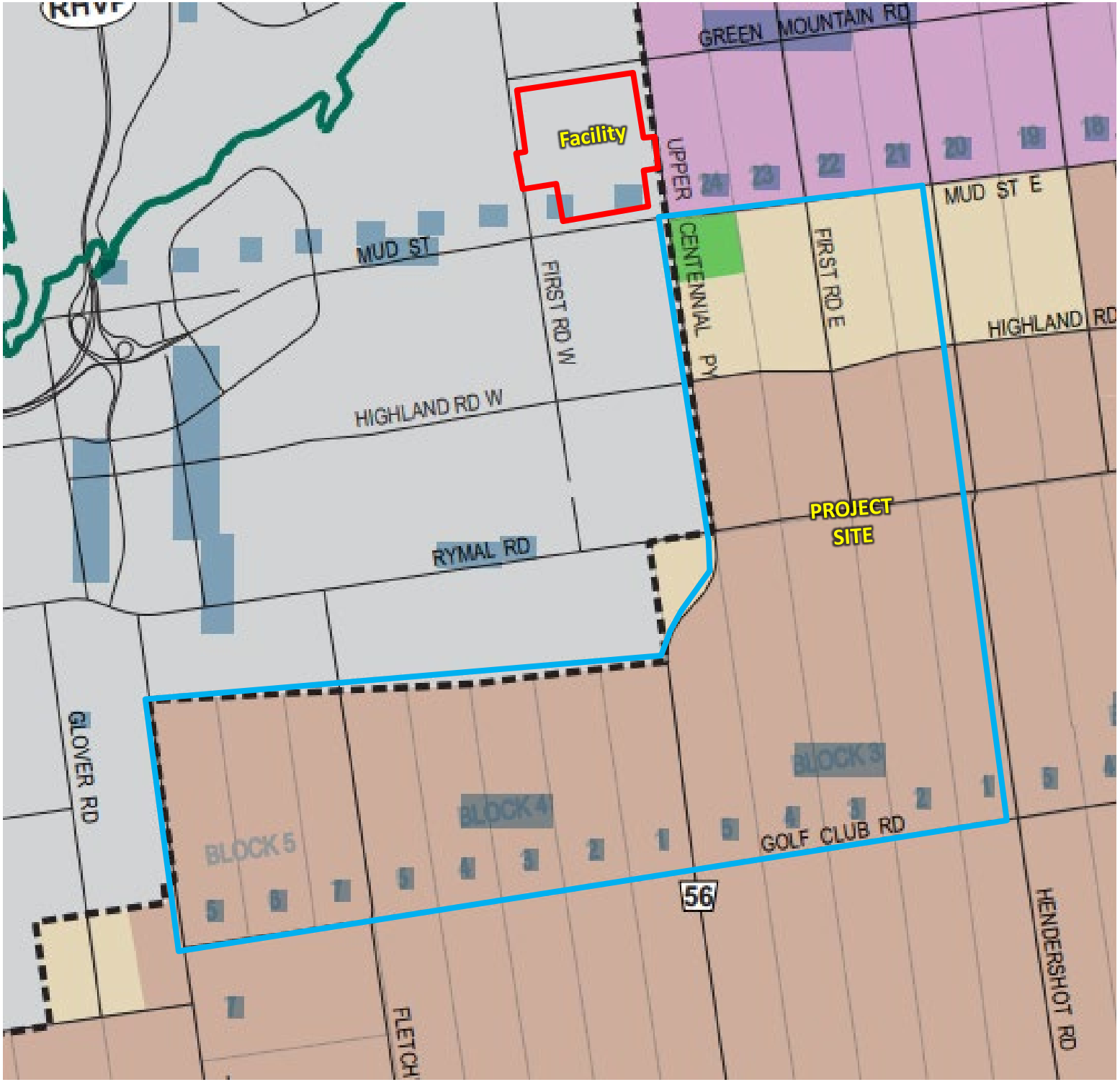
Elfrida Community Builders Group Inc.

SLR Project No.: 241.032028.00001

March 11, 2025

Aerial Photography from Bing

ELFRIDA COMMUNITY BUILDERS GROUP INC.	True North	Scale: 1:30,000	METRES	SLR
ELFRIDA NEIGHBOURHOOD		Date: Mar 11, 2025 Rev 0.0	Figure No. 1	
SITE AND CONTEXT PLAN		Project No. 241.032028.00001		



Legend

- Rural Settlement Areas

Rural Land Use Designations

- Agriculture
- Specialty Crop
- Rural
- Mineral Aggregate Resource Extraction Areas
- Open Space
- Utility

Other Features

- Urban Area
- John C. Munro Hamilton International Airport
- Niagara Escarpment
- Urban Boundary
- Municipal Boundary

True North

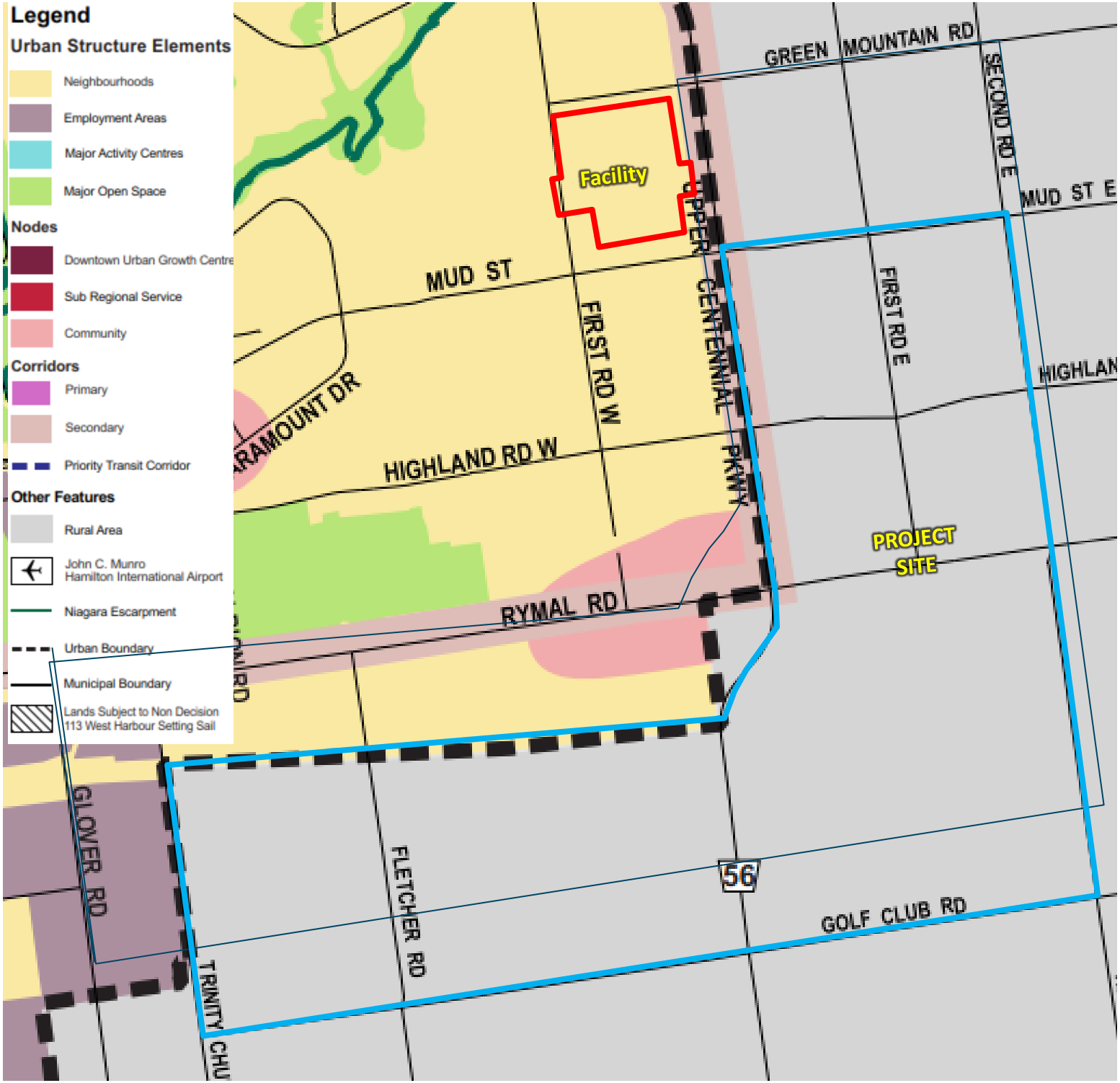
ELFRIDA COMMUNITY BUILDERS GROUP INC.

ELFRIDA NEIGHBOURHOOD

EXCERPT OF RURAL HAMILTON OFFICIAL PLAN SCHEDULE D

Scale:	n/a	METRES
Date: Mar 11, 2025	Rev 0.0	Figure No. 2a
Project No. 241.032028.00001		

SLR



True North

ELFRIDA COMMUNITY BUILDERS GROUP INC.

ELFRIDA NEIGHBOURHOOD

EXCERPT OF URBAN HAMILTON OFFICIAL PLAN SCHEDULE E

Scale: n/a		METRES
Date: Mar 11, 2025	Rev 0.0	Figure No. **2b**
Project No. 241.032028.00001		

SLR

True North

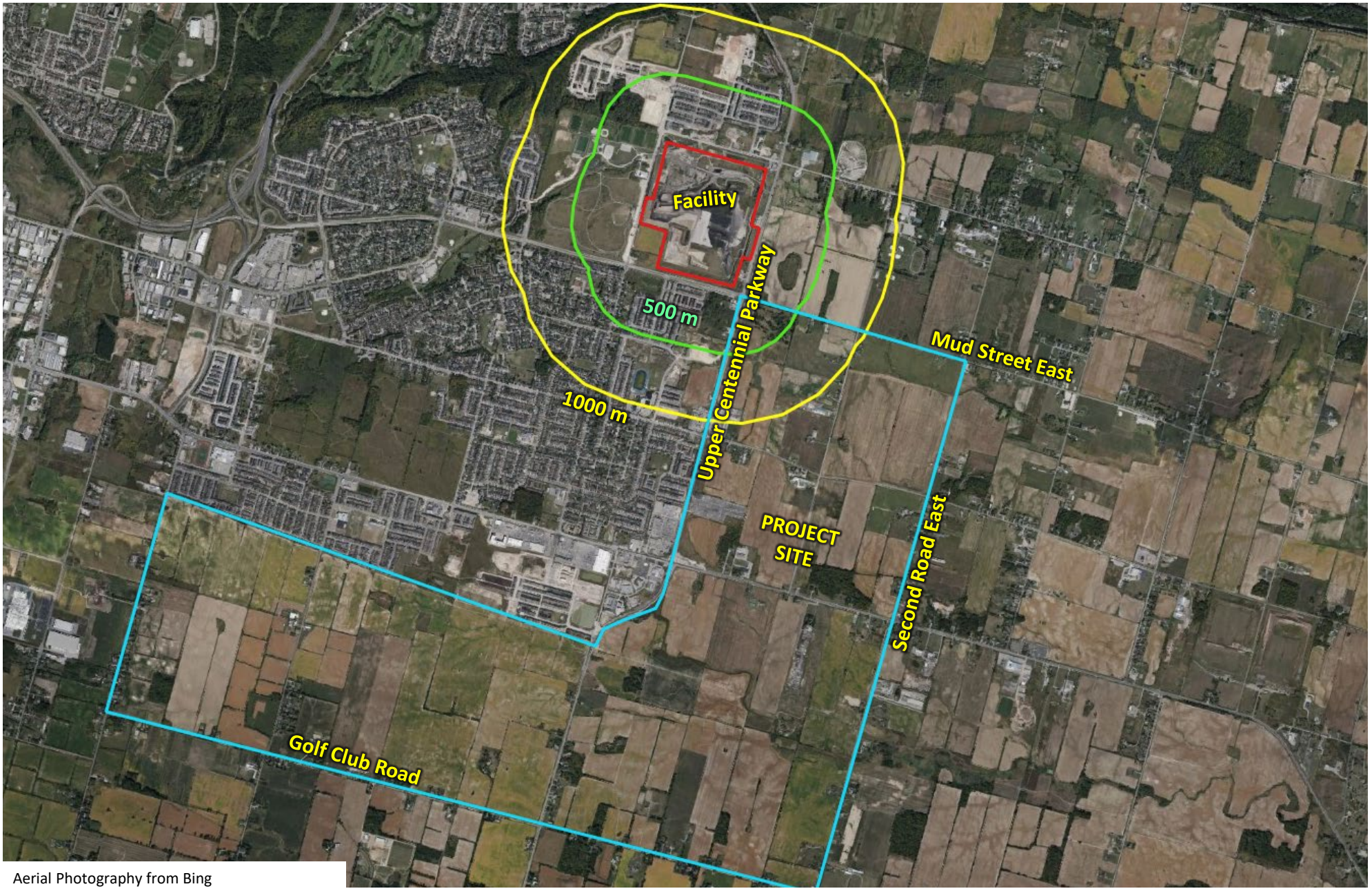
ELFRIDA COMMUNITY BUILDERS GROUP INC.

80 THIRTIETH ST. DEVELOPMENT
TORONTO, ONTARIO

EXCERPT FROM AREA ZONING MAP

Scale: n/a		METRES
Date: Mar 11, 2025	Rev 0.0	Figure No. 3
Project No. 241.032028.00001		

SLR



Aerial Photography from Bing

ELFRIDA COMMUNITY BUILDERS GROUP INC.	True North	Scale: 1:35,000	METRES	SLR
ELFRIDA NEIGHBOURHOOD		Date: Mar 11, 2025 Rev 0.0	Figure No. **4a**	
GUIDELINE D-4 SEPARATION DISTANCES TO 1000 METRES		Project No. 241.032028.00001		

Aerial Photography from Bing

True North

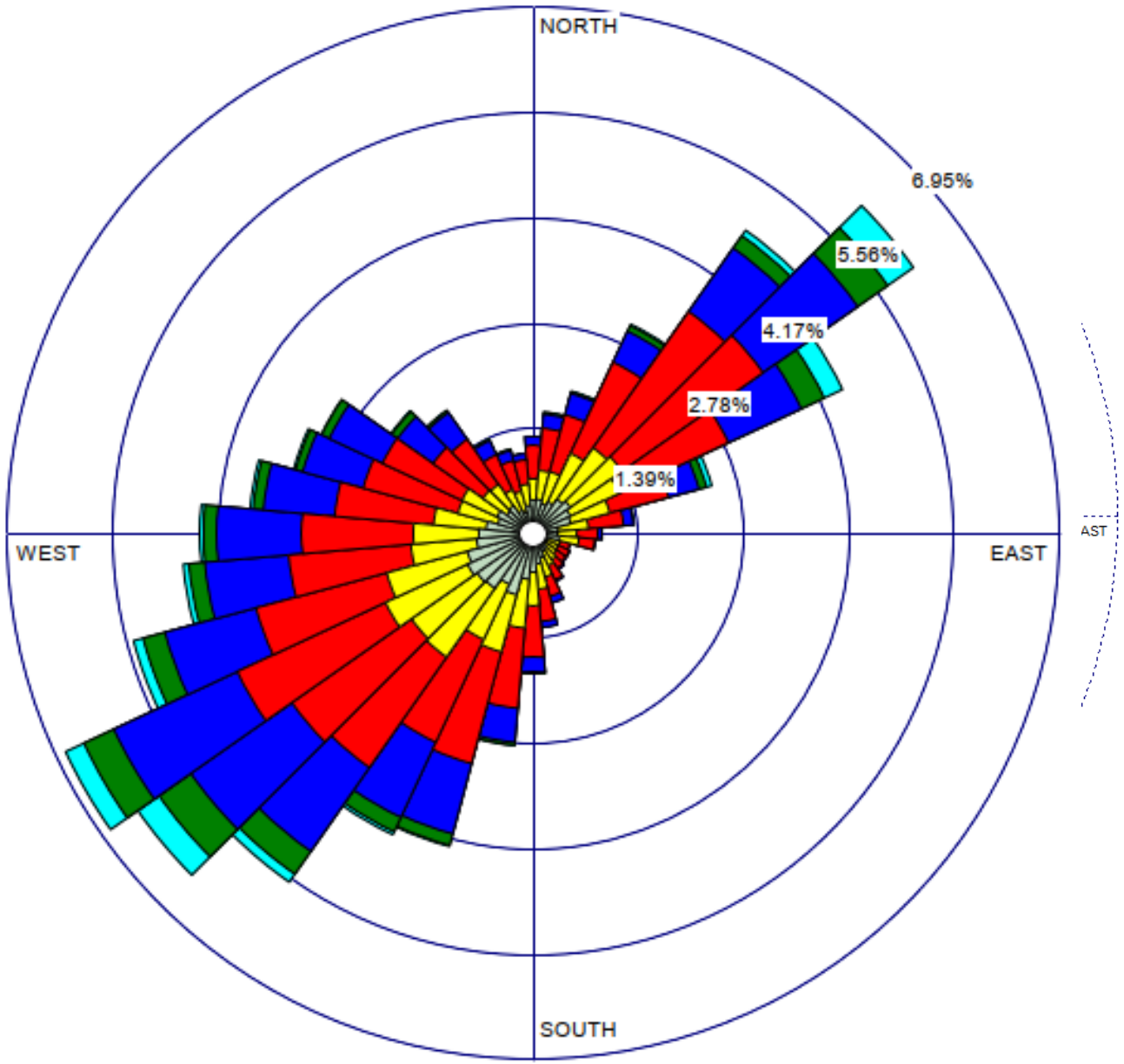
ELFRIDA COMMUNITY BUILDERS GROUP INC.

80 THIRTIETH ST. DEVELOPMENT
TORONTO, ONTARIO

GUIDELINE D-4 SEPARATION DISTANCES TO 500 METRES

Scale: 1: 35,000		METRES
Date: Mar 11, 2025	Rev 0.0	Figure No. **4b**
Project No. 241.032028.00001		

SLR



WIND SPEED
(m/s)

- >= 11.10
- 8.80 - 11.10
- 5.70 - 8.80
- 3.60 - 5.70
- 2.10 - 3.60
- 0.50 - 2.10

Calms: 1.47%

True North

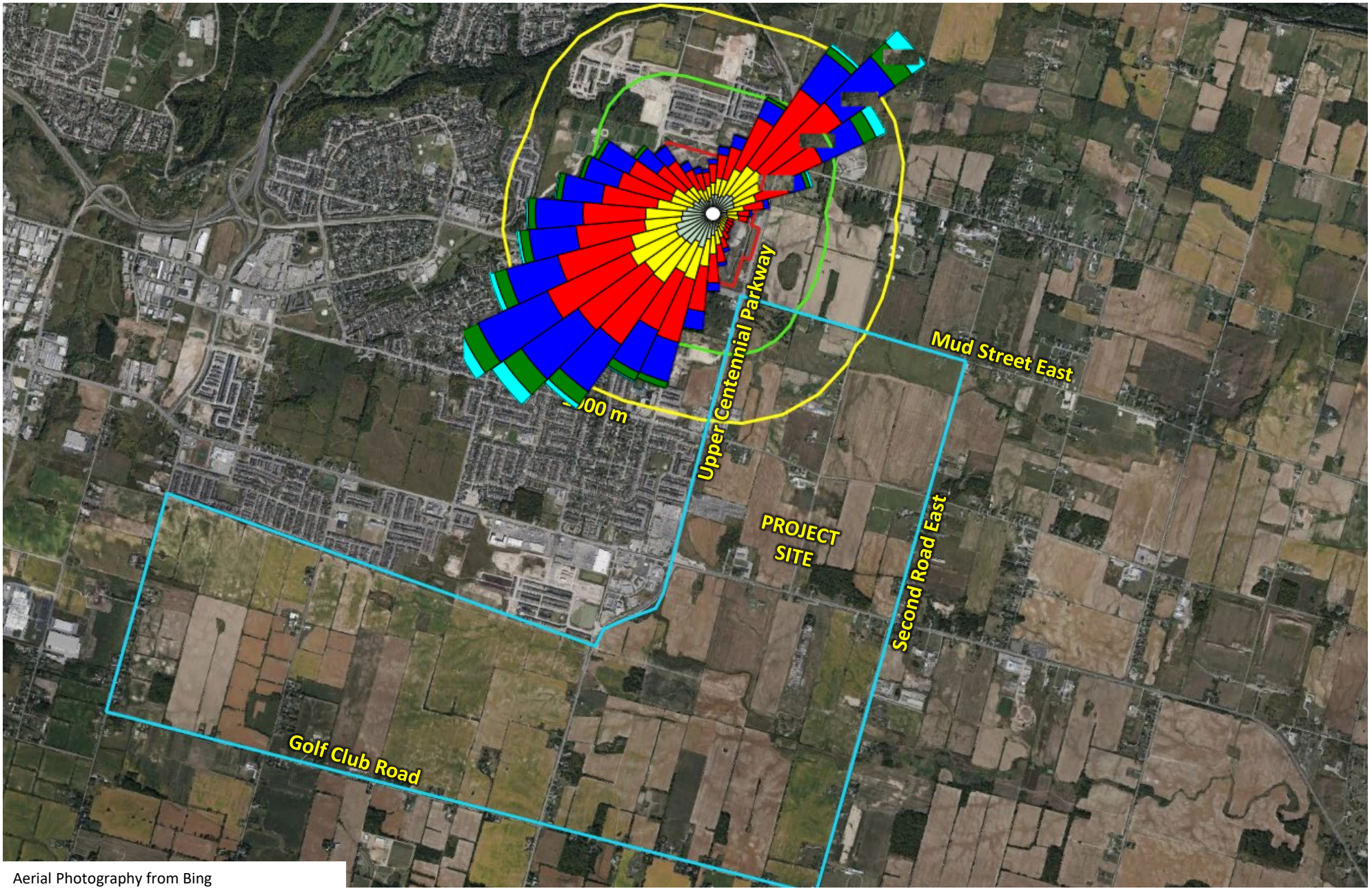
ELFRIDA COMMUNITY BUILDERS GROUP INC.

ELFRIDA NEIGHBOURHOOD

WIND FREQUENCY
DISTRIBUTION DIAGRAM
(WIND ROSE)
HAMILTON AIRPORT 2015-2019

Scale: n/a		METRES
Date: Mar 11, 2025	Rev 0.0	Figure No. **5**
Project No. 241.032028.00001		

SLR



Aerial Photography from Bing

ELFRIDA COMMUNITY BUILDERS GROUP INC.	True North	Scale: 1:35,000	METRES	SLR
ELFRIDA NEIGHBOURHOOD		Date: Mar 11, 2025 Rev 0.0	Figure No. 6	
OVERLAY OF WIND FREQUENCY DISTRIBUTION DIAGRAM (WIND ROSE) HAMILTON AIRPORT 2015-2019		Project No. 241.032028.00001		

Appendix A Study Terms of Reference

Land Use Compatibility and Preliminary Air Quality and Odour Impact Study

Elfrida Community

Elfrida Community Builders Group Inc.

SLR Project No.: 241.032028.00001

March 11, 2025

Technical Memorandum

To:	Planning Department	**From:**	Jenny Graham
Company:	City of Hamilton		**SLR Consulting (Canada) Ltd.**
cc:	Hatim Jefferjee, Delta Urban	**Date:**	January 17, 2025
		Project No.	241.032028.00001
		Revision	0

RE: Terms of Reference for Odour Impact Study
Elfrida Community, Hamilton

SLR Consulting (Canada) Ltd. ("SLR") is retained to provide air quality services related to the Elfrida Community in Hamilton, Ontario ("Project Site").

Delta Urban represents a large landowner group, encompassing over 1200 hectares in the Elfrida neighbourhood of Hamilton. The Project Site includes the lands between Mud Street East and Golf Club Road in the north-south direction and between Upper Centennial Parkway and Hendershot Road/Second Road East in the east west direction. Additionally, the Project Site includes the majority of the lands between Trinity Church Road and Regional Road 56 in the east-west direction and between Rymal Road East and Golf Club Road in the north-south direction.

Northwest of the Project Site is the Stoney Creek Landfill, which is permitted to receive non-hazardous municipal wastes. The operations have the potential to release air emissions in particular emissions of odour.

In support of the Official Plan Amendment (OPA) Application to bring the Project Site lands into the urban boundary, the City of Hamilton has requested an Odour Impact Study be completed. It is understood that the City does not have a specific Terms of Reference (ToR) for this study and has requested that Delta Urban/SLR develop a ToR for the review by the City prior to conducting the Odour Impact Study.

Given the preliminary stage of the Project Site approvals, a detailed Odour Impact Study is not proposed at this time. SLR proposes to conduct a Land Use Compatibility– Air Quality and Odour Impact Study following the Ministry of Environment, Conservation and Parks (MECP) D-Series of Guidelines. The results of this study will inform the next steps, including identification of where more detailed studies and/or air quality monitoring may be required within the Project Site.

The following sections outline the details comprising the proposed ToR for the Land Use Compatibility – Air Quality and Odour Impact Study which will consider air quality, including potential dust and odour emissions from the Stoney Creek Landfill operations.

1.0 Air Quality and Odour Impact Assessment

SLR will conduct the following scope of work:

- Collect odour observation data as part of a preliminary odour monitoring program. SLR will undertake five site visits over five different weekdays and at different times of the day. The site visits will not occur during precipitation events. During the site visits, if odours are identified, the nature, objectionability, and strength of the odours (dilution

thresholds) will be measured using a handheld nasal olfactometer (“Nasal Ranger”). Measurements will be taken within the public domain in proximity to the landfill, and on the Project Site where access is granted. As the project advances through the planning process the community odour monitoring plan can be expanded if there is evidence that odour emissions from the landfill operations are pervasive and offensive.

- Review the Ministry of the Environment, Conservation & Parks (“MECP”) Environmental Compliance Approvals (“ECAs”) for the Stoney Creek Landfill.
- Further effort will be put forth to obtain site specific information related to air quality, dust and odour emissions from the Stoney Creek Landfill. The landfill will be approached by SLR to request copies of the ECA Emissions Summary Tables, which should be made available to the public under the conditions of their MECP permit. If information cannot be obtained, reasonable operational aspects will be assumed.
- Request facility information including complaint history, process data, emissions data and expansion plans through the MECP Environmental Property Information (EPI) Program and Freedom of Information (FOI) process for the Stoney Creek Landfill. However, timely receipt of information through this process is not expected.
- Based on the above, classify the Stoney Creek Landfill in accordance with the MECP D-Series of Guidelines including Guideline D-4 and Guideline D-6. From the guideline, the applicable Areas of Influence and Recommended Minimum Separation Distances will be identified, and used to determine which portions of the Project Site have the potential for impacts from the landfill.
- Prepare a map identifying potential Areas of Influence and Recommended Minimum Separation Distances in accordance with the MECP D-Series Guidelines.
- The types of air quality emissions from the landfill will be identified based on the results of field work, the nature of the facility operations, and from any MECP ECAs which may exist.
- Review meteorological information for the area, including the directional frequency and strength of winds.
- Provide a discussion of the applicable Provincial air quality regulations, standards, policies, and guidelines, including Regulation 419/05 and various policy documents published by the MECP.
- Provide an initial qualitative, screening level, evaluation of the potential for adverse air quality impacts on sensitive portions of the Project site from the Stoney Creek Landfill.
- If excesses of the air quality regulations, standards, policies, and guidelines are shown, recommendations for more detailed studies and/or air quality monitoring may be provided for some locations within the Project Site.
- If applicable, conceptual mitigation measures will be identified, which could be incorporated into the Project site design. At-source mitigation, buffers, at-receptor mitigation, and other methods such as warning clauses will also be considered.
- Detailed quantitative air dispersion modelling using the MECP-approved US EPA AERMOD model is not proposed at this time. Dependent upon the emissions information received from industries, additional modelling and/or monitoring may be required. Should

this modelling be required, the client will be notified, and additional scope and fees will be requested by SLR.

2.0 Statement of Limitations

These terms of reference have been prepared by SLR Consulting (Canada) Ltd. (SLR) for Delta Urban (Client) in accordance with the scope of work and all other terms and conditions of the agreement between such parties. SLR acknowledges and agrees that the Client may provide this report to government agencies, interest holders, and/or Indigenous communities as part of project planning or regulatory approval processes. Copying or distribution of this document, in whole or in part, for any other purpose other than as aforementioned is not permitted without the prior written consent of SLR.

Any findings, conclusions, recommendations, or designs provided in this report are based on conditions and criteria that existed at the time work was completed and the assumptions and qualifications set forth herein.

This document may contain data or information provided by third party sources on which SLR is entitled to rely without verification and SLR does not warranty the accuracy of any such data or information.

Nothing in this report constitutes a legal opinion nor does SLR make any representation as to compliance with any laws, rules, regulations, or policies established by federal, provincial or local government bodies, other than as specifically set forth in this document. Revisions to legislative or regulatory standards referred to in this document may be expected over time and, as a result, modifications to the findings, conclusions, or recommendations may be necessary.

3.0 Closure

Should you have any questions on the above, please contact the undersigned.

Regards,

SLR Consulting (Canada) Ltd.

Jenny Graham, P. Eng.
Senior Air Quality Engineer
M: 519.362.0947
jgraham@slrconsulting.com

Diane Freeman, P.Eng. FEC, FCAE
Principal, Air Quality Engineer
Phone: 226.203.7559
dfreeman@slrconsulting.com

Appendix B MECP Guideline D-4

Land Use Compatibility and Preliminary Air Quality and Odour Impact Study

Elfrida Community

Elfrida Community Builders Group Inc.

SLR Project No.: 241.032028.00001

March 11, 2025

GUIDELINE D-4
(formerly 07-07)

Land Use On or Near Landfills and Dumps

Legislative Authority:

Environmental Protection Act, RSO 1990, Part V, Sections 27 and 46
O. Reg. 347, General -- Waste Management
Planning Act, RSO 1990, Sections 2(a)(b)(c)(f)(g)(h), 17(9), 22(3), 41(4) and 51(3)
Condominium Act, RSO 1990, Section 50(3)
Environmental Assessment Act, RSO 1990, Section 5(3)

Responsible Director:

Director, Environmental Planning Branch

Last Revision Date:

April, 1994

Table of Contents

7.0 REFERENCE DOCUMENTS:

a) Procedure D-4-1: "Assessing Methane Hazards from Landfill Sites"

b) Ministry of Consumer and Commercial Relations Bulletin No. 91003: "Environmental Warnings/Restrictions"

c) Ministry of Consumer and Commercial Relations Bulletin No. 80023: "Registration of Certificates & Provisional Certificates"

d) Guideline D-7: "Requests for Land Use Approval under *EPA*, Section 46" (under development)

e) Procedure D-1-1: "Land Use Compatibility: Procedure for Implementation"

f) Procedure D-1-3: "Land Use Compatibility: Definitions"

g) Guideline D-1: "Land Use Compatibility"

SYNOPSIS

This guideline specifies restrictions and controls on land use that the Ministry wishes to see implemented in the vicinity of landfills and dumps, in order to protect the health, safety, convenience and welfare of residents near such facilities. It complements existing ministry abatement programs for landfills and dumps, and is a direct application of Guideline D-1: "Land Use Compatibility."

Application of the guideline extends to all proposals for land use on, or near, operating and non-operating landfills, (as defined in O. Reg. 347) and dumps which contain municipal solid waste, industrial solid waste and/or sewage sludges. The guideline applies to all such facilities regardless of ownership. It does not apply to lands certified as organic soil conditioning sites under O. Reg. 347.

Ministry staff shall use the guideline when they are reviewing land use proposals, including official plans and amendments, and plans of subdivision/condominium:

(a) at the request of the responsible Ministry or the delegated approving authority, under the *Planning Act* or the *Condominium Act*;
(b) for land use requests subject to Section 46 of the *Environmental Protection Act*; and
(c) for undertakings subject to the *Environmental Assessment Act.*

1.0 Introduction

This guideline protects the health, safety, convenience and welfare of residents from the potential adverse effects of landfills and dumps, by restricting or controlling land use in their vicinity. It complements the Ministry's existing abatement programs, and Ministry staff shall refer to it when they review land use proposals.

The principles of Guideline D-4 shall also be considered when looking for locations to establish a landfill in Ontario.

Procedure D-1-1: "Land Use Compatibility: Procedure for Implementation" discusses various implementation approaches and tools. Procedure D-1-3: "Land Use Compatibility: Definitions" provides definitions of terms, in addition to those included in Section 2.0 of this guideline.

2.0 Definitions

NOTE: Additional definitions are provided in Procedure D-1-3: "Land Use Compatibility: Definitions".

Fill Area:

The area of a waste disposal site set aside for landfilling or dumping (see **Conceptual Diagram No. 1**. below).

Land Use:

Any existing or proposed activity, structure, service, facility, or natural feature, either at, above, or below grade, which conforms to an approved municipal plan.

Land Used for Waste Disposal Purposes:

The land comprising the fill area, where landfilling or dumping has occurred, and the land which is being used or is to be used for the leachate buffer area and/or the gas buffer area; the land may be on- or off-site, (see **Conceptual Diagram No. 1** below).

Peripheral Area:

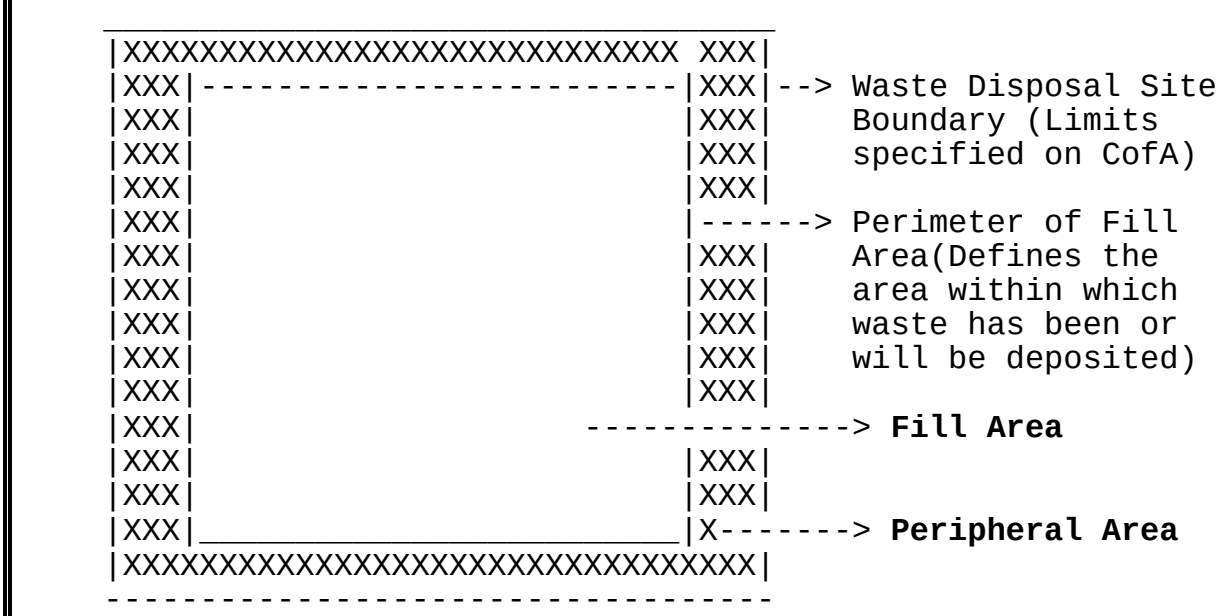
The area controlled by the site owner/operator between the boundary of the waste disposal site and the fill area; together, the peripheral area and the fill area make up the waste disposal site; the peripheral area will contain the buffer areas required to be on-site (see Conceptual Diagram No. 1 below).

Vectors and Vermin:

Disease-carrying organisms, insects, rodents, birds (especially gulls) and other harmful creatures (e.g., bears).

CONCEPTUAL DIAGRAM NO. 1

(Plan View)



LANDFILL OR DUMP

3.0 Application

3.1 General

This guideline applies to all proposals for land use on or near any landfill or dump which contains municipal solid waste, industrial solid waste and/or sewage sludges. It does not apply to lands certified as organic soil conditioning sites under O. Reg. 347.

3.2 Liquid Industrial and Hazardous Waste

For proposals in the vicinity of landfills and dumps that have accepted liquid industrial, toxic or hazardous waste, the Ministry shall expect proponents to undertake further investigations and provide a report to the approving authority. Where there is evidence of off-site migration of contaminants, the Ministry shall require abatement measures beyond those discussed in this guideline.

4.0 Environmental Considerations

Environmental considerations shall be considered by all parties involved in the production, review and approval of a study/evaluation report.

4.1 Operating Sites

Factors to be considered when land use is proposed near an operating site include: landfill-generated gases, ground and surface water contamination by leachate, odour, litter, contaminant discharges from associated vehicular traffic, visual impact, dust, noise, other air emissions, fires, surface runoff, and vectors and vermin. Particular attention shall be given to the production and migration of methane gas.

4.2 Non-Operating Sites

Factors to be considered when land use is proposed on or near a non-operating site include: ground and surface water contamination by leachate, surface runoff, ground settlement, visual impact, soil contamination and hazardous waste, and landfill- generated gases. Particular attention shall be given to the production and migration of methane gas.

4.3 Assessment

The adverse effects of the factors listed in Sections 4.1 and 4.2 of this guideline may create:

(a) a hazard or health/safety risk;
(b) a nuisance to man; and/or
(c) degradation of the natural environment.

The overall extent, number, degree and frequency of contaminant discharges and visual problems can vary with each site. Consideration must be given to the nature of proposed land use(s).

Reference should be made to Reference (a) (Section 7.0), if particular site conditions warrant obtaining further information with respect to methane gas.

4.4 Buffering Techniques

One or a combination of buffers, as defined in Guideline D-1: "Land Use Compatibility", may be employed in a given situation.

4.5 Hydrogeologic/Engineering Studies

4.5.1 Responsibility

Where the hydrogeologic and geologic setting of the proponent's property and the inter-relationship with gas and/or leachate from the fill area are unknown, Ministry staff shall recommend to the approving authority that the proponent engage a qualified hydrogeologist and/or engineer to determine the subsurface conditions and, where necessary, propose remedial measures.

4.5.2 Exceptions

The Ministry shall not normally recommend a formal site investigation, as recommended in Section 4.5.1, when its staff is satisfied that the evaluation of existing data indicates the absence of a problem.

4.6 Controls and Monitoring for Adverse Effects

Where appropriate, Ministry staff shall recommend, as a condition of approval, that a proponent include controls to deal with adverse effects or risks to health or safety and that the approving authority monitor contaminant migration and carry out inspections of control facilities.

In the event that the approving authorities lack the expertise or resources to perform such inspections, they shall employ qualified consultants to do so.

4.7 Monitoring on Private Property

Where the approving authority requires monitoring and inspections on private property, Ministry staff shall recommend that a contract be executed between the proponent and the municipality, in the form of, or as part of an agreement that may be registered on title and run with the land. Documents which are able to be registered on title are identified in References (b) and (c) (see Section 7.0).

5.0 Land Use Considerations

5.1 Sensitive Land Use

The Ministry will normally recommend against proposals for sensitive land use (see Section 5.1.1. for details) adjacent to operating landfills, and on land used for waste disposal purposes where there are completed or partially completed fill areas.

Where land uses are proposed for approval on non operating landfills and dumps under Section 46 of the *Environmental Protection Act*, the Ministry normally shall not permit residential or other sensitive land use. Further details are provided in Reference (d) of Section 7.0.

5.1.1 Sensitive Land Uses for Landfills Currently in Operation

Any existing or committed land use which includes:

(a) a permanent structure used in animal husbandry; or
(b) agricultural land used for pasturing livestock; or
(c) a permanent structure where:
    (i) a person sleeps, or
    (ii) a person is present on a full time basis;

but not including food or motor vehicle service facilities adjacent to a highway, utility operations, scrap yards, heavy industrial uses, gravel pits, quarries, mining or forestry activities; or

(d) cemeteries

5.1.2 Compatible Land Uses for Landfills Currently in Operation

Compatible land uses may include:

(a) utilities and above grade transportation routes except major highways;
(b) fences;
(c) wood harvesting and other forestry activities;

(d) certain farming activities;
(e) industrial uses, including incinerators permitted to operate under O.Reg. 347;
(f) gravel pits and quarries, and other mining activities (provided the landfill water table is not affected); or
(g) such land uses which would not be threatened by any hazard to public health or safety and would not be impaired by nuisance effects.

5.2 Land Use Within 30 metres of a Fill Area

5.2.1 Operating Sites

No land use may take place within 30 metres of the perimeter of a fill area. This is a minimum distance.

Each operating landfill shall have an on-site operational/maintenance buffer area identified on the Certificate of Approval. This buffer shall be no less than 30 metres; it is normally 60-100 metres.

5.2.2 Non-Operating Sites

Where technical controls for leachate, or leachate and gas are required surrounding a fill area, no land use may take place within 30 metres of its perimeter. This distance may be reduced to 20 metres in cases where only gas controls are necessary.

5.3 Land Use Within 500 metres of a Fill Area

The Ministry considers the most significant contaminant discharges and visual problems to be normally within 500 metres of the perimeter of a fill area. Accordingly, the Ministry recommends this distance be used as a study area for land use proposals. Ministry staff shall ensure that the proponent has evaluated the presence and impact of any adverse effects or risks to health and safety and that necessary remedial measures are taken when land use proposals are within this distance. This assessment shall be based on the nature and knowledge of the disposal site, and the nature of land use(s) proposed.

Actual influence areas for the considerations listed in Section 4.1 and 4.2 of this guideline will vary with the individual landfill or dump. Where the actual influence area of a site has been determined to be less than the 500 metre study area set out in this section, the study area for land use proposals can be reduced to coincide with the actual influence area.

5.4 Land Use Beyond 500 metres of a Fill Area

Where significant impacts are encountered at or beyond 500

metres, the study area within which an assessment for any change in land use is recommended, shall be extended beyond the 500 metre area set out in Section 5.3. Historical evidence in Ontario has shown that the maximum distance within which adverse effects could be experienced while a landfill is operating is up to 3 kilometres.

In exceptional hydrogeologic situations, such as areas of fractured rock or sand, where it is anticipated that leachate or gas from a non-operating landfill or dump could migrate beyond 500 metres and pose a problem, Ministry staff shall recommend that proponents carry out hydrogeologic and/or engineering studies for land use proposals beyond 500 metres of a fill area (see Section 4.5 for more details).

5.5 Significant Impacts

The Ministry shall recommend against land use proposals where proponents have not incorporated feasible remedial measures to prevent or minimize adverse effects (as discussed in Section 4.3).

5.6 Sequential Development

In considering long-range planning, the Ministry may recommend that proponents delay or phase certain types of land use to coincide with closure of sections of a landfill, or the operation itself, as nuisance effects are reduced or eliminated. This approach shall only be permitted in cases where no risks to health or safety are present.

6.0 Responsibilities

6.1 Operators and/or Owners of Landfills or Dumps

The Ministry shall require operators and/or owners of operating landfills and non operating landfills and dumps to comply with the *Environmental Protection Act* and O. Reg. 347 (Waste Management) requirements for the control of adverse effects caused by these facilities.

6.2 Proponents/Consultants

Ministry staff shall recommend to the approving authority that the proponent provide a report on environmental considerations (see Section 4.0) and, where necessary, propose and implement appropriate control measures. These measures shall include design details and specifications for any control device or facility.

6.3 Municipalities

The local municipal authority is responsible for ensuring that proponents implement and monitor proper control measures associated with new, sensitive developments. It also shall ensure that periodic inspections of operating landfills and non-operating landfills and dumps for contaminant migration and potential hazards are carried out.

6.4 Ministry

With respect to its mandate for landfills and dumps, the Ministry shall exercise the following responsibilities:

6.4.1 Near Land Used or to be Used for Waste Disposal Purposes

Ministry staff will expect proponents and municipalities to fulfil their responsibility to protect public health and safety in areas of land use near a landfill or dump, and to prevent significant impacts from difficult-to-control nuisance effects which may extend beyond the lands under the Certificate of Approval for an operating landfill.

6.4.2 On Land Used for Waste Disposal Purposes

Where a proponent submits a land use proposal for approval under Section 46 of the *Environmental Protection Act*, the proponent must assure Ministry staff and the municipality that the proposal contains adequate measures for the protection of public health and safety, in order to facilitate the Minister making a decision on approval.

Where an approval under *EPA* Section 46 is not required from the Minister, Section 6.4.1 of this guideline applies.

7.0 Reference Documents:

(a) Procedure D-4-1: "Assessing Methane Hazards from Landfill Sites"

(b) Ministry of Consumer and Commercial Relations Bulletin No. 91003: "Environmental Warnings/Restrictions"

(c) Ministry of Consumer and Commercial Relations Bulletin No. 80023: "Registration of Certificates & Provisional Certificates"

(d) Guideline D-7: "Requests for Land Use Approval Under *EPA*, Section 46" (under development)

(e) Procedure D-1-1: "Land Use Compatibility: Procedure for Implementation"

(f) Procedure D-1-3: "Land Use Compatibility: Definitions"

(g) Guideline D-1: "Land Use Compatibility"

Appendix C GFL Environmental Permits

Land Use Compatibility and Preliminary Air Quality and Odour Impact Study

Elfrida Community

Elfrida Community Builders Group Inc.

SLR Project No.: 241.032028.00001

March 11, 2025

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER A181008
Issue Date: January 13, 2023

GFL Environmental Inc.
100 New Park Pl, No. 500
Vaughan, Ontario
L4K 0H9

Site Location: 65 Green Mountain Road West
65 Green Mountain Rd W
Hamilton City,
L8J 1X5

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 a 59.1 ha (146 acres) landfill site within a total site area of 73.9 ha (185.5 acres), being known as the Stoney Creek Regional Facility

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

"***Adverse Effect*** " is as defined in the Environmental Protection Act, R.S.O. 1990.

"***Approval"*** means this entire Environmental Compliance Approval, issued in accordance with Section 20.2 of the *EPA* , and includes any schedules to it, the application and the supporting documentation listed in Schedule "A".

"***Best Management Practices*** " means an approach to managing water quality as described in the June 1991 provincial document entitled "Storm Water Quality Best Management Practices" and MOEE "Interim Storm Water Quality Guidelines for New Development", May 1991, as amended.

"***City*** " means the City of the Hamilton.

"***CLC"*** means the Stoney Creek Regional Facility Community Liaison Committee.

"***Commercial*** " means a place of business or facilities where merchandise or services can be exchanged by the general public, including hotels, retail stores, services shops and premises, public

service amusements and small workshops, and offices, including government offices and administrative offices of an institution where such offices are located beyond the area where the services of the institution are primarily delivered.

"***Contaminating Lifespan"*** refers to the period of time, after closure until the site finally produces contaminants at concentrations below levels which have unacceptable health or environmental effects.

"***Crown*** " means Her Majesty the Queen in Right of Ontario.

"*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 V of the EPA.

"*District Manager* **"** means the District Manager in the Ministry's Hamilton District Office.

"*District Office* **"** means the Ministry's Hamilton District Office.

"EPB" means to the Environmental Permissions Branch of the Ministry.

"***EPA*** " means the Environmental Protection Act, R.S.O. 1990, Chapter E.19, as amended.

"***Institutional*** " means facilities and services provided for the use of the public or particular segments of the public on a non profit basis, whether provided directly or indirectly by government, charitable, community, non-profit or other social agencies, and including such uses as, hospitals, post-secondary educational facilities, major public art galleries, museums and libraries, and any office associated with such uses.

"***Major Works*** " means all aspects of the leachate, ground water and surface water management system; erosion control and landfill gas control systems; landfill liner and hydraulic containment systems.

"***Ministry*** " means the Ministry of Environment, Conservation and Parks.

"***ODWS*** " means the Ontario Drinking Water Standards.

"*Operator* **"** has the same meaning as "operator" as defined in s.25 of the *EPA* .

"*Owner* **"** means GFL Environmental Inc. and its successors and assigns.

"***OWRA*** " means the Ontario Water Resources Act, R.S.O. 1990, c.0.40, as amended.

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

"*Preparation Report"* refers to a report documenting that the subsequent stage of the landfill has been constructed in accordance with the approved design plans and specifications.

"Provincial Officer " means any person designated in writing by the Minister as a provincial officer pursuant to section 5 of the *OWRA* or section 5 of the *EPA* or section 17 of *PA.*

"***Putrescible*** " means material that undergoes decomposition, typically organic wastes (i.e. food or kitchen type wastes), but does not include material within which decomposition is incidental.

"***PWQO*** " means the Provincial Water Quality Objectives.

"***Regional Director*** " means the Director of the Ministry's West Central Region.

"***Reasonable Use Guideline*** " means the Ministry Guideline B-7 (formerly Policy 15-08) entitled "Incorporation of the Reasonable Use Concept into MOEE Groundwater Management Activities", dated April 1994, as amended.

"*Regulation 347* " or "*Reg. 347* " or "*O. Reg. 347* " means Regulation 347, R.R.O. 1990, made under the *EPA* , as amended from time to time.

"***Site*** " means the entire waste disposal site including the landfilling area and the buffer lands, located at 65 Green Mountain Road West, Hamilton City, Ontario.

"***Storm Water Management Practices*** " means an approach to managing water quality as described in the provincial document entitled "Storm Water Management Practices Planning and Design Manual", June 1994 as amended.

"***Supporting Documentation*** " refers to the reports listed in Schedule "A" of this Approval.

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

TERMS AND CONDITIONS

1.0 GENERAL

Compliance

1.1 The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Site is notified of the Approval and the conditions herein and shall take all reasonable measures to ensure the person complies with the same.

1.2 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

1.3 Except as otherwise provided for in this Approval , the Site shall be designed, developed, constructed, operated and maintained in accordance with the supporting documentation listed in Schedule "A".

Other Legal Obligations

1.4 The issuance of, and compliance with, this Approval does not:

a. relieve any person of any obligation to comply with any provision of the EPA or any other 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 request that any further information related to compliance with this Approval be provided to the Ministry ;

unless a provision of this Approval specifically refers to the other requirement or authority and clearly states that the other requirement or authority is to be replaced or limited by this Approval .

Adverse Effect

1.5 The Owner or Operator remain 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 or impairment of air and/or water quality.

Furnish Information

1.6 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 in a timely manner.

1.7 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 subordinate legal instrument, 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 condition of this Approval or any statute, regulation or other subordinate legal requirement; or
b. acceptance by the Ministry of the information's completeness or accuracy.

1.8 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.

Interpretation

1.9 This Approval revokes and replaces the previous Approval and all subsequent amendments.

1.10 Where there is a conflict between a provision of any document, including the application, referred to in this Approval , and the conditions of this Approval, the conditions in this Approval shall take precedence.

1.11 Where there is a conflict between the application and a provision in any documents 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 in writing.

1.12 Where there is a conflict between any two documents listed in Schedule "A", other than the application, the document bearing the most recent date shall take precedence.

1.13 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.

Certificate of Requirement

1.14 Pursuant to Section 197 of the EPA , no person having an interest in the Site shall deal with the Site in any way without first giving a copy of this Approval to each person acquiring an interest in the Site as a result of the dealing.

1.15 In the event any additional land is acquired that will be included as part of the Site, then two (2) copies of a completed Certificate of Requirement, containing a registerable description of the Site , shall be submitted to the Director for the Director’s signature within sixty (60) calendar days of a notice being issued for the Site that incorporates the land into the Approval.

1.16 In the event any additional land is acquired that will be included as part of the Site as discussed in Condition 1.15 then the Certificate of Requirement shall be registered in the appropriate land registry office on title to the Site and a duplicate registered copy shall be submitted to the Director within ten (10) calendar days of receiving the Certificate of Requirement signed by the Director .

No Transfer or Encumbrance

1.17 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 is satisfied with the arrangements made to ensure that all conditions of this Approval will be carried out and that sufficient financial assurance is deposited with the Ministry to ensure that these conditions will be carried out.

Change of Owner

1.18 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 ;
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; and
e. the name of the corporation where the Owner or Operator is or at any time becomes a corporation, other than a municipal corporation, and a copy of the most current information filed under the Corporations Information Act , R. S. O. 1990, c. C.39, shall be included in the notification.

1.19 In the event of any change in the ownership of the Site, other than a change to a successor municipality, the Owner shall notify in writing the succeeding owner of the existence of this Approval , and a copy of such notice shall be forwarded to the Director and District Manager .

Inspections

1.20 No person shall hinder or obstruct a Provincial Officer from carrying out any and all inspections authorized by the EPA or the PA , 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 , or the PA .

Approval Referencing

1.21 The Owner shall ensure that all communication made pursuant to this Approval will refer to Approval No. A 181008.

2.0 FINANCIAL ASSURANCE

Overview

2.1 Financial assurance (FA) for the Site shall be provided as required by the Director, in an amount that is sufficient to pay for compliance with and performance of any action specified in this Approval, including emergency close out, monitoring and maintenance of the Site, planned close out whether or not the Site reaches approved capacity, maintenance of all required contaminant control systems including leachate management systems, contaminant monitoring for the Contaminating Lifespan of the Site and contingency plans for the Site in accordance with Schedule "B" of this Approval. The Owner shall provide regular updates to the CLC and the City regarding the value of the financial assurance.

2.2 Financial assurance may be provided in one or more of the following forms: cash, irrevocable letter of credit, surety bond, or some other form, all satisfactory to the Director .

Inflation Rate

2.3 The Owner shall ensure the methodology for calculating the inflation rate for the financial assurance re-evaluation is the current approach deemed acceptable by the Ministry.

Interest (Discount) Rate

2.4 The Owner shall ensure the methodology for calculating the discount rate for the financial assurance re-evaluation is the current approach deemed acceptable by the Ministry.

Payment Schedule

2.5 (1) By no later than **February 28, 2023**, the Owner shall ensure that the Director, as defined in Section 131 of the Act, has Financial Assurance in the amount of **$38,488,573.00** for the Site. This Financial Assurance shall be in a form acceptable to the Director and shall provide sufficient funds for the closure and post-closure monitoring, maintenance and care of the Site and shall provide sufficient contingency funds.

(2) The Owner shall provide the Ministry financial assurance (total amount, not additional amount) in a form acceptable to the Director as follows for the following years:

i. December 31, 2023 - **$39,978,953.00**
ii. December 31, 2024 - **$41,469,333.00**
iii December 31, 2025 - **$42.959,714.00**
iv. December 31, 2026 **- $44,450,094.00**

2.6 (1) A revised or new Financial Assurance Re-Evaluation Report is to be prepared and submitted to the Director every five (5) years starting on **March 31, 2026**. The report shall include:

a. updates of the discount, interest and inflation rates associated with the requirements for financial assurance in this Approval including justifications and sources of the proposed rates; and
b. a report prepared by a qualified Professional Engineer which updates the cost estimates on which the amounts associated with the requirements for financial assurance in this Approval are based.

(2) The amount of financial assurance is subject to review at any time by the Director and may be amended at his/her discretion. If any financial assurance is scheduled to expire or notice is received, indicating financial assurance will not be renewed, and satisfactory methods have not been made to replace the financial assurance at least sixty (60) days before the financial assurance terminates, the financial assurance shall forthwith be replaced by cash.

2.7 (1) The report referenced in the above condition shall take into consideration the:

a. actual amounts of waste landfilled;
b. projected rate of fill;
c. capping of completed fill areas;
d. empirical leachate generation rates;
e. a recalculation of the Contaminating Life Span of the Site;
f. any measures that have been carried out or need to be carried out to prevent and ameliorate any adverse effect that relates to the Site; and
g. annual inspection, maintenance, and monitoring costs, including costs for leachate treatment and disposal.

(2) In the event that any contingency measures have been carried out, the report shall describe the contingency measures remaining to be carried out and a confirmation by the Owner to the Director as to the work which has been done and materials supplied by the Owner relating to the contingency measures, the fair value, thereof, and the balance required to be retained as financial assurance to carry out remaining contingency measures.

2.8 No waste shall be received, accepted, disposed or transferred at the site unless financial assurance is received.

3.0 COMMUNITY LIAISON COMMITTEE

3.1 The Owner shall ensure that the continuance, mandate, membership, operation and funding of the existing CLC is completed in accordance with the Terms of Reference described in Schedule "G". (Terms of Reference for the CLC).

3.2 The Owner shall ensure a copy of the terms of reference for the CLC shall be publicly available.

3.3 The Owner shall provide the CLC and the City with access to non-proprietary documents including consultants reports relating to the Site in accordance with protocols agreed to between the Owner and the City and the CLC. In addition, the Owner shall provide the CLC and the City with copies of the annual reports required to be submitted to the Director and Regional Director . The Terms of Reference for the CLC shall include these protocols.

3.4 After notifying the Owner and meeting all appropriate Health and Safety regulations, the Owner shall allow the CLC and the City reasonable access to the Site, accompanied by a Owner official.

3.5 The Owner in conjunction with the CLC and the City shall continue to maintain a public complaints procedure that includes:

a. Circulating on a quarterly basis all complaints to members of the CLC, City and keeping a public record at the Owner offices. Copies of complaint forms will be available at the Site office.
b. A 24-hour emergency telephone number to receive any complaints and to respond immediately. Written responses are to be provided by the Owner to the complainant within ten days of receipt of a complaint.
c. Recording the name and address of the complainant if given, and the date, time and nature of complaint.
d. Reviewing with the CLC and the City at least twice annually, all complaints about the operations of the Site and the Owner 's response/action. Complaints about exceedances are to be reviewed with the CLC and the City at each meeting of the CLC. Complaints that are not resolved within a period of ninety (90) days shall be referred to the CLC for review and resolution.
e. Summarizing all complaints received and how they were addressed in the annual report.

4.0 CONSTRUCTION, INSTALLATION and PLANNING

Major Works

4.1 For the purposes of this Approval the following are Major Works :

a. Liner;
b. Leachate collection system;
c. Groundwater Collection Trench;
d. Final Cover; and
e. Stormwater Management System

4.2 (1) A final detailed design shall be prepared for each Major Work to be constructed at the Site

consistent with the conceptual design of the Site as presented in the Supporting Documentation listed in Schedule "A". Any design optimization or modification shall be clearly identified, along with an explanation of the reasons for the change. The final detailed design of each Major Work shall be submitted to the Directorfor approval and copied to the District Manager.

(2) Specifications and a detailed quality assurance/quality control program for construction of the Major Works, and provisions for quality assurance procedures, with respect to the liner, to be undertaken by an independent third-party consulting firm experienced in liner construction, reporting to the Ministry.

4.3 The final detailed design of each Major Work shall include the following:

a. design drawings and specifications;
b. a detailed quality assurance / quality control (QA/QC) program for construction of the major work; and
c. details on the monitoring, maintenance, repair and replacement of the engineered components of the major work, if any.

4.4 Any design optimization or modification that is inconsistent with the conceptual design shall be clearly identified, along with an explanation of the reasons for the change.

4.5 Each major work shall be constructed in accordance with the approved final detailed design and the QA/QC procedures shall be implemented as proposed by the Owner. Any significant variances from the conceptual design for the Site as detailed in Schedule "A" shall be subject to approval by the Director.

4.6 As-built drawings for all Major Works shall be retained on Site and made available to Ministry staff for inspection.

Subsequent Stages

4.7 At least six (6) months prior to the anticipated completion of landfilling in each stage of the Site , a final detailed design for the subsequent stage shall be submitted to the Director. Any significant variances from the conceptual design for the Site as detailed in Schedule "A" shall be subject to approval by the Director.

4.8 No landfilling of wastes shall occur on any part of the liner until the Regional Director has received an inspection report from the independent third party referred to in Condition 4.2 (2), indicating that the part of the liner was constructed as required by this Approval. A copy of these inspection reports shall also be provided to the City and the CLC.

5.0 SITE OPERATIONS

Proper Operation

5.1 The Site shall be properly operated and maintained at all times. All waste shall be managed and disposed of in accordance with the EPA , Regulation 347, and the requirements of this Approval. At no time shall the discharge of a contaminant that causes or is likely to cause an adverse effect be permitted.

5.2 The Owner shall ensure that the Ministry's Guideline B-7, Reasonable Use Concept, is applied at the Site boundaries.

5.3 (1) The Owner shall ensure the operations, maintenance and procedures manual for the Site includes discussions on the following items:

a. Health and safety;
b. Operation and maintenance of the Site;
c. Waste disposal area and development;
d. Nuisance management;
e. Leachate management;
f. Landfill gas management;
g. Surface water/Storm water management;
h. Inspections and monitoring;
i. Contingency plans and emergency procedures;
j. Complaints; and,
k. Reporting and record keeping.

(2) The operations and procedures manual shall be:

a. retained at the Site;
b. reviewed on an annual basis and updated by the Owner as required; and
c. be available for inspection by Ministry staff.

(3) Where revisions to the Operations, Maintenance and Procedures Manual are necessary and/or desirable, the Owner shall submit the changes to the Director for approval after consultation with the CLC and the City. Approval by the Director is required prior to those changes being implemented. Should the provisions of this manual conflict with this Approval, the Owner shall operate the Site in accordance with this Approval.

Buffer

5.4 A minimum buffer area width of 30 m shall be maintained around the perimeter of the approved fill area. To minimize erosion, the buffer shall be maintained with healthy vegetative cover and/or other appropriate surface treatment.

Signage

5.5 The Owner shall place a sign which complies with local by-laws at the main entrance and exit to the Site which is legible from a distance not less than 25 m and on which is displayed in prominent letters the following information:

a. the name of the Site and Owner ;
b. the number of the Approval;
c. the name of the Operator;
d. the normal hours of operation;
e. a warning against unauthorized access;
f. the 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 Site .

Hours of Operation

5.6 (1) Waste may be received at the Site between the hours of 7:00 a.m. and 5:00 p.m., Monday to Friday. The normal Site operating hours shall be 6:30 a.m. to 6:00 p.m. Monday to Friday. The Site shall be closed on weekends and statutory holidays.

(2) Amendment to the hours of operation require approval by the Director prior to implementation.

5.7 Notwithstanding Condition 5.6, with prior written approval of the District Manager , the time periods may be extended to accommodate seasonal or unusual quantities of waste, construction activities or such factors as determined to be reasonable to the District Manager.

5.8 Upon reasonable notice to the District Manager, contingency actions may take place outside normal hours of operation. Emergency response may occur at any time as required.

Site Security

5.9 During non-operating hours, the Site entrance and exit gates will be locked or otherwise secured against access by unauthorized persons.

5.10 The Owner shall ensure that no queuing of waste vehicles will occur on public roadways.

5.11 The Owner shall monitor the weight of waste received for disposal by use of weigh scales. Where weigh scales are temporarily out of operation for maintenance or repair, estimates of waste volumes and density shall be used to estimate the weight of waste received for disposal. The weigh scales shall be installed prior to receiving of any waste. The weigh scale shall be recalibrated on an annual basis.

5.12 a. No waste shall be accepted, landfilled or removed from the site unless a Site supervisor or trained designate is present and supervises the operation.

b. The Owner shall ensure that all Site operations employees have been adequately trained prior to acceptance of waste at the Site with respect to the following:

i. terms, conditions and operating requirements of this Approval;
ii. the operation and management of the Site with respect to the Operations and Maintenance Manual;
iii. relevant waste management regulations and legislation;
iv. environmental concerns related to the waste being handled at the Site;
v. occupational health and safety concerns pertaining to the waste being handled at the Site; and
vi. emergency procedures and contingency plans in cases of fire, off-site impacts and any other emergency situation.

c. The Site is deemed to be closed when a Site supervisor or trained designate is not present at the Site.

d. To assist the Site operating personnel, the Owner shall ensure that the Maintenance and Operations Manual, required by Condition No. 5.3, and all revisions is kept on Site at all times following commencement of landfilling.

Site Access

5.13 Access to the Site shall be via the existing Site entrance from Upper Centennial Parkway. Exit from the Site shall be from the existing Site exit onto First Road West southerly to Mud Street.

5.14 The Owner shall ensure that all trucks owned by the Owner, or related companies, use Upper Centennial Parkway as the primary haul route to and from the Site. The Owner shall use its best efforts to encourage independent carriers to also use Upper Centennial Parkway as the primary haul route, including the posting of signs at the entrance and exit. The Owner shall refuse access to the Site to trucks and/or carriers found to be in continuous non- compliance with this Condition. Where changes or upgrades to the local road network occur, and changes to the primary haul route are necessary or convenient, such changes shall be submitted to the Director for approval after consultation with the CLC and the City and prior to implementation.

5.15 The Owner shall keep First Road West used by trucks leaving the Site free of dirt and waste to meet the requirements of the applicable roads authority.

5.16 Prior to a waste type being landfilled which is significantly different from a waste type landfilled in the West Quarry in the past, the Owner shall inform the Regional Director,the CLC and the City in writing of the new waste type proposed to be landfilled.

Vermin, Dust, Litter, Odour, Noise, Traffic

5.17 The Site shall be operated and maintained such that vermin, vectors, dust, litter, odour, noise

and traffic do not create a nuisance.

Litter Control

5.18 The Owner shall take all practical steps to prevent off-site litter impacts from Site operations.

Noise

5.19 The landfill Site shall be required to operate within the noise level limits prescribed in the Ministry's document "Noise Guidelines for Landfill Sites".

5.20 The monitoring of sound levels of daily activity in the Site shall typically occur twice/ year and relate to periods of peak filling activity within 5 m of final contours of the Site. Monitoring shall be conducted at representative locations identified in Item 6 of Schedule "A". Where possible measurements shall be taken during neutral lapse conditions (cloudy day) under light winds for measurement of the sound to the south and southwest of the Site. Prevailing, light, southwesterly winds or neutral lapse (cloudy day) light wind conditions are preferred in the assessment of the noise affecting lands to the north of the Site. Measurements of the hourly Leq shall be carried out for five (5) representative hourly periods at each location between 0700 and 1900 hours. All measurements shall be attended and reported as per the MECP NPC 103 for Varying Sound, with the report identifying the source of sound heard at each location and its relative contribution to the total Leq.

5.21 The Site should be operated so as to not exceed predicted noise impact as set out in Item No. 6 of the attached Schedule "A", and in any event, noise generated by the operation of the Site shall not exceed the Ministry's landfill noise guidelines at any residence.

5.22 The Owner may apply to the Director for approval of an alternative method of noise attenuation that accounts for the actual nature and extent of development at that time. These alternatives shall be developed in consultation with the City and the CLC. The application must be supported by a noise impact assessment that demonstrates that the noise impacts associated with the alternative method will not exceed the noise impacts reported in Item 6 fo Schedule "A". The Owner shall seek comment from the City and the CLC prior to submission to the Director for approval.

5.23 All on site equipment used during the start up, operation and closure of the Site which are of the type described in Publication NPC-115 and Publication NPC-118 of the Ministry's Model Municipal Noise Control By-Law or which are capable of being used for similar applications shall comply with the noise emission standards contained therein.

5.24 The Owner shall comply with noise criteria in Ministry Guideline entitled “Noise Guidelines for Landfill Sites" dated October 1998 as amended from time to time and the Site shall comply with the limits set in Publication NPC-300.

Groundwater Trench

5.25 Prior to the discontinuation of pumping of the groundwater collection system, the Owner shall submit an application to the Director for approval of such action, following consultation with the CLC and the City. The application shall include technical justification for discontinuation of pumping of the groundwater collection system and an assessment of the impacts of allowing the groundwater to rebound including the impact on the hydraulic control layer and monitoring programs at the Site.

Surface Water

5.26 The Owner shall take all appropriate measures to minimize surface water from coming in contact with waste. Temporary berms and ditches shall be constructed around active waste disposal areas to prevent extraneous surface water from coming in contact with the active working face.

6.0 LANDFILL OPERATIONS

Waste Type

6.1 The waste to be received at the Site for final disposal is restricted to solid, non-hazardous commercial, institutional and industrial waste including petroleum contaminated soils.

6.2 No liquid industrial wastes, hazardous wastes, as defined under Regulation 347, or putrescible waste shall be disposed of in the waste disposal fill area of the Site. This includes: hazardous industrial wastes; hazardous waste chemicals; ignitable waste; corrosive waste; leachate toxic waste; acute hazardous waste chemicals or reactive waste; hauled sewage; domestic waste; and waste from the operation of a sewage works subject to the Ontario Water Resources Act where the works:

i. is owned by a municipality;
ii. is owned by the Crown subject to an agreement with a municipality under the OWRA; or
iii. receives only waste similar in character to the domestic sewage from a household.

Disposal of Non-hazardous Incinerator Ash

6.3 Receipt and disposal of non-hazardous incinerator ash to the Site shall be done in accordance with the document entitled "Waste Control Procedures", detailed as part of Item 49 of Schedule "A".

6.4 The Owner shall develop, maintain on-site and implement a Dust Contingency program which details how the Owner will mitigate and minimize impacts from dust resulting from the disposal of deposits of non-hazardous incinerator ash.

6.5 The Owner shall ensure, through testing prescribed in Regulation 347 as amended from time-to-time

performed by either the Owner or the generator, that all loads of incinerator ash received and disposed of at the site are non-hazardous.

6.6 Summarized results of the testing required as part of Condition 6.5 shall be included as part of the reports required under Condition 14.1.

Asbestos Waste

6.7 Any waste that is considered asbestos waste shall be handled in accordance with Section 17 of O. Reg. 347 as amended from time to time.

6.8 A suitable sized excavation for the asbestos waste shall be made by the Owner in a location away from the active landfilling face.

6.9 All asbestos waste shall be inspected to ensure that the asbestos waste is properly bagged or contained and free from puncture, tears or leaks.

6.10 The asbestos waste shall be placed in the excavation to avoid damage to the containers and to prevent dust and spillage.

6.11 Upon completion of the unloading and deposition of the asbestos in the excavation, at least 125 centimetres of cover or waste material shall be placed over the asbestos.

6.12 All asbestos waste shall be deposited to a level no higher than 1.25 metres below the general elevation of the disposal area to ensure that daily cover material removal in the future does not encounter the asbestos waste.

Capacity

6.13 The maximum volume of waste and cover materials, excluding final cover, which may be disposed at the Site is **10,180,000 m^3**.

6.14 The annual tonnage of approved waste received at the Site for final disposal shall not exceed 750,000 tonnes in any consecutive twelve (12) month period, as calculated on a daily basis. The maximum daily tonnage of approved waste received at the Site for final disposal shall not exceed 8,000 tonnes.

6.15 The maximum number of waste vehicles depositing waste at the Site shall not exceed 250 in any one operating day.

Waste Placement

6.16 No waste, including intermediate cover or final cover layer, shall be landfilled outside the limits of the base and final cover contours as shown in Item No. 57 in Schedule "A". No waste

shall be disposed of within the buffer lands.

Landfilling of Sludge

6.17 A thickness of at least 2 metres of compacted waste and cover material shall be maintained between any landfilled sludge (solid non-hazardous as per Reg. 347) and the granular leachate collection layer.

Service Area

6.18 Only waste generated within the Province of Ontario may be received for disposal at this Site.

Waste Inspection

6.19 All loads of waste must be properly inspected by trained Site personnel prior to disposal at the Site and waste vehicles must be diverted to appropriate areas for waste disposal.

Burning Waste Prohibited

6.20 Burning of waste at the Site is prohibited.

Leachate Management

6.21 a. No leachate and/or contaminated water collected at the Site shall be discharged to the natural environment except as outlined in Item No. 3 of the attached Schedule "A", Surface Water Impact Assessment report, providing the surface water trigger levels for the proposed contingency plans.

b. All collected leachate and/or contaminated water shall be discharged to the City sanitary sewer or an alternative acceptable to the Director.

c. If the Owner discharges leachate and/or contaminated water directly to the City sanitary sewer system then the Owner shall obtain, and maintain at all times, Agreements with the City which will specify the permissible quality and quantity of leachate that can be discharged to the City sanitary sewer system. These agreements shall also outline the monitoring and reporting requirements to demonstrate compliance. A copy of these Agreements and any changes to these agreements as may occur from time to time, shall be provided to the Director, the CLC and the City prior to any discharge of leachate to the sanitary sewer system.

6.22 The Owner shall, during normal operations, limit dust impacts using the control measures as indicated in Item No. 7 of the Schedule "A" and in any event shall take all necessary steps as are reasonably necessary to limit dust impacts from the Site.

6.23 The Owner shall maintain a minimum of one watering truck at the Site for the purpose of

mitigating dust impacts.

6.24 The Owner shall require all vehicles leaving the landfilling area of the Site to pass through a wheel washing facility.

6.25 The Owner shall ensure that an agreement in writing with the City is in place in case any discharge of leachate from the Site to the City's sanitary sewer occurs. The agreement shall include a development and implementation plan for a notification system under which the Owner will hold back the leachate at the Site during by-pass and upset events at the Woodward Avenue Waste Water Treatment Plant (WWTP).

6.26 The practice of recirculating leachate by spraying at the Site shall not be permitted.

Landfill Gas Collection

6.27 The Site is not required to collect landfill gas.

7.0 MAJOR WORKS AND CONSTRUCTION APPROVALS

7.1 Expansion of the Site shall proceed in 4 phases in accordance with Item 57 of Schedule "A". Approval of Phase 1 is hereby approved. Prior to proceeding with Phases 2-4, approval of the detailed design is required in accordance with Condition 4.

8.0 INSPECTIONS AND RECORDS

Daily Records

8.1 Daily records shall be maintained at the Site which shall include the following:

a. the date, time of arrival, name of hauler, vehicle license plate number, type, origin and quantity (by weight) of all waste received at the Site;
b. all complaints from the public received by the Owner and an indication of the action taken by the Owner in response;
c. results of any tests done to determine the acceptability of waste at the Site;
d. calculation of the total quantity (by weight) of waste received at the Site for each day; and
e. a record of litter collection activities and site inspections.

8.2 The Owner shall maintain a written record of Site inspections at the Site. The record shall include the following:

a. time and date of the inspection;
b. name, title and signature of trained personnel conducting the inspection;

c. listing of all general site areas, fencing, gates, systems inspected and deficiencies observed; and
d. recommendations for remedial action and the date the remedial action, if necessary was completed.

Inspections

8.3 The Owner shall conduct inspections as outlined in Schedule "B".

Log Book

8.4 A record of the inspections shall be kept in a daily log book or a dedicated electronic file that includes:

i. the name and signature of person that conducted the inspection;
ii. the date and time of the inspection;
iii. the list of any deficiencies discovered;
iv. the recommendations for remedial action; and
v. the date, time and description of actions taken.

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

8.6 Site inspection records shall be kept in the form of a written log or a dedicated electronic file.

8.7 The Owner shall maintain on record at the Site for each client disposing of solid non-hazardous waste at the Site, a description of each type of solid non-hazardous waste received from the client and documentation to demonstrate that the Owner has taken reasonable care to ensure that waste classified as either hazardous or liquid industrial waste under O. Reg. 347 as amended from time to time, is not disposed of at the Site.

Record Retention

8.8 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.

8.9 The Owner shall retain all documentation listed in Schedule “A” for as long as this Approval is valid.

8.10 All monthly Site inspection records are to be kept at the Site until they are included in the Annual Report.

8.11 The Owner shall retain employee training records as long as the employee is working at the Site.

8.12 The Owner shall make all of the above documents available for inspection upon request of Ministry staff.

8.13 The Owner shall retain, either on-Site or in another location and notify the District Manager of this location, copies of the annual reports referred to in the preceding condition and any associated documentation of compliance monitoring activities and shall continue to do so for a period of at least two (2) years after the closure of the Site.

9.0 TRAINING

Employees and Training

9.1 A training plan for all employees that operate any aspect of the Site shall be developed and implemented by the Operator . Only trained employees shall operate any aspect of the Site or carry out any activity required under this Approval . Employees must provide proof of training to the Ministry upon request. For the purpose of this Approval "trained" means knowledgeable either through instruction or practice in:

a. the relevant waste management legislation including EPA, O. Reg. 347 and, regulations and guidelines;
b. major environmental and occupational health and safety concerns pertaining to the waste to be handled;
c. the proper handling of wastes;
d. the management procedures including the use and operation of equipment for the processes and wastes to be handled;
e. the emergency response procedures;
f. the specific written procedures for the control of nuisance conditions;
g. the terms, conditions and operating requirements of this Approval and
h. proper inspection, receiving and recording procedures and the activities to be undertaken during and after a load rejection.

10.0 COMPLAINTS PROCEDURES

10.1 If at any time, the Owner receives complaints regarding the operation of the Site , the Owner shall respond to these complaints as per the Standard Operating Procedure for the the Site.

11.0 EMERGENCY SITUATIONS

11.1 In the event of a reportable spill or discharge of a contaminant to the environment, Site staff shall contact the Ministry's Spills Action Centre (1-800-268-6060), the Ministry's District Office and the City's Spills Response Line (905-540-5188) forthwith.

11.2 The Owner shall submit to the District Manager a written report within three (3) days of the spill or incident, outlining the nature of the incident, remedial measures taken and measures taken to prevent future occurrences at the Site if required.

12.0 MONITORING

Groundwater Monitors

12.1 The Owner shall ensure all groundwater monitoring wells are properly capped, locked and protected from damage.

12.2 In areas where landfilling is to proceed around monitoring wells, the wells must be decommissioned in accordance with O. Reg. 903 as amended from time to time.

12.3 Any groundwater monitoring wells included in the monitoring program shall be assessed, repaired, replaced or decommissioned as required.

12.4 The Owner shall repair or replace any monitoring well which is destroyed or in any way made inoperable for sampling within one year.

12.5 All monitoring wells that are no longer required as part of the groundwater monitoring program shall be decommissioned in accordance with good standard practice that will prevent contamination through the abandoned well and in accordance with O. Reg. 903. A report on the decommissioning shall be provided in the annual monitoring report for the period during which the well was decommissioned.

Environmental Monitoring

12.6 The Owner shall provide monitoring in accordance with the following:

a. the performance of the engineered control systems of the Site in accordance with Schedule "B";
b. leachate production and quality in accordance with Schedule "C";
c. surface water flow and quality in accordance with Schedule "D";
d. levels of landfill gases in accordance with Schedule "E";
e. ground water in accordance with Schedule "F"; and
g. noise levels as per the requirements set out in Condition 5.20.

12.7 All monitoring data will be made available to the CLC and the City as soon as practicable.

12.8 Any changes to the monitoring programs shall be done in consultation with the CLC and the City prior to being submitted to the Director for approval. Approval by the Director is required prior to those changes being implemented.

12.9 If it is determined by the Regional Director that noise and/or dust levels from on-Site operations or from transportation of waste to the Site must, in the opinion of the Director, be reduced or otherwise controlled to prevent adverse impacts to adjacent properties, the Owner shall

implement contingency measures in accordance with the requirements of the Director, following consultation with the CLC and the City, where practicable.

Predictive Monitoring

12.10 In the event that the results of the monitoring programs listed in Schedules D or F are such that an off-site exceedance of the PWQO, ODWO or the Reasonable Use Guideline is predicted to occur, the Owner shall include in the annual monitoring report the following:

a. the details of any such predicted off-site exceedance, including the assumptions upon which the prediction is based;
b. a discussion of the modifications, if any, to intended operations which would be necessary to prevent the predicted off-site exceedance;
c. a discussion of the modifications, if any, which should be made to the monitoring program; and
d. a discussion of other mitigation measures, if any, which may be necessary to prevent off-Site impacts.

13.0 CONTINGENCY PLANS AND TRIGGER MECHANISMS

13.1 Contingency plans relating to ground water impacts and the triggering of such contingency plans shall be as described in Item Nos. 2 and 4 of the attached Schedule "A".

13.2 Contingency plans relating to surface water impacts and the triggering of such contingency plans shall be as described in Item No. 3 of the attached Schedule "A".

13.3 Contingency plans relating to landfill gas impacts and the triggering of such contingency plans shall be as described in Item Nos. 2 and 14 of the attached Schedule "A".

13.4 Any changes to the specific trigger levels for the ground water and surface water monitoring programs shall be done in consultation with the CLC and the City prior to being submitted to the Director for approval. Approval by the Director is required prior to the implementation of these changes.

13.5 In the event that the results of the monitoring programs listed in Schedule D or F are such that an off-site exceedance of the PWQO, ODWO or the Reasonable Use Guideline has occurred as a result of the operation of the Site, the Owner shall notify the Director, the CLC and the City as soon as possible and specify the following:

a. Details of the off-Site exceedance, including the confirmatory monitoring results and the potential off-Site impacts to surface water and ground water users;
b. the extent and timing of the contingency measures to be implemented;
c. modifications, if any, which should be made to the monitoring program; and
d. other mitigation measures, if any, which may be necessary to reduce or prevent

off-Site impacts.

14.0 REPORTING

Annual Report

14.1 By **June 30th** of each year, an annual report on the use, operation, and monitoring of the Site during the previous calendar year shall be submitted to the District Manager. The report shall include the following:

a. the results and an interpretive analysis of the results of all air, ground water, surface water, landfill gas, noise and leachate monitoring including:

   i. the adequacy of the monitoring programs and recommendations for any modifications to programs as appropriate;
   ii. the extent to which the monitoring results indicate compliance with the conditions of this Approval, PWQO, ODWO, the Reasonable Use Guideline and any other relevant statutes and guidelines;
   iii. the trend of the monitoring results with respect to future compliance with the conditions of this Approval, PWQO, ODWO, the Reasonable Use Guideline and any other relevant statutes and guidelines;
   iv. the current or expected future need to implement contingency plans and/or additional mitigation measures to ensure compliance with the Conditions of this Approval, PWQO, ODWO, the Reasonable Use Guideline and any other relevant statutes and guidelines; and
   v. an impact assessment of the landfill approved under Approval No. A130404 (Closed Newalta (Stoney Creek)) on the Site.

b. Site plans showing:

   i. existing contours of the Site;
   ii. areas of landfilling operation during the reporting period and areas of intended operation during the next reporting period;
   iii. areas of excavation during the reporting period;
   iv. the progress of final and interim cover application; and
   v. previously existing Site works, works installed during the reporting period, and works planned for installation during the next reporting period.

c. The results of on and off Site noise level measurements including a description of the operations at the Site at the time these measurements were conducted;
d. Calculations of the volume of waste, interim cover and final cover disposed or applied during the reporting period and a calculation of the total volume of Site capacity used during the reporting period;
e. A calculation of the remaining capacity of the Site and an estimate of the remaining Site life;

f. A summary of the quantity, source and types of waste received at the Site;
g. A discussion of any approved changes to the operation, equipment and/or procedures at the Site including their effects, if any, on the sound environment within the local community. If these changes resulted in an increase in noise levels a description of the mitigation measures which were taken to reduce the impacts and of the effectiveness of these measures are to be provided. Recommendations respecting any proposed changes in the operation, equipment and/or procedures at the Site and their effects, if any, on the sound environment within the local community with proposed mitigation measures;
h. A summary of any occurrences or incidents where this Approval was not complied with, the reasons for non-compliance and the measures to be implemented to ensure that future non-compliance does not occur;
i. A list of all complaints and a record of the Owner's responses to such complaints, including a list of complaints filed with Ministry and the City, where such information is reasonably available to the Owner;
j. A discussion of any operational problems encountered at the Site and the remedial measures taken including the control of dust and noise; and
k. Any other information with respect to this waste Site which the Regional Director may require from time to time.

15.0 SITE CLOSURE

Closure Plan

15.1 At least two (2) years prior to closure or when 90% of the Site capacity is reached, whichever comes first, the Owner shall submit to the Director for approval, with copies to the District Manager, a detailed Site closure plan pertaining to the termination of landfilling operations at this Site , post-closure inspection, maintenance and monitoring, and end use. The plan shall include the following:

a. a plan showing Site appearance after closure;
b. a description of the proposed end use of the Site ;
c. a description of the procedures for closure of the Site, including:

i.) posting of a sign at the Site entrance indicating the landfill is closed and identifying any alternative waste disposal arrangements;
ii) completion, inspection and maintenance of the final cover and landscaping;
iii.) site security;
iv) removal of unnecessary landfill-related structures, buildings and facilities; and
v) final construction of any control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas;

d. a schedule indicating the time-period for implementing sub-conditions i) to vi) above.
e. descriptions of the procedures for post-closure care of the Site, including:

i.) operation, inspection and maintenance of the control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas;
ii) record keeping and reporting; and
iii) complaint contact and response procedures;

f. an assessment of the adequacy of and need to implement the contingency plans for leachate and methane gas; and
g. an update of the cost estimates for financial assurance and the amount which has been provided to the Director to date.

15.2 The Closure Plan shall be designed in consultation with the CLC, the City and the Hamilton Region Conservation Authority prior to being submitted to the Director for approval.

15.3 The Site shall be closed in accordance with the closure plan as approved by the Director.

Schedule "A"

This Schedule “A’ forms part of Environmental Compliance Approval No. A 181008.

1. The application for Approval of a Waste Disposal Site (Landfill) dated December 1, 1995 and supporting information.

2. The document entitled "Stoney Creek Regional Facility Environmental Assessment, Design and Operations Report" by GHD, dated July 2019.

3. The document entitled "Stoney Creek Regional Facility Environmental Assessment, Surface Water Detailed Impact Assessment Report" by GHD, dated January 2019.

4. The document entitled "Stoney Creek Regional Facility Environmental Assessment, Geology and Hydrogeology Detailed Impact Assessment Report" by GHD, dated January 2019.

5. The document entitled "Taro East Quarry Environmental Assessment, Waste Characterization Report" by Gartner Lee Limited, dated January 1995.

6. The document entitled "Stoney Creek Regional Facility Environmental Assessment, Noise Detailed Impact Assessment Report" by GHD, dated January 2019.

7. The document entitled "Stoney Creek Regional Facility Environmental Assessment, Air Quality and Odour Detailed Impact Assessment Report" by GHD, dated January 2019.

8. The document entitled "Stoney Creek Regional Facility Environmental Assessment, Land Use Impact Assessment" by GHD, dated January 2019.

9. The document entitled "Tender Documents for East Quarry Landfill Site, Phase 1A Base Liner and Leachate Collection System, Stoney Creek, Ontario" dated July 25, 1996 by Gartner Lee Limited including Addendum Nos. 1 dated August 2, 1996, No. 2 dated August 13, 1996, and No. 3 dated August 14, 1996

10. The set of drawings, Drawings No. 1 to 12, entitled "Contract No.___, Taro Aggregates Ltd. Phase 1A - Base Liner and Leachate Collection System, East Quarry Landfill Site" dated July 1996 by Gartner Lee Limited.

11. The document entitled "East Quarry Landfill Site, Proposal for Construction and Testing of a Base Liner Test Pad" dated May 3, 1996 by Gartner Lee Limited.

12. The letter dated May 23, 1996 to Mr. John Kaasalainen of the Ministry of Environment and Energy, Approvals Branch, from Mark Sungaila of Gartner Lee Limited providing

additional information regarding the construction of the base liner test pad.

13. The letter dated May 28, 1996 to Mr. Wayne Jackman of Taro Aggregates Limited from Mr. Steven Usher of Gartner Lee Limited providing the predictive monitoring trigger levels for the proposed East Quarry Landfill.

14. The memorandum dated June 26, 1996 to Mr. Wayne Jackman of Taro Aggregates Limited from Mr. Mark Sungaila of Gartner Lee Limited providing the trigger levels for combustible gas contingencies.

15. The letter dated August 2, 1996 to Mr. John Kaasalainen of the Ministry of Environment and Energy, Approvals Branch, from Mr. Edward San of Gartner Lee Limited providing additional information for the Phase 1A final detailed design.

16. The letter dated August 14, 1996 to Mr. John Kaasalainen of the Ministry of Environment and Energy from Mr. Wayne Jackman of Taro Aggregates providing responses to the Ministry's review comments dated February 28, 1996.

17. The document entitled "Terrapure Environmental, Financial Assurance Estimate" dated May 1, 2019 by HDR Inc.

18. The document entitled "Response to Conditions 5.6 and 5.8, Simulation of Groundwater Flow at the Taro Aggregates Limited Properties, City of Stoney Creek, Ontario" dated August 1996 by Gartner Lee Limited.

19. The letter report to Mr. Wayne Jackman of Taro Aggregates Limited from Mr. Steven Usher of Gartner Lee Limited dated July 30, 1996 entitled "Taro East Quarry Landfill / EA Condition of Approval 5.9 / Long Term Impact of Dewatering".

20. Gartner Lee report titled "Technical Specifications for Taro East Landfill Site-Phase 3 Base Liner and Leachate Collection System, Stoney Creek, Ontario", dated March 10, 1999.

21. Addendum to the report mentioned in item 2 above dated March 19, 1999, from Mark Sungaila of Gartner Lee to A. Dominski, MOE.

22. Set of drawings, Drawings 1 to 14, titled "Philip Services Corp., Phase 3-Base Liner and Leachate Collection System, Taro East landfill", dated March 1999.

23. The letter dated June 27, 1997 to Mr. Wilfred Ng, Director, Approvals Branch Ministry of Environment and Energy from Mr. Wayne Jackman, Environmental Engineering Manager of Taro Aggregates Ltd. providing the details and design of the permanent on-site wheel wash facility.

24. Letter from Mark A. Sungaila, Gartner Lee Limited, to A. Dominski, Ontario Ministry of the Environment, dated March 6, 1998, requesting an amendment to the Certificate of

Approval, on behalf of Wayne Jackman of Philip Enterprises Inc., including the following supporting documentation:

i) report entitled Taro East Landfill, Technical Specifications for Phase 1B Base Liner and Leachate Collection System, prepared by Gartner Lee Limited, and dated February 1998; and,
ii) set of drawings, Drawings Nos. 1 to 10, entitled Philip Services Corp., Phase 1B - Base Liner and Leachate Collection System, Taro East Landfill, prepared by Gartner Lee Limited, and dated March 1998.

25. Facsimile transmission from Mark A. Sungaila, Gartner Lee Limited, to Margaret Wojcik, Ontario Ministry of the Environment, dated May 12, 1998, providing Addenda No. 1 and No. 3 to the report submitted with the request for the amendment.

26. Facsimile transmission from Mark A. Sungaila, Gartner Lee Limited, to Margaret Wojcik, Ontario Ministry of the Environment, dated May 13, 1998, providing Addendum No.4 to the report submitted with the request for the amendment.

27. Facsimile transmission from Mark A. Sungaila, Gartner Lee Limited, to Margaret Wojcik, Ontario Ministry of the Environment, dated May 19, 1998, providing Addendum No.5 to the report submitted with the request for the amendment.

28. Letter from Mark A. Sungaila, Gartner Lee Limited, to Margaret Wojcik, Ontario Ministry of the Environment, dated May 25, 1998, providing additional information on the design, construction and testing details on the Phase 1B base liner and including Addendum No.2 to the report submitted with the request for the amendment.

29. Letter from Mark A. Sungaila, Gartner Lee Limited, to Margaret Wojcik, Ontario Ministry of the Environment, dated June 1, 1998, providing additional information on the design, construction and testing details on the Phase 1B base liner.

30. Report entitled Taro East Quarry Landfill 1996 Phase 1A Liner and Leachate Collection System Construction Inspection Report, prepared by Gartner Lee Limited, and dated December 1996.

31. Report entitled Taro East Landfill 1997 Phase 1A Liner and Leachate Collection System Construction Inspection Report, prepared by Gartner Lee Limited, and dated November 1997.

32. Report entitled Taro East Landfill 1997 Phase 2 Liner and Leachate Collection System Construction Inspection Report, prepared by Gartner Lee Limited, and dated November 1997.

33. Letter dated December 18, 2000 from Wayne Jackman, Environmental Engineering Manager, Philip Services Inc. to Mr. A. Dominski, P. Eng. Supervisor, Waste Unit,

Environmental Assessment and Approvals Branch, Ministry of the Environment, regarding approval of temporary leachate forcemain at the Taro East Landfill and the following attached documents:

a) Letter dated November 21, 2000 from Chris Caers, M.E.Sc., P. Eng., Project Manager, Earth Tech Canada Inc. to Mr. Wayne Jackman, Philip Services Inc. regarding proposed leachate forcemain construction;
b) Drawing No. A4-90K46 -G1 - Taro Aggregates Ltd., City of Stoney Creek, West Quarry Landfill Temporary Forcemain, dated November, 2000, prepared by Earth Tech (Canada) Inc.;
c) Specifications for the Leachate Forcemain; and,
d) Drawing No. A1-90K46 -P2 - Taro West Landfill, Temporary Forcemain, dated November, 2000, prepared by Earth Tech (Canada) Inc.

34. Letter dated February 22, 2001 from Frank Falcone, C.E.T., Senior Technologist, Earth Tech Canada Inc. to George Lai, P. Eng. Environmental Assessment and Approvals Branch regarding Taro Landfill - Temporary Forcemain with the following Drawing:

a) Drawing No. A1-90K46 -P2 - Taro West Landfill, Temporary Forcemain, dated November, 2000, revised December 1, 2000, signed February 22, 2001 by C.J.E. Caers, Earth Tech (Canada) Inc.

35. Fax dated March 1, 2001 from Karla Everard, Earth Tech (Canada) Inc. to George Lai, MOE regarding hydraulic calculations of the proposed leachate forcemain including the following documents:

a) Memo dated January 3, 2001 from Everard to Frank Falcone regarding design flowrate of the proposed leachate forcemain; and,

b) Proposed leachate forcemain hydraulic analysis.

36. Technical Specifications for Taro East Landfill Site - Phase 1C and 3B Base Liner and Leachate Collection System, Stoney Creek, Ontario, dated January 2001.

37. Design Drawings for Phase 1C and 3B, numbered 1 to 22, dated January 2001.

38. Letter dated May 21, 2002 from Joe Stephenson, M.Eng., P.Eng., President and Andre Schnell, M.Eng., P.Eng., Senior Project Engineer, Hydromantis, Inc. to Mr. George W. Lai, M.Eng., P.Eng., Senior Engineer, Waste Unit, Certificate of Approval Section, Environmental Assessment and Approval Branch, Ontario Ministry of the Environment and Energy, regarding response to technical questions related to the report biotreatability study to assess potential impacts of the combined Taro East and West Landfill Leachate on the Woodward Avenue WWTP.

39. Letter dated March 8, 2002 from Mark. A. Sungaila, M.A.Sc., P.Eng., Senior

Environmental Engineer/Principal and Edward San, M.E.Sc., P.Eng., Senior Environmental Engineer/Principal to Mr. Andrzej Dominski, P.Eng. Supervisor, Waste Section, Environmental Assessment and Approvals Branch, MOE regarding final detailed design of Phase 6A base liner and leachate collection system, Taro East Landfill.

40. Technical Specifications for Taro East Landfill Site - Phase 6A Base Liner and Leachate Collection System, Stoney Creek, Ontario, dated March 2002, prepared by Gartner Lee Limited.

41. Letter dated May 7, 2002 from Mark. A. Sungaila, M.A.Sc., P.Eng., Senior Environmental Engineer/Principal and Edward San, M.E.Sc., P.Eng., Senior Environmental Engineer/Principal to Mr. George Lai, Environmental Assessment and Approvals Branch, Ontario Ministry of the Environment, regarding signing and stamping final detailed design for Phase 6A base liner and leachate collection system, Taro East Landfill (Provisional Certificate of Approval A181008).

42. Design Drawings entitled "Philip Services Inc., Phase 6A - Base Liner and Leachate Collection System, Taro East Landfill" are indexed as follows:
    Drawing 1 - Existing conditions.
    Drawing 2 - Facility Layout.
    Drawing 3 - Site Preparation.
    Drawing 4 - Groundwater Collection System and Details.
    Drawing 5 - Grading Plan - Base Grading Layer.
    Drawing 6 - Grading Plan - Secondary Liner.
    Drawing 7 - Grading Plan - Hydraulic Control Layer.
    Drawing 8 - Grading Plan - Primary Layer.
    Drawing 9 - Grading Plan - Leachate Collection System.
    Drawing 10 - Temporary Berm Layout.
    Drawing 11 - Leachate Collection System and Details.
    Drawing 12 - Sections - Temporary Berm Construction, Base Liner Construction, Connection to Existing Liner.
    Drawing 13 - Connection Berm for Interim Waste Placement.

43. Gartner Lee Limited report titled "Imported Fine-Grained soil for Construction of Compacted Clay Liner at Taro East landfill", dated August 2002, which shall form part of Schedule "A" of the original Certificate of Approval.

44. November 2003 document by Gartner Lee titled "Detailed Design for Taro East Landfill Site-Phase 4 Groundwater Collection System and Engineered Side Wall Fill, Stoney Creek, Ontario", which forms part of Schedule "A".

45. Application for approval dated February 6, 2004, and the February 2004 report by Gartner Lee titled "Detail Design for Taro East Landfill Site-Phase 4 Base Liner and Leachate Collection System, Stoney Creek, Ontario", and associated drawings (No.1 to 28).

46. Application for approval dated November 23, 2005, and supporting information and documentation prepared by PSC Industrial Services Canada Inc.

47. Report and supporting documentation entitled "*Detailed Design for the Phase 5 and 6 Base Liner System and Leachate Collection System, Newalta Stoney Creek Landfill (Provisional Certificate of Approval A181008* " prepared for Newalta Industrial Services by Gartner Lee Limited dated March 2007.

48. Report and Drawings entitled "Detailed Design for the Stage 1 Final Cover, Newalta Stoney Creek Landfill (Provisional Certificate of Approval A181008)" prepared for Newalta Industrial Services by Gartner Lee Limited, dated June 2007.

49. Application for a Provisional Certificate of Approval for a Waste Disposal Site dated April 24, 2008, signed by Michael Jovanovic, Regional Manager, Newalta Industrial Services Inc., including all attached supporting information, cover letter, appendices, etc.

50. Report entitled "Detailed Design for the Stage 2 Final Cover, Newalta Stoney Creek Landfill, (Provisional Certificate of Approval A181008)", prepared by AECOM Canada Ltd., dated July 2010.

51. Report entitled "Detailed Design for the Phase 8 West Sidewall & Groundwater Collection System, Newalta Stoney Creek Landfill, including design drawings GW1 to GW5", prepared by AECOM, December 2010.

52. Report entitled "Detailed Design for the Phase 7 Base Liner and Leachate Collection System, Newalta Stoney Creek Landfill (Provisional Certificate of Approval A181008)" prepared by AECOM (Project No. 60213675), dated February 2012.

53. Detailed Design Drawings for Phase 7 Base Liner and Leachate Collection System as follows:

    i. Cover Sheet entitled "Newalta Stoney Creek Landfill - Phase 7 Base Liner and Leachate Collection System" prepared by AECOM (Project No. 60213675), dated February 2012;
    ii. Drawing No. LF-PH-7-001 - Existing Conditions - prepared by AECOM (Project No. 60213675), dated February 9, 2012;
    iii. Drawing No. LF-PH-7-002 - Facility Layout - prepared by AECOM (Project No. 60213675), dated February 9, 2012;
    iv. Drawing No. LF-PH-7-003 - Site Preparation - prepared by AECOM (Project No. 60213675), dated February 9, 2012;
    v. Drawing No. LF-PH-7-004 - Groundwater Collection System and Details - prepared by AECOM (Project No. 60213675), dated April 24, 2012;
    vi. Drawing No. LF-PH-7-005 - Grading Plan Base Grading Layer - prepared by AECOM (Project No. 60213675), dated February 9, 2012;
    vii. Drawing No. LF-PH-7-006 - Grading Plan Secondary Liner - prepared by AECOM

(Project No. 60213675), dated February 9, 2012;

viii. Drawing No. LF-PH-7-007 - Grading Plan Hydraulic Control Layer - prepared by AECOM (Project No. 60213675), dated February 9, 2012;

ix. Drawing No. LF-PH-7-008 - Grading Plan Primary Liner - prepared by AECOM (Project No. 60213675), dated February 9, 2012;

x. Drawing No. LF-PH-7-009 - Grading Plan Leachate Collection System (Graded Filter) - prepared by AECOM (Project No. 60213675), dated February 9, 2012;

xi. Drawing No. LF-PH-7-010 - Grading Plan - temporary Berm and Final Grades at Limit of Landfill, Access Ramp Detail - prepared by AECOM (Project No. 60213675), dated February 9, 2012;

xii. Drawing No. LF-PH-7-011 - Leachate Collection System - prepared by AECOM (Project No. 60213675), dated February 9, 2012;

xiii. Drawing No. LF-PH-7-012 - Typical Details - Base Liner and Temporary Berm - prepared by AECOM (Project No. 60213675), dated February 9, 2012;

xiv. Drawing No. LF-PH-7-013 - Typical Details - Interim Temp. Berm and Connection Details to Existing Liner System - prepared by AECOM (Project No. 60213675), dated February 9, 2012;

xv. Drawing No. LF-PH-7-014 - Groundwater Collection System, Sidewall Construction Sections "E" and "F" - prepared by AECOM (Project No. 60213675), dated February 9, 2012;

xvi. Drawing No. LF-PH-7-015 - Sidewall Construction Section "G" and Details - prepared by AECOM (Project No. 60213675), dated April 24, 2012;

xvii. Drawing No. LF-PH-7-016 - Typical Details - Leachate Collection System Cleanout Structure Details - prepared by AECOM (Project No. 60213675), dated February 9, 2012;

xviii. Drawing No. LF-PH-7-017 - Typical Details - Leachate Collection System Cleanout Structure Details - prepared by AECOM (Project No. 60213675), dated February 9, 2012;

ixx. Drawing No. LF-PH-7-018 - Typical Details - Leachate Collection System Cleanout Structure Details - prepared by AECOM (Project No. 60213675), dated February 9, 2012;

xx. Drawing No. LF-PH-7-019 - Typical Details - Groundwater Collection System - Cleanout Structures CO-G10 and CO-G11 - prepared by AECOM (Project No. 60213675), dated February 9, 2012;

xxi. Drawing No. LF-PH-7-020 - Typical Details - Injection Wells W9 and W10 - prepared by AECOM (Project No. 60213675), dated February 9, 2012; and,

xxii. Drawing No. LF-PH-7-021 - Proposed Maximum Limit of Phase 7A Construction to be completed in Year 2012 - prepared by AECOM (Project No. 60213675) and dated April 24, 2012.

54. Drawing No. 3-R entitled "Base Grading Plan" prepared by AECOM (Project No. 60213675) dated January 14, 2013.

55. Environmental Compliance Approval Application signed by Lorenzo Alfano, Newalta dated November 15, 2012 for amending Conditions 23 and 25 of the ECA re: Changes to

service area and waste receiving rates.

56. Report entitled "Newalta Stoney Creek Landfill Reconfiguration Supporting Documentation" prepared for Newalta Corporation by AECOM (Project No. 60290994) dated August 2013.

57. Application to Amend Environmental Compliance Approval No. A181008, Terrapure Environmental Stoney Creek Regional Facility, signed by Lorenzo Alfano, dated July 11, 2019.

58. Memorandum from Ben Kempel/Brian Dermody, GHD to Jessica Foo, MECP, dated September 13, 2019 re: Recommended Surface Water Monitoring Program - Terrapure Environmental Stoney Creek Regional Facility (MECP Reference 5720-BE4NER).

59. Memorandum from Ben Kempel/Brian Dermody, GHD to Jessica Foo, MECP, dated September 17, 2019 re: Response to Comments Groundwater Technical Support - Terrapure Environmental Stoney Creek Regional Facility.

60. Memorandum from Brian Dermody, GHD to Jennifer Roth, City of Hamilton, dated October 27, 2019 re: Responses to City Review Comments - Terrapure Stoney Creek Regional Facility ECA Amendment Application.

61. Document entitled "Final Cover, Terrapure Stoney Creek Landfill", dated July 14, 2020" re: Technical Specifications and Drawings for final cover of the Terrapure Stoney Creek Regional Facility.

62. Documents entitled "Terrapure Environmental Stoney Creek Landfill Phase 9 Base Liner and Leachate Collection System", including Drawings C-01-C18, inclusive., dated May 2021.

SCHEDULE "B"

This Schedule "B" forms part of the Approval.

Table B.1: Ground Water Perimeter Drain and Underdrain Operation, Inspection, and Maintenance Requirements

Frequency	Operation	Inspection	Maintenance
Daily	No active operational requirements; system operates by gravity flow and only when groundwater pumping station is in operation (refer to Table B.2)	• No specific daily requirements.	No specific daily requirements, maintenance as needed
Monthly		No specific monthly requirements.	No specific monthly requirements, maintenance as needed.
Quarterly		Probe cleanouts for sediment accumulation.	No specific quarterly requirements, maintenance as needed. • Remove sediment as needed.
Annually		Video inspection of perimeter drain piping	Flush system piping as required based on inspection, other maintenance as needed.

Note: Ground water level and quality monitoring addressed in Schedule "C".

Table B.2: Groundwater Pumping Station Operation, Inspection, and Maintenance Requirements

Frequency	Operation	Inspection	Maintenance
Daily	Groundwater will be pumped from collection system as required. Once in operation, pumping station operates automatically with pumps activated by float controls. Once pumping cycle set at system start-up. No active operational requirements.	• If in operation, check pump operation.	No specific daily requirements, maintenance as needed.
Monthly		No specific monthly requirements.	No specific monthly requirements, maintenance as needed.
Quarterly		Inspect for sediment accumulation. • Inspect pump switches, electrical systems and alarms.	No specific quarterly requirements, maintenance as needed. • Vacuum sediment, clean switch contacts and pumps as needed.
Annually		Remove pumps and inspect for wear.	No specific annual requirements, maintenance as needed.

Table B.3: Leachate Collection System Operation, Inspection, and Maintenance Requirements

Frequency	Operation	Inspection	Maintenance
Daily	No active operational requirements; system operates by gravity flow.	• Measure leachate quantity being collected.	No specific daily requirements, maintenance as needed.
Monthly		No specific monthly requirements.	No specific monthly requirements, maintenance as needed.
Quarterly		Probe cleanouts for sediment accumulation.	No specific quarterly requirements, maintenance as needed.
Annually		Video inspection of all system piping upon completion of construction. • Once constructed, video inspection of main pipes and lateral pipes once every two years.	Flush all collection system piping as required based on inspection, other maintenance as needed.

NOTE: Leachate quality, quantity and head monitoring addressed in Schedule “C”.

Table B.4: Leachate Pumping Station and Gravity Sewer Operation, Inspection, and Maintenance Requirements

Frequency	Operation	Inspection	Maintenance
Daily	Pumping station operates automatically with pumps activated by float controls. Once pumping cycle set at system start-up, no active operational requirements.	• Check pump for proper operation.	No specific daily requirements, maintenance as needed.
Monthly		Inspect pumping station for sediment accumulation. • Inspect gravity sewer for sediment accumulation.	Vacuum sediment as needed, maintenance as needed.
Quarterly		Inspect pump switches, electrical systems and alarms.	No specific quarterly requirements, maintenance as needed.
Annually		Remove pumps and inspect for wear. • Video inspection of all gravity sewer piping upon completion of construction. • Once constructed video inspection of gravity sewer piping once every two years.	Flush gravity sewer as required based on inspection, other maintenance as needed.

Table B.5: Hydraulic Control Layer Operation, Inspection, and Maintenance Requirements

Frequency	Operation	Inspection	Maintenance
Daily	Operation of water replacement system.[1]	• When water replacement is occurring, ensure proper operation of injection/extraction wells.	No specific daily requirements, maintenance as needed.
Monthly	No specific monthly requirements.	No specific monthly requirements.	No specific monthly requirements, maintenance as needed.
Quarterly	No specific quarterly requirements.	No specific quarterly requirements.	No specific quarterly requirements, maintenance as needed.
Annually	No specific annual requirements.	No specific annual requirements.	No specific annual requirements, maintenance as needed.

No active operational requirements until end of landfill operating period. Saturation of hydraulic control layer to begin starting once construction of liner has been completed. Frequency of replacement of water within hydraulic control layer to be determined based on water quality within layer. Water quality and head monitoring addressed in Schedule “C”.

Table B.6: Gas Venting System Operation, Inspection, and Maintenance Requirements

Frequency	Operation	Inspection	Maintenance
Monthly	System is passive and has no active operational requirements.	• No specific monthly requirements.	No specific monthly requirements, maintenance as needed.
Annually		No specific annual requirements.	No specific annual requirements, maintenance as needed.

Table B.7: Final Cover Inspection and Maintenance Requirements

Frequency	Inspection	Maintenance
Semi-Annually	• "Walk over" inspection for settlement occurrences, surface erosion and vegetation condition (semi-annually for the first two years following construction).	No specific semi-annual requirements, maintenance as needed.
Annually	"Walk over" inspections annually after two years.	No specific annual requirements, maintenance as needed.

Table B.8: General Site Works Inspection and Maintenance Requirements

Frequency	Inspection	Maintenance
Weekly	• Visual inspection of all fences, gates, visual screens, access roads, First Road West (for efficiency of sweeping) public warning signs, traffic signs.	Maintenance/repair as needed.
Monthly (May to October only)	Visual inspection of sedimentation / retention ponds and perimeter ditches for vegetation condition and sediment accumulation (monthly for first year after construction).	Maintenance as needed (sediment removal, revegetation, erosion repairs).
Semi-Annually	Visual inspection of sedimentation/retention ponds and perimeter ditches for vegetation condition and sediment accumulation (semi-annually after first year following construction).	Maintenance as needed (sediment removal, revegetation, erosion repairs).

SCHEDULE "C"

This Schedule "C" forms part of the Approval.

ENVIRONMENTAL MONITORING

This program will be implemented sequentially as the development of the site progresses. The Short Term category corresponds to the period during the operating life, prior to the hydraulic control layer being surcharged. The Long Term category corresponds to the post closure period, once the hydraulic control is surcharged.

The following schedule examines each layer individually in terms of water quantity (levels and flow) and water quality (chemistry).

	Frequency
Atmospheric Conditions Short and Long Term Average temperature (min., mean, max.), precipitation and wind direction.	Daily
Waste Records of scale-house receipts of waste types.	Continuous
Airborne Dust PM_{10} Monitoring	Continuous
Leachate Collection Layer Short and Long Term 1 Levels - 16 of 44 cleanouts - diffusion test pad location (Short term only) 2 Flow - Leachate Collection System discharge point. 3 Quality - Discharge point (List C + BOD)	 Quarterly Quarterly Daily Quarterly
Hydraulic Control Layer Short Term 1 Levels - sampler tube at diffusion test pad Long Term - 14 pump in/out locations around perimeter Short Term 2 Flow - visual observation of pumpout volumes Long Term - at each of 14 pump in/out locations as part of flushing cycle Short Term 3 Quality - from pumpout discharge (List A) - sampler tube at diffusion test pad (List B) Long Term - 14 pump in/out locations (List A)	 Monthly Monthly for 2 years after surcharge, Quarterly thereafter Monthly or as needed Annually or as determined by performance testing As needed when flowing

	4 per year
Groundwater Collection System / Vinemount Flow Zone Short and Long Term 1 Levels - accessible perimeter cleanout locations - diffusion test pad location (Short term only) 2 Flow - Discharge, if pumping 3 Quality - Discharge, if pumping	 Quarterly Monthly Quarterly (List B)
Primary and Secondary Liners Short Term 1 Quality - Electrical Conductivity at diffusion test pad	 Quarterly

To avoid engineered perforations of the liner systems, which may become conduits for fluid movement and/or localized liner failure, groundwater monitors in the VFZ, UFZ, MFZ and LFZ will be restricted to the perimeter of the site (that is no groundwater monitors will exist under the liner).

List A: General: pH, Conductivity, Alkalinity, Phenols, TKN, NH_3 N, TOC

Major ions: Ca, Mg, Na, K, Cl, SO_4, F, NO_2N, NO_3N, Br, PO_4

List B: List A + Metals: Al, BA, BE, B, Cd, Cr, Co, Cu, Pb, Fe, Mn, Mo, Ni, Si, Sr, Ti, V, Zn

List C: List B + Organic Analysis: Misa Groups 16, 17, 18, 19, 20, and 22.

SCHEDULE "D"

This Schedule “D” forms part of the Approval.

Surface Water Monitoring Program

Table D.1 Surface Water Monitoring Program

Stations	Spring Freshet (Feb-Apr)	Spring Rain (Apr-May)	Summer Dry (June-Aug)	Summer Rain (June-Sep)	Fall Rain (Oct-Dec)
TS-1	✓ ❖	✓	✓ ❖	✓	✓
TS-2	✓ ❖	✓	✓ ❖	✓	✓
T-1R	✓ ❖	✓	✓ ❖	✓	✓
T-3R*	✓ ❖	✓	✓ ❖	✓	✓
T-3A	✓ ❖	✓	✓ ❖	✓	✓
T-12	✓ ❖	✓	✓ ❖	✓	✓
T-13	✓	✓	✓	✓	✓
T-15	✓ ❖	✓	✓ ❖	✓	✓
T-30	✓	✓	✓	✓	✓
T-32	✓	✓	✓	✓	✓
North Sump	✓ ❖		✓ ❖		

Notes:

* Sample when there is visible flow. Check on a weekly basis to get the monthly sample

✓ includes field measurements and water quality evaluation (full) parameters

❖ includes trace organic compounds

Table D.2 Surface Water Parameter List

List ✓ : Field Measurements	*List ❖ : Trace Organic Compounds*
pH dissolved oxygen water temperature conductivity stream flow (or water level)	MISA test groups 16, 17, 18, 19, 20, 22 Volatile organics, Semi-volatile organics Pesticides, Base/neutral extractables Acid extractables Chlorophenols

List ✓ : Water Quality Evaluation (full)	
total suspended solids pH an d alkalinity hardness chloride nitrite total ammonia un-ionized ammonia (calculated) total phosphorus (0.030) copper (0.001) boron cadmium (0.00045) mercury (0.0002) chromium (0.1) iron (0.3) filtered total aluminum (0.075) arsenic (0.1) total phenols (4AAP) (0.001)	BODS dissolved organic carbon sulphate nitrate calcium magnesium sodium manganese lead (0.001) zinc (0.020) nickel (0.025) silver (0.0001) selenium (0.1) molybdenum (0.010) cobalt (0.1) beryllium vanadium

Note: Number in parenthesis is the minimum detection limit (in mg/L) which must be obtained in all cases. If it is not possible to achieve the stated detection limit then the lowest possible detection limit should be obtained.

SCHEDULE "E"

This Schedule “E” forms part of the Approval.

COMBUSTIBLE GAS MONITORING

As each phase of the landfill is constructed, the gas monitors should be installed in the buffer zone every 200 m around the perimeter of the landfill, into the water table in the Eramosa bedrock. Monitoring will include combustible gas concentrations in all monitors.

	Frequency
Monitoring	
Winter: First two years of landfill phase construction	Weekly
(After two years with no detection of combustible gas)	Monthly
Summer:	Once
Sampling	Four samples each location
Summer: Gas sampling (CO_2, CH_4, N_2, O_2, H_2S) within first year of phase completion	

SCHEDULE "F"

This Schedule "F" forms part of the Approval.

GROUND WATER MONITORING PROGRAM

Monitoring Well Nest		Flow Zone	Water Level Measurements		Sampling				Notes
			Weekly	Monthly	Parameter List		Sample Collection Frequency		
14	I	LFZ	-	✓	A		Triannual		
29	II	VFZ	-	✓	-		-		Monitors will be decommissioned when liner construction reaches this location
	III	UFZ	-	✓	-		-		
	I	UMFZ	-	✓	-		-		
	IV	LMFZ	-	✓	-		-		
30	II	Waste	-	✓	-		-		
	I	UFZ	-	✓	-		-		
31	II	Waste	-	✓	-		-		
	I	UFZ	-	✓	A		Triannual		
32	II	Waste	-	✓	-		-		
	I	VFZ	-	✓	-		-		
33	II	Waste	-	✓	A		Triannual		
	I	VFZ	-	✓	A		Triannual		
35	V	Overburden/Eramosa	-	✓	A	B	Triannual	Semi-annual	
	VII	VFZ	-	✓	A	B	Triannual	Semi-annual	
								Sem	

	IV	UFZ	-	✓	A	B	Triannual	i-annual	
	VI	UMFZ	-	✓	A	B	Triannual	Semi-annual	
	III	LFZ	-	✓	A	B	Triannual	Semi-annual	
36	IVR	Overburden/Eramosa	-	✓	A		Triannual		Replacement well
	VR	VFZ	-	✓	A		Triannual		Replacement well
	IIIR	UFZ	-	✓	A		Triannual		Replacement well
	IR	UMFZ	-	✓	A		Triannual		Replacement well
	IIR	LFZ	-	✓	-		-		Replacement well

40	III	VFZ	-	✓	-		-		Monitors will be decommissioned when liner construction reaches this location
	IIR	UFZ	-	✓	-		-		
	I	UMFZ	-	✓	-		-		
41	III	Overburden/Eramosa	-	✓	A		Triannual		
	II	UMFZ	-	✓	A	B	Triannual	Semi-annual	
	I	LFZ	-	✓	A	B	Triannual	Semi-annual	
42	III	VFZ	-	✓	A		Triannual		
	II	UFZ	-	✓	A		Triannual		
	I	UMFZ	-	✓	A		Triannual		
43	II	LMFZ	-	✓	A		Triannual		
	I	LFZ	-	✓	A		Triannual		
44	II	LMFZ	-	✓	A	B	Triannual	Semi-annual	
	I	LFZ	-	✓	A	B	Triannual	Semi-annual	
45	II	LMFZ	-	✓	-		-		
	I	LFZ	-	✓	-		-		
46R	IIIR	UFZ	-	✓	A		Triannual		Replacement well
	IIR	UMFZ	-	✓	A		Triannual		Replacement well
	IR	LFZ	-	✓	A		Triannual		Replacement well
47	IV	Overburden/Eramosa	-	✓	A	B	Triannual	Semi-annual	
	III	VFZ	-	✓	A	B	Triannual	Semi-annual	
	IIR	UFZ	-	✓	A	B	Triannual	Semi-annual	Replacement well
	I	UMFZ	-	✓	A	B	Triannual	Semi-annual	

48	IV	Overburden/Eramosa	-	✓	A		Triannual		Monitors will be decommissioned when liner construction reaches this location
	V	VFZ	-	✓	A		Triannual		
	III	UFZ	-	✓	-		-		
	II	UMFZ	-	✓	A		Triannual		
	I	LFZ	-	✓	A		Triannual		
49	IV	Overburden/Eramosa	-	✓	A		Triannual		
	V	VFZ	-	✓	A		Triannual		
	III	UFZ	-	✓	-		-		
	II	UMFZ	-	✓	A		Triannual		
	IR	LFZ	-	✓	-		-		
50	II	Overburden/Eramosa	-	✓	A		Triannual		
	I	UFZ	-	✓	-		-		
51	V	Overburden/Eramosa	-	✓	A	B	Triannual	Semi-annual	
	IV	VFZ	-	✓	A	B	Triannual	Semi-annual	
	VI	RS	-	✓	-		-		
52	III	Overburden/Eramosa	-	✓	A		Triannual		
	II	VFZ	-	✓	A		Triannual		
	I	UFZ	-	✓	-		-		
55	I	VFZ	-	✓	-		-		
		UFZ	-						
		UMFZ	-						
56	II	UFZ	-	✓	A		Triannual		
	I	UMFZ	-	✓	A		Triannual		
57	II	Waste	-	✓	-		-		
	IR	UFZ	-	✓	-		-		Replacement well

58	I	Waste	-	✓	A	B	Triannual	Semi-annual	
60	III	VFZ	-	✓	A		Triannual		
	II	UFZ	-	✓	A		Triannual		
	I	UMFZ	-	✓	A		Triannual		
	IV	LFZ	-	✓	A		Triannual		
61	III	VFZ	-	✓	A		Triannual		
	II	UFZ	-	✓	A		Triannual		
	I	UMFZ	-	✓	A		Triannual		
62	IV	UFZ	-	✓	A		Triannual		
	III	UMFZ	-	✓	A		Triannual		
	II	LMFZ	-	✓	A		Triannual		
	I	LFZ	-	✓	A		Triannual		
67	III	UFZ	-	✓	A		Triannual		
	II	UMFZ	-	✓	A		Triannual		
	I	LMFZ	-	✓	A		Triannual		
68	IV	VFZ	-	✓	A	B	Triannual	Semi-annual	
	III	UFZ	-	✓	A	B	Triannual	Semi-annual	
	II	UMFZ	-	✓	A	B	Triannual	Semi-annual	
	I	LFZ	-	✓	A	B	Triannual	Semi-annual	
72	III	UFZ	-	✓	A	B	Triannual	Semi-annual	
	II	UMFZ	-	✓	A	B	Triannual	Semi-annual	
	I	LFZ	-	✓	A	B	Triannual	Semi-annual	
75	IV	UFZ	-	✓	A		Triannual		
	III	UMFZ	-	✓	A		Triannual		
	II	LMFZ	-	✓	A		Triannual		
	I	LFZ	-	✓	A		Triannual		
76	III	LMFZ	-	✓	A	B	Triannual	Semi-annual	
	II	LFZ	-	✓	A	B	Triannual	Semi-annual	
	I	RS	-	✓	A	B	Triannual	Semi-annual	
77	V	Overburden/Eramosa	-	✓	A		Triannual		
	II	UMFZ	-	✓	A		Triannual		
	I	LFZ	-	✓	A		Triannual		

P1	III	UFZ	-	✓	A	Triannual	
	II	UMFZ	-	✓	A	Triannual	
	I	LFZ	-	✓	A	Triannual	
P2	II	UFZ	-	✓	A	Triannual	
	I	LFZ	-	✓	-	-	
P3	II	UFZ	-	✓	A	Triannual	
	III	UMFZ	-	✓	A	Triannual	
	I	LMFZ	-	✓	A	Triannual	
P4	IV	Eramosa	-	✓	A	Triannual	
	II	UFZ	-	✓	-	-	
	III	UMFZ	-	✓	-	-	
P5	IVRR	VFZ	-	✓	A	Triannual	Replacement well
	IIIR	UFZ	-	✓	A	Triannual	Replacement well
	IIR	UMFZ	-	✓	A	Triannual	Replacement well
	IR	LFZ	-	✓	A	Triannual	Replacement well
P6	IR	UFZ	-	✓	-	-	Replacement well
9	9-I	VFZ	-	✓	-	-	
P7	VIR	Overburden/Eramosa	-	✓	-	-	Replacement well
	IV	VFZ	-	✓	A	Triannual	
	III	UFZ	-	✓	A	Triannual	
	II	UMFZ	-	✓	A	Triannual	
	V	LMFZ	-	✓	-	-	
	IR	LFZ	-	✓	A	Triannual	Replacement well
P8	II	Overburden/Eramosa	-	✓	A	Triannual	
	I	UFZ	-	✓	A	Triannual	
P9	II	Overburden/Eramosa	-	✓	A	Triannual	
	IIIR	VFZ	-	✓	A	Triannual	Replacement well
	I	UFZ	-	✓	A	Triannual	
		Overburden/Eramo					

P10	V	sa	-	✓	A	B	Triannual	Semi-annual	
	IV	VFZ	-	✓	A	B	Triannual	Semi-annual	
	III	UFZ	-	✓	A	B	Triannual	Semi-annual	
	II	UMFZ	-	✓	A	B	Triannual	Semi-annual	
	I	LFZ	-	✓	A	B	Triannual	Semi-annual	
P11	III	UFZ	-	✓	A		Triannual		
	II	UMFZ	-	✓	A		Triannual		
	I	LFZ	-	✓	A		Triannual		
P12	I	UFZ	-	✓	A		Triannual		
P14	I	UFZ	-	✓	A		Triannual		
P15	I	UFZ	-	✓	A		Triannual		
P16	I	UFZ	-	✓	A		Triannual		
P17	I	UFZ	-	✓	A		Triannual		
Shatter Trench	ST 1	UFZ	-	✓	A		Triannual		
Shatter Trench	ST1-II	UFZ	-	✓	-		-		
	ST 1-I	UMFZ	-	✓	-		-		
Shatter Trench	ST 2	UFZ	-	✓	A		Triannual		
Shatter Trench	ST 2-I	UFZ	-	✓	-		-		
	ST 2-II	UMFZ	-	✓	-		-		
Shatter Trench	M 5	UFZ	-	✓	-		-		
		UMFZ	-						
Shatter Trench	M 5a	UFZ	✓	-	-		-		
	M 5R	UMFZ	✓	-	-		-		

Lower Excavation	M4	VFZ	-	✓	A		Triannual		
		UFZ	-						
		UMFZ	-						
CW3, 5R, 16 (when operating)	CW16	VFZ	-	✓	A		Triannual		
	CW3, 5R	UFZ	-						
L1	L1	LFZ	-	✓	A		Triannual		
LS-1	LS-1	Waste	-	✓	A	B	Triannual	Semi-annual	
LS-2	LS-2	Waste	-	✓	A	B	Triannual	Semi-annual	
LS-3	LS-3	Waste	-	✓	A	B	Triannual	Semi-annual	
Gas Monitors	G11	Overburden/Eramosa	-	✓	A		Triannual		
Gas Monitors	G13	Overburden/Eramosa	-	✓	A		Triannual		
Gas Monitors	G27	Overburden/Eramosa	-	✓	A		Triannual		

FREQUENCY AND PARAMETERS

Parameter List A	Field Measurements: pH, water temperature, conductivity Analytical Parameters: pH, conductivity, alkalinity, hardness, TDS, phenols, TKN, ammonia, DOC, calcium flouride, bromide, nitrate, nitrite, phosphate, sulphate, aluminum, barium, beryllium, boron, cadmium, chro Parameter List A to be sampled on triannual basis (spring, summer, fall)
Parameter List B	Analytical Parameters: MISA Test Groups 16, 17, 18, 19, 20, 22 Volatile organics, semi-organics, pesticides, base/neutral extractables, acid extractables, chlorophenols Parameter List B to be sampled on semi-annual basis (spring, fall)
	Water levels are a a requirement of Permit to Take Water

VFZ - Vinemount Flow Zone, UFZ - Upper Flow Zone, UMFZ - Upper Mid Flow Zone, LMFZ - Lower Mid Flow Zone, LFZ -

Schedule G

This Schedule "G" forms part of the Approval.

The following are the Terms of Reference for the CLC:

Continuance:

The Owner shall continue to maintain a community liaison committee to be known as the Terrapure Stoney Creek Regional Facility Community Liaison Committee (CLC) that will be guided by the Terms of Reference as outlined below and applicable Conditions in this Approval

Mandate:

The mandate of the CLC is to:

(a) Provide a forum for public concerns to be raised and for mitigation measures to be discussed.
(b) Serve for the dissemination, review and exchange of information and monitoring results relevant to the undertaking.

Changes to operation or mandate of this committee shall have the agreement of the Owner , 2/3 of all voting members and the approval of the Regional Director of West Central Region of the Ministry of the Environment, Conservation and Parks.

If there is no interest from the public in participating in a CLC or if there is no interest in continuing a CLC after one has been established, the Owner shall publish a notice at least once a year inviting expressions of interest in forming the CLC.

Membership:

Membership on the CLC shall be as follows:

A) Voting Members

a. There shall be four community representatives from the resident population of the City of Hamilton, with preference given to those who reside within 1500 metres of the Site . Should there be less than four community representative applicants, the CLC may operate with a minimum of two community representatives. The term of the community representatives on the CLC shall be
the same as for the City of Hamilton representatives, four years. These terms should be staggered to avoid complete turnover of membership at the end of four years.
b. Two Representatives of the City of Hamilton appointed by the City of Hamilton, which representatives are not staff members. The term of the City of Hamilton representatives shall be for a four year term, to align with the terms of Council of the City of Hamilton.

The committee reserves the right to elect one Alternate Community Member. The Alternate Community Member is invited to attend meetings and to participate as an official voting member in case one of the other appointed community members is unable to attend. This position will help ensure quorum at each meeting and will help in succession planning for the committee, as the Alternate Community Member will be eligible to put his/her name forward for consideration as a full Community Member

B) Non- Voting Members

a. There shall be one non-voting representative of the MECP on the CLC .
b. There shall be two non-voting members appointed by the Owner on the CLC.

The following new agencies, communities and stakeholders will be invited to join the community liaison committee:

a. Interested Indigenous communities as identified in the Indigenous consultation plan
b. Representatives from the Hamilton Wentworth District School Board
c. Representatives from Hamilton Wentworth Catholic School Board

Operation of the CLC:

The CLC shall elect a chair from the voting members of the CLC whose role it will be to call and preside over meetings of the committee.

Selection of Community Representatives:

a. The procedure for the selection of the community representatives on the CLC shall consist of advertising for interested applicants in both a daily newspaper and a local community newspaper by the Owner . If the CLC disbands due to lack of sufficient interest but then subsequently reforms at a future date, selection of the new group of community representatives will be made by a selection committee comprised of the City of Hamilton, MECP and Owner members. Subsequent selection will be conducted by the entire CLC , with input from both voting and non- voting members.

Meeting Procedures for CLC:

a. Routine meetings shall be held at the discretion of the voting members of the CLC to a maximum of once per quarter. Additional meetings shall be convened at the call of the Chair. All meetings will be open to observers from the public, with the exception of committee member selection, personnel matters and legal advice.
b. Meetings will be formal with an agenda circulated in advance of the meetings. Request for delegations to attend are to be made at least two days in advance of the meeting. Minutes will be taken.

c. If quarterly meetings are not held, the Owner shall circulate Site updates on a quarterly basis by email.
d. Meeting dates, meeting agendas and meeting minutes or quarterly updates shall be publicly accessible. The CLC shall maintain additional general meeting rules and operating guidelines, including a quorum, procedures for voting, notice of meetings and procedures for open houses and public forum.

Funding for the CLC:

The Owner shall provide nominal funding, as required, for the reasonable costs of the operation of the CLC , excluding the costs of administrative services and quarterly meeting space, which is to be provided by the Owner at the Site.

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

1. *The reason for inclusion of the definitions is to define the specific meaning of terms and simplify the wording of conditions in this Approval.*

2. *The reason for Conditions 1.1 and 1. 2 is 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.*

3. *The reason for Conditions 1.3, 1.4, 1.5, 1.9, 1.10, 1.11, 1.12 and 1.13 is to clarify the legal rights and responsibilities of the Owner under this Approval.*

4. *Conditions 1.6 and 1.7 are included to ensure that the appropriate Ministry staff have ready access to information and the operations of the Site, which are approved under this Approval.*

5. *Condition 1.8 has been included in order to clarify what information may be subject to the Freedom of Information Act.*

6. *Conditions 1.14 to 1.16 inclusive are included, pursuant to subsection 197(1) of the EPA, to provide that any persons having an interest in the Site are aware that the land has been approved and used for the purposes of waste disposal.*

7. *The reasons for Condition 1.17 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.*

8. *The reasons for Conditions 1.18 and 1.19 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.*

9. *The reason for Condition 1.20 is to ensure that appropriate Ministry staff have 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 EPA and OWRA.*

10. *The reason for Condition 1.21 is to ensure the Approval is reference in any correspondence to clearly indicate the site that is being discussed.*

11. *The reasons for Conditions 2.1 to 2.8 are to ensure that sufficient funds are available to the Ministry to close the landfill, and to carry out all expected post-closure care activities and any contingencies. Failure to include requirements for financial assurance would not be in the public interest and may result in a hazard or nuisance to the natural environment or any person.*

12. *Conditions 3.1 to 3.5 are to establish and maintain a forum for the exchange of information and public dialogue on activities to be carried out at the landfill site. Open communication with the public and local authorities is important in helping to maintain high standards for site operation and environmental protection.*

13. *The reason for Conditions 4.1 to 4.5 inclusive, 4.7 and 4.8 is to ensure that the Site is designed, constructed and operated in an environmentally acceptable manner, based on the conceptual design and operations for the Site.*

14. *The reason for Condition 4.6 is to ensure the availability of as-built drawings for inspection and information purposes.*

15. *The reason for Conditions 5.1, 5.3 is to ensure that waste disposal at the site is undertaken in accordance with applicable Ministry of the Environment regulations, and the approved documents incorporated into this Approval. Compliance with these regulations and guidelines and an organized operation will ensure that the site does not cause and adverse effect on the environment.*

17. *The reason for Condition 5.2 is to ensure the Owner is aware of their responsibility for ensuring groundwater protection at the Site.*

18. *The reason for Condition 5.4 is to ensure the Owner maintains a 30 m buffer around the landfill site.*

19. *The reasons for Conditions 5.5 are to ensure that users of the Site are fully aware of important information and restrictions related to Site operations under this Approval.*

21. *The reasons for Conditions 5.6, 5.7, and 5.8 are to specify the normal hours of operation for the landfill Site and a mechanism for amendment of the hours of operation.*

22. *The reasons for Conditions 5.9, 5.10, 5.11 and 5.12 are to specify site access to/from the Site*

and to ensure the controlled access and integrity of the Site by preventing unauthorized access when the Site is closed and no site attendant is on duty.

23. *The reason for Conditions 5.13 and 5.14 is to clearly identify the access requirements for the Site.*

24. *The reason for Condition 5.15 is to ensure trucks entering the Site do not cause an impact to traffic.*

25. *The reason for Condition 5.16 is to ensure approval is obtained for any new type of waste to be received at the Site.*

27. *The reasons for Condition 5.17 is to ensure the site is operated in an manner in which as adverse effect does not occur. This is to ensure the long-term protection of the environment and human health.*

28. *The reasons for Condition 5.18 is to ensure that the Site is operated and maintained in an environmentally acceptable manner and does not result in a hazard or nuisance to the natural environment or any person.*

29. *The reason for Condition 5.19, 5.20, 5.21, 5.22, 5.23, and 5.24 are to ensure that noise from or related to the operation of the landfill is kept to within Ministry limits and does not result in a hazard or nuisance to any person.*

30. *The reason for Condition 5.25 is to ensure the Owner receives ministry's approval before discontinuing using the groundwater collection trench.*

32. *The reason Condition 5.26 is to prevent ponding in on site ditches and any adverse impact on the environment and human health.*

33. *The reason for Conditions 6.1, 6.2 and 6.18 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.*

34. *The reasons for Conditions 6.3, 6.4, 6.5 and 6.6 are to approve the receipt and disposal of non-hazardous incinerator ash at the Site and to ensure that disposal of the ash waste is done in a manner which minimizes the effects of the landfill to the health and safety of the public and the environment and to conduct the disposal in accordance with the application and not in a manner which the Director has not been asked to consider.*

35. *The reasons for Conditions 6.7, 6.8, 6.9, 6.10, 6.11 and 6.12 are to ensure that the management and disposal of asbestos waste is done in accordance with regulatory requirements and in a manner that is protective of human health and safety and the environment.*

36. Condition 6.13, 6.14, and 6.15 specifies the maximum amount of waste that may be received at the site based on the approved Environmental Assessment for the site.

37. The reason for Condition 6.16 is to specify restrictions on the extent of landfilling at this Site based on the Owner's application and supporting documentation. These limits define the approved volumetric capacity of the site. Approval to landfill beyond these limits would require an application with supporting documentation submitted to the Director.

38. The reason for Condition 6.17 has been imposed to minimize the potential for clogging of the drainage layer and to minimize temperature effects on the leachate collection system.

39. Condition 6.19 is necessary in order to ensure that all waste loads are inspected and waste that is disposed of at the site is in accordance with the terms and conditions in this Approval.

40. The reason for Condition 6.20 is that open burning of waste is unacceptable because of concerns with air emissions, smoke and other nuisance affects, and the potential fire hazard.

41. Conditions 6.21, 6.22, 6.23, 6.24, 6.25, and 6.26 are to ensure that leachate is managed in a manner approved by this Approval.

42. The reason for Condition 6.27 is that there is low potential for landfill gas generation due to the nature of waste that has been disposed of at the Site and in accordance with Section 15.3 of O. Reg. 232, the Director has been satisfied that gas collection is not required.

43. The reason for Conditions 7.1 are to ensure the major works for the Site are approved based on the ministry approved detailed design drawing.

44. Conditions 8.1, 8.2 and 8.3, are needed to ensure regular inspections of the site are conducted in order to protect the natural environment.

45. The reason for Conditions 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11, 8.12 and 8.13 are 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. Record keeping is necessary to determine compliance with this Approval, the EPA and its regulations.

46. The reason for Condition 9.1 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.

47. The reason for Condition 10.1 is to ensure that complaints are addressed expeditiously in order to minimize the impact of the Site on the environment and the health and safety of the public.

48. The reasons for Conditions 11.1 and 11.2 are to ensure that the Ministry is informed of any

spills or fires at the Site and to provide public health and safety and environmental protection.

49. *The reasons for Conditions 12.1, 12.2, 12.3, 12.4 and 12.5 are to ensure protection of the natural environment and the integrity of the groundwater monitoring network.*

50. *The reason for Conditions 12.6, 12.7, 12.8, 12.9 and 12.10 are to demonstrate that the landfill 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.*

51. *The reason for Conditions 13.1, 13.2, 13.3, 13.4 and 13.5 are to ensure that the Owner follows a plan with an organized set of procedures for identifying and responding to unexpected but possible problems at the Site. A remedial action / contingency plan is necessary to ensure protection of the natural environment. A leachate contingency plan is a specific requirement of Reg. 232.*

52. *The reasons for Condition 14.1 is 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.*

53. *The reasons for Conditions 15.1 and 15.2 are to ensure that final closure of the Site is completed in an aesthetically pleasing manner and to ensure the long-term protection of the natural environment.*

54. *Condition 15.3 has been inserted in order to ensure proper public consultation about the end use of the Site is undertaken and that the end use activities are consistent with those identified during the EA process.*

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). A181008 issued on July 23, 2021

In accordance with Section 139 of the *Environmental Protection Act,* you may by written notice served upon me and the Ontario Land 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 ("the Notice") 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:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. 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:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

and

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

*** Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.oltt.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 13th day of January, 2023

Mohsen Keyvani, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

IP/

c: District Manager, MECP Hamilton - District
Larry Fedec, HDR Corporation

Provincial Officer's Order

Order Number
1-277723794

Order Issued To
GFL ENVIRONMENTAL INC.
100 NEW PARK PL UNIT 500, VAUGHAN, ON, L4K 0H9

Site
GFL Stoney Creek Regional Facility
65 GREEN MOUNTAIN RD W, HAMILTON, ON, L8J 1X5

Refer to the Definitions section in the Provincial Officer's Report, Part B of this Order, for the meaning of all the capitalized terms that are used in this Order.

PART A - WORK ORDERED

Pursuant to my authority under **EPA | 157.1, EPA | 157,** I order you to do the following:

Item No. 1 **Compliance Due Date:** Apr-10-2024

Upon service of this Order and until cell 9A is commissioned, or June 1, 2024, whichever date comes first, do not deposit Waste higher than the current maximum Waste height of 235.75mASL.

Item No. 2 **Compliance Due Date:** Apr-17-2024

By April 17, 2024, post a copy of this Order to your website so that it is publicly accessible.

Item No. 3 **Compliance Due Date:** Apr-18-2024

By April 18, 2024, add to the weekly progress report required by the 2023 Order a report on the status of the commissioning of cells 9A and 9C.

Item No. 4 **Compliance Due Date:** Jun-01-2024

By June 1, 2024, commission Cell 9A, as outlined in the Design & Operations Report.

Item No. 5 **Compliance Due Date:** Jun-01-2024

By June 1, 2024, or upon commissioning of Cell 9A, whichever date comes first, cease depositing Waste above the approved final contours of the Site (221.75mASL) and begin to decrease the contours of the balance of the

Site.

Item No. 6 **Compliance Due Date:** Jun-01-2024

By June 1, 2024, or within one week of the commissioning of Cell 9A, whichever date comes first, perform a contour survey of the landfill to determine the total volume of Waste currently placed at the Site and provide the results of this survey and an isopach drawing via email to Tamara. Posadowski@ontario.ca and Environment.Hamilton@ontario.ca.

Item No. 7 **Compliance Due Date:** Jun-01-2024

By June 1, 2024, or upon commissioning of Cell 9A, whichever date comes first, add to the weekly progress report required by the 2023 Order, the total volume of Waste that has been relocated for the week.

Item No. 8 **Compliance Due Date:** Oct-01-2024

By October 1, 2024, commission Cell 9C, as outlined in the Design & Operations Report.

Item No. 9 **Compliance Due Date:** Dec-31-2024

By December 31, 2024, relocate and store all Waste deposited since July 1, 2023, below the approved final contours of 221.75mASL.

Item No. 10 **Compliance Due Date:** Dec-31-2024

By December 31, 2024, perform a contour survey of the landfill to confirm the total volume of Waste placed at the Site and provide the results of this survey and an isopach drawing via email to Tamara.Posadowski@ontario. ca and Environment.Hamilton@ontario.ca.

Item No. 11 **Compliance Due Date:** Dec-31-2025

By December 31, 2025, ensure that all Waste on Site is stored below the approved final contours of 221.75mASL.

Item No. 12 **Compliance Due Date:** Dec-31-2025

By December 31, 2025, perform a contour survey of the landfill to confirm the total volume of Waste placed at the Site and provide the results of this survey and an isopach drawing via email to Tamara.Posadowski@ontario. ca and Environment.Hamilton@ontario.ca.

PART B - PROVINCIAL OFFICER'S REPORT

This Order is being issued for the reasons set out below.

Definitions

For the purposes of this Order, the following capitalized terms shall have the meanings set out below:

"2023 Order" means the Provincial Officer's Order 1-237438590 issued to GFL on October 18, 2023.

"Design & Operations Report" means the Design & Operations Report for the Stoney Creek Regional Facility Environmental Assessment, dated July 2019, that is part of Item No. 57 in Schedule A of the ECA and must be complied with under condition 1.3 of the ECA.

"ECA" means the Environmental Compliance Approval, A181008 issued by the Ministry regarding the operations at the Site.

"EPA" means the Environmental Protection Act, R.S.O. 1990, c. E.19.

"GFL" means GFL Environmental Inc.

"Leachate Assessment Report" means the Leachate Assessment Report dated December 8, 2023, and prepared by GHD on behalf of GFL, and a copy of which is attached as part of this Order.

"Ministry" means the Ontario Ministry of the Environment, Conservation and Parks.

"Order" means this Provincial Officer's Order No. 1-277723794, as it may be amended.

"Provincial Officer" means the undersigned provincial officer or, in the event that the undersigned officer is unable to act, any other provincial officer authorized to act pursuant to the EPA.

"Site" means the property listed above in the Site section and further described below in the section entitled Description of the Site and/or System/Facility.

"Waste" means the waste type described in sections 6.1 and 6.2 of the ECA.

"Waste Relocation Plan" means the plan submitted by GFL to the Ministry on January 22, 2024 and referred to below.

Description of Person(s) Subject to the Order

GFL Environmental Inc. is an active Ontario corporation with Ontario Corporation Number 1000399619, that was amalgamated on January 1, 2023.

GFL acquired the Site on February 2, 2022 and has continued the operations at the Site as a waste disposal site (landfilling site). Many of the employees of the former owner of the Site are still involved in the operations of this Site, under the management and control of GFL.

Description of the Site and/or System/Facility

The Site includes the active filling property municipally known as 65 Green Mountain Rd. W., Hamilton, Ontario, L8J 1X5, which is legally described as all of PIN 17097-2071 (LT).

The operations regarding the Site also include the property with the leachate pond, which is located to the west of the active landfill operations, in the Heritage Green Sports Park which is legally described as all of PIN 17097-2822 (LT). The leachate pond stores treated leachate from the landfilling operations before it is discharged to municipal sanitary sewers.

Details describing the Site are included in Item 4.2 of the Leachate Assessment Report.

To the north and south of the Site there are residential neighbourhoods, and also to the west of the leachate pond. To the east of the Site, there is agricultural lands, various recreational activities and additional residences.

The Site is subject to the ECA which approves the receipt and disposal of solid, non-hazardous waste. No hazardous, liquid industrial, or putrescible wastes may be received at the Site. The Site has been operating since 1996 and in 2019 received approval under the Environmental Assessment Act for an expansion. The ECA relating to the expansion, was issued on October 31, 2019, and was amended in 2021 for construction and installation of major works and again in 2023 as required to provide an updated financial assurance plan.

Reasons for the Order

This Order is being issued to formally set out the Ministry requirements regarding the steps to be undertaken by GFL to achieve compliance with the ECA in respect of the Waste contours of the Site.

The ECA for the Site contains the following key conditions relevant to this Order:

1.3 "Except as otherwise provided for in this Approval, the Site shall be designed, developed, constructed, operated and maintained in accordance with the supporting documentation listed in Schedule "A". "

6.16 "No waste, including intermediate cover or final cover layer, shall be landfilled outside the limits of the base and final cover contours as shown in Item No. 57 in Schedule "A". No waste shall be disposed of within the buffer lands."

Item No. 57 in Schedule "A" is listed as: "Application to Amend Environmental Compliance Approval No. A181008, Terrapure Environmental Stoney Creek Regional Facility, signed by Lorenzo Alfano, dated July 11, 2019" and includes the Design & Operations Report which GFL has not amended.

The Design & Operations Report describes the final contours as a maximum elevation of about 221.75mASL, which is to include the final vegetated cover.

Condition 6.16 has appeared in previous amendments of the ECA, and the ECA provides the following reason for condition 6.16:

"The reason for Condition 6.16 is to specify restrictions on the extent of landfilling at this Site based on the Owner's application and supporting documentation. These limits define the approved volumetric capacity of the site. Approval to landfill beyond these limits would require an application with supporting documentation submitted to the Director."

Since I became the Provincial Officer assigned to the Site, I have determined that GFL is not operating in accordance with the Design & Operations Report, specifically in regard to the following:

I. Waste contour heights;
II. leachate head level; and
III. final cover application.

I originally raised concerns about the Site landfill contours with GFL on September 12, 2023. In conversations with GFL, I understand that GFL believes they are in compliance with the ECA because the Waste has been placed there on an interim basis only and that the ECA only restricts elevation of the final grade. GFL also indicated that this was a standard operating practice of the Site, that a condition of a previous ECA issued in 1996 only regulated the Site's final contours, and that GFL continues to operate within the confines of its volumetric capacity restrictions.

I have responded to GFL that I enforce compliance with the existing ECA. When a new ECA is issued for a site, the older version is revoked by the signing Director, as indicated in the current ECA "Upon issuance of the environmental compliance approval, I hereby revoke Approval No (s). A181008 issued on July 23, 2021". The current ECA condition is very clear in stating that "no waste" is to be landfilled outside the final contours, so placement of Waste on an interim basis is not permitted. In order to place Waste above the approved final contours at the Site, GFL must apply for an ECA amendment.

As for operating within its volumetric capacity, GFL's current ECA has an approved capacity of 10,180,000 m3. However, this capacity takes into account the area that is to be incorporated into the landfill during its expansion. This expansion is not complete at this time, so the area required to deposit the approved volume of Waste is not available.

On November 24, 2023, I completed an inspection at the Site to assess compliance with section 6.16 of the ECA. This inspection involved the review of topographical survey information from January 2023 which showed landfill contours and volumes, along with in field measurements which I collected using a Trimble Geo 7X unit. Review of the topographical survey identified two areas of the landfill that are above the approved final contour elevation. During my Site inspection I visited these areas, determined they were inactive Waste piles, took my own measurements and confirmed these areas were still above the approved final contours

(measurements of 231.54mASL and 225.58mASL for the two areas of concern). Measurements collected on the active tipping face of the landfill at that time showed elevations ranging from 219.48mASL to 222.10mASL. So, the active tipping face at this time was already at or near the final contour elevations of the landfill.

On December 8, 2023, GFL provided the Ministry with a copy of the Leachate Assessment Report which I had requested in October 2023. Included in the report is a description of the Waste cover areas and recommendations regarding the importance of having appropriate waste cover to reduce leachate generation. Also included is a description of the historic and current levels of leachate at the Site, which has indicated that the leachate head level has been consistently above the required 0.5m, set out in the Design & Operations Report.

Information provided in the Attachment 1 section of the Leachate Assessment Report indicates that GFL has not been landfilling the Waste and applying final cover as per the approved design as outlined in the Design & Operations Report. This has most likely contributed to the generation of more leachate and has added to the already high leachate head levels. The Leachate Assessment Report also states that final cover is not keeping pace with liner construction, which is resulting in larger areas of exposed Waste which increases leachate generation.

On December 20, 2023, I issued my inspection report to GFL. The inspection report outlines that there was Waste currently placed in the landfill in excess of the approved final contours, which is in contravention of condition 6.16 of the ECA.

Also included with the inspection report was a list of actions items which included the requirement for GFL to submit a plan to reduce the heights of the Waste piles at the landfill that are currently above the approved final contours.

On January 8, 2024, which is after GFL received my inspection report which identified the non-compliance of the Waste heights; GFL moved the active tipping face of the landfill and continued to deposit Waste above the maximum permitted height. New cell construction was not completed as expected in 2023, due to GFL's focus on leachate management and odour compliance issues. GFL has indicated Waste needs to be deposited in this area until a new cell is commissioned.

On January 22, 2024, the Ministry received as requested following my inspection report, an email submission from GFL including the Waste Relocation Plan. It provided staged dates for the relocation of Waste currently stored above approved final contours and the June 2024 and October 2024 completion dates for Cells 9A and 9C. The Waste Relocation Plan lacked certain details and suggested a final resolution date of December 2025. The Ministry and GFL have since met and discussed the plan.

In GFL's Waste Relocation Plan, the plan speaks to reducing heights of interim Waste storage to pre-upset heights, and identifies pre-upset heights as pre-July 2023. Based on the plan and discussions had with GFL afterwards, pre-upset is to be interpreted as all Waste received at the Site since July 1, 2023 and up to the commissioning of the next new cell, 9A.

From July 1, 2023, to March 31, 2024, GFL has received 421,479.42 metric tonnes of Waste which is an approximate volume of 221,831.27m3. GFL is to ensure that, by December 31, 2024, this amount of Waste, and any additional Waste received at the Site until June 1, 2024, or when cell 9A is commissioned, whichever date comes first, is relocated to areas of the Site which are below the approved final contours of the Site.

The Waste relocation should be prioritized over the receipt of new Waste to ensure that the volume of Waste stored above the limit can be relocated into the new cells by the dates outlined in the Waste Relocation Plan and in the Order items above. Also, by prioritizing the Waste relocation, it will ensure that final cover can be applied to the areas where this Waste is currently being temporarily stored, so that leachate generation can be reduced, and will assist GFL in achieving the targeted leachate head level of 0.5m.

In GFL's Waste Relocation Plan, it states that "During the removal of the waste, odour will be assessed. Odour mitigation measures will be deployed as required in accordance with the odour management plan." GFL must ensure odour mitigation measures are available at the Site, prior to Waste relocation, so that if they are necessary, they are immediately available for use. The Waste must be relocated in such a manner to ensure that no nuisance odours are generated as a result, as required by condition 5.17 of the ECA. Should GFL not be able to do this, the Ministry will take additional steps and actions as required.

A draft copy of this Order was provided to GFL on March 19, 2024 for the company to provide comments and feedback on the Order requirements. Comments from GFL were received on March 25, 2024 and were considered prior to the issuance of this Order.

Conclusion

Notwithstanding the work being done by GFL regarding the 2023 Order, from January 1, 2024, to April 8, 2024, the Ministry has received 302 odour complaints from local residents regarding various odours relating to the Site, including Waste, leachate and the leachate pond. The current heights of the Waste piles are a concern as I believe they are contributing to the Waste odours currently being detected off-site. Based on my observations, odours experienced during the summer of 2023 were predominantly odours associated with the leachate. The odours that are now being experienced off-site are usually associated with Waste material at the Site.

GFL's actions of placing Waste above final contours and not keeping up with the final cover and capping, will result in an increased generation of leachate. The current leachate head level in the landfill remains above the levels outlined in the Design & Operations Report and is being addressed by the 2023 Order. These actions, I believe, have likely contributed to the odour issues experienced at the Site in the summer of 2023 and that GFL has not been operating in accordance with their Design & Operations Report and the ECA. Further, the elevated leachate levels prevented GFL from continuing its cell expansion in 2023 which has resulted in GFL placing Waste above the final contours. GFL's actions of temporary stockpiling Waste above final contours is unacceptable and a contravention of the ECA.

This Order is being issued as both a contravention order and a preventive measure order and formally sets out the Ministry's requirements following the discussions with GFL.

Authority to Issue the Order

I am issuing this Order under my authority as a Provincial Officer under the following legislation, which also includes the authority to take intermediate action and/or procedural steps:

This Order is issued pursuant to EPA s. 157 and section 157.1.

I reasonably believe that GFL Environmental Inc. has contravened or is contravening s.40 of the EPA as outlined in the Contraventions section below and described in some detail above.

I further reasonably believe that the requirements specified in this Order are necessary or advisable so as to prevent or reduce the risk of a discharge of a contaminant, namely odours, into the natural environment from the undertaking at the Site or to prevent, decrease or eliminate an adverse effect that may result from the discharge of a contaminant from the undertaking at the Site.

Contraventions

EPA | 40	40. No person shall deposit, or cause, permit or arrange for the deposit of, waste upon, in, into or through any land or land covered by water or in any building that is not a waste disposal site for which an environmental compliance approval or renewable energy approval has been issued or a registration under Part II.2 is in effect and except in accordance with the terms and conditions of the approval or the regulations made for the purposes of Part II.2.

Attachments

The attachments listed below, if any, form part of this Order:

Leachate Assessment Report (28 pages)

ISSUING OFFICER

Name: Tamara Posadowski

Job Title: Environmental Compliance Officer

Badge Number: 1861

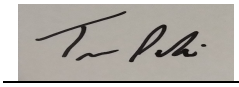
Address: 119 KING ST W, 9TH FLR, HAMILTON, ON

Officer Email: tamara.posadowski@ontario.ca

Office Email: Environment.Hamilton@ontario.ca

Date: Apr 10, 2024

Signature:



REVIEW AND APPEAL INFORMATION

REQUEST FOR REVIEW

You may request that this Order be reviewed by the Director. Your request must be made in writing or orally with written confirmation. Your written request or written confirmation of your oral request must be received by the Director within 7 days after the date this Order was served on you and must be given to the Director as indicated in the Contact Information below.

In your written request or written confirmation, you must:

- specify the portions of this Order that you wish to be reviewed;
- include any submissions to be considered by the Director with respect to issuance of this Order to you or any other person and with respect to the contents of this Order;
- apply for a stay of this Order, if necessary; and
- provide an address for service by one of the following means, in person, by mail, by commercial courier, by fax, or by email.

In response to your request, the Director may confirm, alter/amend or revoke this Order. As an intermediate step, the Director may stay this Order by providing written notice to you that additional time is required to make a decision.

The Director will serve you with a copy (written notice) of the decision to revoke this Order or of an order, a Director's Order, to confirm or alter/amend this Order, together with reasons.

DEEMED CONFIRMATION OF THIS ORDER

If within 7 days of the Director receiving your request for review you do not receive written notice of a stay, or oral or written notice of the Director's decision on your request for review, this Order is deemed (considered) to have been confirmed by Order of the Director and deemed to have been served upon you at the expiry of those 7 days.

APPEAL INFORMATION (REQUIRE A HEARING)

A. If this Order is deemed confirmed as explained above, you may require a hearing by the Ontario Land Tribunal on the deemed confirmed Order within 15 days of the deemed service date:

    - you must serve as indicated in the Contact Information below, written notice of your appeal on the Ontario Land Tribunal and the Director within those 15 days of the deemed service date;

- your notice must state the portions of the deemed confirmed Order for which a hearing is required and the grounds on which you intend to rely at the hearing;
- unless you have leave (permission) of the Ontario Land Tribunal, you are not entitled to appeal a portion of the deemed confirmed Order or to rely on grounds of appeal that are not stated in your notice requiring the hearing; and
- written notice requiring a hearing must be served on the Ontario Land Tribunal and the Director as indicated in the Contact Information below.

B. If this Order is confirmed or altered/amended by the Director by a written order served upon you (as opposed to the deemed confirmation noted above), such Director's Order will include the appropriate instructions for appealing that order to the Ontario Land Tribunal.

CONTACT INFORMATION

The contact information for the Director and the Ontario Land Tribunal is the following:

Registrar
Ontario Land Tribunal
655 BAY STREET, 15th FLOOR
TORONTO, ON M5G 1E5
OLT.Registrar@ontario.ca

and

Director (Provincial Officer's Orders)
Ministry of the Environment,
Conservation and Parks
Hamilton District Office
119 KING ST W, 9TH FLR
HAMILTON, ON L8P 4Y7
Office Email: Environment.
Hamilton@ontario.ca
Fax: (905) 521-7806

The contact information of the Ontario Land Tribunal and further information regarding its appeal requirements can be obtained directly from the Tribunal at:

Tel: (416) 212-6349, Toll Free: 1(866) 448-2248 or www.olt.gov.on.ca

SERVICE INFORMATION

Service of the documentation referred to above can be made personally, by mail, by fax (in the case of the Director only), by commercial courier or by email in accordance with the legislation under which this Order is made and any corresponding Service Regulation.

ADDITIONAL INFORMATION

Unless stayed by the Director or the Ontario Land Tribunal, this Order is effective from the date of service.

Failure to comply with a requirement of this Order constitutes an offence. Unless otherwise indicated, the obligation to comply with a requirement of this Order continues on each day after the specified compliance date until the obligation has been satisfied.

The requirements of this Order are minimum requirements only and do not mean that you are not required to comply with any other applicable legal requirements, including any:

- statute, regulation, or by-law;
- federal, provincial, or municipal law; or
- applicable requirements that are not addressed in this Order.

The requirements of this Order are severable. If any requirement of this Order, or the application of any requirement to any circumstance, is held invalid, such finding does not invalidate or render unenforceable the requirement in other circumstances. It also does not invalidate or render unenforceable the other requirements of this Order.

Further orders may be issued in accordance with the legislation as circumstances require.

This Order is binding upon any successors or assignees of the persons to whom this Order is issued.

The procedures to request a review by the Director or require a hearing and other information provided above are intended as a guide. The legislation should be consulted for additional details and accurate reference. Further information can be obtained from e-Laws at www.ontario.ca/laws.

Attachments

For Provincial Officer’s Order 1-277723794

Leachate Assessment Report (28 pages)

Report

December 8, 2023

To	Lorenzo Alfano (GFL)	**Contact No.**	519-340-4192
Copy to	Brad Mullin (GFL)	**Email**	**Brian.Dermody@ghd.com**
From	Brian Dermody	**Project No.**	11103232
Project Name	Terrapure-Stoney Creek Landfill		
Subject	Leachate Assessment Report		

1. Introduction

This report provides an assessment of leachate management at the Stoney Creek Regional Facility (SCRF, Site) which is owned and operated by GFL Environmental Inc. (GFL). The SCRF is located at 65 Green Mountain Road West, in the City of Hamilton, immediately southwest of the intersection of Upper Centennial Parkway and Green Mountain Road West.

The SCRF is governed by Environmental Compliance Approval (ECA) No. A181008 for Waste and ECA No. 5400-7DSSHU for Industrial Sewage Works issued by the Ministry of Environment, Conservation, and Parks (MECP). The wastes that can be received at the SCRF for final disposal are restricted by the conditions of the ECA. Acceptable waste types include post-diversion, solid, non-hazardous commercial, institutional and industrial waste including petroleum contaminated soils. Only waste generated within the Province of Ontario may be received for disposal at the SCRF.

No municipal solid waste (MSW), liquid industrial wastes, hazardous wastes as defined under Ontario Regulation 347 General – Waste Management under the Environmental Protection Act, or putrescible wastes are accepted at the SCRF. This includes: hazardous industrial wastes; hazardous waste chemicals; ignitable waste; corrosive waste; leachate toxic waste; acute hazardous waste chemicals or reactive waste; hauled sewage; domestic waste; and waste from the operation of a sewage works subject to the Ontario Water Resources Act.

1.1 Purpose of this Report

This report was prepared to address questions raised by the MECP as a result of recent odours that were observed at the SCRF. Specifically, this report provides responses to a letter from the MECP to Lorenzo Alfano at GFL dated October 5, 2023 (MECP Letter), requesting a Leachate Assessment Report (Item 11) for the SCRF. This report provides an overview of the existing leachate management system at the Site; the staging of landfill development; an assessment of the leachate (including leachate generation, leachate head on the base liner system, leachate discharge, and leachate balance); potential impacts resulting from the leachate; and conclusions and recommendations for the management of leachate at the SCRF.

2. Limitations

This report: has been prepared by GHD for GFL Environmental Inc and may only be used and relied on by GFL Environmental Inc for the purpose agreed between GHD and GFL Environmental Inc as set out in section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than GFL Environmental Inc arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 3 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by GFL Environmental Inc and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

Accessibility of documents

If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.

3. Assumptions

The leachate assessment presented in this report is based on the following assumptions:

– Final cover is constructed in accordance with the approved design.
– Landfill liner is constructed in accordance with the approved design.
– Monitoring data provided by GFL is accurate.

4. Leachate Assessment

4.1 Existing Leachate Management System

The SCRF includes the following main leachate controls:

– **A double liner system** that is built over a layer of granular grading fill placed on the quarry floor. The double liner system incorporates the following:
  - A composite primary liner consisting of a high-density polyethylene (HDPE) membrane directly underlain by a 1.0 m thick compacted clay liner.
  - A hydraulic control layer consisting of a 0.5 m thick layer of clear crushed stone.
  - A secondary liner consisting of a 1.0 m thick layer of compacted clay.
– **A leachate collection system (LCS)** installed on top of the primary liner across the landfill base and side slopes. This system consists of a 0.5 m thick layer of crushed stone which incorporates a network of perforated pipes conveying leachate to a leachate pumping system.

A typical cross-section through the base liner system is shown in Figure 1.

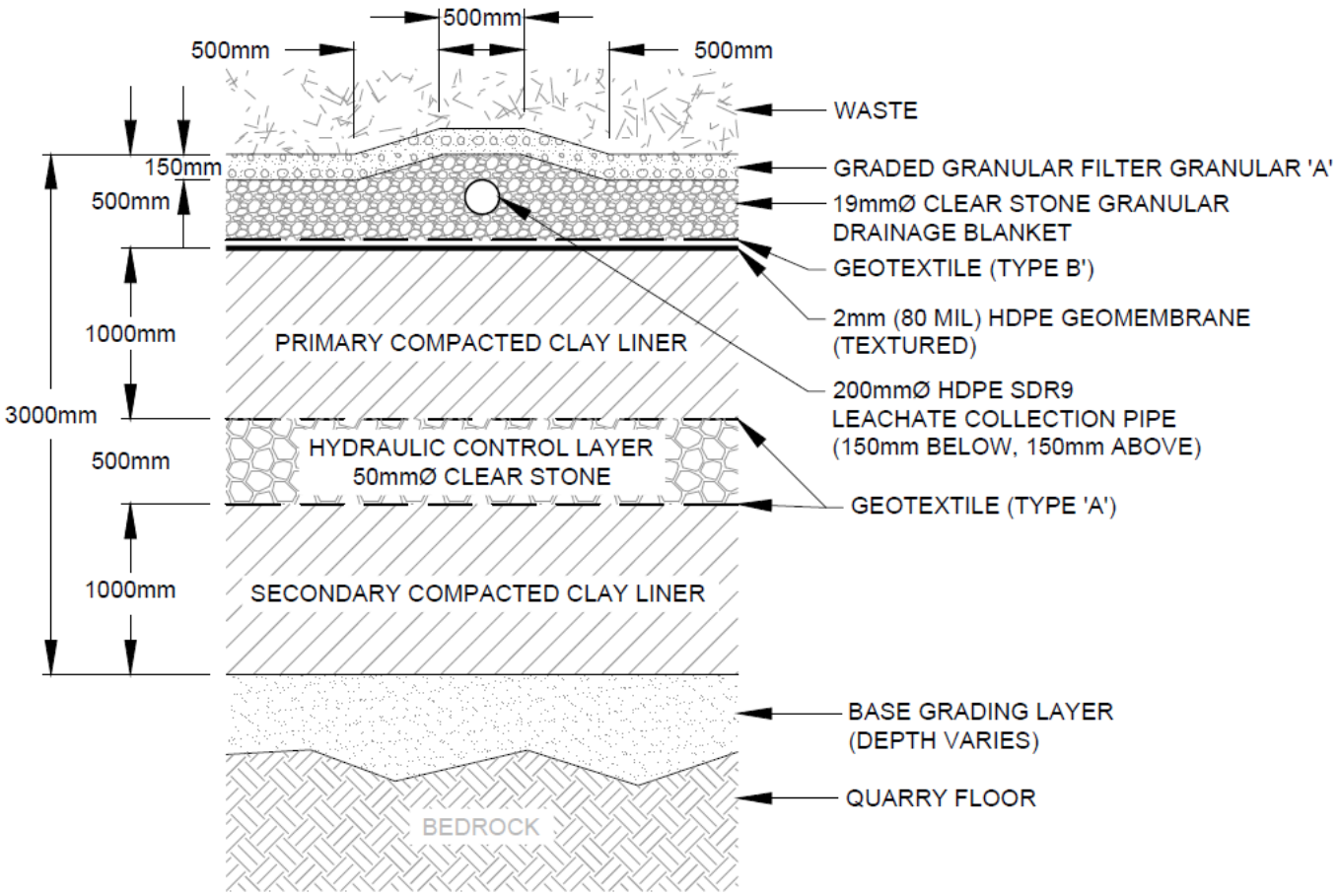


Figure 1 *Typical Cross Section Through Base Liner System*

Two other landfill components will also contribute to the control of leachate, as follows:

– **A groundwater collection system** is installed beneath the secondary liner. This consists of a system of trenches filled with clear crushed stone beneath the base of the landfill and around the perimeter of the landfill. The perimeter trenches also incorporate perforated pipes. This system is hydraulically connected to the base grading fill placed beneath the secondary liner.

– **A final cover** constructed over the surface of the completed landfill. This consists of a 0.60 m thick layer of compacted clay overlain by a vegetated topsoil layer 0.15 m thick.

A typical cross-section through the final cover system is shown in Figure 2.

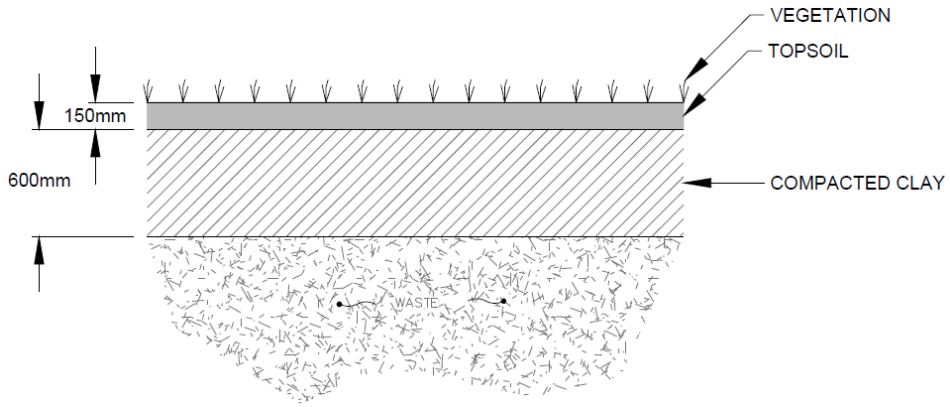


Figure 2 *Typical Cross Section Through Final Cover System*

Leachate is collected through the LCS and drains by gravity towards a sump at the Permanent Leachate Pumping Station (PLPS) in the southeast corner of the Site. Leachate is then recovered from the base of the landfill via pumping from either the Interim Leachate Pumping Station (ILPS) or the PLPS. The LCS for the SCRF is shown in Figure 3.

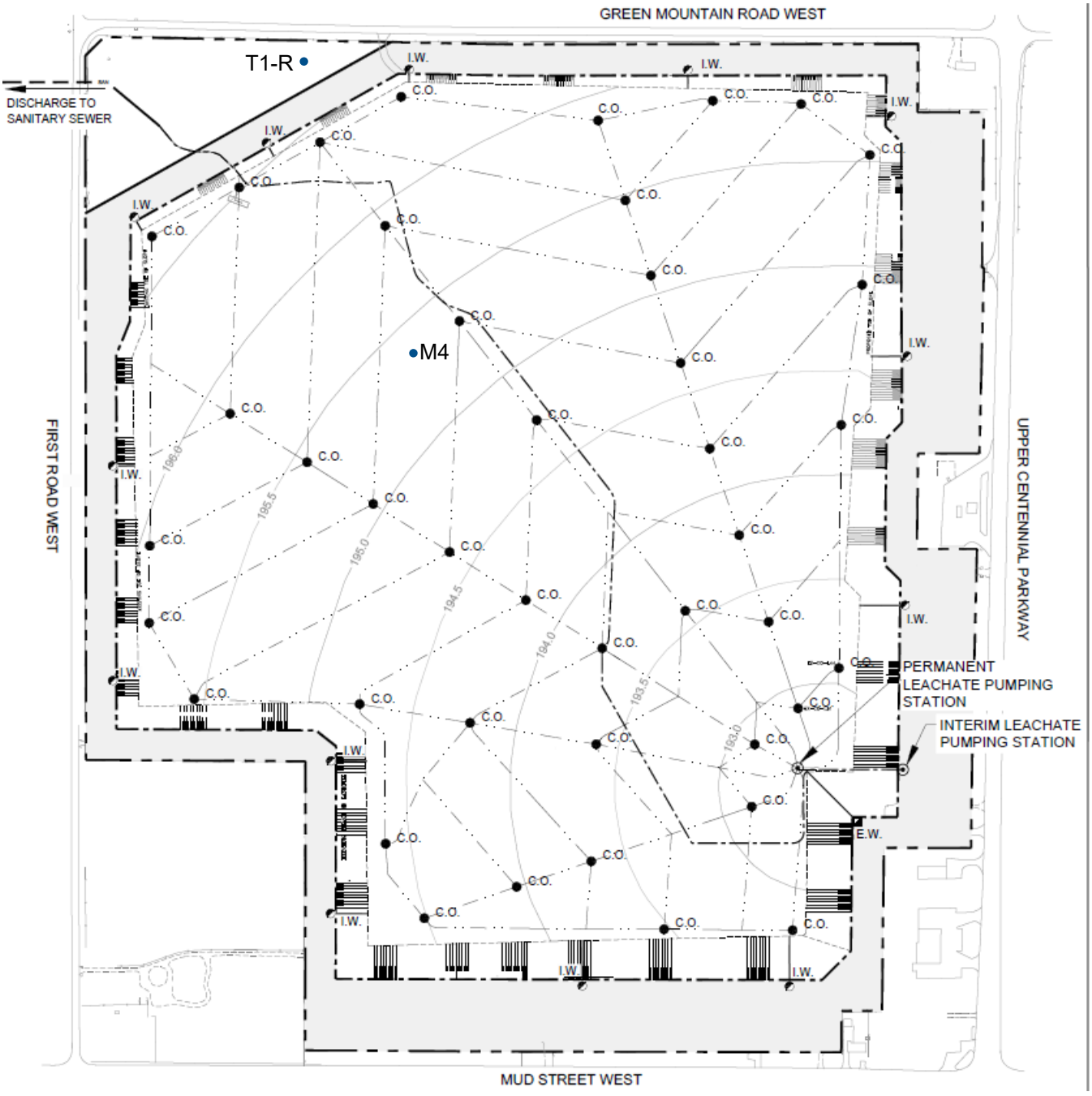


Figure 3 *Top of Primary Liner Contours and Leachate Collection System Layout*

Collected leachate is then treated by the Leachate Treatment System (LTS) at the ILPS through the addition of hydrogen peroxide and ferric chloride for chemical treatment. The leachate is then gravity fed into a discharge pipe buried within the landfill that conveys the leachate from the southeast corner to the northwest corner of the Active East Landfill where impacted groundwater is introduced using a wye structure prior to the leachate pipe crossing First Road West and discharging to the leachate equalization pond in the Closed West Landfill. Impacted groundwater is

collected from beneath the landfill via pumping well M4 and temporarily stored in the detention pond in the northwest corner of the Site prior to being added to the leachate discharge pipe. Leachate from the closed west landfill is passively collected, via the former quarry drain, in a sump called T1-R which is then passively drained into the leachate equalization pond. The leachate (from the east and west landfill) and impacted groundwater mixture is aerated within the leachate equalization pond and is then discharged off-Site through a connection to the City of Hamilton sanitary sewer under Mistywood Drive.

4.2 Landfill Development

The SCRF occupies a total Site area of 73.9 hectares (ha). This includes 56.8 ha for the landfill footprint, 2.3 ha for the Stormwater Management Pond (SWMP) located in the northwest corner of the Site, and 14.8 ha for buffer zones to accommodate Site infrastructure (e.g., administration office, access roads, screening berms, etc.).

The base liner system and final cover system are constructed in stages as landfilling progresses. Table 1 provides an overview of the SCRF development over the past 5 years (2018-2023), as well as the anticipated development through to Site closure. Figures depicting the development of the SCRF between 2018-2023 are provided in Attachment 1.

Table 1 Landfill Development Staging

Year	Active Landfill Area (hectares)	Capped Landfill Area (hectares)	Constructed Landfill Footprint (hectares)	Percentage of Landfill Capped (%)
2018	29.9	10.2	40.1	25.4
2019	29.9	10.2	40.1	25.4
2020	29.9	10.2	40.1	25.4
2021	26.1	14.0	40.1	34.9
2022	25.4	14.7	40.1	36.7
2023	25.3	16.9	42.2	40.0
2024-2025[1]	15.4	32.7	48.1	68.0
2026-2027[1]	11.3	42.7	54.0	79.1
2028-2029[1]	7.1	49.7	56.8	87.5
Post Closure	0.0	56.8	56.8	100.0

1. Dates and values estimated based on anticipated future waste receipts and construction timing for the base liner and final cover systems.

The *Active Landfill Area* represents areas where waste is being placed or where the final cover has yet to be constructed. The *Capped Landfill Area* represents the area where final cover has been constructed. The *Constructed Landfill Footprint* represents the total area of the base liner system constructed. Presently, final cover has been constructed over approximately 40% of the constructed landfill footprint. Additional final cover will be constructed over the active landfill areas once the waste has been placed to the final approved contours.

4.3 Leachate Generation

The Hydrologic Evaluation of Landfill Performance (HELP) model version 3.07 (Schroeder, et al., 1994a and 1994b) was used to provide an assessment of leachate generation for active landfilling and site closure conditions. The HELP model was developed by the United States Army Corps of Engineers under endorsement from the United States Environmental Protection Agency (USEPA).

The HELP model uses Site-specific information for three generalized groups of input parameters as follows:

– General Design Data
– Weather/Climatic Data
– Soil & Design Data

The general design data and weather/climatic data used in this assessment were obtained from GFL from the Ambient PM_{10} Monitoring Program, including monitoring data presented in the Annual Reports from 2018 through 2022, as prepared by Rotek Environmental Inc. Two soil profiles were used for this assessment to evaluate two conditions: Active Landfill and Capped Landfill (i.e., site closure conditions).

Precipitation that falls in the Active Landfill Area is contained within the landfill footprint where it infiltrates the waste and is ultimately collected as leachate. The majority of precipitation that falls in the Capped Landfill Area is diverted as surface runoff and directed to the stormwater management system, while some infiltrates the waste and is ultimately collected as leachate. A portion of the precipitation is subject to surface evaporation or evapotranspiration from soil under both Active and Capped Landfill conditions. This portion does not contribute to runoff or infiltration.

Active Landfill conditions were modeled with waste having minimal to no additional soil cover. The Capped Landfill conditions were modeled with the approved final cover design comprising 150 mm of topsoil overlying a 600 mm compacted clay cover with a maximum hydraulic conductivity of 1.0×10^{-5} cm/sec. Underlying layers, including waste and the landfill liner were consistent for each model.

The HELP model estimated infiltration rates for each of the described scenarios. The estimated infiltration rate for the Active Landfill was 440.12 mm/ha/year (4,401.16 m^3/ha/year), while the estimated infiltration rate for the Capped Landfill was 313.85 mm/ha/year (3,138.52 m^3/ha/year). These infiltration rates were applied to the areas presented in Table 1 to estimate the total leachate generated at the SCRF each year. The estimated annual leachate generation rates are presented in Table 2. Table 2 also includes projections for future leachate generation rates, based on a conceptual schedule for progressive closure of the Site through to final Site closure.

Table 2 Leachate Generation Estimate

Year	Generation in Active Landfill Areas (m^3)	Generation in Capped Landfill Areas (m^3)	Total Estimated Leachate Generation (m^3)	Total Estimated Leachate Generation (L)
2018	131,595	32,013	163,608	163,608,000
2019	131,595	32,013	163,608	163,608,000
2020	131,595	32,013	163,608	163,608,000
2021	114,870	43,939	158,810	158,810,000
2022	111,789	46,136	157,926	157,926,000
2023	111,349	53,041	164,390	164,390,000
2024-2025	67,778	102,630	170,407	170,407,000
2026-2027	49,733	134,015	183,748	183,748,000
2028-2029	31,248	155,984	187,233	187,233,000
Post Closure	0	178,268	178,268	178,268,000

The total leachate generated on an annual basis has remained relatively constant between 2018 and 2023. However, the leachate generation rate is expected to increase by about 16% in the coming years based on the anticipated development staging of the landfill, primarily due to the increase in total landfill area.

4.4 Leachate Head

The Design & Operations Report for the SCRF (GHD, July 2019) recommends that the maximum leachate head be maintained at 0.5 m above the surface of the primary liner under normal conditions.

Leachate generated in the SCRF is collected via the LCS and drains to the sump underneath the PLPS, which is the lowest point of the landfill. The LCS pipes that feed into the PLPS have an invert of 192.474 m. Maintaining a leachate head of 0.5 m in this area would equate with an elevation of approximately 192.974 m. A cross section through the PLPS is shown in Figure 4.

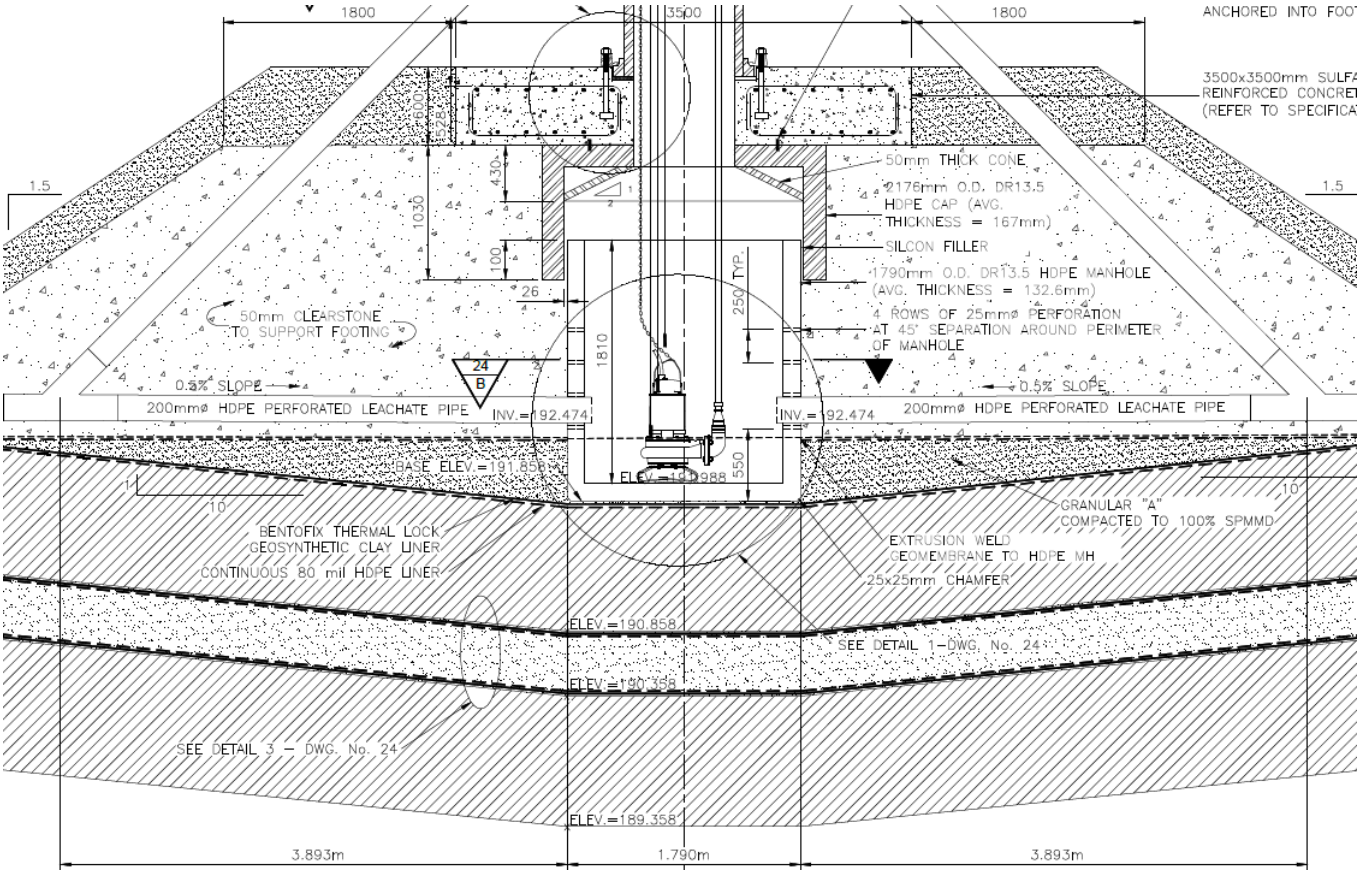


Figure 4 Cross Section Through PLPS

Leachate can also be removed from the landfill via the ILPS situated on the southeast side of the landfill. The LCS pipe that serves as the pumping location for the ILPS has an invert of 192.816 m. A cross section through the pump at the ILPS is shown in Figure 5.

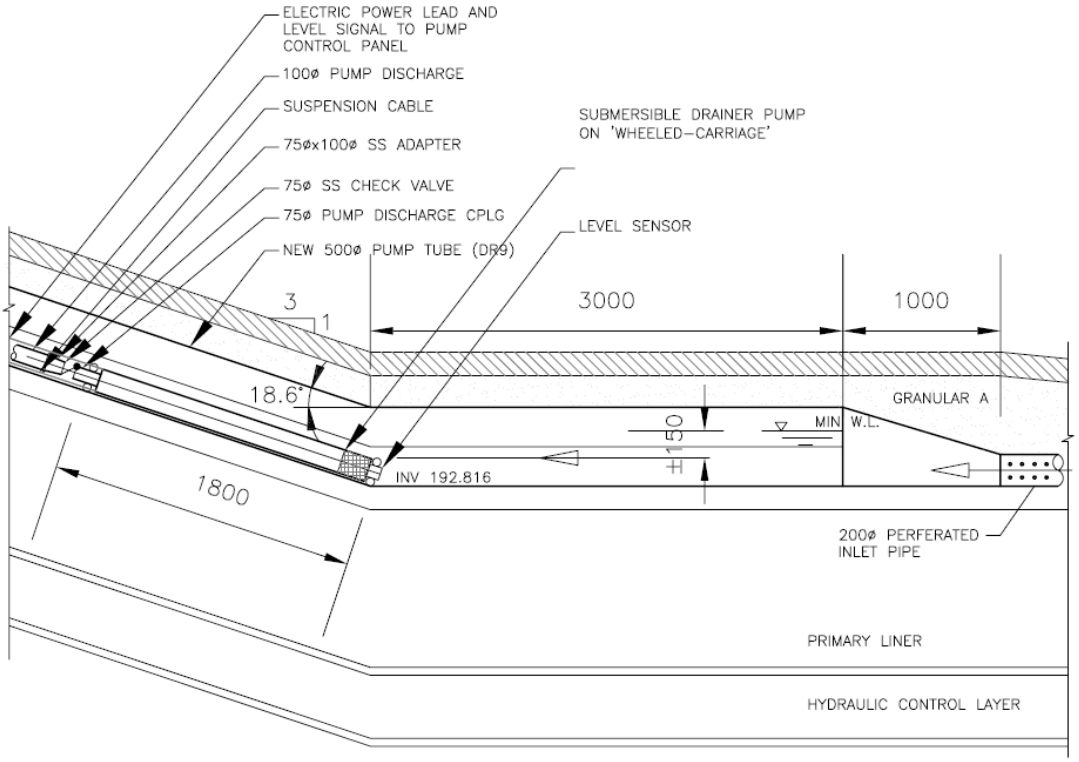


Figure 5 Cross Section Through Pump at ILPS

The PLPS structure has only been constructed up to the surface of the landfill to date. Installation of the surface cap as well as the final instrumentation and controls is expected to be completed when the final cover is constructed in this area. A temporary pump and discharge pipe have been installed to allow for discharge from the PLPS to the ILPS. Historically, most of the leachate has been recovered through the ILPS since it has a larger pump and is directly connected to the leachate treatment system. During recent months, the pumping location has been moved between the ILPS, PLPS, and the exposed leachate blanket in the northeast section of the landfill to mitigate odour impacts from the leachate. With the LTS effectively treating the odours, and recent upgrades to seal and winterize the PLPS, most of the leachate discharge should now be via the PLPS. The lowest level that the leachate can be maintained at the ILPS is 192.966 m compared to 192.474 m at the PLPS. This represents a potential reduction in leachate head on the base liner that can be realized by maintaining pumping at the PLPS.

Leachate levels in the SCRF are currently measured manually at the PLPS by GFL staff. Readings are typically collected on a weekly basis, although the frequency may be adjusted based on pumping conditions. Leachate levels are also measured at three leachate monitors located upgradient of the PLPS. The average monthly leachate depths measured at the PLPS between 2018 and 2023 are presented in Table 3. A comparison of the measured leachate depths throughout each year is presented in Figure 6.

Table 3 Average Leachate Depth Measured at PLPS (m)

	2018	2019	2020	2021	2022	2023
January	2.82	2.48	3.17	3.18	2.04	2.41
February	2.87	2.80	2.57	2.77	2.63	2.48
March	2.61	2.73	2.85	2.39	2.63	3.07
April	2.07	2.41	2.58	2.04	2.17	3.51
May	2.32	2.48	2.57	1.81	1.85	3.44

	2018	2019	2020	2021	2022	2023
June	1.98	1.84	2.55	1.76	1.28	3.57
July	2.01	1.05	2.62	2.52	0.83	3.61
August	1.12	0.57	2.41	2.68	0.56	4.04
September	0.55	0.37	2.48	3.06	0.51	3.53
October	0.48	0.76	2.12	2.99	0.58	3.16
November	1.13	1.27	2.34	2.85	1.29	-
December	1.86	1.79	2.90	1.93	1.73	-

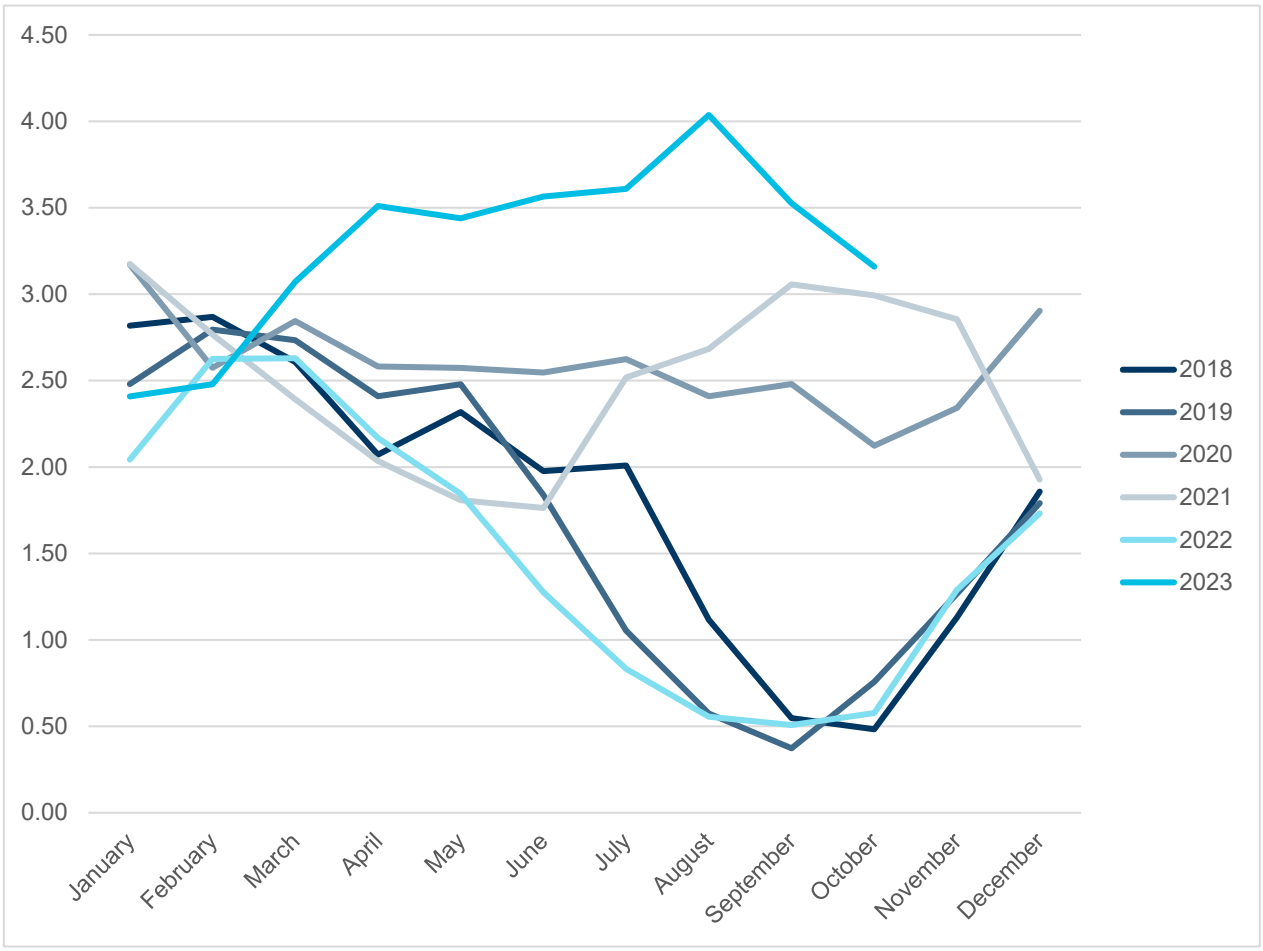


Figure 6 Leachate Depth at PLPS (m)

Leachate levels typically peak around February/March before gradually declining through September/October. A sharp increase is then observed from October through January, before the cycle repeats. Leachate levels in 2023 have been higher than previous years due to challenges arising from odour mitigation activities (e.g., multiple pumping locations, temporary shutdowns for upgrades and maintenance).

4.5 Leachate Discharge

Leachate discharge rates are measured using a flowmeter at the ILPS and are recorded daily. Historically, discharge rates in excess of 250 US gallons per minute (GPM) have been achieved. However, recent efforts to mitigate odours have necessitated a temporary reduction in the discharge rate to approximately 90 GPM. A summary of the total

volume of leachate removed from the landfill monthly between 2018 and 2023 is presented in Table 4. A comparison of the leachate volumes pumped throughout each year is presented in Figure 7.

Table 4 Leachate Volume Pumped From SCRF

Leachate Pumped From SCRF (L)						
	2018	2019	2020	2021	2022	2023
January	15,920,846	8,598,006	18,070,978	11,079,074	8,691,874	2,400,069
February	16,962,099	12,823,202	22,004,981	13,953,659	5,656,036	12,777,782
March	23,998,982	22,441,644	19,913,263	18,473,828	31,537,924	16,801,237
April	20,477,418	23,668,362	15,495,412	12,986,335	18,590,678	20,322,422
May	16,380,344	24,597,958	11,090,126	9,472,720	19,470,677	12,959,083
June	16,006,387	24,398,262	7,376,636	1,164,645	14,006,729	11,397,014
July	14,102,206	15,100,141	5,630,744	0	8,386,572	12,041,977
August	25,151,177	13,171,467	12,963,625	1,713,546	7,422,241	8,824,729
September	8,120,627	10,136,491	4,911,416	13,414,040	6,667,788	19,478,518
October	9,093,674	6,825,422	13,047,274	18,556,644	3,105,664	8,793,319
November	10,187,706	8,881,529	2,699,462	32,496,875	0	-
December	0	0	2,257,752	13,101,778	0	-
TOTAL	176,401,465	170,642,484	135,461,668	146,413,142	123,536,184	125,796,150

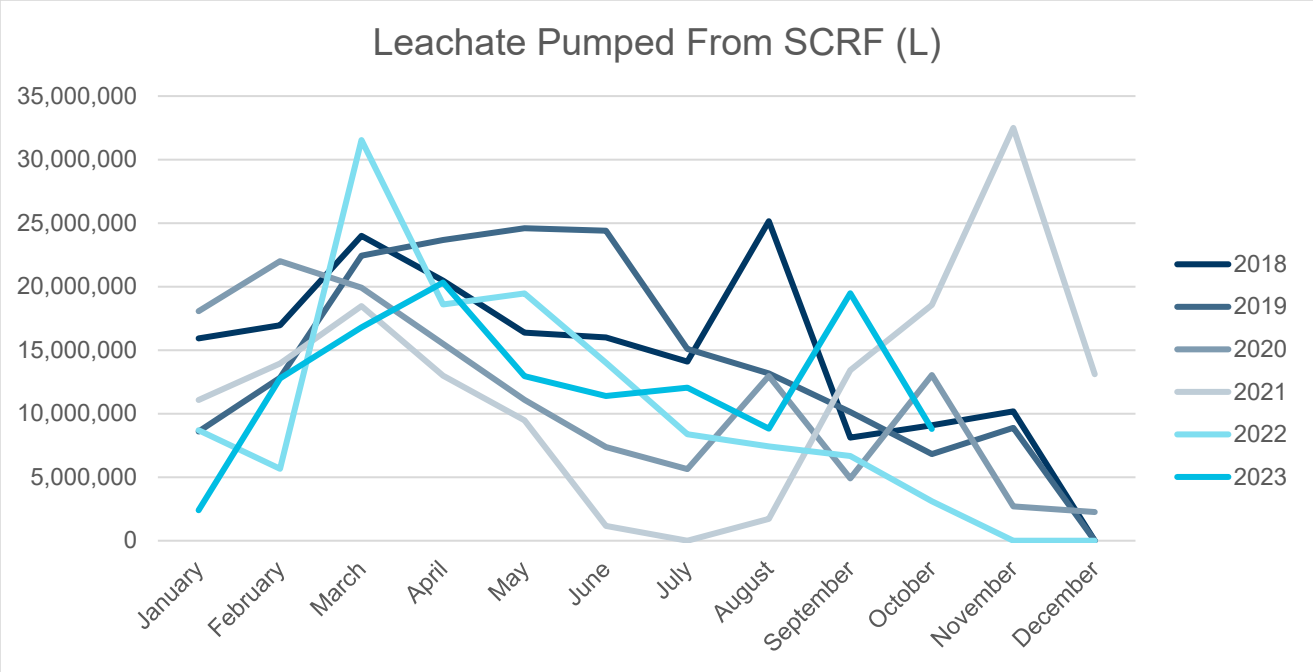


Figure 7 Leachate Pumped from SCRF (L)

The volume of leachate pumped from the landfill typically peaks around March/April, before declining through December, and increasing again in January/February. The average monthly leachate discharge achieved between 2018-2023 was approximately 12,500,000 L, with a high of approximately 32,500,000 L in November 2021. In December of 2018, 2019, and 2022 no leachate at all was pumped from the landfill.

4.6 Leachate Balance

Leachate discharge rates measured at the Site are presented in Table 4 above for comparison against the predicted leachate generation rates presented in Table 2. Figure 8 provides a comparison of the predicted leachate generation rates and measured pumping volumes between 2018 and 2023.

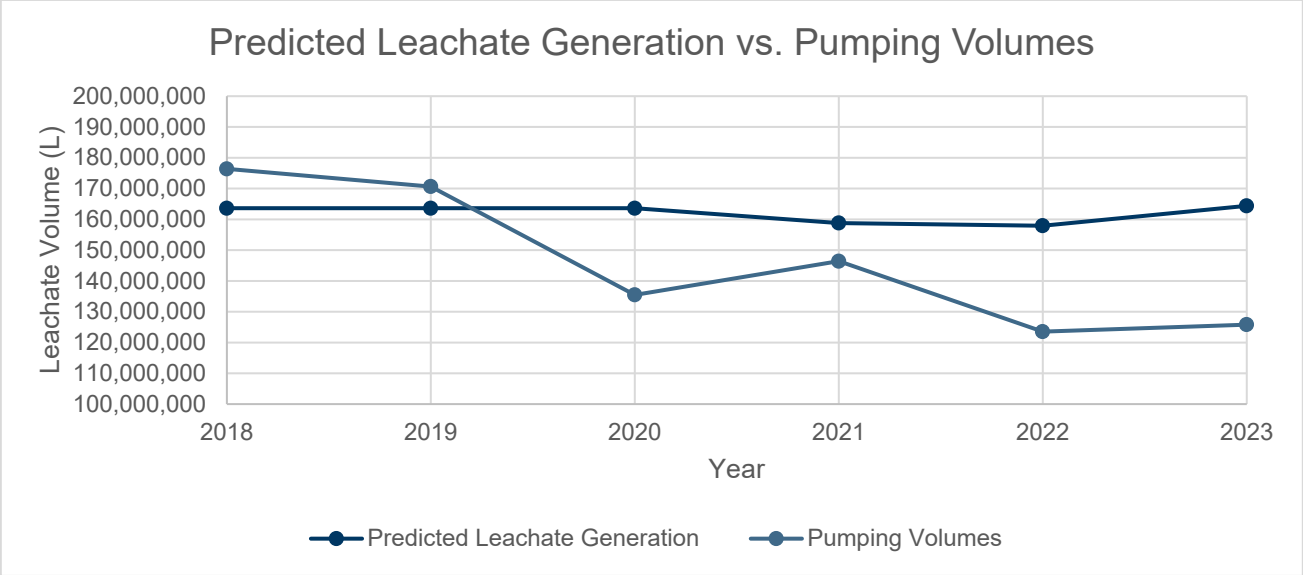


Figure 8 ***Predicted Leachate Generation Rate vs. Measured Pumping Volumes***

As identified in Figure 8, the HELP model underestimated leachate generation in 2018 and 2019 and overestimated generation rates from 2020 to present. The HELP model simulations included modelling of landfill performance over a period of 100 years, using synthetic weather data that was based on weather data supplied by GFL. The predicted leachate generation rates are based on the average annual infiltration rate (887 mm/ha/year) and variations in landfill areas and areas that are active or capped (Table 1). As a result, predicted leachate generation rates based on the HELP model will exhibit consistent precipitation and infiltration rates, whereas actual measured leachate pumping volumes will be influenced by year-over-year variations in precipitation.

Measured precipitation in 2018 and 2019 exceeded the modelled annual average, while 2020 measured precipitation was below the modelled average. However, the magnitude of the precipitation variation relative to the modelled average and the difference in predicted vs. pumped leachate do not directly correlate. Additionally, measured precipitation in 2021 was similar to 2019, however measured pumping volumes indicate the model overestimated leachate generation.

Pumping data available for 2023 at the time of this writing is incomplete (through October 2023). The total pumping volume for 2023 will continue to increase, but is not anticipated to reach the predicted volumes, based on current pumping rates and winter trends in prior years. The overestimation in 2023 however, is partially attributed to reduced pumping rates described in Section 4.5.

4.7 Leachate Impacts

4.7.1 Odour

The odours associated with the leachate at the SCRF have been observed in three primary locations: the PLPS, the leachate equalization pond in the west landfill, and the exposed leachate blanket in the northeast section of the landfill. Upgrades to the LTS have been successful at addressing the odours from the PLPS and equalization pond, while continued pumping has drawn the leachate levels down sufficiently so that it is no longer exposed in the northeast section of the landfill. The top of the LCS in this area is at an elevation of approximately 195.5 m. After peaking in

August at over 196.5 m, leachate levels have since been reduced to under 195.2 m, eliminating the exposed leachate and resulting odours from this area as shown through ongoing monitoring activities.

4.7.2 Leachate Seeps

The final cover constructed to date along the west side of the landfill has an elevation of approximately 202.0 m at its lowest point at the limit of landfill (i.e., top of sidewall). Perimeter ditching has also been completed along the entire south and western perimeter of the landfill. Visual inspections of the final cover are completed by GFL staff on monthly basis and have shown no evidence of leachate seeps. However, water from the SWMP has not been discharged off-Site due to the water quality not meeting the trigger concentrations for some parameters (e.g., field conductivity, lab pH, and phenols). Lower concentrations of sodium, chloride, and metals were generally detected at the SWMP compared to other on-Site locations. To date, all of the water collected in the SWMP has been directed to the sanitary sewer connection through the Closed Facility.

4.7.3 Liner Service Life

Certain engineered elements of the leachate control system have a finite lifespan, which cannot be accurately estimated in a landfill setting. The leachate controls have been developed such that components can either be replaced or maintained, or alternatively, redundancy has been provided where maintenance isn't practical. The system, as a whole, is capable of controlling leachate for at least the entire contaminating lifespan which is estimated to be up to 80 years.

Table 5 summarizes the rationale behind the expectation of the service life of the liner system. Table 5 also describes the function and estimated service life of each leachate control component, identifies the potential failure modes that are considered realistic, and indicates how these failure modes have been addressed in the design. Additional details surrounding the liner service life can be found in the Design & Operations Report for the SCRF (GHD, July 2019).

Table 5 Rationale for Expected Service Life of Engineered Leachate Controls

Component	Primary function and required service life	Failure modes considered	Performance expectation and rationale
Leachate collection system granular blanket	– Collects leachate to maintain minimal head on liner system. – Required for about 300 years.	Blockage of granular blanket due to siltation, bio-fouling, or chemical precipitation.	EXPECTATION: Granular blanket will be capable of conveying flow for at least 300 years. RATIONALE: – Siltation can be controlled because graded filter is incorporated into upper part of blanket. – Bio-fouling only possible within waste or graded filter where small pore spaces exist: bio-fouling in lower part of blanket will not be significant because of large pore spaces and minimal organic content of waste. – Precipitation will not occur because waste/granular blanket is a closed geochemical system and because of large pore spaces within blanket. – Precipitation only considered possible at pumping station where geochemical conditions change: pumping station accessible for routine maintenance. – Localized blockages will not be significant due to continuous nature of granular blanket on base and side slopes.

Component	Primary function and required service life	Failure modes considered	Performance expectation and rationale
			– Redundancies exist: • Collection through perforated pipes • Pumping from cleanout risers
Leachate Collection Piping System	– Provides redundancy for leachate collection. – 300 year service life desirable but not essential.	Blockage of piping system due to siltation, bio-fouling, or chemical precipitation.	EXPECTATION: Service life unquantifiable but expected to be many decades. RATIONALE: – Blockage will not occur because pipes can be cleaned. – Design facilitates cleaning through close clean-out spacing and access from ground surface. – Prevention of blockage desirable but not essential.
		Collapse of piping system due to landfill-imposed stresses or chemical deterioration.	EXPECTATION: Service life unquantifiable but expected to be many decades. RATIONALE: – Stresses are readily calculated: piping system designed with sufficient safety factor so that collapse does not occur. – Prevention of collapse desirable but not essential. – HDPE known to be chemically resistant.
Primary Liner System	– Provides engineered leachate containment prior to hydraulic containment (during 40 year operating period). – Engineered containment only required for about 40 years.	Increase in hydraulic conductivity from deterioration of HDPE geomembrane due to contact with leachate.	EXPECTATION: Geomembrane will retain its low permeability properties for well in excess of 40 years. RATIONALE: – Unexpected based on current knowledge of durability of HDPE and expected leachate; processes that are known to cause HDPE deterioration do not exist within landfill.
		Increase in hydraulic conductivity from deterioration of clay liner due to contact with leachate.	EXPECTATION: Clay liner will retain its low permeability properties for well in excess of 40 years (see SECONDARY CLAY LINER, below). RATIONALE: – Unexpected to occur; mineralogical analyses carried out indicate that clay performance not affected by leachate.

4.7.4 Groundwater

Leakage through the primary liner system was modelled as part of the impact assessment undertaken to support the landfill expansion approval. This modelling demonstrated that head on the liner system resulted in very minor amounts of leakage through the primary liner system. This result is not unexpected given the primary liner system consists of a geomembrane overlying a 1 m thick compacted clay layer.

Any leakage that passes through the primary liner system would enter the hydraulic control layer (HCL), which separates the primary liner system from the secondary liner system. In order to validate the results of modelling and measure potential leakage through the primary liner system, GFL has collected samples of water from within the HCL

since May 2018. The samples of water from the HCL are analyzed for a comprehensive list of general chemistry and metals analytes. The patterns in water quality within the HCL are evaluated to determine if significant quantities of leachate are leaking through the primary liner.

Figures 1 through 5 in Attachment 2 present the concentrations of leachate indicators (chloride, fluoride, alkalinity, ammonia and total organic carbon) in HCL water quality between May 2018 and October 2023 (the period over which data is available). As illustrated on Figures 1 through 5 (Attachment 2), water quality within the HCL has remained relatively consistent with no apparent trends of increasing concentrations over time. The variability in concentrations presented on these figures reflects natural variability in water quality and is not indicative of progressive deterioration in water quality resulting from leakage of leachate accumulating in the HCL.

It is important to note that even if significant leakage were to be detected within the HCL water, this water can be pumped out and replaced with clean water so that the protective hydraulic properties of this layer are maintained. Further, the secondary composite liner underlying the HCL provides additional leakage protection. In combination, the three principal components of the liner system provide very robust long-term protection of underlying groundwater.

Outside of the landfilled waste and liner system, groundwater quality is monitored through a comprehensive network of groundwater monitoring wells completed within the various groundwater flow zones underlying the Site. These monitoring wells are sampled regularly as part of the required routine monitoring program and the results are evaluated for the presence of landfill-related impacts as part of the annual reporting process. The results of groundwater monitoring undertaken to date continue to confirm that there is no evidence that the SCRF is impacting groundwater quality.

5. Conclusions

Final cover construction is not keeping pace with liner construction, leaving large areas of the landfill with exposed waste, which increases leachate generation. The infiltration rate for the Active Landfill was 440.12 mm/ha/year compared to 313.85 mm/ha/year for the Capped Landfill, representing a possible 29% reduction in the leachate generation rate per unit area that can be realized by capping active areas of the landfill.

The average leachate head being maintained on the liner is in excess of the recommended 0.5 m. This leads to an excess volume of leachate in the landfill that requires constant pumping over a long time period to discharge. For example, an annual leachate generation rate of 150,000,000 L would take between 3.7 to 10.2 months to remove based on recent pumping rates of 90 GPM and 250 GPM, respectively.

The lowest level that the leachate can be maintained at the ILPS is 192.966 m compared to 192.474 m at the PLPS. This represents a potential reduction in leachate head on the base liner that can be realized by maintaining pumping at the PLPS.

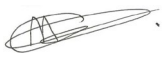
Pumping rates are not being adjusted as required to account for seasonal variation in the leachate generation rate. This causes fluctuations in the amount of leachate being stored in the landfill, making it difficult to maintain the leachate head on the liner below 0.5 m.

6. Recommendations

The recommendations below should be implemented to improve the management of leachate at the SCRF.

– Reduce the area of the active landfill. Construct final cover over areas with exposed waste to reduce leachate generation. Final cover construction will need to be completed in conjunction with:
    - Relocation of waste in excess of approved grades from active areas to newly constructed landfill cells.
    - Expansion of the existing SWMP and construction of drainage ditches along the east and north perimeter of the landfill to allow for shedding clean runoff.

- Reduce the leachate head on the base liner. Increasing pumping rates will expedite the discharge of leachate from the landfill and reduce the head. Adjustments to the pumping rate should be done in consideration of the existing LTS and its ability to mitigate odours from the leachate prior to discharge to the sanitary sewer.
- Increase pumping rates during the winter. This will reduce the accumulation of leachate in the landfill and facilitate the management of increased leachate generation during the spring freshet.

Project name		Terrapure-Stoney Creek Landfill					
Document title		Report | Leachate Assessment					
Project number		11103232					
File name		11103232-RPT-33-Leachate Assessment Report.docx					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S4		Brian Dermody	Victoria Shortreed		Michael Cant		12/8/2023

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Attachments

Attachment 1

STONEY CREEK LANDFILL VOLUMES

LINE	ITEM	QUANTITY	NOTES
1	TOTAL VOLUME OF WASTE PLACED IN 2020	290,930 m^3	LINE 2 - 6,570,455 m^3
2	TOTAL VOLUME OF WASTE PLACED TO DATE	6,861,385 m^3	COMPARISON OF JANUARY 2021 SURVEY AND APPROVED BOTTOM OF WASTE, LESS DEDUCTIONS FOR NON-WASTE MATERIALS
3	ESTIMATED REMAINING WASTE VOLUME	3,318,615 m^3	10,180,000 m^3 - LINE 2

0 15 30 45m

LEGEND:

- EXISTING MAJOR CONTOUR (2m INTERVAL)
- EXISTING MINOR CONTOUR (1m INTERVAL)
- EXISTING FINAL COVER MAJOR CONTOUR (2m INTERVAL)
- EXISTING FINAL COVER MINOR CONTOUR (1m INTERVAL)
- FINAL COVER AREA
- PROPERTY BOUNDARY
- LIMIT OF LINER

SOURCE:

TOPOGRAPHICAL SURVEY INFORMATION BASED ON AERIAL PHOTOGRAPHY DATED JANUARY 7, 2021, BY AUTOMATED ENGINEERING TECHNOLOGIES.

REGIONAL MUNICIPALITY OF HAMILTON
WENTWORTH BENCHMARK 75U169
(N) 813.300, (E) 999.000, ELEVATION = 204.228 mASL

NOTE:
PHASES '1A', '2' AND '1B' WERE DESIGNED USING BENCHMARK (ELEVATION 204.337 mASL).

PHASES '1C', '3A', '3B', '4' AND '6A' WERE DESIGNED USING BENCHMARK AS SHOWN (ELEVATION = 204.228mASL).

REGIONAL MUNICIPALITY OF HAMILTON WENTWORTH BENCHMARK 75U169
IRON PIPE WITH BRASS CAP, ALONG FIRST ROAD WEST, 0.2Km NORTH OF INTERSECTION WITH MUD STREET, 1.0 Km WEST OF HWY #20, 14.3m NORTH OF CENTER LINE OF DRIVEWAY TO HOUSE, 8.2m EAST OF CENTER LINE OF ROAD, 9cm WEST OF BENCHMARK SIGN POST, 1m ABOVE ROAD LEVEL, ELEVATION 204.228mASL.

NOTES:

TOTAL AREA= 40.1 ha
TOTAL FINAL COVER= 10.1 ha

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Project
STONEY CREEK REGIONAL FACILITY
2020 ANNUAL MONITORING REPORT

No.	Issue	Drawn	Approved	Date

Drawn	T.WAGSTAFF	Designer	B.DERMODY
Drafting Check	D.BARTON	Design Check	B.DERMODY
Project Manager	B.DERMODY	Date	JANUARY 2021
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Project No. **11103232-33**

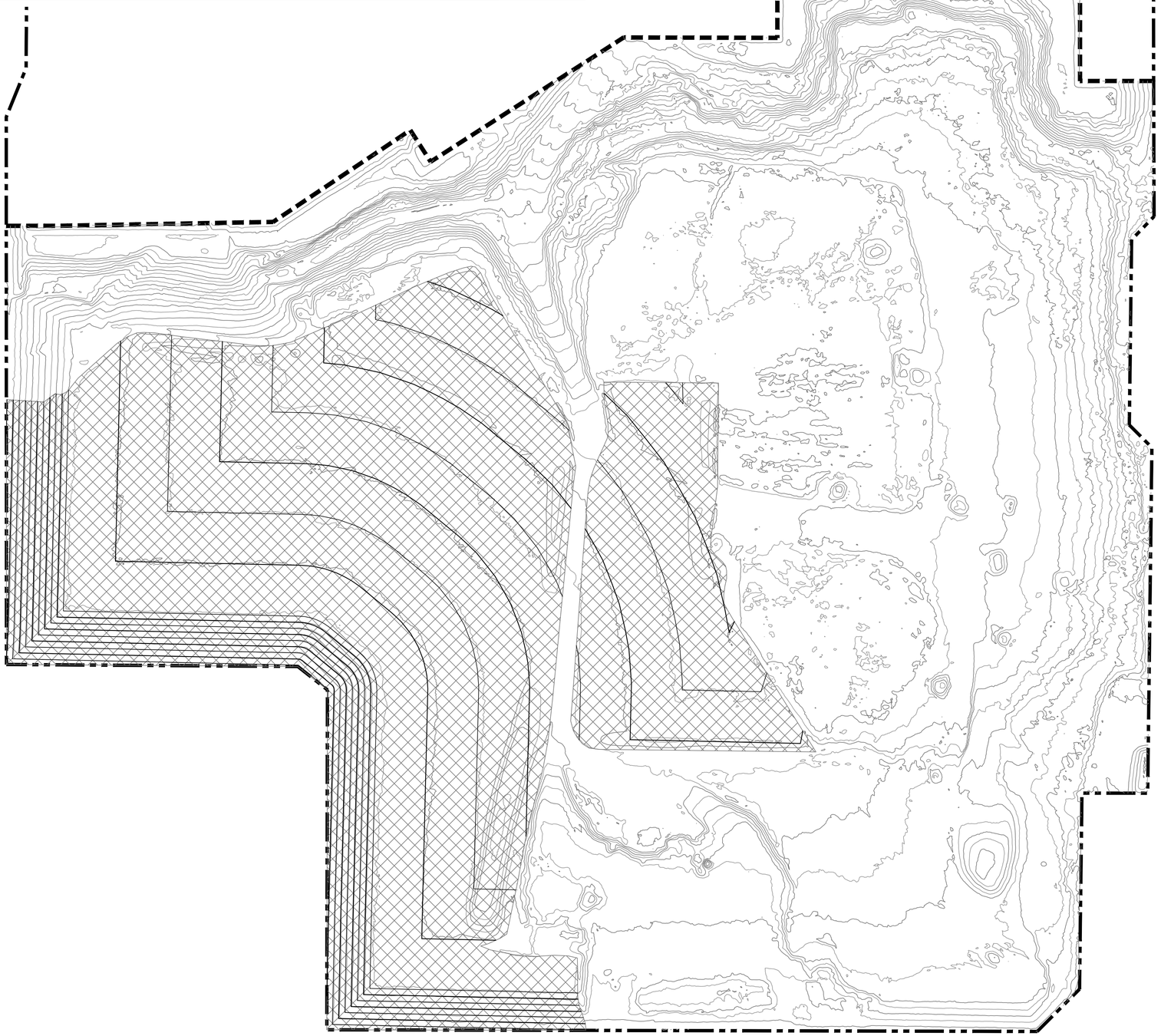
Title
LANDFILL CONTOURS AND VOLUMES - JANUARY 2021

Sheet No.
FIGURE 3.5

Sheet **1** of **1**

STONEY CREEK LANDFILL VOLUMES

LINE	ITEM	QUANTITY	NOTES
1	TOTAL VOLUME OF WASTE PLACED IN 2021	290,715 m^3	LINE 2 - 6,861,385 m^3
2	TOTAL VOLUME OF WASTE PLACED TO DATE	7,152,100 m^3	COMPARISON OF JANUARY 2022 SURVEY AND APPROVED BOTTOM OF WASTE, LESS DEDUCTIONS FOR NON-WASTE MATERIALS
3	ESTIMATED REMAINING WASTE VOLUME	3,027,900 m^3	10,180,000 m^3 - LINE 2



0 15 30 45m

LEGEND:

- 221 — EXISTING MAJOR CONTOUR (2m INTERVAL)
- EXISTING MINOR CONTOUR (1m INTERVAL)
- 220.0 — EXISTING FINAL COVER MAJOR CONTOUR (2m INTERVAL)
- EXISTING FINAL COVER MINOR CONTOUR (1m INTERVAL)
- FINAL COVER AREA
- PROPERTY BOUNDARY
- LIMIT OF LINER

SOURCE:

TOPOGRAPHICAL SURVEY INFORMATION BASED ON AERIAL PHOTOGRAPHY DATED JANUARY 14, 2022 BY AUTOMATED ENGINEERING TECHNOLOGIES.

REGIONAL MUNICIPALITY OF HAMILTON WENTWORTH BENCHMARK 75U169
(N) 813.300, (E) 999.000, ELEVATION = 204.228 mASL

NOTE:
PHASES '1A', '2' AND '1B' WERE DESIGNED USING BENCHMARK (ELEVATION 204.337 mASL).

PHASES '1C', '3A', '3B', '4' AND '6A' WERE DESIGNED USING BENCHMARK AS SHOWN (ELEVATION = 204.228mASL).

REGIONAL MUNICIPALITY OF HAMILTON WENTWORTH BENCHMARK 75U169
IRON PIPE WITH BRASS CAP, ALONG FIRST ROAD WEST, 0.2Km NORTH OF INTERSECTION WITH MUD STREET, 1.0 Km WEST OF HWY #20, 14.3m NORTH OF CENTER LINE OF DRIVEWAY TO HOUSE, 8.2m EAST OF CENTER LINE OF ROAD, 9cm WEST OF BENCHMARK SIGN POST, 1m ABOVE ROAD LEVEL, ELEVATION 204.228mASL.

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Project
STONEY CREEK REGIONAL FACILITY
2021 ANNUAL MONITORING REPORT

No.	Issue	Drawn	Approved	Date

Drawn	T.WAGSTAFF	Designer	B.DERMODY
Drafting Check	P.LESIECZKO	Design Check	B.DERMODY
Project Manager	B.DERMODY	Date	JANUARY 2022
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Project No. **11103232-33**

Title
LANDFILL CONTOURS AND VOLUMES - JANUARY 2022

Sheet No.
FIGURE 3.5
Sheet 1 of 1

STONEY CREEK LANDFILL VOLUMES

LINE	ITEM	QUANTITY	NOTES
1	TOTAL VOLUME OF WASTE PLACED IN 2022	386,565 m^3	LINE 2 - 7,152,100 m^3
2	TOTAL VOLUME OF WASTE PLACED TO DATE	7,538,665 m^3	COMPARISON OF JANUARY 2023 SURVEY AND APPROVED BOTTOM OF WASTE, LESS DEDUCTIONS FOR NON-WASTE MATERIALS
3	ESTIMATED REMAINING WASTE VOLUME	2,641,335 m^3	10,180,000 m^3 - LINE 2

N

0 15 30 45m

LEGEND:

- EXISTING MAJOR CONTOUR (2m INTERVAL)
- EXISTING MINOR CONTOUR (1m INTERVAL)
- EXISTING TOP OF FINAL COVER CONTOUR (2m INTERVAL)
- EXISTING TOP OF FINAL COVER CONTOUR (1m INTERVAL)
- FINAL COVER AREA
- PROPERTY BOUNDARY
- LIMIT OF LINER

SOURCE:

TOPOGRAPHICAL SURVEY INFORMATION BASED ON AERIAL PHOTOGRAPHY DATED JANUARY 11, 2023 BY AUTOMATED ENGINEERING TECHNOLOGIES.

REGIONAL MUNICIPALITY OF HAMILTON
WENTWORTH BENCHMARK 75U169
(N) 813.300, (E) 999.000, ELEVATION = 204.228 mASL

NOTE:
PHASES '1A', '2' AND '1B' WERE DESIGNED USING BENCHMARK (ELEVATION 204.337 mASL).

PHASES '1C', '3A', '3B', '4' AND '6A' WERE DESIGNED USING BENCHMARK AS SHOWN (ELEVATION = 204.228mASL).

REGIONAL MUNICIPALITY OF HAMILTON WENTWORTH BENCHMARK 75U169
IRON PIPE WITH BRASS CAP, ALONG FIRST ROAD WEST, 0.2Km NORTH OF INTERSECTION WITH MUD STREET, 1.0 Km WEST OF HWY #20, 14.3m NORTH OF CENTER LINE OF DRIVEWAY TO HOUSE, 8.2m EAST OF CENTER LINE OF ROAD, 9cm WEST OF BENCHMARK SIGN POST, 1m ABOVE ROAD LEVEL, ELEVATION 204.228mASL.

NOTES:

TOTAL AREA= 40.1 ha
TOTAL FINAL COVER= 14.7 ha

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STONEY CREEK, ONTARIO

Project
STONEY CREEK REGIONAL FACILITY
2022 ANNUAL MONITORING REPORT

No.	Issue	Drawn	Approved	Date

Drawn	T.WAGSTAFF	Designer	B.DERMODY
Drafting Check	P.LESIECZKO	Design Check	B.DERMODY
Project Manager	B.DERMODY	Date	JAN 2023
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Project No. **11103232-50**

Title
LANDFILL CONTOURS AND VOLUMES - JANUARY 2023

Sheet No.
FIGURE 3.5

Sheet 1 of 1

STONEY CREEK LANDFILL VOLUMES

LINE	ITEM	QUANTITY	NOTES
1	TOTAL VOLUME OF WASTE PLACED IN 2023 (TO NOVEMBER 14th)	331,437 m^3	LINE 2 - 7,538,665 m^3
2	TOTAL VOLUME OF WASTE PLACED TO DATE	7,870,102 m^3	COMPARISON OF NOVEMBER 2023 SURVEY AND APPROVED BOTTOM OF WASTE, LESS DEDUCTIONS FOR NON-WASTE MATERIALS
3	ESTIMATED REMAINING WASTE VOLUME	2,309,898 m^3	10,180,000 m^3 - LINE 2

0 15 30 45m

LEGEND:

- EXISTING MAJOR CONTOUR (2m INTERVAL)
- EXISTING MINOR CONTOUR (1m INTERVAL)
- EXISTING TOP OF FINAL COVER CONTOUR (2m INTERVAL)
- EXISTING TOP OF FINAL COVER CONTOUR (1m INTERVAL)
- FINAL COVER AREA
- PROPERTY BOUNDARY
- LIMIT OF LINER

SOURCE:

TOPOGRAPHICAL SURVEY INFORMATION BASED ON AERIAL PHOTOGRAPHY DATED NOVEMBER 14, 2023 BY AUTOMATED ENGINEERING TECHNOLOGIES.

REGIONAL MUNICIPALITY OF HAMILTON
WENTWORTH BENCHMARK 75U169
(N) 813.300, (E) 999.000, ELEVATION = 204.228 mASL

NOTE:
PHASES '1A', '2' AND '1B' WERE DESIGNED USING BENCHMARK (ELEVATION 204.337 mASL).

PHASES '1C', '3A', '3B', '4' AND '6A' WERE DESIGNED USING BENCHMARK AS SHOWN (ELEVATION = 204.228mASL).

REGIONAL MUNICIPALITY OF HAMILTON WENTWORTH BENCHMARK 75U169
IRON PIPE WITH BRASS CAP, ALONG FIRST ROAD WEST, 0.2Km NORTH OF INTERSECTION WITH MUD STREET, 1.0 Km WEST OF HWY #20, 14.3m NORTH OF CENTER LINE OF DRIVEWAY TO HOUSE, 8.2m EAST OF CENTER LINE OF ROAD, 9cm WEST OF BENCHMARK SIGN POST, 1m ABOVE ROAD LEVEL, ELEVATION 204.228mASL.

NOTES:

TOTAL AREA= 42.2 ha
TOTAL FINAL COVER= 16.9 ha

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No.	Issue	Drawn	Approved	Date

Drawn	**T.WAGSTAFF**	Designer	**B.DERMODY**
Drafting Check	**P.LESIECZKO**	Design Check	**B.DERMODY**
Project Manager	**B.DERMODY**	Date	**JAN 2023**
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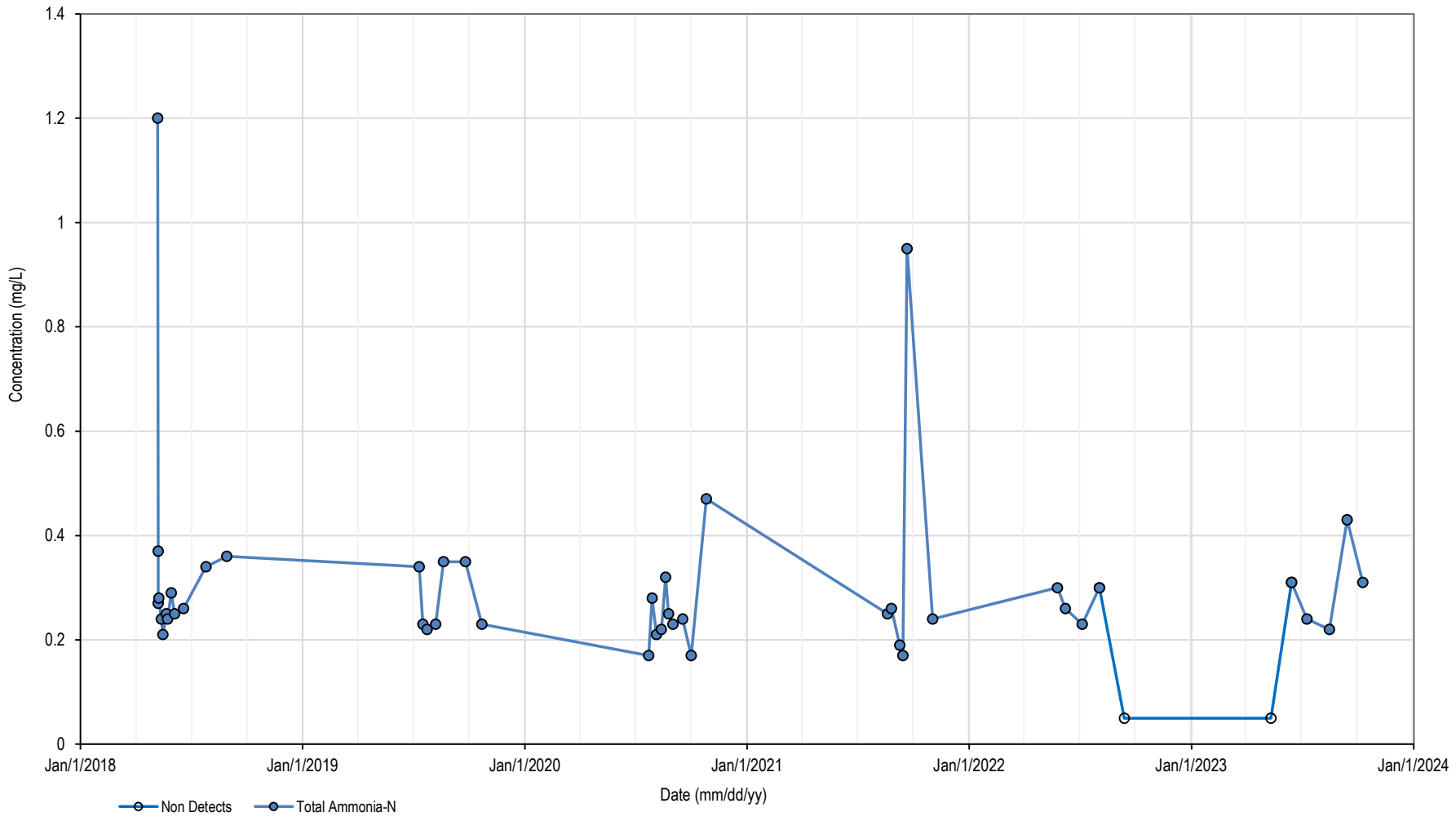
Project No. **11103232-50**

Title
LANDFILL CONTOURS AND VOLUMES - NOVEMBER 2023

Sheet No.
FIGURE 3.5

Sheet **1** of **1**

Attachment 2



GFL ENVIRONMENTAL INC
STONEY CREEK REGIONAL FACILITY

Project No. **11103232**
Date **December 2023**

TOTAL AMMONIA-N CONCENTRATION VS TIME

FIGURE 1

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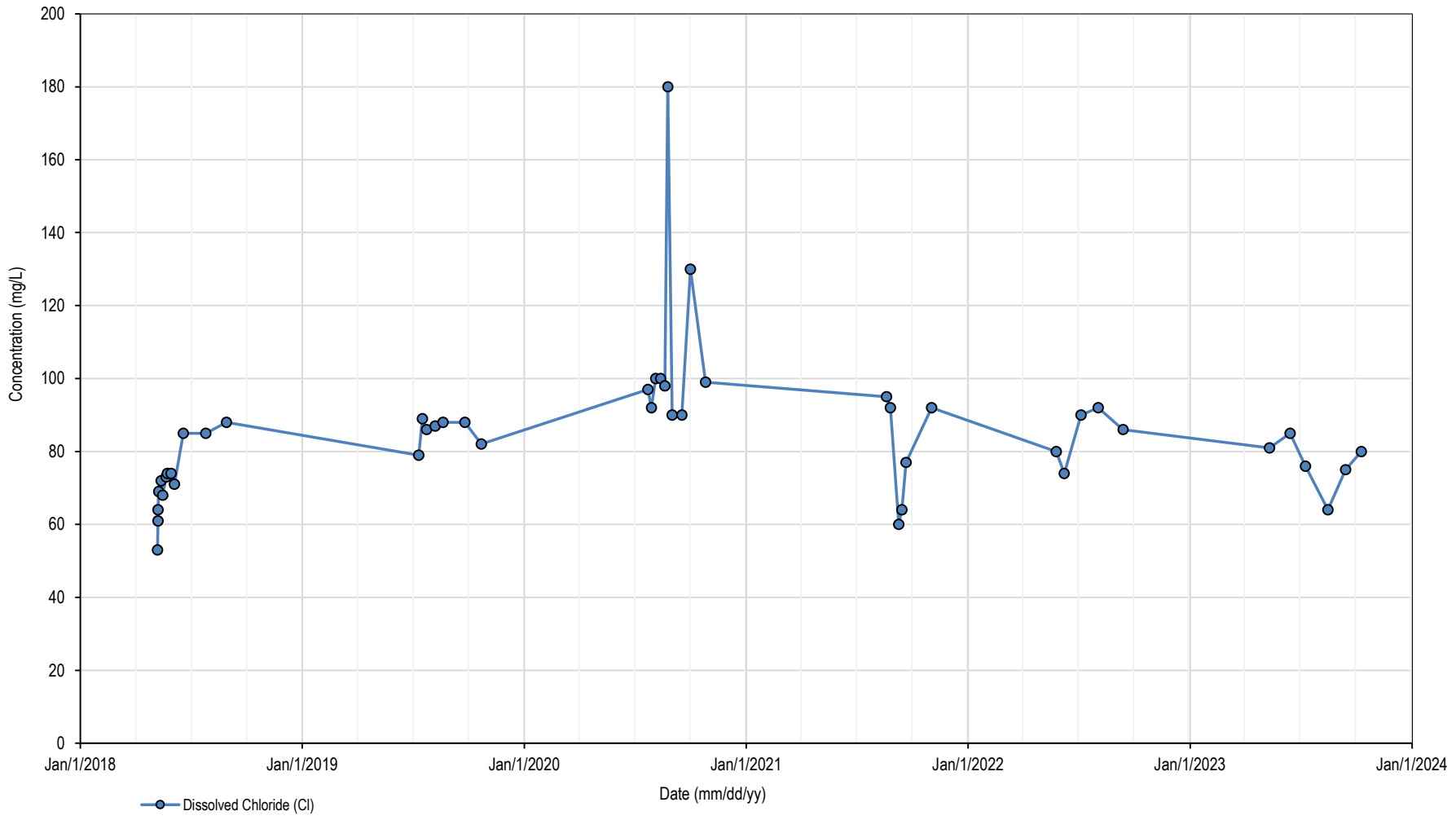


GFL ENVIRONMENTAL INC
STONEY CREEK REGIONAL FACILITY

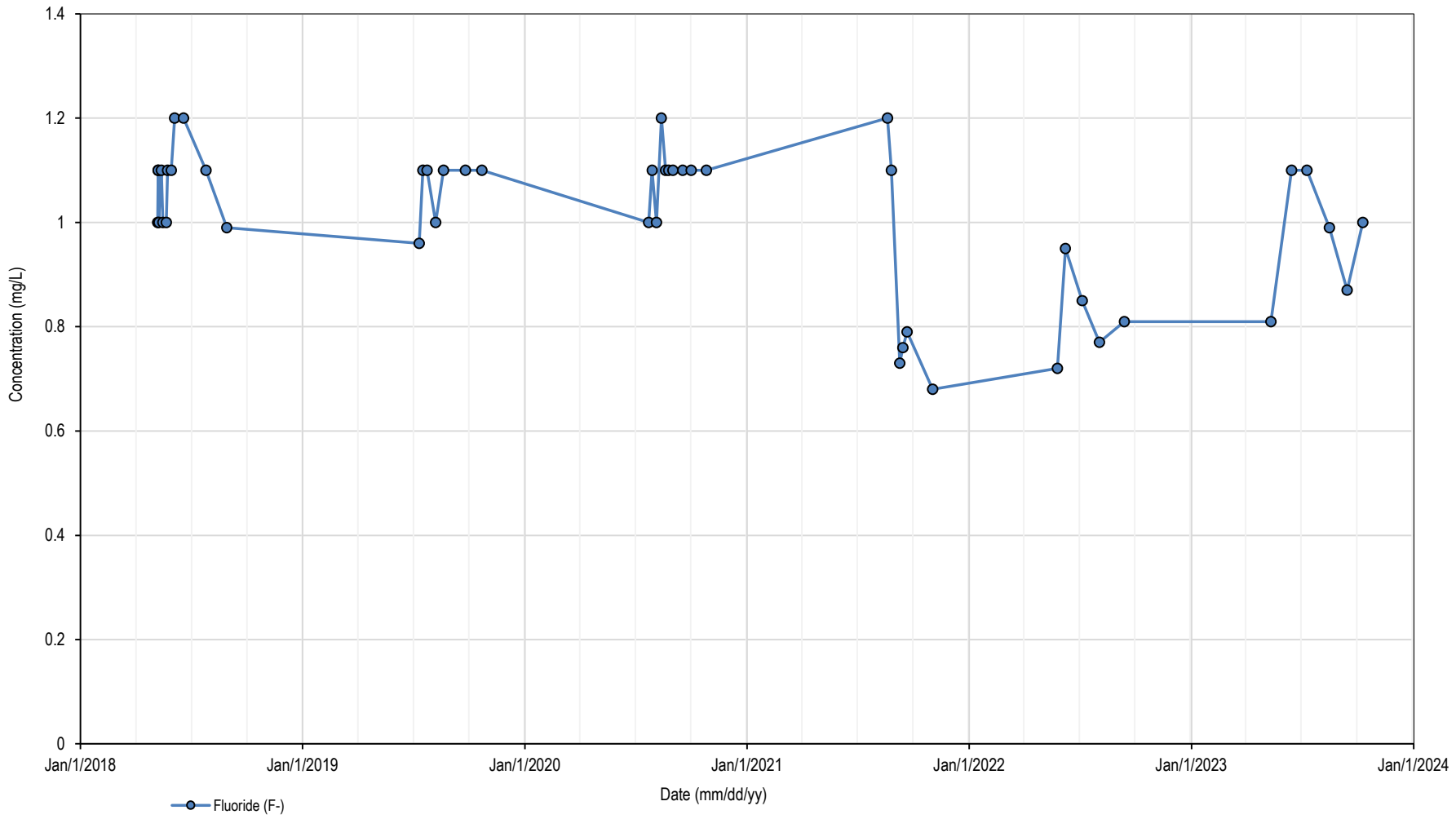
Project No. **11103232**
Date **December 2023**

DISSOLVED CHLORIDE CONCENTRATION VS TIME

FIGURE 2

Filename: \\ghdnet\ghd\CA\Waterloo\Projects\662\11103232\Tech\CvsT Plots\Copy of HCL Sample Results June 2018 - 2023.xlsx
Plot Date: 1 Dec 2023 01:44 PM

Data Source



GFL ENVIRONMENTAL INC
STONEY CREEK REGIONAL FACILITY

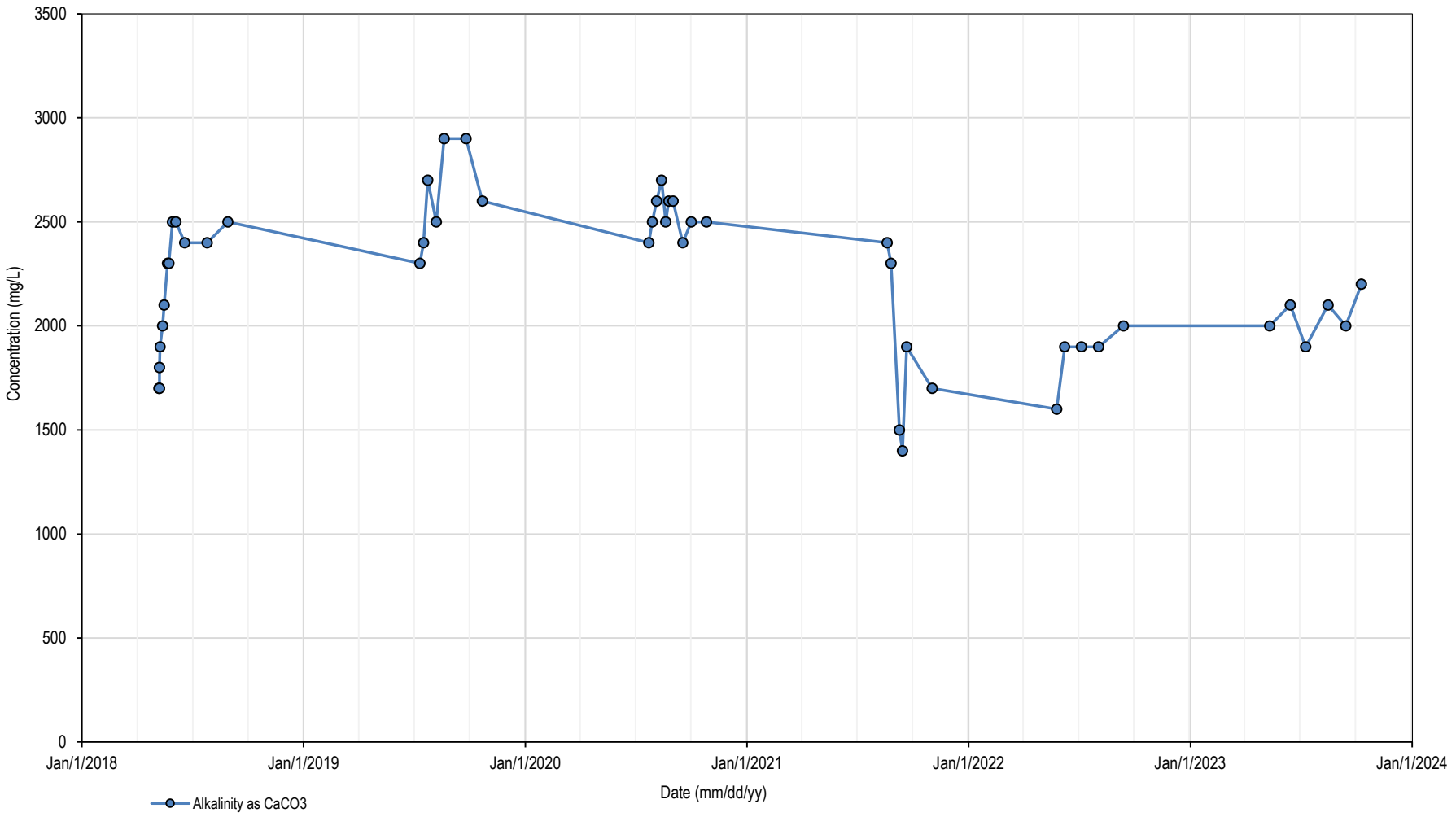
Project No. **11103232**
Date **December 2023**

FLUORIDE CONCENTRATION VS TIME

FIGURE 3

Filename: \\ghdnet\ghd\CA\Waterloo\Projects\662\11103232\Tech\CvsT Plots\Copy of HCL Sample Results June 2018 - 2023.xlsx
Plot Date: 1 Dec 2023 01:44 PM

Data Source



GFL ENVIRONMENTAL INC
STONEY CREEK REGIONAL FACILITY

Project No. **11103232**
Date **December 2023**

ALKALINITY CONCENTRATION VS TIME

FIGURE 4

Filename: \\ghdnet\ghd\CA\Waterloo\Projects\662\11103232\Tech\CvsT Plots\Copy of HCL Sample Results June 2018 - 2023.xlsx
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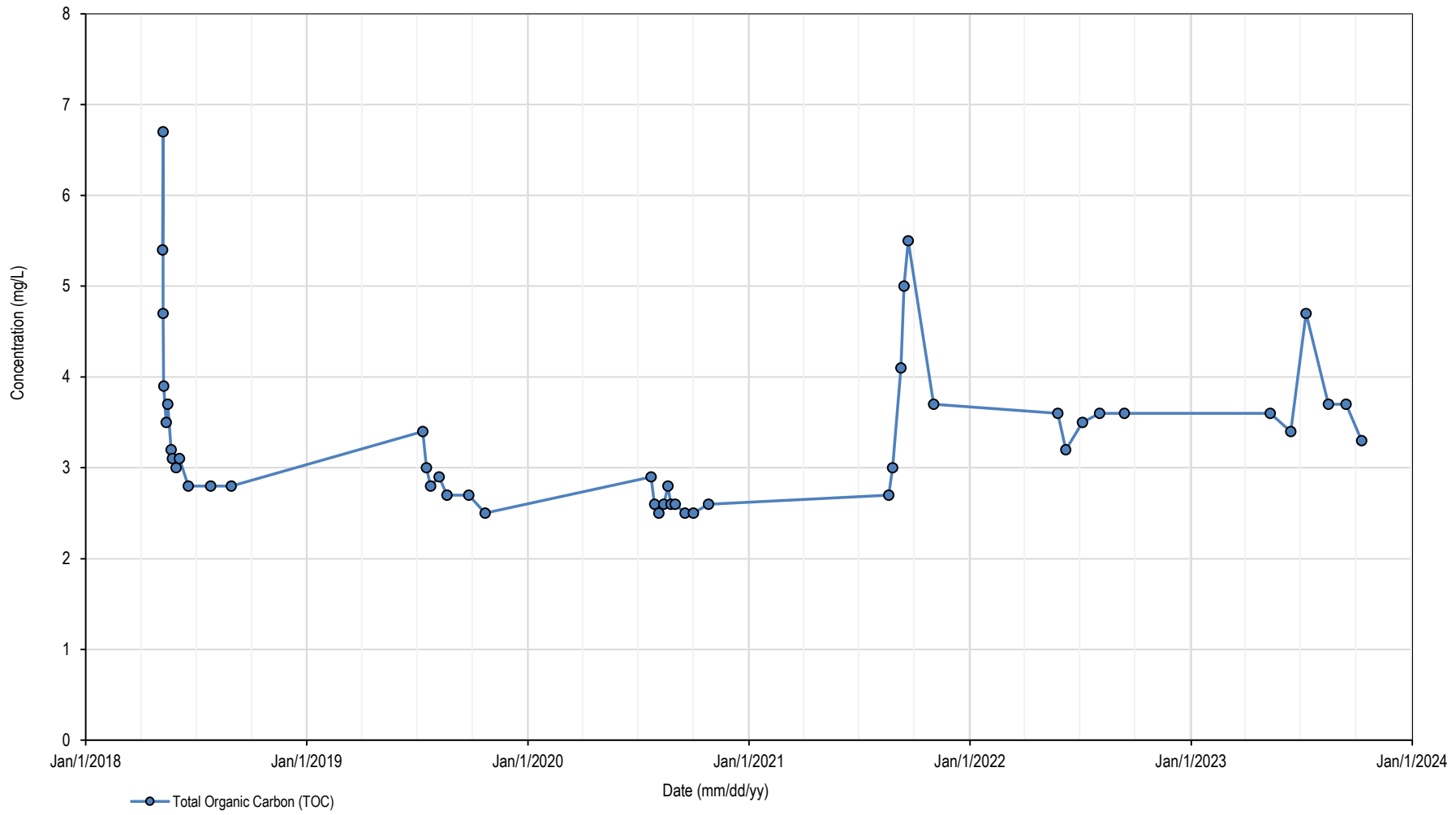
Data Source



GFL ENVIRONMENTAL INC
STONEY CREEK REGIONAL FACILITY

Project No. **11103232**
Date **December 2023**

TOTAL ORGANIC CARBON CONCENTRATION VS TIME

FIGURE 5

Filename: \\ghdnet\ghd\CA\Waterloo\Projects\662\11103232\Tech\CvsT Plots\Copy of HCL Sample Results June 2018 - 2023.xlsx
Plot Date: 1 Dec 2023 01:44 PM

Data Source

Appendix D Calibration Records

Land Use Compatibility and Preliminary Air Quality and Odour Impact Study

Elfrida Community

Elfrida Community Builders Group Inc.

SLR Project No.: 241.032028.00001

March 11, 2025

Nasal Ranger® Field Olfactometer
Certificate of Calibration

St. Croix Sensory, Inc.

Order Information

Nasal Ranger Serial Number:	90202247	Client:	SLR Consulting Ltd.
Nasal Ranger Dial Variant:	Standard Dial	Client PO Number:	n/a
Dial Serial Number:	SD231771	Invoice Number:	1139

Dilution to Threshold Calibration

Reference Values

Reference D/T	Allowable Min	Allowable Max
60	54	66
30	27	33
15	13.5	16.5
7	6.3	7.7
4	3.6	4.4
2	1.8	2.2

Calibration Results

Measured D/T	Variance	In Tolerance
60.0	0.0%	Yes
30.0	0.1%	Yes
15.1	0.5%	Yes
6.9	-1.0%	Yes
3.9	-2.0%	Yes
2.0	-0.2%	Yes

Calibration Equipment Used

Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
TSI Incorporated	4040 Mass Flow Meter	4040-2336-001	2/21/2024	2/21/2025
TSI Incorporated	4040 Mass Flow Meter	4040-2336-001	2/21/2024	2/21/2025
TSI Incorporated	4143 Mass Flow Meter	4143-2339-002	2/22/2024	2/22/2025

Comments:	None
Next Calibration Due:	2/4/2026

Verified By:  Date: 2/3/2025

This document certifies that this Nasal Ranger® Field Olfactometer, specificed by unique serial number, was calibrated by St. Croix Sensory, Inc. on the above date using Test Procedure 2014.
St. Croix Sensory's United States Facility is ISO 9001:2015 Certified for the Design, Manufacturing, and Service of Sensory Testing Products, PJR Certificate No. C2023-01317

Tel: 651-439-0177
Fax: 651-439-1065

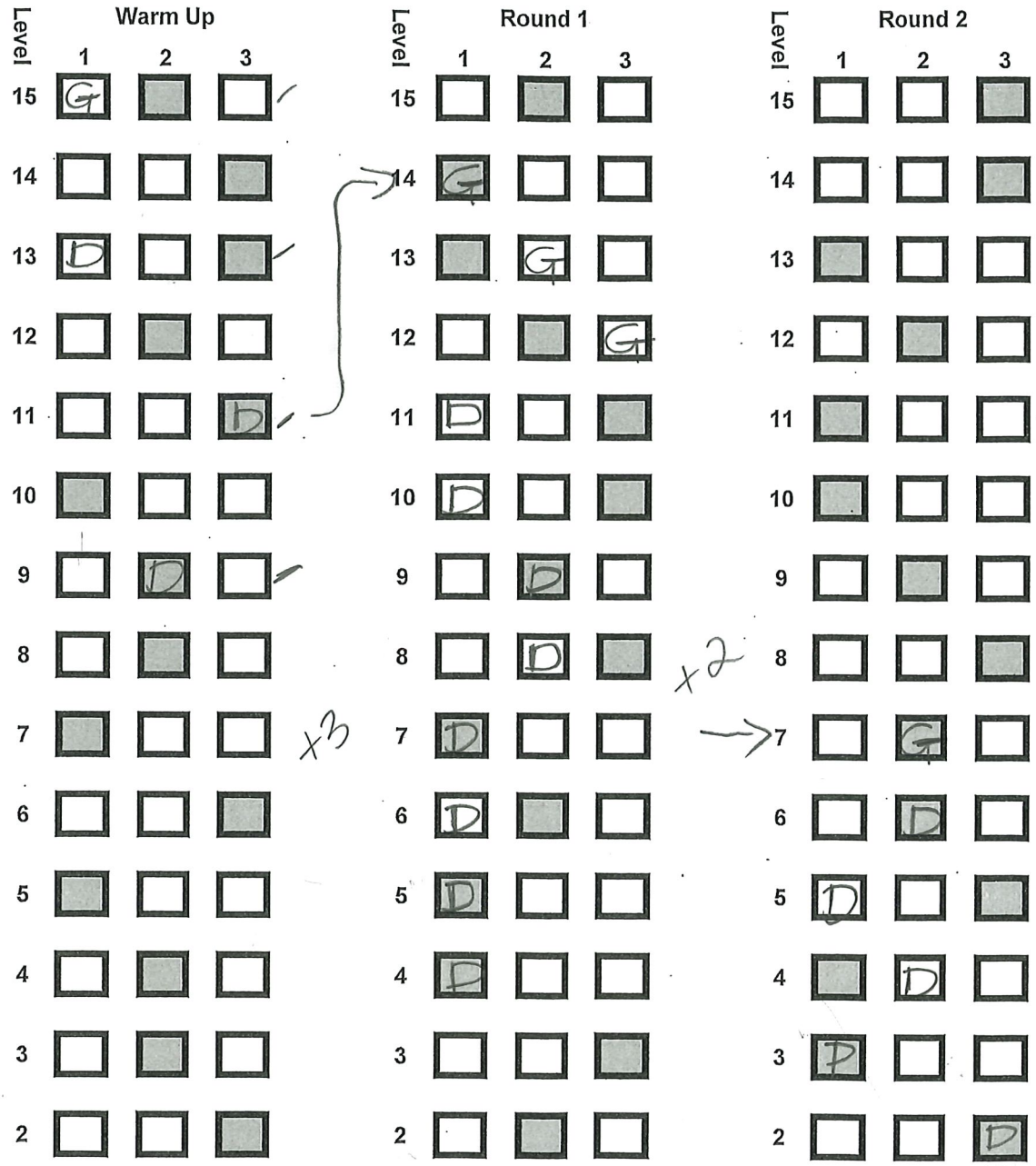
1150 Stillwater Blvd N, Stillwater, MN 55082

St. Croix Sensory, Inc.

Odor Sensitivity Test Data Sheet A

Name: L. Cunningham Date: Jan 30/25 Time: 9:45am

The pen presention order is designated by the boxes below. Shaded boxes are odor pens, unshaded boxes are blanks. Record responses as G for guess and D for detect.



The score is the first level of two consecutive correct detect responses.

Score: 5 Score: 3

Individual's Odor Sensitivity (average of the scores): 4

Test Administrator: June Meth

Odor Pen Kit Serial Number: _____

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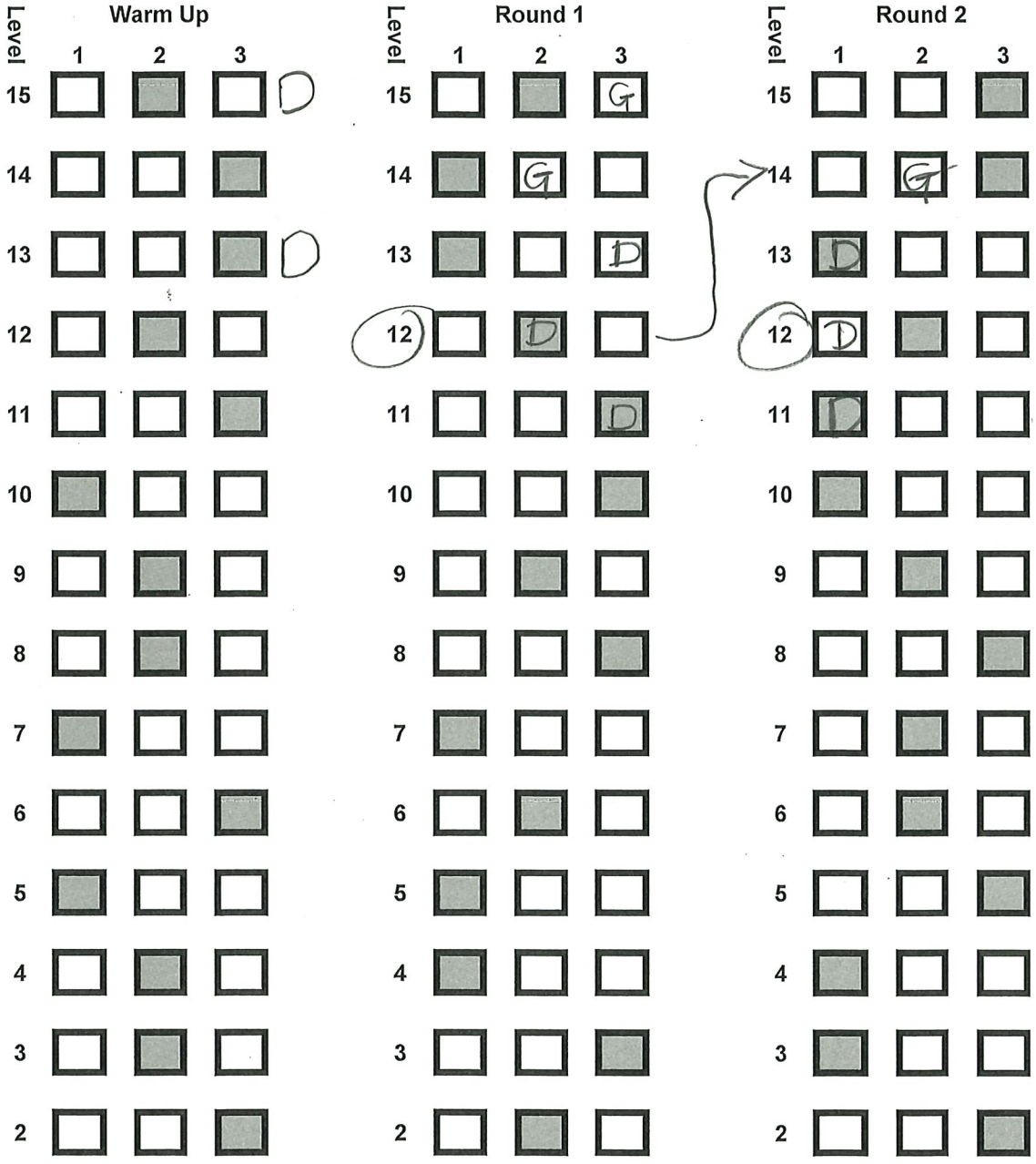
Tel: 651-439-0177 Fax: 651-439-1065
stcroix@fivesenses.com www.fivesenses.com

St. Croix Sensory, Inc.

Odor Sensitivity Test Data Sheet A

Name: AN Date: NOV. 4 Time: 2:00pm

The pen presention order is designated by the boxes below. Shaded boxes are odor pens, unshaded boxes are blanks. Record responses as G for guess and D for detect.



The score is the first level of two consecutive correct detect responses.

Score: 12 Score: 12

Individual's Odor Sensitivity (average of the scores): _____

Test Administrator: _____

Odor Pen Kit Serial Number: _____

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Appendix E Example of Completed Field Notes

Land Use Compatibility and Preliminary Air Quality and Odour Impact Study

Elfrida Community

Elfrida Community Builders Group Inc.

SLR Project No.: 241.032028.00001

March 11, 2025

Technical Memorandum

SLR

To: File

From: Alice & Liam

Company: Elfrida Community Builders Group Inc. c/o Brattys LLP

cc:

Date: Feb 18, 2025

Project No. 241.032028.00001

RE: Elfrida Community, Hamilton, Ontario

SLR collected real-time air quality monitoring on 18/02/2025 (DD/MM/YYYY) for odour.

Summary of Observed Activities

During the time of sample the following potential air emission generating activities were observed:

Table 1: Odour Monitoring Survey Activity Summary Report

Stoney Creek Landfill Activity Description (truck activity, on-site activity including equipment use, landfill pile size, collect photo if applicable):
- 2 excavators, 1 haul truck working near west side of property (near site 4)
- 2 front end loaders, 1 haul truck actively working near east side of property as well as in NE corner of property
- most activity observed took place on northern half of site.
- no garbage trucks seen entering/exiting facility.
- minimal activity at enterance of site.
- most odour was detected at northeast corner of facility (downwind).
Surrounding Activities Description (i.e. other industries, drop-off location roadway dust, unpaved roads, construction etc.):
- first day back on site after major snowfall.
- snow clearing activities

Meteorological Conditions

Observed Project site meteorological conditions including identification of precipitation denote as N/A if information is not known:

Date: Feb 18, 2025

Date	Time	Wind Speed (km/h)	Wind Direction	Precipitation (Yes/No)	Temperature (°C)	Relative Humidity
Feb 18/25	11:00am	26 WSW	WSW	NO	-11	68%
" "	11:35am	26	WSW	NO	-11	68%
" "	12:08	27	WSW	NO	-10	64%
" "	1:00	40	WSW	No	-9	55%

Record hourly data from Environment Canada

Nasal Ranger Data Collection

18/02/2025 (DD/MM/YYYY)

Location Number on Map	Employee Initials	Time	Odour Observed (Yes/No)	Wind Speed/ Direction	Detectable by Nasal Ranger (Yes/No)	Nasal Ranger Dilution Ratio	Description of Odour (See Attached Odour Wheel)
1	LC/AN	11:10am	NO	26 WSW			
2	LC/AN	11:20am	NO	26 WSW			
3	LC/AN	11:32am	NO	26 WSW			
4	LC/AN	11:38am	NO	26 WSW			
5	LC/AN	11:48am	NO	26 WSW			
6	LC/AN	12:05pm	yes	27 WSW	NO		- garbage type odour - Infrequent, bursts, not consistent, faint
7	LC/AN	12:20pm	yes	27 WSW	yes	15:1	- garbage/manure type odour - strong, bursts, consistent.
8	LC/AN	12:40pm	NO	27 WSW			

Approximate Data Collection Locations

Odour Wheel

[1]

[1] Metro Vancouver, 2019

Appendix F MECP EOI-FOI Request

Land Use Compatibility and Preliminary Air Quality and Odour Impact Study

Elfrida Community

Elfrida Community Builders Group Inc.

SLR Project No.: 241.032028.00001

March 11, 2025

Ontario

Ministry of the Environment, Conservation and Parks

Corporate Management Division

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Division de la gestion ministérielle

February 13, 2025

Alice Najjar
SLR Consulting Ltd.

Dear Alice Najjar
RE: Request #: EPI-2025-2000005708
Requestor provided Permit Numbers: A181008
Requestor provided Client Reference: 241.032028.00001
Site address: 65 Green Mountain Road WEST, Hamilton

This letter confirms that, after conducting a thorough search of its source system applications, the ministry has identified potential records related to your property request. Our search indicates that the ministry may hold the following records:

- Waste Generator number/classes
- Waste System Approval[1]
- Environmental Assessment
- Waste Approval[1]
- Correspondence, Abatement, Occurrence reports
- Incident Reporting
- Inspections
- Prosecutions
- Investigations
- Convictions
- Tickets
- IEB Referral
- Technical Support
- Orders
- Abatement Response
- Facility Air Profile
- Permits To Take Water[1]
- Investigations
- Non Compliance Stub
- Waste Management Systems Approval[1]
- Waste Approval[1]

- Industrial Approval[1]
- Waste Site Approval[1]
- Industrial Approval[1]
- Waste System Approval[1]
- Waste Inspection
- Pollution Incident Report

If you would like to submit a Freedom of Information (FOI) request to the ministry, please return to the table on the Requests tab of the EPI application and select “Submit FOI” under the Actions column in the row identified by EPI-2025-2000005708.

If you have any questions regarding the matter, please contact the ministry at eproperty@ontario.ca.

Sincerely,

Environmental Property Information (EPI) Program

Disclaimer

This search result is provided for informational purposes only and is not intended to provide specific advice or recommendations. The Ministry of the Environment, Conservation and Parks (MECP) cannot and does not guarantee that the information provided is current, accurate, complete, or free of errors. Any reliance upon this information is solely at the risk of the user.

[1] In addition to the core reports (e.g Environmental Compliance Approval), there may be extensive supporting documentation associated with this record type. When transferring your request over to FOI, we encourage you to refine the scope of your request to only the supporting documentation required for your purposes, as the inclusion of this additional documentation can add significant processing time.

Ontario

Ministry of the Environment, Conservation and Parks

Corporate Management Division

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Division de la gestion ministérielle

Le 13 février 2025

Alice Najjar
SLR Consulting Ltd.

Madame,
Monsieur, Alice Najjar
Objet : No de demande : EPI-2025-2000005708
Numéro(s) de permis associé(s) fourni(s) par le demandeur: A181008
Référence client fournie par le demandeur: 241.032028.00001
Adresse du site: 65 Green Mountain Road WEST, Hamilton

La présente lettre confirme que, après avoir effectué une recherche exhaustive dans ses applications de système source, le ministère a circonscrit des dossiers potentiels reliés à votre demande concernant des biens immobiliers. Notre recherche indique que les dossiers suivants peuvent être en possession du ministère:

- Waste Generator number/classes
- Waste System Approval[1]
- Environmental Assessment
- Waste Approval[1]
- Correspondence, Abatement, Occurrence reports
- Incident Reporting
- Inspections
- Prosecutions
- Investigations
- Convictions
- Tickets
- IEB Referral
- Technical Support
- Orders
- Abatement Response
- Facility Air Profile
- Permits To Take Water[1]
- Investigations

- Non Compliance Stub
- Waste Management Systems Approval[1]
- Waste Approval[1]
- Industrial Approval[1]
- Waste Site Approval[1]
- Industrial Approval[1]
- Waste System Approval[1]
- Waste Inspection
- Pollution Incident Report

Si vous souhaitez soumettre une demande de liberté d'information (FOI) au ministère, veuillez retourner au tableau de l'onglet Requêtes de l'application EPI et sélectionner "Soumettre FOI" dans la colonne Actions de la ligne identifiée par EPI-2025-2000005708.

Si vous avez des questions concernant votre demande, nous vous invitons à communiquer avec le ministère à l’adresse électronique suivante : eproperty@ontario.ca.

Veuillez recevoir mes salutations les plus sincères,

Programme d’Information Environnementale de la propriété

Avertissement

Ce résultat de recherche est fourni uniquement à titre informatif et n’a aucunement pour but de donner des conseils particuliers ou des recommandations. Le ministère de l’Environnement de la Protection de la nature et des Parcs (MEPP) ne peut pas garantir que les renseignements fournis sont à jour, exacts, complets et exempts d’erreurs. L’utilisateur qui se fie à ces renseignements le fait à ses seuls risques.

[1] En plus des rapports de base (par exemple, l'approbation de conformité environnementale), il peut y avoir de nombreux documents justificatifs associés à ce type d'enregistrement. Lors du transfert de votre demande vers FOI, nous vous encourageons à affiner la portée de votre demande en ne tenant compte que des pièces justificatives requises pour vos besoins, car l'inclusion de ces documents supplémentaires peut ajouter un temps de traitement important.

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