Prepared By:

GEI Consultants Canada

Town Of Saugeen Shores

Waste Management Plan EA - Scope of Work & Detailed Work Plans for Technical Studies

GEI Project No.: 2401298

March 2026 (V1)

Saugeen Shores

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TABLE OF CONTENTS

1. ENVIRONMENTAL ASSESSMENT 1
2. DESCRIPTION OF THE UNDERTAKING 1
3. ALTERNATIVES TO THE UNDERTAKING 3
3.1 Determination of 'Alternatives To' 3
3.2 Description of 'Alternative Methods' 3
4. DEVELOPMENT OF THE ENVIRONMENTAL ASSESSMENT 6
5. COMMITMENTS SPECIFIC TO WORK PLAN DEVELOPMENT & BACKGROUND STUDIES 7
6. STUDY AREAS 8
7. TECHNICAL STUDIES 10
7.1 Description of the Environment and Potential Effects 10
7.2 Technical Studies Required to Support the Environmental Assessment 10
8. INVENTORY OF INFORMATION SOURCES AND/OR STUDIES 15
8.1 Technical Studies Completed to Date 15
8.2 Technical Studies and Background Reports to be Completed 16
9. EVALUATION AND ASSESSMENT OF ALTERNATIVE METHODS 17
9.1 General Approach to the Evaluation of Alternatives Methods 17
9.2 Detailed Work Plans 22

TABLES

TABLE 5-1 List of Potentially Relevant ToR Commitments
TABLE 7-1 Completed and Recommended Technical Studies
TABLE 8-1 Summary of Technical Studies to be Completed
TABLE 9-1 Preliminary Evaluation Criteria, Indicators, and Potential Data Sources for Alternative Methods

FIGURES

FIGURE 1-1 Site Location
FIGURE 3-1 Site Plan showing Aerodrome Facility (Southampton Airport)
FIGURE 4-1 Development of the Environmental Assessment
FIGURE 6-1 Site Plan Showing Study Areas

ATTACHMENTS

Note: Detailed work plans for technical studies are enclosed in Attachment C through G

ATTACHMENT A Criteria for Evaluating Potential for Built Heritage Resources & Cultural Heritage Landscapes
ATTACHMENT B Transport Canada: Request for Consultation
ATTACHMENT C Natural Environment Assessment: 2026 Supplementary Field Surveys & NEA Report Updates (Natural Resource Solutions Inc.)
ATTACHMENT D Air Quality Assessment (BCX Environmental Consulting)
ATTACHMENT E Noise and Vibration Assessment (Aercoustics Engineering Ltd.)
ATTACHMENT F Visual Impact Assessment (MHBC)
ATTACHMENT G Bird Hazard and Risk Assessment (Beacon Environmental)

Document Revision Tracking

Version	Date	Description

**WASTE MANAGEMENT PLAN EA - SCOPE OF WORK &
DETAILED WORK PLANS FOR TECHNICAL STUDIES**

TOWN OF SAUGEEN SHORES

MARCH 2026 (V1)

GEI PROJECT NO.: 2401298

An Environmental Assessment (EA) for the Town of Saugeen Shores' Waste Management Plan has been initiated. The purpose of this project is to address the problem of diminishing disposal capacity at the Town's Southampton Landfill Site. The Town is proposing an expansion of its existing active landfill and is seeking approval for additional capacity to help continue to manage the community's residual waste locally. The Town of Saugeen Shores (Town) is a lower-tier municipality within Bruce County which occupies the west-central portion of the region and is situated along the shores of Lake Huron, where shown on **Figure 1-1**.

This document provides a general overview of the amended Terms of Reference (ToR) for Town of Saugeen Shores' Waste Management Plan that was approved by the Ministry of the Environment, Conservation and Parks (MECP). It describes and highlights the key components of the ToR specific to the required background studies and is intended to provide an overview of the anticipated process and project-specific needs. This document forms part of the planned consultation associated with the initiation of the Environmental Assessment. Detailed work plans prepared by the sub-consultants for each discipline are included in this report (refer to the Attachments).

1. ENVIRONMENTAL ASSESSMENT

The Town of Saugeen Shores is seeking to undertake an Environmental Assessment (EA) for the expansion of the Town's existing Southampton Landfill Site. This requires approval under the Environmental Assessment Act (EAA) which defines the process necessary to secure additional landfill capacity. Under the EAA, the project requires the completion of a Comprehensive Environmental Assessment.

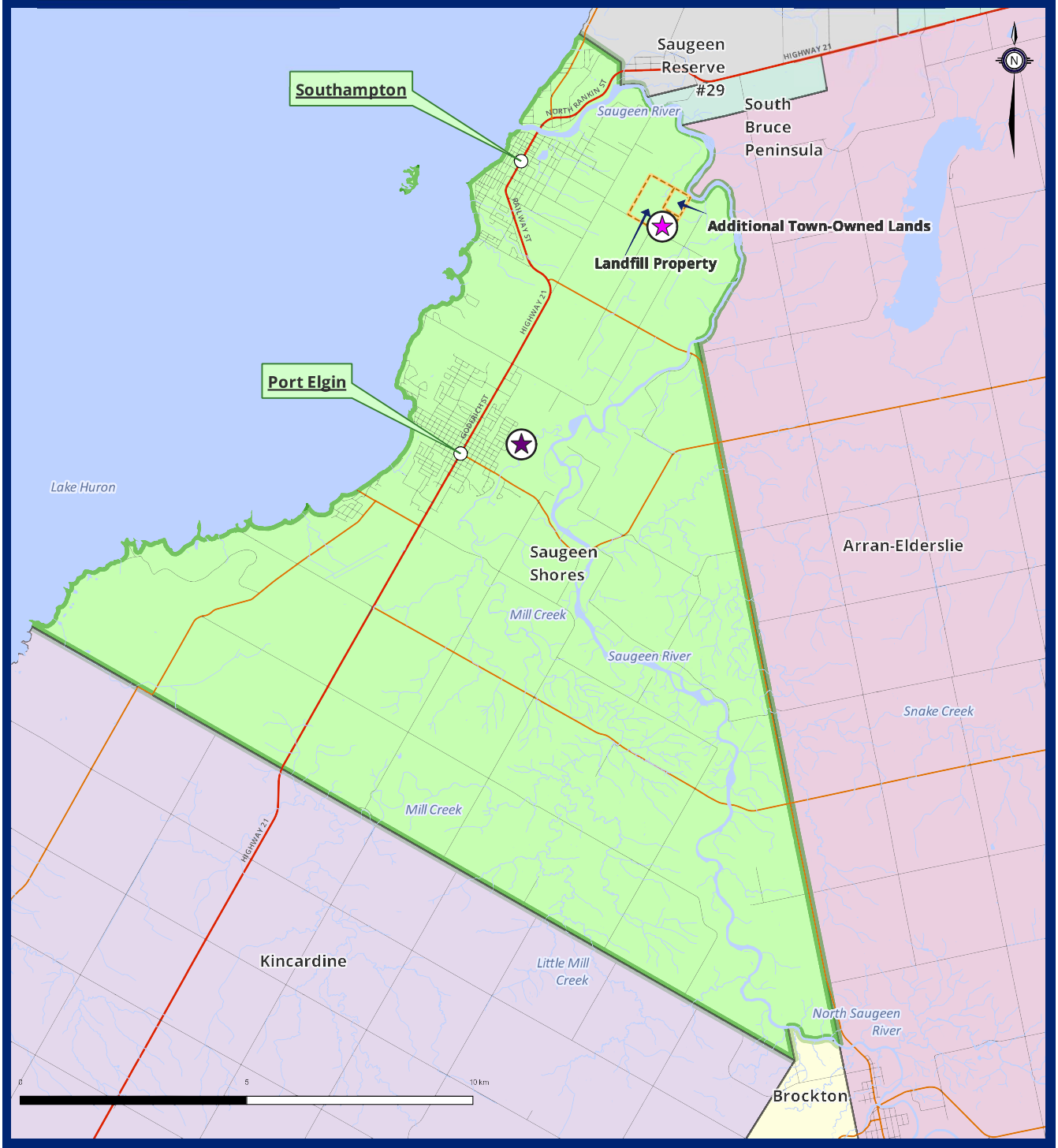
The completion of a Comprehensive EA is a two-step planning process that ensures the project scope and goals are clearly identified and that alternative options of addressing the problem and/or opportunity are considered. The first step is the preparation of a Terms of Reference. The ToR outlines the detailed work plan for how the EA will be prepared and what will be studied. The ToR for the Town's Waste Management EA was submitted to the MECP in April 2025. The amended ToR was approved by the Minister of the Environment, Conservation and Parks on February 25, 2026. The Town is now proceeding to the second step of the process and is carrying out the Environmental Assessment.

2. DESCRIPTION OF THE UNDERTAKING

It is proposed that the Environmental Assessment be undertaken to address the Town's future residual waste management needs for a 40-year planning period. During this period, it is estimated that the Town will generate approximately 330,000 tonnes of residual waste requiring disposal. This corresponds to the consumption of approximately 725,000 m^3 of landfill capacity for residual waste (±580,000 m^3) and interim cover. Residual waste is defined as waste that is remaining post diversion. The Town continues to provide for diversion through blue box and other programs that are considered when determining the volume of residual waste. Further, the Town is considering a source separated organics program and is reviewing options for green waste diversion. Considering the various diversion initiatives, the quantity of residual waste projected to be landfilled at the site annually is estimated to be in the range of 7,000 to 10,000 tonnes.

FIGURE 1-1
SITE LOCATION
Town of Saugeen Shores

March, 2024
223075
Projection EPSG:26917



Southampton Landfill Site
Port Elgin Landfill Site (Closed)
Urban Centre
Study Site
Settlement Area Boundary

Bruce County Municipal Boundaries
- Arran-Elderslie
- Brockton
- Huron-Kinloss
- Kincardine
- Saugeen Shores
- South Bruce
- Indian Reserve

Watercourse
Waterbody

Road Centrelines
- Provincial Highway
- County
- Municipal

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The proposed landfill expansion project can be accommodated at the existing site without the need to acquire additional lands. The landfill optimization area includes the existing fill area and the 26.3-hectare area to the west of the existing landfill footprint delineated for potential landfill expansion. The environmental management system associated with an expanded landfill footprint will include the provision for a landfill liner and a leachate collection and treatment system. Additional provisions may be considered, subject to the outcome of the EA. It is noted that the purpose and description of the proposed undertaking may evolve through the EA process and will be confirmed once the alternatives have been further considered and evaluated.

3. ALTERNATIVES TO THE UNDERTAKING

The EA process is designed to examine potential alternatives to take care of the future waste management demands identified. In other words, the planning process is designed to examine all alternatives that have the potential to satisfy the purpose of the project. These are referred to as 'Alternatives To' the undertaking. Once an 'Alternative To' is confirmed, the EAA requires consideration of 'Alternative Methods' of carrying out the project.

3.1 Determination of 'Alternatives To'

'Alternatives To' are functionally different ways of meeting the Town's long-term residual waste management needs. The EA process is designed to examine a reasonable range of alternatives to ensure that the most appropriate alternative is implemented.

An evaluation and assessment of the 'Alternatives To' was completed to support the development of the ToR. This included detailed reviews of two alternatives including a 'New Landfill Site' and 'Alternative Technologies' (i.e., incineration), presented in two supporting documents, which recommended that these alternatives be eliminated and not advanced into the EA for further study. The ToR reviewed and also proposed the elimination of the 'Export of Waste' alternative. Therefore, the ToR recommends that two 'Alternatives To' be carried forward into the EA including 'Landfill Optimization' (i.e., expansion) as the preferred alternative for the long-term management of the Town's residual waste and the 'Do-Nothing' alternative, which will continue to serve as a baseline against which other alternatives can be compared. The Town is committed to updating this process (i.e., the evaluation of 'Alternatives To') in the EA if any changes are identified.

3.2 Description of 'Alternative Methods'

'Alternative Methods' are technically, economically, and environmentally feasible ways that the 'Alternative To' can be implemented. The EA will document the systematic evaluation and assessment of 'Alternative Methods' of implementing the proposed landfill expansion by considering various landfill site development options for the physical expansion of the site within the landfill optimization area which includes the existing fill area and the 26.3 hectare area delineated for potential landfill expansion, where shown on **Figure 3-1**. As previously noted, it is estimated that the Town will need a capacity of approximately 725,000 m^3 for waste and interim cover.

At a conceptual level, alternative landfill development methods that could be used to expand the landfill area and capacity at the existing site include the following:

Horizontal Expansion: Expansion that ties into the existing landfill footprint
Horizontal expansion would consider expansion from the existing approved landfill area to the west. Sufficient landfill capacity could be realized by extending operations into a portion of the area delineated for potential landfill expansion.

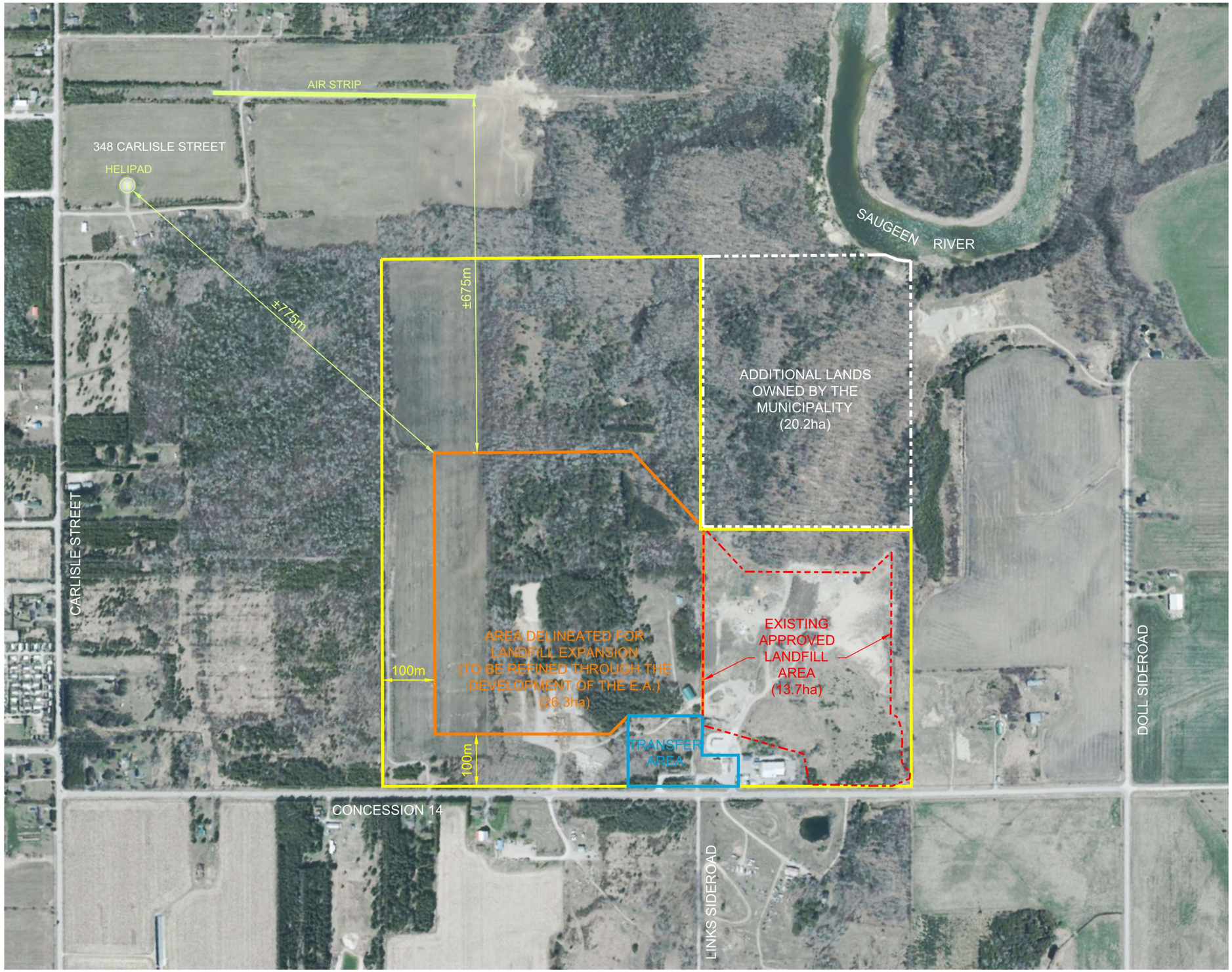
Combined Vertical and Horizontal Expansion
The height of the existing landfill could be increased. However, vertical expansion of the existing fill area would not provide sufficient capacity for the 40-year planning horizon being considered. Therefore, vertical expansion would need to be combined with horizontal expansion to the west.

Construction of a Separate Fill Area (or Cell)
The construction of a separate and distinct landfill area (or cell), that does not tie into the existing landfill footprint, but remains within the area delineated for potential landfill expansion, could be considered. Sufficient landfill capacity could be realized through the creation of a separate landfill footprint.

Landfill site designs and configurations will meet the requirements of O.Reg.232/98. A landfill liner and a leachate collection and treatment system will be required. With respect to leachate collection and treatment, it is thought that off-site disposal of leachate via the extension of municipal wastewater services from the Town's Wastewater Treatment Plant in Southampton to the Southampton Landfill would likely be supported due to the relatively proximal location of the site to servicing. The ability to manage leachate in this manner is advantageous in terms of the ease of operation and long-term costs. This service connection was identified in the Saugeen Shores Water and Sewage Master Plan and, as such, connection to the existing sanitary sewer system is anticipated. This will be further explored during the EA process.

Preliminary design details will be required to support the evaluation of 'Alternative Methods'. The preparation of preliminary designs will provide a sufficient level of detail for a comparative evaluation in the EA. Each alternative will be accompanied by a description and rationale.

Alternative methods will be evaluated using a set of criteria related to the 'environments' (i.e., natural, social, cultural, economic, and technical). As such, several background studies and reports will be required to support the evaluation and assessment of 'Alternative Methods'. A list of recommended technical studies and background reports was included in the ToR and is detailed herein. Within the amended Terms of Reference, a commitment was made to develop and complete detailed work plans early in the EA process, including the identification of the area where potential 'environmental' effects will be studied. Detailed work plans have been included in the Attachments.



2401298
Town of Saugeen Shores
Waste Management EA

PROJECT NORTH

SCALE : 1:7,500
NOVEMBER 2024

SOUTHAMPTON LANDFILL SITE PLAN SHOWING AERODROME FACILITY (SOUTHAMPTON AIRPORT)

Part Lots 10-12, Concession 15
Town of Saugeen Shores
County of Bruce

Figure No 3 -1

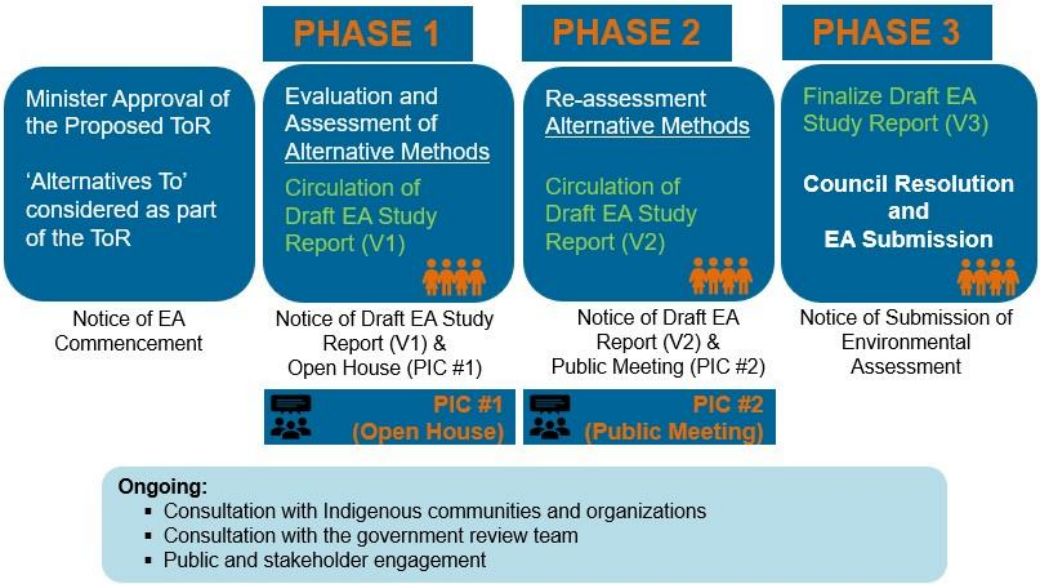
GEI Consultants

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4. DEVELOPMENT OF THE ENVIRONMENTAL ASSESSMENT

With the approval of the amended ToR by the Minister, the Town may proceed with the preparation of the EA document. The EA process will be comprised of three phases, as outlined in **Figure 4-1**.

FIGURE 4-1: Development of the Environmental Assessment



PHASE 1: Evaluation and Assessment of Alternative Methods

- Advance the background studies required to identify site constraints and potential 'environmental' impacts.
- The EAA requires a description of the environment that may be affected or reasonably expected to be affected, directly or indirectly, by the alternatives and the undertaking. A description of the environment was provided in Section 6 of the ToR and will be updated in the EA.
- Section 7 of the ToR presents the alternative methods. Alternative methods (i.e., vertical expansion, horizontal expansion, or a combination thereof) will be further reviewed as part of the EA. Preliminary designs will be advanced to inform the assessment of alternatives.
- Evaluate the alternative methods and recommend a preliminary preferred method to the undertaking. Identify any measures necessary to mitigate potential environmental impacts.
- The optimization area for the proposed landfill expansion, as defined in the ToR, is preliminary in that a broad area is considered. It will be further refined as part of the evaluation and assessment of Alternative Methods.
- A preliminary statement of purpose is provided in the ToR. The problem or opportunity may be revisited as additional information becomes available.
- Circulate the Draft EA Study Report (Version 1) for review and comment.

PHASE 2: Re-assessment of Alternative Methods

- In consideration of the consultation comments received, re-evaluate the alternative methods and identify a *'Preferred Method for Carrying Out the Undertaking'*.
- The preferred 'Alternative Method' will be carried forward for a more detailed assessment of potential effects, and the development of mitigation plans to minimize impacts to the environment and monitoring measures.
- The problem or opportunity should be revisited as additional information becomes available. At the end of the planning process a detailed definition of the purpose of the undertaking will be provided.
- Circulate the Draft EA Study Report (Version 2) for review and comment.

PHASE 3: Council Resolution and EAA Submission

Following the development of the EA Report, the final EA document may be submitted to the MECP. If approval for the *'Preferred Method for Carrying Out the Undertaking'* is provided, the project can proceed to the detailed design and the acquisition of approvals from other agencies. The detailed design would be advanced as part of the Plan of Development & Operation that would be submitted to the MECP in conjunction with an application for Environmental Compliance Approval.

5. COMMITMENTS SPECIFIC TO WORK PLAN DEVELOPMENT & BACKGROUND STUDIES

The Environmental Assessment will include the list of commitments made by the Town within Terms of Reference and expanded upon further through the development of the EA. The EA will further document how commitments were addressed through the process.

Development of work plans specific to each background study will include consideration of the commitments outlined within the amended Terms of Reference. Commitments that are potentially relevant to the background studies and the associated development of detailed work plans are listed in **Table 5-1**. It is noted that Commitment #'s are consistent with those presented in Section 8 of the ToR for ease of reference (i.e., they are not sequential).

TABLE 5-1: List of Potentially Relevant ToR Commitments

#	ToR Commitment
8.	The preliminary Study Areas will be reviewed and confirmed. These will be described in the EA.
9.	Detailed work plans (draft) for the technical studies will be prepared and provided to the appropriate agency for review and concurrence.
10.	The background reports completed to support the feasibility assessment for the Southampton Landfill will be shared with members of the public and the government review team (i.e., agencies) to provide an opportunity to provide comment. Background reports available include the Natural Environment Assessment, the Archaeological Assessments and the Hydrogeological Investigation. The documentation will be posted on the project website in conjunction with the circulation of the Notice of EA Commencement. This will provide Technical Reviewer's the opportunity to review the reports early in the process.
11.	The detailed work plans (draft) for the technical studies and the background reports completed to support the feasibility assessment for the Southampton Landfill will be shared with Indigenous communities and organizations to provide an opportunity for review and comment. This will be completed in conjunction with the circulation of the Notice of EA Commencement. This will provide Indigenous communities and organizations the opportunity to review the reports early in the process. It is noted that Indigenous communities and organizations were involved in the archaeological assessments previously completed and were provided an opportunity to review the Archaeological Assessments. Further, at the request of SON, the Natural Environment Assessment (NEA) report was reviewed in conjunction with the Proposed ToR submission.
12.	Based on the review of the NEA (May 2024) completed by SON (comments provided in correspondence dated August 12, 2025), species of cultural or spiritual significance identified by SON may be considered to inform NRSI's updates to the NEA. The proponent is committed to considering species of cultural or spiritual significance upon confirmation of these species. A list of the SON species of cultural or spiritual significance will be provided.
13.	The ToR provides an overview of the existing environmental conditions in the vicinity of the Southampton Landfill Site. As identified in the ToR Code of Practice, the Town will provide the final detailed description of the baseline environment in the Environmental Assessment. This will be prepared using a variety of sources, including site-specific investigations and studies.
14.	'Alternative Methods' presented in the ToR are described at a conceptual level. These will be further refined and assessed during the EA process.
15.	The preliminary criteria, indicators and data sources for each of the environmental components will be further refined and described in the EA.
16.	The evaluation methodology will be consulted on, and feedback incorporated during the EA.
17.	The preferred 'Alternative Method' will be assessed from the perspective of climate change.
19.	The Town is committed to ensuring that archaeological resources will be further considered through the EA process and during project implementation.
21.	Potential effects will be considered for all phases of project implementation including construction, operation, closure and post-closure. These can be short-term or long-term, direct or indirect, and positive or negative. The Town is committed to developing mitigation plans during the EA. These will include a description of the actions necessary to prevent or mitigate effects on the environment.

6. STUDY AREAS

The Study Area for the Environmental Assessment is the area within which activities associated with the proposed project will occur and where potential 'environmental' effects will be studied. For smaller municipal landfill sites, the extent of predicted impacts is typically within 500-meters of the landfill footprint. However, a larger study area may be identified for specific criteria to better reflect the extent of potential impacts from landfill operations. For the purposes of the Environmental Assessment for the Town of Saugeen Shores' Waste Management Project, four general study areas have been established, as follows:

COMMUNITY STUDY AREA:

This study area encompasses the entire municipality, in other words the boundaries of the Town of Saugeen Shores. This represents the service area for the Town's landfill site. This area is presented in **Figure 1-1**.

SITE STUDY AREA:

This includes the existing Southampton Landfill Site located at 126 Concession 14, east of the community of Southampton. The Site is situated within Part of Lots 10, 11 and 12, Concession 15, in the former Township of Saugeen. The total site area encompasses 80.43 hectares (199 acres) and includes the existing approved landfill, buffer areas, and the landfill optimization expansion study area. The Town also owns an additional 20 ha of land to the northeast that is not included in the Site Study Area. A Site Plan is provided in **Figure 6-1**.

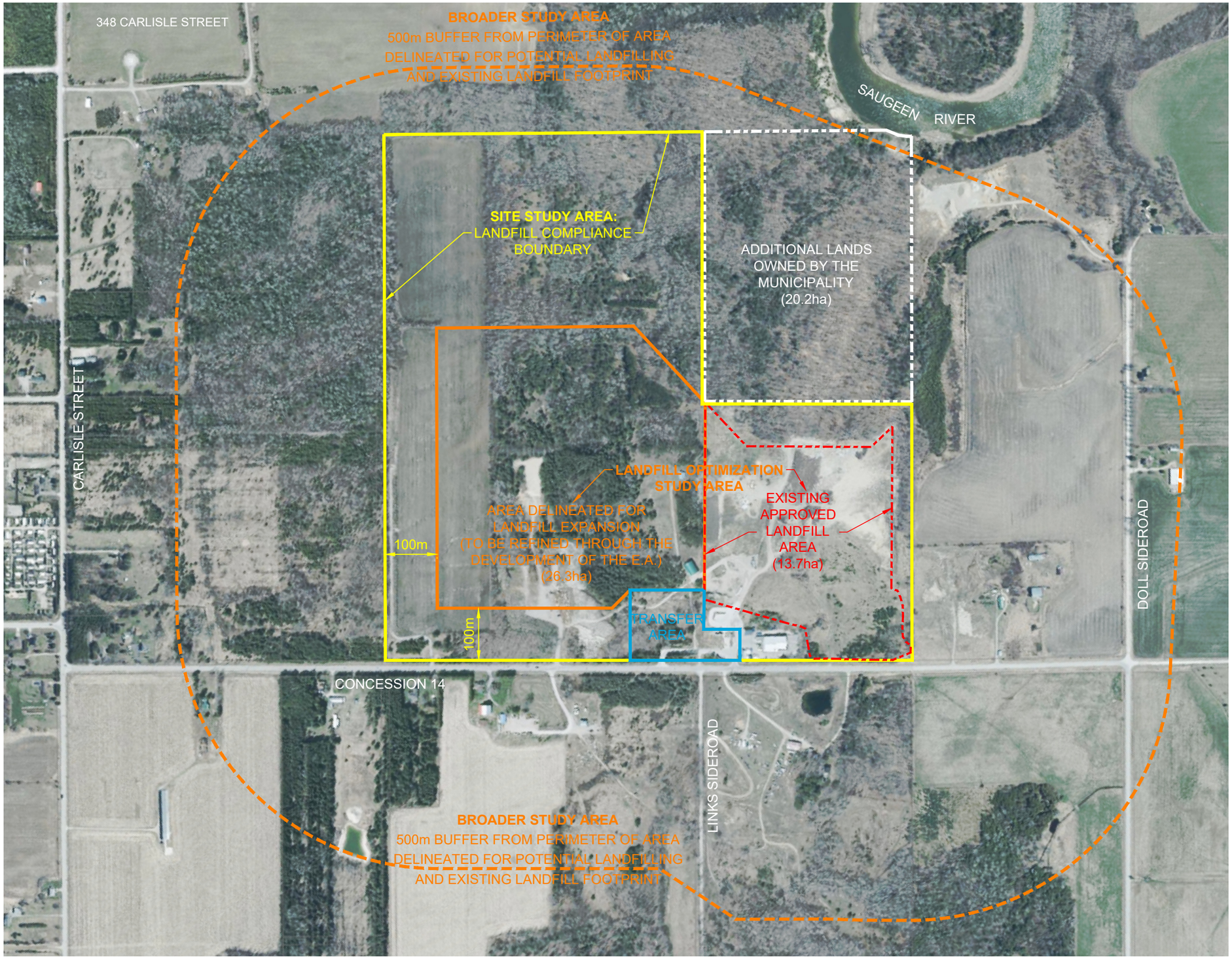
LANDFILL OPTIMIZATION STUDY AREA:

The landfill optimization study area encompasses the 26.3 hectare area delineated for potential landfill expansion in addition to the existing approved landfill footprint. Several background studies were advanced to confirm the feasibility of the landfill optimization alternative, including a detailed review of the natural environment, the completion of the Stage 1 and Stage 2 archaeological assessments, and the initiation of the Hydrogeological Investigation. These background studies were used to inform the limits of the 'landfill optimization study area' (as described in **Section 8.1**). Although the limits of the fill area will be confirmed during the EA, they are not expected to extend beyond this area, as presented on **Figure 6-1**.

BROADER STUDY AREA:

The broader study area encompasses the area within 500-meters of the perimeter of the landfill optimization study area, including the existing fill area and the area delineated for potential landfill expansion. This area is presented on **Figure 6-1**. Although the limits of the fill area will be confirmed during the EA, they are not expected to extend beyond the area delineated. The broader study area extending 500-meters is typically considered appropriate for the majority of the components of the 'environment'. This is consistent with the MECP *Guideline D-4 Land Use On or Near Landfill Sites* which indicates that the most significant impacts are typically identified within 500-meters of the perimeter of the fill area. As the Southampton Landfill is a relatively small-scale landfill site, the 500-meter study area is considered reasonable.

It is noted that the general study areas considered for the background studies identified may be modified (or extended) during the EA to suit the requirements of each environmental component. For example, an aerodrome facility is located to the north of the existing Southampton Landfill Site (i.e., the Southampton Airport). The location of the helipad and airstrip relative to the area delineated for potential landfill expansion are depicted on **Figure 6-1.** It will need to be determined whether a hazard to air traffic is created by birds that are attracted to the landfill. Therefore, the completion of a Bird Hazard Risk Assessment may be required to assess the airport bird hazard risks and to develop a plan for effective risk mitigation. Based on the Airport Bird Hazard Risk Assessment Process (included in Transport Canada Bulletin 38), it is anticipated that an extended study area will be required for this assessment.



2401298
Town of Saugeen Shores
Waste Management EA

PROJECT NORTH

SCALE : 1:7,500
OCTOBER 2024

SOUTHAMPTON LANDFILL SITE PLAN SHOWING STUDY AREAS

Part Lots 10-12, Concession 15
Town of Saugeen Shores
County of Bruce

Figure No. 6-1

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7. TECHNICAL STUDIES

7.1 Description of the Environment and Potential Effects

The EA will include an evaluation of the environment potentially affected by the undertaking and the alternative methods for carrying out the undertaking. Section 1(1) of the EAA defines the 'environment' in broader terms that includes the natural, social, cultural, technical and economic aspects and is defined as follows:

a. Air, land, or water.
b. Plant and animal life, including human life.
c. The social, economic, and cultural conditions that influence the life of humans or a community.
d. Any building, structure, machine or other device or thing made by humans.
e. Any solid, liquid, gas, odour, heat, sound, vibration, or radiation resulting directly or indirectly from human activities.
f. Any part or combination of the foregoing and the interrelationships between any two or more of them.

For the purpose of the preparation of the Environmental Assessment, the description of the 'environment' will reflect that defined in the EAA. Section 6 of the amended Terms of Reference provided an overview of the existing environmental conditions in the vicinity of the Southampton Landfill Site. As per the ToR Code of Practice, a more detailed description of the baseline conditions will be developed within the Environmental Assessment.

7.2 Technical Studies Required to Support the Environmental Assessment

Several background studies and reports are required to support the development of the Environmental Assessment to provide a more detailed description of the existing environment and to inform the assessment of 'Alternative Methods' for a specific environment and/or evaluation criteria. Technical studies identified for the Environmental Assessment are summarized in **Table 7-1**. Information on the existing environment will be further reviewed and assessed using a variety of resources including reference materials, available data sources, and field investigations and monitoring (i.e., data collection).

TABLE 7-1: Completed and Recommended Technical Studies

Technical Discipline	General Description
TABLE NOTES:	
Black	Agency consultation recommended and/or potential need for study to be determined as the EA Study progresses.
Blue	Report was completed to inform the feasibility assessment for landfill expansion and has been circulated in conjunction with the issuance of the Notice of Commencement of EA.
Green	Background study will be advanced in the Spring 2026 to support the development of the EA. Findings will be considered in the determination of a recommended Preferred Alternative Method.
Orange	Technical studies to be advanced once the Preferred Alternative Method is determined. These reports will be used to inform the impact assessment and will recommend mitigation measures. These will be circulated at the completion of Phase 2 of the EA (refer to **Figure 4-1**). In other words, there reports will be circulated in conjunction with the Notice of Draft EA Study (V2).
Natural Environment	
Natural Heritage	This component includes potential effects on natural features and ecological functions of the site, including aquatic and terrestrial species, habitat, and other natural constraints (i.e., woodlands, wetlands, etc.). A Natural Environment Assessment (NEA) was advanced by NRSI at the Southampton Landfill Site. The Study Area included the Southampton Landfill Property and the Town-owned 20.2 hectare property parcel

Technical Discipline	General Description
	to the northeast. The NEA is a high-level impact assessment that included field surveys of the terrestrial and aquatic features, an assessment of the characteristics of the existing natural features and their ecological functions and recommendations for mitigative measures. The report summarizes background information on natural heritage features and species records, as well as the results of several field surveys completed within the study area and will be used to further inform the assessment of 'Alternative Methods'. The NEA has been circulated in conjunction with the issuance of the Notice of Commencement of EA. In addition, NRSI is proposing to undertake a supplemental April-based round of anuran surveys, and additional nocturnal bird surveys targeting Eastern Whip-poor-will. The detailed work plan is attached.
Species at Risk	An authorization (i.e., registration or permit) between the proponent and the MECP may be required to authorize activities that would otherwise be prohibited by subsection 9(1) and 10(1) of the Endangered Species Act. The NEA identified widespread foraging and flyway habitat for Little Brown Myotis, Tri-colored Bat, and other non-SAR bat species throughout the wooded study area lands at the Southampton Landfill. Consultation with the MECP is recommended to determine the need for future actions and/or authorizations to ensure that the proposed landfill expansion is carried out in conformance with the legislation. The NEA has been circulated to the MECP Species at Risk Branch in conjunction with the issuance of the Notice of Commencement of EA. The need for additional investigations and/or site-specific mitigation strategies will be further assessed and developed during the EA process.
Hydrogeology	A Hydrogeological Investigation has been advanced to review potential impacts to groundwater resources and to recommend mitigation measures. The Study Area included the Southampton Landfill Property and the Town-owned 20.2 hectare property parcel to the northeast. Several monitoring wells were installed throughout the site to support this investigation. Groundwater resources will be protected in accordance with Ontario Regulation 232/98 and MECP standards outlined in the Ontario Reasonable Use Guidelines. The Hydrogeological Investigation included the completion of a water supply well survey. The purpose of the survey was to inventory the private water supply wells in the surrounding area and to confirm the available well location, type (i.e., dug vs. drilled), and design details. As recommended by the Saugeen Ojibway Nation (SON), the hydrogeological study includes a characterization of the groundwater/surface water connection to the ecological features, both onsite and offsite. This characterization will be integrated with the pre and post water balance studies and potential changes to the groundwater flow system for an impact assessment on the ecological features. This recommendation is consistent with the recommendations of the NEA which suggested that the effects of landfill expansion on the adjacent retained wetlands, including potential changes in site drainage and water balance, be assessed as part of future supplemental work to inform mitigation strategies or SVCA regulatory approvals. As recommended by the MECP (SWR TSS GW Unit), documentation associated with this investigation and in support of the proposed landfill expansion will be submitted to the Southwestern Region Technical Support Section (Groundwater Unit) for agency review so that a comprehensive scientific response to the proposed landfill optimization project can be provided. The Hydrogeological Investigation has been circulated in conjunction with the issuance of the Notice of Commencement of EA.
Surface Water	As identified in the NEA, surface water drainage within the site is limited to largely undefined ephemeral flows within topographically low areas and a historically dug drainage channel. Small wetland features have arisen within these topographically lower areas. Multiple wetlands and wet areas within the study area have directly resulted from landfill site alterations (e.g., earth berming and impoundment of water). As recommended in the NEA, the effects of landfill expansion on the adjacent retained wetlands, including potential changes in site drainage and water balance, will be assessed as part of future supplemental work to inform mitigation strategies or SVCA regulatory approvals. This assessment will be advanced once a Preferred Alternative Method is determined.

Technical Discipline	General Description
Stormwater Management & Leachate Management	Under the Ontario Water Resource Act (OWRA), storm sewer systems, stormwater management facilities and stormwater control facilities each require Environmental Compliance Approval (ECA) from the MECP. At the Southampton Landfill Site an ECA is currently provided for the stormwater management facility which is comprised of infiltration ponds and a stormwater management wetland. As indicated by the MECP Municipal Water and Wastewater Permissions Branch, once a Preferred Alternative Method is determined, a storm water/surface water (non-contact water) management plan and leachate (contact water) management plan should be prepared to address post development flows quality and quantity control. This report can be used to inform the impact assessment of the Preferred Alternative Method and to inform mitigation strategies or OWRA approvals. This assessment will be advanced once a Preferred Alternative Method is determined. Upon completion of the EA process, an OWRA ECA application will be submitted to the Ministry to amend the existing approval.
Landfill Gas	As per Section 15(1) of O.Reg.232/98, for all proposed new or expanding landfill sites seeking the approval of a total waste disposal capacity of greater than 1.5 million cubic metres, landfill gas collection and use (or flaring/burning) is required during site operation and following site closure. Based on the landfill capacity of 725,000 m^3 estimated for this undertaking, the total capacity of the site including the existing fill area would be 1,150,000 m^3. This is below the 1.5 million m^3 threshold for waste volumes requiring a landfill gas collection system. Therefore, a landfill gas management system may not be necessitated. Upon confirmation of the project description, in other words, the volume of landfill capacity required to support the Town for the 40-year planning period, a review of the landfill gas management requirements will be completed. As per the recommendation by the MECP Air Quality Analyst (Southwest Region Technical Support Section), a review of the nature and estimated quantity of landfill gas from the expansion may be undertaken if the proposed waste capacity approaches the 1.5 million m^3 threshold. Under this scenario, the installation of a gas collection system may be considered.
SOCIAL	
Visual	Visual buffers will be considered in the analysis of the Alternative Methods. Baseline conditions will be documented through site visits that are scheduled for April 2026, during leaf-off conditions to illustrate the worst case visual scenario, and in the summer, during leaf-on conditions. Visual impacts will be considered in the landfill design (i.e., the height of the landfill) and potential effects on the viewshed will be minimized via screening (i.e., tree buffer and/or berms). The Visual Impact Assessment will be advanced in the Spring 2026 to support the development of the EA. Findings may be considered in the determination of a recommended Preferred Alternative Method.
ATMOSPHERIC (May have potential effects to the Social and Natural Environment)	
Air Quality (Dust, Gases and Odours)	Historical site-specific information is not available. Ambient air quality data may be obtained from the closest Environmental Canada NAPS or MECP air quality monitoring stations. Indicator compounds will be selected for the air quality assessments and will reflect those anticipated to be affected by vehicular emissions and by waste decomposition. Indicator compounds considered for similar municipal projects commonly include the following: 1. Odour 2. Contaminants typically related to the breakdown of municipal waste (i.e., hydrogen sulphide and vinyl chloride) 3. Combustion gases from on-site vehicles and equipment (i.e., nitrous oxides, SO_2 and CO) 4. Particulate matter (i.e., dust)

Technical Discipline	General Description
	The air quality assessment will review potential effects from construction/expansion on suspended particulate matter as well as emissions related to site operations and increased traffic that will be expected to occur through the operational life of the landfill. An Air Quality Assessment will be advanced in the Spring 2026 to support the development of the EA. Findings may be considered in the determination of a recommended Preferred Alternative Method.
Noise	A Noise Impact Study will be prepared in accordance with the following: i. Publication NPC-233, "Information to be Submitted for Approval of Stationary Sources of Sound", October 1995. ii. Basic Comprehensive Certificates of Approval (Air), User Guide, Appendix A - Supporting Information for an Acoustic Assessment Report or Vibration Assessment Report Required by a Basic Comprehensive CofA" prepared by the Environmental Assessment and Approvals Branch, Version 2.1, April 2011 Noise limits will comply with the MECP noise limits in: a. Noise Guidelines for Landfill Sites, October 1998 b. Publication NPC-115, "Construction Equipment" c. Publication NPC-118, "Motorized Conveyances" d. Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning, Publication NPC-300", August 2013. A Noise Impact Study will be advanced in the Spring 2026 to support the development of the EA. Findings may be considered in the determination of a recommended Preferred Alternative Method.
Vibration	A vibration impact study will be prepared in accordance with the following: i. Publication NPC-233, "Information to be Submitted for Approval of Stationary Sources of Sound", October 1995; and ii. Basic Comprehensive Certificates of Approval (Air), User Guide, Appendix A - Supporting Information for an Acoustic Assessment Report or Vibration Assessment Report Required by a Basic Comprehensive CofA" prepared by the Environmental Assessment and Approvals Branch, Version 2.1, April 2011. Vibration limits will comply with the MECP vibration limits in: a. Draft technical publication NPC-207, "Impulse Vibration in Residential Buildings", November 1983, supplementing the Model Municipal Noise Control By-Law, Final Report, August 1978, as amended. b. Publication NPC-119, "Blasting", Model Municipal Noise Control By-Law, Final Report, August 1978. A Vibration Impact Study will be advanced in the Spring 2026 to support the development of the EA. Findings may be considered in the determination of a recommended Preferred Alternative Method.
CULTURAL ENVIRONMENT	
Archaeological Resources	The Stage 1 and Stage 2 archaeological assessments have been completed for the Southampton Landfill Site, with involvement from Indigenous communities. Studies completed include the following: a. Stage 1 Archaeological Assessment (ASI, June 2022) recommending Stage 2AA. This report has been reviewed by the Ministry of Citizenship and Multiculturalism (MCM) and entered into the Ontario Public Register of Archaeological Reports ('the Register'). b. Stage 2 Archaeological Assessment: Transfer Station (ASI, April 2022). This report has been reviewed by the MCM and entered into the Register. c. Stage 2 Archaeological Assessment: Southampton Landfill Expansion (Parslow Heritage Consultancy, December 2023) This report has been reviewed by the MCM and entered into the Register. Should the proposed works extend beyond the study areas identified in the reports, further archaeological assessment would be required to determine the archaeological potential of the surrounding lands. Under

Technical Discipline	General Description
	these circumstances, any additional archaeological assessment would need to be undertaken in consultation with Indigenous communities. The Archaeological Assessments have been circulated in conjunction with the issuance of the Notice of Commencement of EA.
Cultural Heritage	The screening checklist, *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes*, developed by the MCM, was completed for the Southampton Landfill Site. A copy of the checklist is included in **Attachment A**. The Southampton Landfill Site has been determined to have low potential for built heritage resources and cultural heritage landscapes. Therefore, cultural heritage studies are not required to support the EA process for the landfill optimization project.
TECHNICAL ENVIRONMENT	
Design and Operations	A Plan of Development and Operations (PDO), based on the conceptual landfill design drawings for the Preference Alternative Method of site development, will be prepared. This will be used to inform the EA and will also be needed to support the required approvals (i.e., Environmental Compliance Approval). The PDO will include, but not be limited to, a review of the following: ▪ Regulatory and approval requirements ▪ Estimated waste quantities (annual and total) ▪ Landfill development plan, including limits of the landfill footprint, contours, bottom and top elevations and capacity ▪ Review of landfilling methods and consideration for progressive development/closure of the landfill ▪ Leachate management ▪ Review of landfill gas provisions ▪ A Stormwater Management & Leachate Management Plan (as a supporting document to the PDO) ▪ Review of potential effects and recommended mitigative measures, including implementation plans for required mitigations ▪ Monitoring programs for groundwater, surface water, stormwater, and landfill gas ▪ Trigger mechanisms and contingency plan (provided as a supporting document to the PDO) ▪ Inspection and maintenance programs ▪ Description of the site closure and post-closure plan ▪ Vector and vermin control The Plan of Development and Operations will be advanced once an Alternative Method is determined.
Planning Policies	The Ontario Ministry of Agriculture, Food and Agribusiness (OMAFA) is concerned with avoiding, minimizing, and mitigating impacts on Ontario's agricultural system and agricultural resources. The 2024 PPS (2024) provides direction related to non-agricultural uses in prime agricultural areas (PPS Section 4.3.5) and requires that *'impacts from any new or expanding non-agricultural uses on the agricultural system are to be avoided, or where avoidance is not possible, minimized and mitigated as determined through an agricultural impact assessment or equivalent analysis, based on provincial guidance'* (Policy 4.3.5.2). The completion of an agricultural impact assessment may be required – this will be evaluated upon the determination of a Preferred Alternative Method.
Transportation: Airport	Consultation with Transport Canada is required. This was initiated in November 2024. A copy of the Request for Consultation is enclosed in **Attachment B**. It is understood that putrescible waste landfills are defined by Transport Canada as a 'High Risk Land Use' under the Appropriateness of Land-Use Within Bird-Hazard Zones. It will need to be determined whether a hazard to air traffic is created by birds that are attracted to the landfill. Therefore, the completion of a Bird-Hazard Risk Assessment will be required to assess the airport bird-hazard risks and to develop a plan for effective risk mitigation (i.e., Gull Management Plan). A Bird Hazard Risk Assessment has been advanced to support the development of the EA. Findings may be considered in the determination of a recommended Preferred Alternative Method.

8. INVENTORY OF INFORMATION SOURCES AND/OR STUDIES

8.1 Technical Studies Completed to Date

As part of the pre-planning work for this Waste Management Project, several background studies and assessments were advanced to confirm the feasibility of the landfill optimization alternative early in the planning process. The feasibility assessment included a detailed review of the natural environment and the completion of the Stage 1 and Stage 2 archaeological assessments. In addition, hydrogeological investigations were advanced to confirm site conditions. These background studies were used to inform the description of the environment and the limits of the 'landfill optimization study area' (**Figure 3-1**), as follows:

1. Natural Environment Assessment (NEA):

The NEA report summarizes background information on natural heritage features and species records, as well as results of field surveys. The information was used to assess the ecological significance and sensitivity of the study area natural features. An outcome of the assessment was to identify potential constraints to the future expansion of the Southampton Landfill, and conversely to identify areas of expansion opportunity. The results of the impact assessment, and associated mitigation measures, will be used to inform the Environmental Assessment.

2. Archaeological Assessments:

The Stage 1 Archaeological Assessment was completed by Archaeological Services Inc. (ASI) in 2021. Areas of archaeological potential were identified. The Stage 2 archaeological assessment specific to the landfill expansion area was completed by Parslow Heritage Consultancy in 2022 and 2023. It is noted that the study area for the Stage 2AA, specifically the northerly limit of the Study Area, was based on the findings of the NEA. The Stage 2 test pit survey and pedestrian survey did not result in the identification of archaeological materials and no further archaeological assessment was recommended for these areas. The MCM has confirmed the entry of the Stage 1 and Stage 2 Assessment Reports into the Ontario Public Register of Archaeological Reports.

3. Hydrogeological Investigation:

A Hydrogeological Investigation was initiated to review potential impacts to groundwater resources and to recommend mitigation measures. Several monitoring wells were installed in 2021 throughout the site to support this investigation. In the area delineated for proposed landfill expansion, groundwater flow is generally in a westerly direction. It is noted that the 'landfill optimization study area' includes a 100-meter buffer from the property boundary to the south and west. This is based on the Buffer Area requirements outlined in O.Reg. 232/98 as described in the Ministry document entitled 'Landfill Standards: A guideline on the regulatory and approval requirements for new or expanding landfill sites (PIBS7792e)' (Last Revision: January 2012). As per Clause 7(2) of the Guideline, the buffer area should be at minimum 100 meters wide at every point (although a buffer of at least 30 meters may be approved under some circumstances, subject to Clause 7(3)).

Based on the above, an area of 26.3 hectares was delineated to the west of the approved landfill footprint for potential landfill expansion. The Study Area defined for the proposed expansion of the Southampton Landfill Site is preliminary in that a broad area is considered. It is noted that the landfill expansion area will be further refined through the Environment Assessment process as part of the evaluation and assessment of Alternative Methods. As previously noted, these background reports have been circulated in conjunction with the Notice of Commencement of the Environmental Assessment.

8.2 Technical Studies and Background Reports to be Completed

As noted in **Table 7-1**, several technical studies/reports will be required to support the Environmental Assessment to further develop the description of the environment, to inform the impact assessment for a specific environment and/or evaluation criteria, to aid in the determination of a recommended Preferred Alternative Method, as well as to recommend mitigation measures. While some background studies are planned to be advanced in 2026 to support the evaluation and assessment of Alternative Methods, others will be initiated once the Preferred Alternative Method is determined.

Background studies identified for the undertaking, not including those previously completed to support the Feasibility Assessment, are summarized in **Table 8-1**.

TABLE 8-1: Summary of Technical Studies to be Completed

Technical Studies & Background Reports	Consultant	Work Plan Reference
To Be Advanced in 2026: To Support the Evaluation and Assessment of Alternative Methods		
Development of Alternative Methods: Preliminary design drawings for each alternative, accompanied by a description & rationale	GEI Consultants Canada	Generally described in **Section 3.1**
2026 Supplementary Field Surveys and NEA Report Updates	Natural Resource Solutions Inc. (NRSI)	Attachment C
Air Quality Assessment (Dust, Odour and Gases)	BCX Environmental Consulting	Attachment D
Noise and Vibration Assessment	Aercoustics Engineering Ltd.	Attachment E
Visual Impact Assessment	MHBC	Attachment F
Airport Bird Hazard Risk Assessment	Beacon Environmental	Attachment G
Will be Initiated Once the Preferred Alternative Method is Determined		
Stormwater & Surface Water (non-contact water) Management Plan	GEI Consultants Canada	----
Leachate (contact water) Management Plan	GEI Consultants Canada	----
Design and Operations Report (i.e., Plan of Development and Operations)	GEI Consultants Canada	----
Agricultural Impact Assessment	Necessity of this study to be determined	----
Landfill Gas Management Plan	Necessity of this study to be determined	----
Note: Some background studies may also be needed as supporting documents for various agency authorizations/permits following the completion of the Environmental Assessment.		

9. EVALUATION AND ASSESSMENT OF ALTERNATIVE METHODS

9.1 General Approach to the Evaluation of Alternatives Methods

Section 17.6(2)(b)(ii) of the EAA requires consideration of 'Alternative Methods' of carrying out the project. The EA will document the evaluation of 'Alternative Methods' of implementing the preferred 'Alternative To' by considering alternative landfill site development options.

As per the ToR Code of Practice, the proponent must carry out a systematic evaluation of the alternatives. The evaluation and assessment of 'Alternative Methods' will include a detailed review of site development options for the physical expansion of the Southampton Landfill Site. Once alternative methods are further conceptualized and preliminary design details are developed (i.e., size, height, shape, location), an evaluation of the various 'environments' potentially affected by the alternative methods for carrying out the undertaking can be completed.

Within the amended Terms of Reference, the approach to the evaluation of 'Alternatives Methods' for the Town's waste management project was described as follows:

Step 1: Identify and Develop Alternative Methods to the Undertaking

Alternative landfill development methods are described at a conceptual level in **Section 3.2**. Options presented only include those that can provide sufficient landfill capacity. As part of the EA, design details will be required to support the evaluation of 'Alternative Methods'. As noted in **Table 8-1**, each alternative will be accompanied by a description and rationale. The preparation of preliminary designs will provide a sufficient level of detail for a comparative evaluation in the technical reports which will be carried into the Environmental Assessment. Preliminary design drawings will be completed by GEI Consultants. However, it is noted that the design details (i.e., size, height, etc.) may be further refined through the development of the EA.

Step 2: Characterize the Environment

The technical studies outlined in **Table 8-1** will support the development of the Environmental Assessment and will be critical to providing a more detailed description of the existing environment. As the area delineated for potential landfill expansion is relatively small (i.e., 26.3 hectares), the technical studies and the development of alternative methods (i.e., Step 1) may be conducted concurrently.

Step 3: Identify Potential Environmental Effects for Each 'Alternative Method'

As per the ToR Code of Practice, to evaluate the 'Alternative Methods' the criteria, indicators, and methods (i.e., data sources) must be developed. Several technical disciplines will be involved in the development of the 'Alternative Methods' and the evaluation and assessment thereof. The background studies that will be required to support the Environmental Assessment, including this Step 3 of the approach, are summarized in **Table 8-1**.

For the evaluation and assessment of 'Alternative Methods', the potential for environmental effects will be identified based on the broad definition of the environment in the EAA. The potential for environmental effects can be short-term or long-term, direct or indirect, and positive or negative. The assessment involves consideration for potential effects based on a set of criteria developed for each environment. For each criterion, indicators will be identified (and confirmed) to detail how potential effects may be measured and/or assessed. It is noted that the potential environmental effects will represent 'net effects', meaning potential effects once the implementation of mitigation measures is considered.

Table 9-1 outlines the preliminary set of evaluation criteria, indicators and potential data sources identified for this project and to be used for the comparative evaluation and assessment of 'Alternative Methods'. These criteria and indicators will be adjusted, and appropriate indicators further identified, through the EA process and via consultation with members of the public, the GRT, and Indigenous communities and organizations. The evaluation criteria and indicators will be confirmed and finalized during the EA.

TABLE 9-1: Preliminary Evaluation Criteria, Indicators, and Potential Data Sources for Alternative Methods

Criteria	Rationale	Indicators	Potential Data Sources
NATURAL ENVIRONMENT			
Hydrogeology	Potential effects on groundwater quality. The landfill location and design needs to be assessed to ensure that leachate that enters the groundwater does not impact off-site groundwater and/or surface water quality.	Predicted effects on groundwater quality on-site from waste disposed in the fill area. Predicted changes in groundwater quality for a set of indicator parameters, at the property boundary. The basis for this assessment is the ability to meet Reasonable Use Guidelines (MECP Guideline B-7) which establish the basis for determining what constitutes the reasonable use of groundwater on properties adjacent to landfill sites. Changes to onsite and study area wide water balances (groundwater and surface water), as well as changes to offsite groundwater levels and potential groundwater discharge.	▪ Site specific information including Annual Monitoring Reports, Hydrogeological Assessments, Plans of Development and Operation, Stormwater Management Plan, etc. ▪ Monitoring well installation details ▪ Additional groundwater quality sampling programs at existing monitoring network and new monitoring locations, including groundwater level measurements ▪ Review of vertical & hydraulic gradients, including slug tests ▪ Published data sources (i.e., MECP well records, Conservation Authority, mapping tools, relevant reports) ▪ Applicable regulatory documentation (ECA's, MECP Guidelines and Technical Standards) ▪ Consultation with the Saugeen Ojibway Nation (SON) ▪ Hydrogeological Study for the Southampton Landfill Site (in progress)
Surface Water	The landfill location and design needs to be assessed to ensure that run-off is minimized and surface water quality is not adversely affected.	Predicted changes in surface water quality. Presence of watercourses, drainage features, and wetlands. Changes to onsite and study area wide water balances (surface water).	▪ Similar to that outlined for the 'Hydrogeology' criteria. ▪ Site surveys and assesssments ▪ Consultation with the Saugeen Ojibway Nation (SON) ▪ Natural Heritage Assessment (NRSI, May 2024)
Stormwater Management & Leachate Management	Landfill construction could effect the natural surface drainage patterns and may alter run-off and peak flows. Potential effects of construction and operation on adjacent retained wetlands, including potential changes in site drainage and water balance (NRSI, 2024).	Change in drainage patterns on-site, such as a change in runoff volumes and peak flows related to site development. Post development flow quantity and quality control. Consideration for direct impacts related to climate change, including extreme weather events. Stormwater and leachate management infrastructure at the site will need to be appropriately sized to handle storm conveyance during extreme precipitation events.	▪ Site specific information including Annual Monitoring Reports, Hydrogeological Assessments, Plans of Development and Operation, Stormwater Management Plan, etc. ▪ Published data sources (i.e., MECP well records, Conservation Authority, mapping tools, relevant reports) ▪ Applicable regulatory documentation (ECA's, MECP Guidelines and Technical Standards) ▪ Site surveys and assessments ▪ Landfill design drawings ▪ Consultation with the Saugeen Ojibway Nation (SON) ▪ Consultation with the MECP and the Conservation Authority
Natural Heritage	The establishment of an additional area for landfilling could have potential effects on the natural features and ecological functions of the site, including aquatic and terrestrial species, habitat, and other natural constraints (i.e., woodlands, wetlands, etc.). Characterize the existing natural features and ecological functions of the site and assess the significance and sensitivity of the natural features in order to inform constraints and opportunities for landfill expansion planning.	Predicted effects on vegetation communities and species including rare, threatened or endangered species. Predicted effects on wildlife and aquatic species and habitat, including rare, threatened or endangered species. Area and type of terrestrial systems to be removed or potentially disrupted (i.e., significant woodlands). Predicted effects on aquatic features based on location and type of feature.	▪ Natural heritage information from the MNRF, including the MNRF's Natural Heritage Information Centre online database of provincially tracked species, the Land Information Ontario mapping, and relevant taxa-specific databases. ▪ Natural heritage information from the SVCA, including the online regulation mapping ▪ Published data sources (i.e., mapping tools, relevant reports) ▪ Review of Official Plans (Bruce County and Town of Saugeen Shores) ▪ Review of relevant policies and regulations ▪ Site meeting to review of the wetland boundary mapping including NRSI and SVCA staff ▪ Mapping of vegetation communities according to the Ecological Land Classification System ▪ General site facility characteristics, including a generalized area under consideration for landfill expansion ▪ Site surveys and assessments ▪ Consultation with the Saugeen Ojibway Nation (SON) ▪ Consultation with the MECP, the Conservation Authority, and the HSM

TABLE 9-1: Preliminary Evaluation Criteria, Indicators, and Potential Data Sources for Alternative Methods

Criteria	Rationale	Indicators	Potential Data Sources
ATMOSPHERIC (May also have potential effects on the Social Environment and/or Natural Environment)			
Air Quality (Dust and Gases)	Construction and operation activities associated with landfill development have the potential to effect the levels of particulates (i.e., dust) in the air. Expansion of the landfill and associated operations have the potential to emit gaseous compounds that can degrade the air quality at, and beyond, the landfill site boundary.	i. Site related dust and gaseous emissions generated by existing operations. ii. Identification of offsite receptors (i.e., residences and businesses). iii. Predicted concentrations of air quality indicator compounds, based on select contaminants considered to be significant, at and beyond the property boundary. iv. Predicted exceedances (and frequency thereof) of applicable standards, limits, guidelines or benchmarks at identified sensitive receptors.	▪ Landfill development details ▪ Available background reports prepared for the Southampton Landfill Site ▪ Applicable provincial regulations, guidelines, standards or benchmarks ▪ Meteorological data from the MECP ▪ Available ambient air quality data from Environment and Climate Change Canada (ECCC) National Air Pollution Surveillance (NAPS) Program and/or MECP regional air quality data ▪ Available mapping tools to identify terrain details (i.e., elevations), location of nearby senstive receptors, and land use ▪ Air photos
Air Quality (Odours)	Waste disposal and associated operations can generate odourous emissions. If not adequately controlled these can lead to off-site impacts.	i. Site related odours generated by existing operations. ii. Identification of offsite receptors (i.e., residences and businesses) iii. Predicted off-site odour concentrations (in odour units) at the property boundary and at off-site receptors surrounding the site. iv. Predicted exceedances (and frequency thereof) of applicable standards, limits, guidelines or benchmarks at identified sensitive receptors.	▪ Published emissions factors ▪ Accepted air dispersion models ▪ Site related odours generated by existing conditions (i.e., past complaints)
Noise	Construction and operation activities can produce noise at elevated levels on-site. This has the potential to effect noise levels off-site.	Site-related noise generated by existing operations. Predicted site-related noise at the site boundary and off-site receptors (measured in dBA).	▪ Applicable MECP guidelines, technical standards, and vibration limits ▪ Related evaluation criteria identified in other disciplines such as traffic data and off-site receptors. ▪ General site facility characteristics, including the area identified for potential landfill expansion ▪ Aerial photographic mapping and field reconnaisance to identify potential sensitive receptors ▪ Noise measurements of relevant equipment or manufacturer noise specifications
Vibration	Vibration due to activity on site is not expected to have a significant impact off site.	Site-related vibration generated by existing operations and predicted vibrations at the site boundary and off-site receptors.	▪ Applicable MECP guidelines, technical standards, and vibration limits ▪ General site facility characteristics, including the area identified for potential landfill expansion ▪ Aerial photographic mapping and field reconnaisance to identify potential sensitive receptors
ECONOMIC ENVIRONMENT			
Capital Costs	Additional landfill development will incur capital expenditures for the construction of the required infrastructure (i.e., leachate management, landfill liner, site facilities).	Predicted capital cost estimates.	▪ Landfill design characteristics ▪ Environmental management measures (i.e., leachate management infrastructure, etc.) ▪ Town budgets ▪ Engineering estimates
Operation and Maintenance Costs	The long-term management of the Town's residual waste requires continued investment by the Town for the ongoing operation and maintenance of the landfill site.	Predicted operations and maintenace costs for the duration of the active service life of the landfill, as well as post-closure maintenance and monitoring.	▪ Landfill design characteristics ▪ Environmental management measures (i.e., monitoring) ▪ Town budgets ▪ Engineering estimates
CULTURAL ENVIRONMENT			
Archaeological Resources	Potential effects on archaeological resources and areas determined to have archaeological potential.	Presence of archaeological resources or areas of archaeological potential.	▪ Bruce County Official Plan ▪ Provincial archaeological sites data sharing agreements ▪ Archaeological Assessment ▪ Consultation with the Saugeen Ojibway Nation (SON) ▪ Consultation with the MCM and the HSM
Built Heritage Resources and Cultural Heritage Landscapes	Potential effects on known (previously recognized) or potential built heritage resources and/or cultural heritage landscapes.	Presence of known (previously recognized) or potential built heritage resources and/or cultural heritage landscapes.	▪ Ministry of Citizenship and Multiculturalism (MCM) checklist 'Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes' ▪ List or Register of heritage properties maintained by the Town and the province ▪ Previous technical cultural heritage studies (e.g., cultural heritage reports, heritage impacts assessments, heritage evaluation reports) ▪ Consultation with the Saugeen Ojibway Nation (SON) ▪ Consultation with the MCM and the HSM

TABLE 9-1: Preliminary Evaluation Criteria, Indicators, and Potential Data Sources for Alternative Methods

Criteria	Rationale	Indicators	Potential Data Sources
SOCIAL ENVIRONMENT			
Visual	Expansion of the landfill, specifically the location, contours and the overall height, can have a potential effect on the visual appearance of the site and the surrounding viewscape.	Predicted changes in viewsheds: The relative visual impact for residences and businesses with impacted views, where identified, will be based on the type and extent of change (relative to the 'Do Nothing' scenario), the proximity of the receptor, and the visibility (i.e., existence and type of screening).	▪ Line of site modelling ▪ Landfill design characteristics ▪ Site surveys and assessments, including an assessment of the type of screening available ▪ Digital viewshed mapping using the Digital Elevation Model (DEM) for the area ▪ Air Photos ▪ Ground photography ▪ Preliminary landfill design drawings
Transportation Routes	Increased vehicular and truck traffic may be experienced as a result of the Town's growing population.	Sight distance at primary access point to landfill. Predicted traffic volumes.	▪ Site surveys and assessments ▪ Review and assessment of existing conditions ▪ Signage
Settlement Areas within the Town	Development of a landfill within, or proximal to the Town's settlement area would not be considered a compatible land use. However, it is expected that the separation distance of greater than 1.5-kilometers will provide a sufficient distance buffer distance between the Town's settlement areas and the landfill.	Potential impacts from continued operations at the existing landfill site including various factors including, but not limited to, odour, litter, visual, dust, noise, groundwater and surface water impacts from leachate, surface water runoff, and landfill-generated gases will be further assessed during the Environmental Assessment.	▪ Review and assessment of existing conditions ▪ Review of Technical Background Studies and assessment of the extent (i.e., distance) of potential off-site impacts.
Chippewas of Saugeen First Nation No.29	The residential, commercial, and economic centre of the community is situated approximately 3-kilometers (at its closest point) from the landfill area. Development of a landfill proximal to the Community would not be considered a compatible land use.	Potential impacts from continued operations at the existing landfill site including various factors including, but not limited to, odour, litter, visual, dust, noise, groundwater and surface water impacts from leachate, surface water runoff, and landfill-generated gases will be further assessed during the Environmental Assessment.	▪ Review and assessment of existing conditions ▪ Review of Technical Background Studies and assessment of the extent (i.e., distance) of potential off-site impacts. ▪ Consultation with the Saugeen Ojibway Nation (SON)
TECHNICAL/BUILT ENVIRONMENT			
Land Use	Expansion of the landfill should be compatible with current and/or future planned land uses. Set-back distances should abide by the setback distances set out in Guideline D-4. Changes in existing land uses to accomodate future landfill development can reduce the availability of lands for other purposes, such as agricultural land use.	Current land use. Planned land use (i.e., waste disposal) and area required to be re-zoned. Proximity to off-site sensitive land uses (i.e., dwellings, parks, etc.). Distribution and connectivity of agricultural lands in the area surrounding the site and CLI Class.	▪ Review of Official Plans (Bruce County and Town of Saugeen Shores) and the Provincial Planning Statement. ▪ Canada Land Inventory Mapping ▪ Guideline D-4: Land Use on or Near Landfills and Dumps ▪ Aerial photographic mapping and field reconnaisance. ▪ Landfill design characteristics, including size of landfill footprint and maximum elevation.
Transportation: Southampton Airport	Birds are attracted to landfill sites and can pose a risk of bird strikes with aircraft. Putrescible waste landfills are defined by Transport Canada as a 'High Risk Land Use' under the Appropriateness of Land-Use Within Bird-Hazard Zones.	The *Airport Bird Hazard Risk Assessment* Process (TC-TP8240E) considers wildlife species and air traffic movements. This information is evaluated in terms of relative risk to aircraft and is used to create site-specific 'bird hazard zones'. Effective measures to appropriately mitigate the safety risks can then be developed for high risk land uses identified within the bird hazard zone.	▪ General site facility characteristics, including the area identified for potential landfill expansion and the landfill design. ▪ Site surveys and assessments (i.e., including bird counts) ▪ Applicable Transport Canada Guidelines and Standards (i.e., Airport Bird Hazard Risk ▪ Consultation with Transport Canada (TC) ▪ eBird Data, christmas bird count data and other relevant sources ▪ Environment Canada Gull Breeding Colony Surveys ▪ Information regarding nearby gull attractants, loafing sites and roosts ▪ Review of local airport operations information ▪ Transport Canada's Airport Bird Strike Records for airports of the Region ▪ Observations from landfill staff or records kept by landfill, if available
Design and Operations	The management of stormwater, leachate, and other environmental provisions as identified through the EA process, may require additional infrastructure. These will need to be considered in the development of the alternative methods to ensure they can be accommodated in the design.	Predicted need for environmental management provisions and associated infrastructure.	▪ Landfill design characteristics ▪ Environmental management measures (i.e., leachate management infrastructure, etc.) ▪ Published data sources (i.e., mapping tools, relevant reports) ▪ General site facility characteristics, including the area identified for potential landfill expansion. ▪ Consultation with the Saugeen Ojibway Nation (SON) ▪ Borehole monitoring logs, site surveys and assessments

Step 4: Comparative Evaluation and Assessment of Alternative Methods & Identification of the Preferred Landfill Development Method

Within the background reports, the potential environmental effects will be assessed quantitatively and/or qualitatively, as appropriate for the environmental component. The comparative evaluation and assessment of impacts will include a description of the advantages and disadvantages of each 'Alternative Method', providing a clear rationale for the ranking of the criteria (and 'environmental' category). Potential environmental effects may be direct or indirect, positive or negative, and characterized based on their relevancy, magnitude, duration, and/or frequency. Net effects will take into consideration the mitigative measures that can be implemented to reduce or eliminate the identified impacts.

Upon completion of the technical studies and background reports, a comparative evaluation and assessment of the Alternative Methods will be presented in a summary table within the EA Report. For each of the 'Alternatives Methods' to the undertaking, the summary table will provide a ranking of the evaluation criterion, which will then be summarized by 'environmental' category. Each criterion and category will be weighed equally. As part of the comparative assessment, the criteria and categories will be numerically ranked on a Scale of 1 to 3, as follows:

1. **Red = Least Favoured**
2. **Yellow = Net Neutral**
3. **Green = Favoured**

The alternative with the highest overall score will be considered most favoured (or preferred). Ultimately, the outcome of the ranking will determine the preferred 'Alternative Method' for the implementation of the Town's landfill optimization project, otherwise referred to as the *'Preferred Method for Carrying Out the Undertaking'*.

Step 5: Impact Assessment of the Preferred Method

As part of the EA process, the preferred 'Alternative Method' will be carried forward for a more detailed assessment of potential effects and the development of mitigation plans to minimize impacts to the environment and monitoring measures. The 'net effects' of the landfill optimization project will be re-evaluated as part of this assessment. As part of this step, the design details will be further advanced. This could include, but not be limited to, further review of environmental provisions (i.e., landfill liner), leachate management, stormwater management, landfill gas provisions, and site facilities. Once a landfill development method is selected, the effects of the undertaking on climate change adaptation and mitigation may also be further considered, for example the potential effects of extreme weather events on the landfill infrastructure.

Potential effects will be considered for all phases of project implementation including construction, operation, closure and post-closure. These can be short-term or long-term, direct or indirect, and positive or negative. The EA will outline the Town's commitment to implement the mitigative and/or management measures identified.

Step 6: Describe the Proposed Undertaking

The purpose and description of the proposed undertaking will evolve through the EA process. The final purpose and description will be confirmed once the alternatives have been further considered and evaluated.

9.2 Detailed Work Plans

Within the amended Terms of Reference, it was proposed that the development of detailed work plans, as required for the review of the various environmental components identified in **Table 8-1**, be completed early in the EA process as they may require pre-consultation with appropriate regulatory agencies and/or Indigenous communities and organizations.

In consideration of the approach presented in **Section 9.1**, background technical reports identified as being required to support the evaluation and assessment of Alternative Methods will generally include the following:

- Desktop review for the collection and consolidation of available information.
- Field work data collection and analysis, if applicable.
- Determination (or confirmation) of existing environmental conditions to inform the final description of the environment in the Environmental Assessment (i.e., Step 2 – Characterize the Environment).
- Review of the criteria specific indicators and methods (i.e., data sources) presented in the ToR (and included in **Table 9-1**) and identification of additional indicators and/or potential data sources, as appropriate.
- Comparative evaluation and assessment of the 'Alternative Methods'.
- Impact assessment specific to the Preferred 'Alternative Method' (i.e., identify potential effects). Potential effects will be considered for all phases of project implementation including construction, operation, closure and post-closure. These can be short-term or long-term, direct or indirect, and positive or negative.
- Development of mitigation measures to support the project to avoid, or reduce, potential adverse effects related to the undertaking.

As discussed in the amended Terms of Reference, information on the existing environment may be reviewed and assessed using a variety of resources including reference materials, available data sources, and field investigations and monitoring (i.e., data collection). As the area delineated for potential landfill expansion is relatively small (i.e., 26.3 hectares), it is expected that the technical studies and the development of alternative methods (i.e., preliminary design drawings) can be conducted concurrently. This is recognized in the approach to the evaluation of 'Alternatives Methods' detailed in **Section 9.1**.

For the purposes of the Environmental Assessment for the Town of Saugeen Shores' Waste Management Project, four general study areas have been established for this undertaking. These are described in **Section 6** of this work plan outline. Within the detailed work plans, study areas have been defined with specific reference to those identified within the Terms of Reference. The rationale for Study Area boundary selections will be further described in the background reports and will be documented within the Environmental Assessment. Study Areas may be further refined and will be confirmed during the Environmental Assessment process.

ATTACHMENT A
CRITERIA FOR EVALUATING POTENTIAL FOR BUILT HERITAGE RESOURCES & CULTURAL HERITAGE LANDSCAPES

Ontario

Ministry of Tourism, Culture and Sport

Programs & Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7

Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes

A Checklist for the Non-Specialist

The **purpose of the checklist** is to determine:

- if a property(ies) or project area:
    - is a recognized heritage property
    - may be of cultural heritage value
- it includes all areas that may be impacted by project activities, including – but not limited to:
    - the main project area
    - temporary storage
    - staging and working areas
    - temporary roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – separate checklist
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.

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Project or Property Name

Southampton Landfill

Project or Property Location (upper and lower or single tier municipality)

126 Concession 14 (80 hectare parcel)

Proponent Name

Town of Saugeen Shores

Proponent Contact Information

sswmp@geiconsultants.com

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?	☐	☑

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

Part A: Screening for known (or recognized) Cultural Heritage Value

	Yes	No
2. Has the property (or project area) been evaluated before and found **not** to be of cultural heritage value?	☐	☑

If Yes, do **not** complete the rest of the checklist.

The proponent, property owner and/or approval authority will:

- summarize the previous evaluation and
- add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken

The summary and appropriate documentation may be:

- submitted as part of a report requirement
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

	Yes	No
3. Is the property (or project area):		
a. identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value?	☐	☑
b. a National Historic Site (or part of)?	☐	☑
c. designated under the *Heritage Railway Stations Protection Act*?	☐	☑
d. designated under the *Heritage Lighthouse Protection Act*?	☐	☑
e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?	☐	☑
f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?	☐	☑

If Yes to any of the above questions, you need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated

If a Statement of Cultural Heritage Value has been prepared previously and if alterations or development are proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No, continue to Question 4.

Part B: Screening for Potential Cultural Heritage Value

	Yes	No
4. Does the property (or project area) contain a parcel of land that:		
a. is the subject of a municipal, provincial or federal commemorative or interpretive plaque?	☐	☑
b. has or is adjacent to a known burial site and/or cemetery?	☐	☑
c. is in a Canadian Heritage River watershed?	☐	☑
d. contains buildings or structures that are 40 or more years old?	☐	☑

Part C: Other Considerations

	Yes	No
5. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area):		
a. is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area?	☐	☑
b. has a special association with a community, person or historical event?	☐	☑
c. contains or is part of a cultural heritage landscape?	☐	☑

If Yes to one or more of the above questions (Part B and C), there is potential for cultural heritage resources on the property or within the project area.

You need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report (CHER)

If the property is determined to be of cultural heritage value and alterations or development is proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No to all of the above questions, there is low potential for built heritage or cultural heritage landscape on the property.

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g. under the *Environmental Assessment Act, Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
    - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's Ontario Heritage Toolkit or Standards and Guidelines for Conservation of Provincial Heritage Properties.

In this context, the following definitions apply:

- **qualified person(s)** means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government's Standards & Guidelines for Conservation of Provincial Heritage Properties [s.B.2.]

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond 'yes' to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) - or equivalent - has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- there is evidence that its heritage attributes may have changed
- new information is available
- the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

Note: Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- the Ministry of Tourism, Culture and Sport

3a. Is the property (or project area) identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value e.g.:

i. designated under the *Ontario Heritage Act*

- individual designation (Part IV)
- part of a heritage conservation district (Part V)

Individual Designation – Part IV

A property that is designated:

- by a municipal by-law as being of cultural heritage value or interest [s.29 of the *Ontario Heritage Act*]
- by order of the Minister of Tourism, Culture and Sport as being of cultural heritage value or interest of provincial significance [s.34.5]. **Note**: To date, no properties have been designated by the Minister.

Heritage Conservation District – Part V

A property or project area that is located within an area designated by a municipal by-law as a heritage conservation district [s. 41 of the *Ontario Heritage Act*].

For more information on Parts IV and V, contact:

- municipal clerk
- Ontario Heritage Trust
- local land registry office (for a title search)

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ii. subject of an agreement, covenant or easement entered into under Parts II or IV of the *Ontario Heritage Act*

An agreement, covenant or easement is usually between the owner of a property and a conservation body or level of government. It is usually registered on title.

The primary purpose of the agreement is to:

- preserve, conserve, and maintain a cultural heritage resource
- prevent its destruction, demolition or loss

For more information, contact:

- Ontario Heritage Trust - for an agreement, covenant or easement [clause 10 (1) (c) of the *Ontario Heritage Act*]
- municipal clerk – for a property that is the subject of an easement or a covenant [s.37 of the *Ontario Heritage Act*]
- local land registry office (for a title search)

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iii. listed on a register of heritage properties maintained by the municipality

Municipal registers are the official lists - or record - of cultural heritage properties identified as being important to the community.

Registers include:

- all properties that are designated under the *Ontario Heritage Act* (Part IV or V)
- properties that have not been formally designated, but have been identified as having cultural heritage value or interest to the community

For more information, contact:

- municipal clerk
- municipal heritage planning staff
- municipal heritage committee

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iv. subject to a notice of:

- intention to designate (under Part IV of the *Ontario Heritage Act*)
- a Heritage Conservation District study area bylaw (under Part V of the *Ontario Heritage Act*)

A property that is subject to a **notice of intention to designate** as a property of cultural heritage value or interest and the notice is in accordance with:

- section 29 of the *Ontario Heritage Act*
- section 34.6 of the *Ontario Heritage Act.* **Note**: To date, the only applicable property is Meldrum Bay Inn, Manitoulin Island. [s.34.6]

An area designated by a municipal by-law made under section 40.1 of the *Ontario Heritage Act* as a **heritage conservation district study area**.

For more information, contact:

- municipal clerk – for a property that is the subject of notice of intention [s. 29 and s. 40.1]
- Ontario Heritage Trust

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v. included in the Ministry of Tourism, Culture and Sport's list of provincial heritage properties

Provincial heritage properties are properties the Government of Ontario owns or controls that have cultural heritage value or interest.

The Ministry of Tourism, Culture and Sport (MTCS) maintains a list of all provincial heritage properties based on information provided by ministries and prescribed public bodies. As they are identified, MTCS adds properties to the list of provincial heritage properties.

For more information, contact the MTCS Registrar at registrar@ontario.ca.

3b. Is the property (or project area) a National Historic Site (or part of)?

National Historic Sites are properties or districts of national historic significance that are designated by the Federal Minister of the Environment, under the *Canada National Parks Act*, based on the advice of the Historic Sites and Monuments Board of Canada.

For more information, see the National Historic Sites website.

3c. Is the property (or project area) designated under the *Heritage Railway Stations Protection Act*?

The *Heritage Railway Stations Protection Act* protects heritage railway stations that are owned by a railway company under federal jurisdiction. Designated railway stations that pass from federal ownership may continue to have cultural heritage value.

For more information, see the Directory of Designated Heritage Railway Stations.

3d. Is the property (or project area) designated under the *Heritage Lighthouse Protection Act*?

The *Heritage Lighthouse Protection Act* helps preserve historically significant Canadian lighthouses. The Act sets up a public nomination process and includes heritage building conservation standards for lighthouses which are officially designated.

For more information, see the Heritage Lighthouses of Canada website.

3e. Is the property (or project area) identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office?

The role of the Federal Heritage Buildings Review Office (FHBRO) is to help the federal government protect the heritage buildings it owns. The policy applies to all federal government departments that administer real property, but not to federal Crown Corporations.

For more information, contact the Federal Heritage Buildings Review Office.

See a directory of all federal heritage designations.

3f. Is the property (or project area) located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

A UNESCO World Heritage Site is a place listed by UNESCO as having outstanding universal value to humanity under the Convention Concerning the Protection of the World Cultural and Natural Heritage. In order to retain the status of a World Heritage Site, each site must maintain its character defining features.

Currently, the Rideau Canal is the only World Heritage Site in Ontario.

For more information, see Parks Canada – World Heritage Site website.

Part B: Screening for potential Cultural Heritage Value

4a. Does the property (or project area) contain a parcel of land that has a municipal, provincial or federal commemorative or interpretive plaque?

Heritage resources are often recognized with formal plaques or markers.

Plaques are prepared by:

- municipalities
- provincial ministries or agencies
- federal ministries or agencies
- local non-government or non-profit organizations

For more information, contact:

- municipal heritage committees or local heritage organizations – for information on the location of plaques in their community
- Ontario Historical Society's Heritage directory – for a list of historical societies and heritage organizations
- Ontario Heritage Trust – for a list of plaques commemorating Ontario's history
- Historic Sites and Monuments Board of Canada – for a list of plaques commemorating Canada's history

4b. Does the property (or project area) contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulations, Ontario Ministry of Consumer Services – for a database of registered cemeteries
- Ontario Genealogical Society (OGS) – to locate records of Ontario cemeteries, both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to locate early cemeteries

In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.

4c. Does the property (or project area) contain a parcel of land that is in a Canadian Heritage River watershed?

The Canadian Heritage River System is a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage.

Canadian Heritage Rivers must have, and maintain, outstanding natural, cultural and/or recreational values, and a high level of public support.

For more information, contact the Canadian Heritage River System.

If you have questions regarding the boundaries of a watershed, please contact:

- your conservation authority
- municipal staff

4d. Does the property (or project area) contain a parcel of land that contains buildings or structures that are 40 or more years old?

A 40 year 'rule of thumb' is typically used to indicate the potential of a site to be of cultural heritage value. The approximate age of buildings and/or structures may be estimated based on:

- history of the development of the area
- fire insurance maps
- architectural style
- building methods

Property owners may have information on the age of any buildings or structures on their property. The municipality, local land registry office or library may also have background information on the property.

Note: 40+ year old buildings or structure do not necessarily hold cultural heritage value or interest; their age simply indicates a higher potential.

A building or structure can include:

- residential structure
- farm building or outbuilding
- industrial, commercial, or institutional building
- remnant or ruin
- engineering work such as a bridge, canal, dams, etc.

For more information on researching the age of buildings or properties, see the Ontario Heritage Tool Kit Guide Heritage Property Evaluation.

Part C: Other Considerations

5a. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) is considered a landmark in the local community or contains any structures or sites that are important to defining the character of the area?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has potential landmarks or defining structures and sites, for instance:

- buildings or landscape features accessible to the public or readily noticeable and widely known
- complexes of buildings
- monuments
- ruins

5b. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) has a special association with a community, person or historical event?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has a special association with a community, person or event of historic interest, for instance:

- Aboriginal sacred site
- traditional-use area
- battlefield
- birthplace of an individual of importance to the community

5c. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) contains or is part of a cultural heritage landscape?

Landscapes (which may include a combination of archaeological resources, built heritage resources and landscape elements) may be of cultural heritage value or interest to a community.

For example, an Aboriginal trail, historic road or rail corridor may have been established as a key transportation or trade route and may have been important to the early settlement of an area. Parks, designed gardens or unique landforms such as waterfalls, rock faces, caverns, or mounds are areas that may have connections to a particular event, group or belief.

For more information on Questions 5.a., 5.b. and 5.c., contact:

- Elders in Aboriginal Communities or community researchers who may have information on potential cultural heritage resources. Please note that Aboriginal traditional knowledge may be considered sensitive.
- municipal heritage committees or local heritage organizations
- Ontario Historical Society's "Heritage Directory" - for a list of historical societies and heritage organizations in the province

An internet search may find helpful resources, including:

- historical maps
- historical walking tours
- municipal heritage management plans
- cultural heritage landscape studies
- municipal cultural plans

Information specific to trails may be obtained through Ontario Trails.

ATTACHMENT B
TRANSPORT CANADA: REQUEST FOR CONSULTATION

November 22, 2024
Project No. 2401298

VIA EMAIL: EnviroOnt@tc.gc.ca
tc.aviationservicesont-servicesaviationont.tc@tc.gc.ca

Transport Canada
Aviation Services

Re: Saugeen Shores Waste Management EA: Review of Potential for Landfill Optimization
Request for Consultation
Land Use in the Vicinity of Aerodromes

The Town of Saugeen Shores (the Town) is seeking approval under the Ontario Environmental Assessment Act (EAA) for the proposed expansion of the Southampton Landfill Site through optimization of its existing facility. The proposed Environmental Assessment will be undertaken to address the Town's future waste management needs for a 40-year planning period.

The first step of the Environmental Assessment is the preparation of a Terms of Reference (ToR) which sets out the framework and workplan for addressing the EAA requirements when preparing the Environmental Assessment (EA). The Draft Proposed Terms of Reference, which includes an overview of the waste management project, presents the development and contents of the ToR, and provides information on the rationale, proposed Alternatives, and the consultation and engagement process that will be followed during the development of the EA, is posted on the Town's Project Website (www.engage.saugeenshores.ca/SSWMP).

The Southampton Landfill Site currently forms a key component of the Town's waste management infrastructure. The location of the existing approved landfill site is shown on the attached Figure. Landfill operations have been undertaken at this site since 1965 and the Site continues to be relied upon by the community. The Town owns approximately 100 hectares of land to the north of Concession Road 14, of which approximately 80 hectares is recognized as being part of the current landfill site property.

Consultation with Transport Canada is required as a private aerodrome facility is located on the property to the north of the Town's existing landfill site property where landfill expansion is being proposed. The Southampton Airport (CPF7) is located at 348 Carlisle Street in the Town of Saugeen Shores. The property is approximately 59.8 hectares (147.7 acres) in size and encompasses a runway and helipad. A Figure outlining the area identified for potential landfill expansion and the location of the runway and helipad situated within the aerodrome property, is attached.

The runway is reportedly 1670ft x 37ft in size and is situated approximately 675 meters to the north of the area identified for potential landfill expansion. The helipad, which is primarily used by Ornge Air Ambulances to support operations at the Southampton Hospital (Brightshores Health System), is located approximately 775 meters to the northwest of the area identified for potential landfill expansion. It is noted that the landfill expansion area will be further refined through the EA process.

GEI Consultants Canada Ltd.
1260 2nd Avenue East, Unit 1
[519.376.1805]

A preliminary review of flight tracking records obtained through a request to FlightAware has been completed. Based on our interpretation, the following aerodrome usage estimates are provided:

Year	Flights - Aircraft	Helipad (i.e., Ornge)	Coast Guard Helicopter
2023	4	23 (arrival/departure)	1
2024 (to November 20)	3	21 (arrival/departure)	0

Further, it is our understanding that the types of aircraft using the aerodrome are generally limited to single engine fixed-wing planes and rotorcraft. A copy of the flight tracking records, including GEI's interpretation thereof (i.e., helicopter verses airplane), is attached. It is noted that FlightAware tracks the majority of flights, including private aircraft. However, it is recognized that the Limiting Aircraft Data Displayed (LADD) program administered by the Federal Aviation Administration (FAA) allows aircraft owners to limit the public display of their flight data. Therefore, information about some flights may be limited or blocked based on requests from owners or operators. It is not anticipated that the LADD program would have a significant effect on the aerodrome usage reported, in that the usage would still be considered to be low.

We ask that Transport Canada review the project documentation and provide comment, such as the project specific requirements or background studies that may be required to support this waste management project. Further, if you have any additional information specific to the Southampton Airport (i.e., CPF7) that can be shared with the project team, it would be greatly appreciated if this could be provided.

If you require additional information or wish to meet to discuss the project, please contact the undersigned by telephone at (519) 376-1805 or by e-mail at anelson@geiconsultants.com. Additional contact information, including that of the Town lead, is provided below.

Town of Saugeen Shores
Colin Saunders
Project Manager, Capital Projects
600 Tomlinson Drive, Box 820
Port Elgin, ON N0H 2C0
sswmp@saugeenshores.ca
Tel: 519-832-2008 Ext.101

GEI Consultants Canada Ltd.
Andrea Nelson
Project Manager
1260 - 2nd Avenue East, Unit 1
Owen Sound, ON N4K 2J3
sswmp@geiconsultants.ca
Tel: 519-376-1805

It would be appreciated if you could confirm your review of the project information and provide comment by **December 20th, 2024**. We will continue to provide updates as this project progresses. I would like to thank you in advance for your consideration to this request and look forward to hearing from you. Please do not hesitate to contact me if you have any questions or concerns.

Sincerely,
GEI Consultants Canada Ltd.

Andrea Nelson
Project Manager
AN/mn

cc: Colin Saunders, Project Manager, Capital Projects, Town of Saugeen Shores
Matthew Nelson, P.Eng., P.Geo., Project Engineer, GEI Consultants Canada Inc.

ATTACHMENT C
NATURAL ENVIRONMENT ASSESSMENT: 2026 SUPPLEMENTARY FIELD SURVEYS & NEA REPORT UPDATES (NATURAL RESOURCE SOLUTIONS INC.)

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

March 3, 2026 2559

Andrea Nelson
Project Manager
GEI Consultants Canada
1260 2nd Avenue East
Owen Sound, Ontario N4K 2J3

RE: Southampton Landfill
2026 Supplementary Field Surveys and NEA Report Updates – Workplan

The Saugeen Ojibway Nation (SON) issued comments, dated August 12, 2025, following their review of Natural Resource Solutions Inc.'s (NRSI) Natural Environment Assessment (NEA) report associated with the planned expansion of the Southampton Landfill. The SON comments included statements indicating that NRSI's previous April-based anuran (frog/toad) surveys were initiated too late in April to effectively capture early-season breeders, and that additional survey effort is required to conclude that the Species of Conservation Concern (SCC) Eastern Whip-poor-will is absent within the study area. To address these comments, NRSI has proposed to undertake a supplemental April-based round of anuran surveys, and additional nocturnal bird surveys targeting Eastern Whip-poor-will. The results of these supplemental surveys are expected to further reinforce the NEA results and conclusions with respect to use of the study area habitats by breeding anurans and by Eastern Whip-poor-will to the satisfaction of SON.

This workplan includes updates to the NEA report to incorporate the results of the supplemental field surveys. This also includes updates to reporting and mapping in the event that the 2026 field survey results confirm the presence of additional significant wildlife habitat that was not previously identified in the NEA.

The Waste Management EA – Scope of Work and Detailed Workplans provides a general overview of the Terms of Reference for the Town of Saugeen Shores' Waste Management Plan that has been approved by the Ministry of the Environment, Conservation and Parks. In accordance with the Terms of Reference, NRSI's NEA report, which was initially prepared to inform the Feasibility Assessment for the landfill expansion, will be adapted to align with the requirements and phases of the Environmental Assessment. This will include updates to the NEA report to incorporate assessments of ecological impact associated with the various "alternative methods" of landfill expansion. These results will directly inform the evaluation of alternative methods and selection of a preferred alternative method. The NEA report will subsequently be updated again to further evaluate impacts associated with details of the preferred alternative method and will identify appropriate mitigation strategies.

The scope of these reporting updates described herein are limited to the requirements of Phase 1 of the EA process as described in the Terms of Reference.

The following presents further details of the proposed workplan.

Workplan

Supplemental Field Surveys

NRSI biologists will coordinate with Town staff to facilitate access to the Southampton Landfill site in completion of the field surveys described below. As noted, these surveys will require after-hours access to the site to undertake evening/night-time surveys.

April Anuran Field Surveys

NRSI biologists will complete one additional round of anuran surveys, to be completed during April 2026. These results will supplement earlier anuran field survey data that was collected on April 27, May 21, and June 28, 2021. Six anuran survey stations that were used during the 2021 surveys will again be utilized during the 2026 survey work; see the attached NEA map showing the ANR anuran survey station locations. Surveys will be completed in accordance with the Marsh Monitoring Program amphibian survey protocol and will comprise three-minute passive listening point counts at each station. Anuran calling intensity (based on a three-level call code system) and relative abundance of calling individuals (where possible) will be recorded on standardized field data forms in accordance with the survey methodology. The April field survey work will be timed to occur as early in April as possible, subject to appropriate weather and temperature criteria being met in accordance with the survey protocol. Surveys will be completed between 30 minutes after sunset and midnight.

Nocturnal Bird Surveys

Two additional rounds of nocturnal bird surveys will be completed to supplement a previous nocturnal bird survey completed in 2021. Two evening surveys will be completed at four nocturnal bird survey stations that were utilized in 2021; see the attached NEA map showing the locations of the NOC nocturnal bird survey stations. The survey methods will follow the Ontario Breeding Bird Atlas Nightjar Survey protocol to document all species and breeding evidence. These surveys will be targeted to assess the presence of Eastern Whip-poor-will and will be timed appropriately to occur within one week of a full moon when this species is more likely to vocalize. These surveys may also align with appropriate conditions to document observations of the SCC Common Nighthawk, which is also active during evening periods, although this is not a primary target of these surveys.

The two surveys will be completed between June 15 and July 15, 2026, spaced at least 10 days apart, and on days with appropriate weather and temperature conditions. The surveys will comprise six-minute point counts at each of the survey stations. The surveys will take place between 30 minutes after sunset and until three hours after sunset.

NEA Report Updates

Report Updates to Address 2026 Supplemental Field Surveys

NEA report species lists will be updated to incorporate the results of the field surveys. Relevant sections of the NEA report body will be updated to address the supplementary field surveys, such as Section 3.0 Field Methods and Section 4.0 Existing Conditions.

The report will incorporate an updated assessment of anuran species breeding activity, and the relative significance of this habitat function within the study area. An updated assessment of SCC Eastern Whip-poor-will habitat presence within the study area will also be made. If necessary based on the survey results, the NEA report will identify and map the presence of any amphibian breeding Significant Wildlife Habitat that may be identified in combination with the previous 2021 anuran survey results, or the presence of significant habitat for the SCC

Western Chorus Frog within the study area. If necessary, the report will also describe and map Significant Wildlife Habitat associated with the presence of the SCC Eastern Whip-poor-will. The NEA impact assessment would in turn be updated to account for potential impacts to these significant habitat areas and functions associated with the three landfill expansion options. It is not expected that the identification of habitat significance associated with anuran breeding or Eastern Whip-poor-will presence will alter NRSI's overall comparative assessment of impact among the three landfill expansion options as is currently presented in the NEA report. However, the inclusion of this information in the analysis, if necessary, will present a fulsome evaluation of potential impacts associated with these wildlife species to the satisfaction of SON.

Report Updates for the Purposes of the Environmental Assessment (Phase 1)

As part of the pre-planning work for Saugeen Shores' Waste Management Project, several background studies and assessments were advanced to confirm the feasibility of the landfill expansion alternative including a detailed review of the natural environment. The NEA (March 2026) summarizes background information on natural heritage features and species records, as well as the results of several field surveys. An outcome of the NEA was to identify potential constraints to the future expansion of the Southampton Landfill, and conversely to identify areas of expansion opportunity. The 26.3-hectare area delineated as the potential expansion area in the Terms of Reference is largely based on the findings and recommendations of the NEA.

For the comparative evaluation and assessment of "Alterative Methods", the NEA will be used to inform the review of the natural environment and to compare the relative impacts related to each alternative. This evaluation will build on the assessment of landfill expansion "Options" (each of which varied in spatial extent) presented in the NEA for the Feasibility Assessment and which directly informed the identification of "Alternative Methods". Certain anticipated impacts identified in the NEA may vary in terms of the degree of impact imposed on the adjacent natural features depending on the "Alternative Method" being considered. For example, variation may occur in regard to the severity, duration, extent or frequency of the impact. The variation in impact is primarily a function of the size of the natural area being removed and the degree and extent of disturbance to retained natural areas and habitats as a result of the expansion limits. The scope of the impact assessment for the purposes of Alternatives evaluation will be more general in nature and will focus on a comparative approach to impact analysis to inform the overall Evaluation of Alternative Methods. NRSI's analysis will be informed through geospatial mapping overlays of conceptual "Alternative Method" plan-view layouts of landfill expansion, to be provided to NRSI in georeferenced CAD format. A summary of the differential impact potential associated with each "Alternative Method" will be provided in table format.

NRSI will also undertake a review of the Indicators associated with the Natural Heritage evaluation criterion to be used in the evaluation of "Alternative Methods", as presented in the Terms of Reference. The review of Indicators will be completed based on NRSI biologist expertise, experience and standard practices in the completion of EAs. Emphasis will be placed on the identification of Indicators that are quantifiable and which allow for an objective assessment of differential impact among "Alternative Methods". NRSI will provide recommendations for Natural Heritage Indicators to GEI for consideration in the Alternative Methods Evaluation Matrix.

An outcome of the Evaluation of Alternative Methods will be the selection of a Preferred Alternative Method. A subsequent revision to the NEA report will then be undertaken to incorporate a detailed impact assessment associated with the Preferred Alternative Method. This impact assessment will build on the more general comparative analyses completed to inform the Evaluation of Alternative Methods. Sufficient details of the Preferred Alternative

Method will be provided to NRSI to inform the updated impact assessment, including detailed plans in PDF and CAD format and other relevant specifications. Detailed recommendations will be provided to avoid, minimize, or adequately mitigate impacts to the existing natural features and ecological functions in accordance with Federal, Provincial, County and Municipal legislation, policies and regulations, including those of the Saugeen Valley Conservation Authority. Any additional actions that are required pursuant to relevant legislation (e.g., *Endangered Species Act*; *Species Conservation Act*) will also be identified, subject to agency consultation.

An updated NEA report will be provided in draft format to GEI and Town staff for review and comment. This workplan incorporates a nominal amount of time (up to 1 day) for relatively minor or straightforward updates to the NEA report following review for each of the two NEA report update stages (i.e., 1) evaluation of the Alternative Methods, and 2) evaluation of the Preferred Alternative Method). More significant report updates are considered out of scope. A finalized version of the report, including maps and appendices, will then be circulated in PDF format following the completion of each of the two stages of reporting.

Schedule

This workplan incorporates field surveys that will be completed between April and July, 2026. Updates to the NEA report will be undertaken following fieldwork completion and in accordance with the EA timelines identified by GEI Canada.

Should you have any questions or comments, please do not hesitate to contact me.

Sincerely,
Natural Resource Solutions Inc.



Ryan Archer, M.Sc.
Senior Terrestrial and Wetland Biologist

ATTACHMENT D
AIR QUALITY ASSESSMENT (BCX ENVIRONMENTAL CONSULTING)

BCX
ENVIRONMENTAL
CONSULTING

March 3, 2026
BCX File: 1510-01.01

Via E-mail: **ANelson@geiconsultants.com**

GEI Consultants Ltd
1260-2nd Avenue East
Qwen Sound, Ontario
N4K 2J3

Attention: **Andrea Nelson**
Project Manager

RE: **WORK PROGRAM – SOUTHAMPTON LANDFILL EXPANSION – AIR QUALITY ASSESSMENT, DETAILED AQA WORKPLAN**

BCX Environmental Consulting (BCX) has been retained to prepare a quantitative air quality assessment including dust, odours and greenhouse gas (GHG) for the Town of Saugeen Shores Southampton Landfill expansion.

The Town of Saugeen Shores (Town) currently operates a landfill site at Parts of Lots 10-12, Concession 15, Town of Saugeen Shores, Ontario. GEI Consultants has been retained by the Town to support the planning process for the expansion of its existing Southampton Landfill site. Several technical studies and background reports are required to inform the planning process, including an Air Quality Assessment (AQA) for Dust, Odours and GHG Gases.

The air quality assessment will generally include a review of background information, the characterization of existing conditions as it relates to air quality, the identification of pertinent receptors and potential impacts and will provide recommendations for mitigation to minimize the effects of the proposed landfill expansion.

WORKPLAN

BCX proposes to complete quantitative dust, odour and GHG gases assessments using Ministry of the Environment, Conservation and Parks (MECP) methods and procedures outlined in the MECP's *Procedure for Preparing an Emission Summary and Dispersion Modelling Report (March 2018); Air Dispersion Modelling Guideline for Ontario (February 2017); Methodology for Modelling Assessments of Contaminants with 10-minute Average Standards and Guidelines for Odour under O. Reg. 419/05 (September 2016)* and *O. Regulation 390/18.* Data for the quantitative

assessments will be drawn from the preliminary landfill drawings and other available background reports for the Southampton Landfill.

STUDY AREA

The Study Area proposed for the Air Quality Assessment will address localized impacts and will focus on the lands in the area surrounding the site where the impacts to the air quality may occur. Air quality dispersion modelling will determine the extent of the impacted area. It is anticipated that odours will potentially impact an area greater than the area impacted by dust, landfill contaminants and GHG gases. The odour assessment will include a review of the location and use of all lands and buildings within 1,000 meters of the perimeter of the landfill optimization area which includes the existing fill area and the 26.3 hectare area delineated for potential landfill expansion. The other landfill contaminants may impact an area within 500 metres of the current landfill and proposed landfill expansion. These areas include the Broader Study Area identified in the Environmental Assessment for the Town of Saugeen Shores' Waste Management Project. These AQA study areas may be refined, as needed, based on feedback obtained during the consultation process associated with the issuance of the Notice of EA Commencement and associated circulation of the workplans.

Air Quality (Odour):
Odour emissions are required to meet provincial requirements at off-site sensitive receptors. The MECP odour guidance document states that odours should not exceed 1 OU/m^3 at any odour sensitive receptors more than 0.5% of the time. Detectable odours may potentially travel 1,000 meters, however detectable odours are influenced by wind direction, frequency of wind direction and wind velocity. The odour assessment will employ air dispersion modelling to characterize the odour impacts at the sensitive receptors.

Air Quality (Dust and GHGs):
The air quality impacts of dust and GHG emissions will also employ air dispersion modelling to characterize the impacts at the sensitive receptors. The study area is proposed to extend 500 metres from the existing and proposed landfill expansion limits (i.e., the broader study area identified in the EA).

REFERENCE DOCUMENTATION

Guidance documents, criteria, standards and policies that may be considered in the assessments may include the following:

- Interim Guide to Estimate and Access Landfill Air Impacts (MECP, October 1992)
- Principles of Landfill Odour Emission and Control (MECP, March 2007)
- Krause, M. and S. Thorneloe. *Landfill Gas Emissions Model (LandGEM) Version 3.1 User Manual and Tool*. U.S. EPA Office of Research and Development, Washington, DC, EPA/600/B-24/160, 2024.

- Technical Bulletin: Methodology for Modelling Assessments of Contaminants with 10-minute Average Standards and Guidelines under O. Reg. 419/05 (MECP, September 2016)
- Greenhouse Gas Inventory Guidance – Direct Emissions from Mobile Sources, (US EPA, December 2023)
- O. Reg. 419/05: Air Pollution – Local Air Quality (June 2005)
- Air Dispersion Modelling Guideline for Ontario (MECP, February 2017)
- Ontario Ambient Air Quality Criteria (AAQC) (MECP, May 2020)
- O. Reg 390/18 Greenhouse Gas Emissions: Quantification, Reporting and Verification (August, 2025)

ASSESSMENT CRITERIA, RATIONALE, INDICATORS AND DATA SOURCES

A preliminary set of evaluation criteria, indicators and potential data sources were identified in the Terms of Reference (ToR) of the Town of Saugeen Shores' Waste Management EA. These were to be used for the comparative evaluation and assessment of 'Alternative Methods'. The following Table builds upon the description of the rationale, indicators and potential data sources for the Air Quality Assessment (Odour, Dust and GHG gases) provided in the ToR:

Southampton Landfill EA (Air Quality) – Rationale, Indicators and Potential Data Sources

Rationale	Indicators	Potential Data Sources
Criteria – Air Quality (Odour, Dust and GHGs)		
Waste disposal and associated operations can generate odorous emissions. If not adequately controlled, these can lead to off-site impacts. Expansion of the landfill and associated operations have the potential to emit gaseous compounds that can degrade the air quality at, and beyond, the landfill site boundary. Construction and operation activities associated with landfill development have the potential to effect the levels of particulates (i.e., dust) in the air.	Identification of offsite receptors (i.e., residences and businesses) Predicted off-site odour concentrations (in odour units) at the property boundary and at off-site receptors surrounding the site. Predicted concentrations of air quality indicator compounds, based on select contaminants considered to be significant (including dust), at and beyond the property boundary. Predicted exceedances (and frequency thereof) of applicable standards, limits, guidelines or benchmarks at identified sensitive receptors.	▪ Landfill development details, including the specific location, contours, and overall height may influence the magnitude of the predicted impacts. Preliminary landfill design drawings (i.e., characteristics of landfill design) prepared by GEI Consultants (scheduled to be completed in June 2026) will provide these details. ▪ Available background reports prepared for the Southampton Landfill (i.e., Plans of Development and Operation, Annual Reports, etc.). ▪ Available ambient air quality data from Environment and Climate Change Canada (ECCC) National Air Pollution Surveillance (NAPS) Program and/or MECP regional air quality data. ▪ Meteorological data from MECP. ▪ Available mapping tools to identify terrain details (i.e., elevations), location of nearby sensitive receptors, and land use (i.e., Bruce County GIS). ▪ Air photos.

		▪ Published emissions factors. ▪ Accepted air dispersion models ▪ Site related odours generated by existing conditions (i.e., past complaints). ▪ Applicable provincial regulations, standards and guidelines.

STUDY PARAMETERS AND METHODOLOGY

Identification of Indicator Compounds and Assessment of Significant Contaminants & Sources: Indicator compounds considered for similar municipal waste management projects commonly include the following:

a. Odour
b. Contaminants typically related to the breakdown of municipal waste: hydrogen sulphide (H_2S) and vinyl chloride (C_2H_3Cl)
c. Combustion Gases (on-site equipment and vehicles):
    - Nitrous oxides (NO_x)
    - SO_2 and CO
d. Particulate matter (i.e., Dust): total suspended particulate matter (SPM), PM_{10}, $PM_{2.5}$

The significance of contaminants from potential sources of emissions, such as site development and operations, equipment and vehicles, is dependent on the scale of the undertaking. In other words, the size (or area) of the landfill, the rate of landfilling (i.e., the quantity of waste received per day) and the total site capacity. Emission rate calculations and dispersion modelling will not be performed for emissions from negligible sources or for the emission of negligible contaminants from significant sources.

General Methodology:

The effects of the proposed landfill expansion on air quality for odour, contaminant, dust and GHG gases will be identified by comparing the existing conditions and the proposed expansion. The process will generally involve the following:

i. Determination of the Ambient Air Quality: A description of the background air quality in the vicinity of the Southampton Landfill Site.
ii. Determination of Emission Rates: This will be completed through the determination of the emission rates for odour including landfill gas contaminants, dust and GHG gases associated with existing and proposed significant sources.
iii. Air Quality Impact Assessment: Complete dispersion modelling to predict off-site concentrations for odour including landfill gas contaminants, dust, landfill air emission contaminants and GHG gases.
iv. Determination of Off-Site Air Quality Impacts: Compare predicted concentrations to existing conditions, as well as the applicable guidelines/standards.

v. Recommend mitigation measures, as needed.

Detailed workplans for the (A) Odour Assessment, (B) the Fugitive Dust Assessment and (C) the GHG Gas Emissions Assessment are provided herein.

Preparation of the Draft EA Report:

The following provides a general outline to complete an Air Quality Assessment as part of the EA for the proposed expansion of the Southampton Landfill Site. The Air Quality Assessment will provide the following:

- A description of the study methods will be provided. This will include the study area, the identification of relevant landfill gas air contaminants, data sources, and methodology.
- Background information collected will be compiled, providing a summary of existing and expected site development and operations and sensitive receptors.
- A quantitative assessment of odour including landfill gas contaminants, dust and GHG gases using Ministry of the Environment, Conservation and Parks methods and procedures.
- The completion of a comparative evaluation and assessment of the 'Alternative Methods' specific to the potential impacts related to air quality.
- The report will include recommendations for mitigation measures, where impacts are identified. Upon the selection of a recommended Preferred Alternative Method, the potential impacts to air quality will be further examined and final recommendations for mitigation will be provided.

Preparation of the Final Report:

The Air Quality Assessment will be prepared and circulated in conjunction with the Notice of Draft EA Study Report (i.e., at the completion of Phase 1 of the EA). Comments will be received for consideration and incorporated as part of the revision for the Final Report.

DETAILED WORKPLAN

PART A: Odour Assessment

The Odour assessment will include the following tasks:

Task A1: Compile the Study Data

Review and extract relevant background and site-specific design and operations information from the Terms of Reference for the Town of Saugeen Shores' Waste Management Plan and other

available background reports. It is understood that preliminary design drawings for the Alternative Methods will be available in June 2026.

Task A2: Define the Maximum Odour Emission Scenario

BCX will define a maximum odour emission scenario, which includes sulphur based odorous compounds, based on the active face of the landfill and the storage areas.

Task A3: Develop the Odour Emission Inventory

(a) Odour emissions from landfilled waste

Calculate the annual landfill gas emission rate corresponding to the maximum emission scenario determined in Task A2 using the US EPA LandGEM v3.02 model. Historical and projected waste acceptance rates will be required. As appropriate, default values from the MECP's *Interim Guide to Estimate and Assess Landfill Air Impacts (October 1992)* will be used.

An odour emission rate for landfilled waste will then be calculated using the landfill gas emission rate from LandGEM and the MECP's odour emission factor from their guidance document. LandGEM will also estimate the emissions of degradable organic carbon, Non-Methane Organic Compounds (NMOC), the main GHG gas methane, odourous sulphur compounds such as hydrogen sulphide and methyl mercaptans and vinyl chloride.

(b) Odour emissions from the active face and the storage areas

An odour emission rate for fresh waste will be calculated using published emission factors (e.g. *Principles of Landfill Odour Emission and Control (March 2007)*) and the size of the active face and the storage areas in the maximum emission scenario.

Task A4: Obtain Representative Meteorological and Terrain Data

Obtain the meteorological data and terrain data per the MECP's requirements for this site.

Task A5: Set Up and Run the Air Dispersion Model

Set up the odour and other compounds sources in the AERMOD air dispersion model (version 24142) and run the model to generate the maximum odour concentration at selected off-site sensitive receptors in the surrounding study area.

Task A6: Complete an Odour Frequency Analysis (If Required)

In the event that the maximum 10-min odour concentrations at the sensitive receptors exceed 1 OU/m^3, complete a frequency analysis to determine how often 1 OU/m^3 is exceeded (based on a five-year meteorological data set). Note: the MECP odour guidance document states that odours should not exceed 1 OU/m^3 at any odour sensitive receptors more than 0.5% of the time.

Task A7: Recommend Odour Mitigation (If Required)

In the event that odours are predicted to be above 1 OU/m^3 more than 0.5% of the time at the sensitive receptor(s), recommend practical odour mitigation measures to reduce potential odour impacts.

PART B: Fugitive Dust Assessment

The fugitive dust assessment will include the following tasks:

Task B1: Compile the Study Data

Review and extract relevant background and site-specific design and operations information from the Terms of Reference for the Town of Saugeen Shores' Waste Management Plan, the Preliminary Design information to be available in June 2026, and other available background reports.

Task B2: Define the Maximum Fugitive Dust Emission Scenario

Based on the location of the sensitive receptors, define a maximum fugitive dust emission scenario for suspended particulate matter, PM_{10} and $PM_{2.5}$. In determining the maximum emissions scenario BCX will consider haul route lengths, locations and orientations; the size and location of open stripped/unvegetated areas, and the size and location of stockpiles.

Task B3: Develop the Fugitive Dust Emission Inventory

Using US EPA and MECP emission factors, calculate emissions from fugitive dust sources including waste truck traffic on the unpaved haul route from the site entrance to the tipping face, compactor movement at the tipping face, daily cover material transfers and wind erosion of open areas. Note cell construction is typically not considered unless it is an ongoing activity. No significant fugitive dust emissions are expected from other landfill activities such as paved roads at the site entrance and maintenance.

Task B4: Set Up and Run the Air Dispersion Model

Set up the fugitive dust sources in the AERMOD air dispersion model completed in Task A5 and run the model to generate the maximum fugitive dust concentrations for the sensitive receptors.

Task B5: Recommend Fugitive Dust Mitigation (If Required)

In the event that fugitive dust concentrations exceed the MECP's 24-hour ambient air quality criteria (AAQCs) for suspended particulate matter, PM_{10} and $PM_{2.5}$, recommend practical fugitive dust mitigation measures to reduce potential fugitive dust impacts at the sensitive receptors.

PART C: GHG Gas Emissions Assessment

The GHG emissions assessment will include the following tasks:

The primary source of GHG emissions will be the methane released from the landfill active face and the storage areas. The quantitative methane emissions estimated using the Land GEM software will be the basis of the GHG gas emissions assessment. GHG gases are also anticipated to be released from the on-site vehicles and the waste trucks delivering the waste to the landfill. Typically, these vehicle tailpipe emissions are small and not considered significant. The assessment with provide a qualitative assessment of these vehicle GHG emissions.

PART D: Comparative Evaluation and Assessment of the Alternative Methods

BCX understands that three Alternative Landfill Development Methods will require assessment to determine the relative air quality impact of the Alternative Methods. The odour and landfill gas assessment procedures, the fugitive dust assessment procedures and the GHG assessment procedures will be undertaken to assess the Alternative Methods. Factors which would influence the relative air quality impacts include the location and size, or footprints, of the landfill areas and the extent of horizontal and vertical expansion.

If you have any questions or require clarification, please contact me at 416 804-0366.

BCX ENVIRONMENTAL CONSULTING

Per:



Peter Piersol, BASc.
Senior Project Consultant

ATTACHMENT E
NOISE AND VIBRATION ASSESSMENT
(AERCOUSTICS ENGINEERING LTD.)

aercoustics

Aercoustics Engineering Ltd.
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Mississauga, ON L4Y 0G1

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March 6, 2026

Aercoustics Project #: 26055.00

GEI Consultants
1260-2nd Avenue East
Owen Sound, ON, N4K 2J3

ATTN: Andrea Nelson, GEI Consultants
Matthew Nelson, GEI Consultants

CC: Colin Saunders, Town of Saugeen Shores

Subject: Southampton Landfill Expansion – Environmental Assessment
Noise and Vibration Work Plan

1 Introduction

Aercoustics Engineering Limited was retained by GEI Consultants to prepare a Work Plan for the Environmental Assessment of the Southampton Landfill Expansion as it relates to the relevant noise and vibration criteria.

The proposed landfill expansion, including the evaluation and assessment of the 'Alternative Methods' (i.e., site development options), will be evaluated for potential noise and vibration impacts using criteria outlined in guidelines by the Ministry of the Environment, Conservation and Parks (MECP). This Work Plan outlines the evaluation method, applicable guidelines and criteria that will be referenced, indicators, and potential data sources.

The noise assessment will establish the existing conditions within the Broader Study Area (as defined for the undertaking) and assess the potential effects of the proposed expansion on the acoustic environment. The assessment of existing conditions will include consideration for noise levels associated with vehicular traffic (on-site and along haul routes), existing landfill operations and potentially operations associated with other facilities within the Study Area (i.e., the Bruce Area Solid Waste Recycling (BASWR) facility). Based on the predictions from the noise impact assessment, noise controls and recommendations will be developed to mitigate the predicted noise impacts associated with the proposed expansion.

The comparative evaluation and assessment of the Alternative Methods specific to potential impacts related to the acoustic environment will be completed using the predicted noise impact, including recommended noise control measures, and will demonstrate that

the applicable criteria are satisfied. Based on the findings of the comparative evaluation and assessment of Alternative Methods, the site development options will be ranked to aid in the determination of the recommended Preferred Alternative Method within the Environmental Assessment.

Upon the selection of the recommended Preferred Alternative Method, the predicted noise and vibration impacts will be further examined and final recommendations for mitigation will be provided.

2 Noise and Vibration Study

2.1 Noise Sensitive Receptors Identification

The noise and vibration study shall identify and quantify the off-site receptors potentially affected by site operations and haul routes such as residential properties, public facilities, businesses, farms, institutions, and vacant lots zoned for sensitive uses. These noise sensitive points of reception will be identified as specified by the MECP document NPC-300.

The Study Area proposed for the Noise Impact Study will address localized impacts and will focus on the lands in the immediate area of the site where the noise impacts may be expected to be most significant. The assessment will include a review of the location and use of all lands and buildings within 500 meters of the perimeter of the landfill optimization area which includes the existing fill area and the 26.3-hectare area delineated for potential landfill expansion. This area is equivalent to the Broader Study Area identified in the Environmental Assessment for the Town of Saugeen Shores' Waste Management Project. This Study Area may be refined, as needed, based on feedback obtained during the consultation process associated with the issuance of the Notice of EA Commencement and associated circulation of the workplans.

The noise assessment shall consider all receptors within this area. However, predicted sound levels are typically only reported for the noise-sensitive receptors representative of the worst-case noise impacts in all directions to confirm compliance with the applicable sound level limits.

Vibrations due to activity on site will be assessed but are not expected to have a significant impact at locations off site.

2.2 Acoustic Assessment Criteria

The noise criteria considered in this assessment are based on the noise impact guidelines stipulated in the MECP publication "Noise Guidelines for Landfill Sites", which includes three categories of noise sources: landfilling operation, ancillary facilities, and off-site source vehicles. The following section outlines the applicable sound level limits for each category.

2.2.1 Noise Criteria for Construction

Activities such as site preparation and rehabilitation are considered construction activities. Site preparation includes grading, construction of internal and external roads, construction of earth berms, and tree removal. Rehabilitation activities include the removal of berms, demolition of buildings, and landscaping.

These construction activities are not considered in the noise control analysis. The equipment used for these activities must satisfy the noise emission requirements of the MECP document NPC-115 “Construction Equipment”.

2.2.2 Noise Criteria for Landfilling Operation

Landfilling operation includes construction equipment and on-site movement of waste trucks and other vehicles. The sound level limits at nearby receptors pertaining to stationary noise sources, in this case the proposed ancillary site operations, have been established based on the MECP publication “Noise Guidelines for Landfill Sites October 1998”. For landfilling operations, the sound level limit at a point of reception, expressed in terms of the one-hour equivalent sound level (L_{eq}-1hr), is the higher of the applicable exclusion limit value given in Table 1, or the background sound level for that point of reception.

Table 1: Noise Exclusion Limits - Landfilling Operation

Time of Day	Sound Level Exclusion Limit*
Day (07:00 to 19:00)	55 dBA
Night (19:00 to 07:00)	45 dBA

*or the minimum existing hourly background sound level L_{eq}, whichever is higher

2.2.3 Noise Criteria for Ancillary Facilities

Ancillary facilities and equipment include any sources other than construction equipment or on-site vehicles used for landfilling operation and are considered stationary noise sources. The sound level limits at nearby receptors pertaining to stationary noise sources, in this case the proposed ancillary site operations, have been established based on the acoustical classification as defined by MECP publication NPC-300.

2.2.4 Acoustical Classification

The receptors in the vicinity of the proposed landfill are generally expected to have an ambient acoustical environment consistent with the Class 3 designation as defined by the MECP document NPC-300. In a Class 3 area, the acoustical environment is dominated by natural sounds with little or no road traffic and infrequent human activity during the daytime (07:00 to 19:00), evening (19:00 to 23:00), and nighttime (23:00 to 07:00) periods.

The applicable sound level limits for a Class 3 area are the greater of the existing background sound level or the exclusion limits as listed in Table 4. Acoustical classification of specific receptors may be assessed on case-by-case basis.

2.2.5 Applicable Sound Level Limits

For sound from a stationary source associated with ancillary facilities, the sound level limit at a point of reception, expressed in terms of the one-hour equivalent sound level (L_{eq}-1hr), is the higher of the applicable exclusion limit value given in Table 2, or the background sound level for that point of reception.

Table 2: Noise Exclusion Limits – Stationary Noise Sources – Classes 1, 2, 3, and 4 – Ancillary Facilities

Time of Day	Sound Level Exclusion Limit* Class 1 Area	Sound Level Exclusion Limit* Class 2 Area	Sound Level Exclusion Limit* Class 3 Area	Sound Level Exclusion Limit* Class 4 Area
	Outdoor Points of Reception			
Day (07:00 to 19:00)	50 dBA	50 dBA	45 dBA	55 dBA
Evening (19:00 to 23:00)	50 dBA	45 dBA	40 dBA	55 dBA
	Plane of Window of Noise Sensitive Spaces			
Day (07:00 to 19:00)	50 dBA	50 dBA	45 dBA	60 dBA
Evening (19:00 to 23:00)	50 dBA	50 dBA	40 dBA	60 dBA
Night (23:00 to 07:00)	45 dBA	45 dBA	40 dBA	55 dBA

*or the minimum existing hourly background sound level Leq, whichever is higher

The outdoor sound level limits for stationary sources apply only to daytime and evening hours while sound level limits apply at all times for the plane of window of a noise sensitive space. In general, outdoor points of reception will be protected during the nighttime as a consequence of meeting the sound level limits at the adjacent plane of window of noise sensitive spaces.

Note that for Class 1, 2, and 3 areas, the plane of window limits apply to a window that is assumed to be open. For Class 4 areas, the plane of window limits apply to a window which is assumed to be closed. This distinction does not affect the prediction of plane of window sound levels.

2.2.6 Background Sound Level

Other sources of noise in the area surrounding the site include traffic noise from Concession Road 14 and other roadways, the Bruce Area Solid Waste Recycling facility, the Town's Transfer Station, and other industrial / commercial businesses.

Road traffic noise predictions at the receptors will be performed to quantify the predicted background sound levels at the time of the assessment and define the sound level limits where applicable. Where the predicted road traffic noise levels are below the exclusion limits, the exclusion limits will define the sound level limit where applicable.

2.2.7 Off-Site Haul Study

The MECP Noise Guidelines for Landfill Sites require consideration for the selection of the access route for landfilling sites employing off-site source vehicles. As per the guidelines, an access route should be selected that will result in a minimum noise impact, based on a detailed quantitative assessment of predicted increase in noise impact on individual receptors and the number of affected dwellings along the alternate routes.

2.3 Assessment of Alternatives

The site operations can result in an increase in noise levels in the surrounding area. Typical operations on site include the use of construction equipment for landfilling and covering activities, as well as on-site movement of waste trucks and other vehicles.

The following alternatives identified as part of the Terms of Reference advanced into the Environmental Assessment will be investigated:

1. Do Nothing (Baseline)
2. Horizontal Expansion, tied to existing landfill footprint
3. Combined Vertical and Horizontal Expansion
4. Construction of a Separate Fill Area (within the landfill optimization area)

It is understood that for the 'Do Nothing' baseline scenario the existing landfill would be capped and closed.

Relevant guidelines will be considered to qualitatively assess the overall noise impact of each alternative, as shown in Table 3. The changes in noise levels (reported in dB) from the facility and offsite truck traffic at the affected receptors will be assessed. The number of affected receptors along each haul route alternative will also be identified.

Table 3: Qualitative Assessment of Noise Impact

Sound Level Increase (dB)	Qualitative Ration
1 to 3 inclusive	Insignificant
3 to 5 inclusive	Noticeable
5 to 10 inclusive	Significant
10 and over	Very Significant

2.3.1 Noise Prediction Methodology

The operations at the site will be modelled for the noise predictions based on design case conditions. The design case condition represents the "predictable worst-case" operations where the site is running at capacity and with all operations occurring simultaneously. The worst-case one-hour equivalent sound level (L_{eq}-1hr) will be predicted during the hour with the lower ambient noise.

The noise impact calculations will be based on established prediction methods as per the ISO 9613-2 standard entitled "Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation". A noise propagation model will be created using DataKustik's CadnaA software.

Based on the predictions from the noise impact assessment, noise controls will be developed to mitigate the noise generated by activities on site. The predicted noise impact including the proposed noise control measures will be assessed to demonstrate that the MECP sound level limits are satisfied.

2.3.2 Data Sources

The proposed data sources to be used in the noise and vibration assessment shall include:

- Applicable MECP guidelines, technical standards, and models (e.g., NPC-300, NPC 115, Noise Guidelines for Landfill Sites, October 1998)
- Related evaluation criteria identified in other disciplines such as traffic data or off-site receptors.
- General site facility characteristics, including the area identified for potential landfill expansion
- Aerial photographic mapping and field reconnaissance to identify potential sensitive receptors
- Noise measurements of relevant equipment or manufacturer noise specifications

2.3.3 Reporting

The following provides a general outline to complete a Noise Impact Study, which will include a review of potential impacts related to vibration, as part of the EA for the proposed expansion of the Southampton Landfill Site. The study will be prepared in accordance with the MECP noise guideline publication NPC-233 "Information to be Submitted for Approval of Stationary Sources of Sound", October 1995, and the Environmental Assessment and Approvals Branch document "Basic Comprehensive Certificates of Approval (Air), User Guide, Appendix A, Version 2.1", April 2011. The following will be provided in the study:

- A description of the study methods will be provided. This will include the study area, a summary of the evaluation criteria, indicators and data sources, methodology and relevant MECP guideline publications.
- A summary of all significant noise sources related to the site which may impact residential receptors in the area.
- A summary of all significant nearby noise sources with reference to daytime and nighttime traffic levels and nearby stationary noise sources if present which may contribute to the acoustic environment or background sound level at residential receptors in the area.
- A summary of relevant noise criteria based on MECP, municipal and NPC-300 guidelines.

- The completion of a comparative evaluation and assessment of the 'Alternative Methods' and alternative haul routes specific to the potential impacts related to noise.
- Conceptual measures to mitigate noise and impacts from sources, as required. Upon the selection of a recommended Preferred Alternative Method and preferred haul route, the potential noise impacts will be further examined, as required, and final recommendations for mitigation will be provided.

The Study will be circulated in conjunction with the Notice of Draft EA Study Report (i.e., at the completion of Phase 1 of the EA). Comments will be received for consideration and incorporated as part of the revision for the Final Report.

3 Summary

A preliminary set of evaluation criteria, indicators and potential data sources were identified in the Terms of Reference (ToR) of the Town of Saugeen Shores' Waste Management EA. These are to be used for the comparative evaluation and assessment of 'Alternative Methods'. The following Table 4 builds upon the description of the rationale, indicators and potential data sources for the Noise and Vibration Impact Assessments provided in the ToR.

Table 4: Southampton Landfill EA (Noise and Vibration) – Rationale, Indicators and Potential Data Sources

Rationale	Indicators	Potential Data Sources
Criteria – Noise		
Construction and operation activities can produce noise at elevated levels on-site. This has the potential to effect noise levels off-site.	Site-related noise generated by existing operations. Predicted site-related noise at the site boundary and off-site receptors (measured in dBA).	• Applicable MECP guidelines, technical standards, and models (e.g., NPC-300, NPC 115, Noise Guidelines for Landfill Sites, October 1998) • Related evaluation criteria identified in other disciplines such as traffic data or off-site receptors. • General site facility characteristics, including the area identified for potential landfill expansion • Aerial photographic mapping and field reconnaissance to identify potential sensitive receptors • Noise measurements of relevant equipment or manufacturer noise specifications

Rationale	Indicators	Potential Data Sources
Criteria – Vibration*		
Vibration due to activity on site is not expected to have a significant impact off site.	Site-related vibration generated by existing operations and predicted vibrations at the site boundary and off-site receptors.	• Applicable MECP guidelines, technical standards and vibration limits. • General site facility characteristics, including the area identified for potential landfill expansion • Aerial photographic mapping and field reconnaissance to identify potential sensitive receptors

4 Conclusion

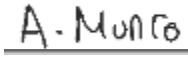
We trust this Work Plan shall satisfy the requirements for the Environmental Assessment of the Southampton Landfill Extension as it relates to the noise and vibration criteria. Please do not hesitate to contact us for further comment or clarification.

Sincerely,

AERCOUSTICS ENGINEERING LIMITED



Hillary Fung, B.A.Sc.



Allan Munro, B.A.Sc., P.Eng.

ATTACHMENT F
VISUAL IMPACT ASSESSMENT (MHBC)

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

WORK PLAN
FOR THE PREPARATION OF A VISUAL IMPACT ASSESSMENT FOR THE PROPOSED SOUTHAMPTON LANDFILL EXPANSION IN SAUGEEN SHORES, ONTARIO

Date Prepared: February 20, 2026

Background and Professional Expertise

MHBC was retained to prepare a Visual impact Assessment (VIA) Report for the proposed Expansion of the Southampton Landfill in Saugeen Shores. The Detailed Work Plan for this study has been prepared based on past experience with similar applications within the province of Ontario.

VIA Workplan

The following outlines a work plan to complete a Visual Impact Assessment as part of the EA for the proposed expansion of the Southampton Landfill Site. The VIA will provide the following:

- A description of the baseline visual environment in the area surrounding the Southampton Landfill Site (i.e., existing conditions).
- A description of the visual environment upon the completion of landfilling within the existing approved landfill footprint (i.e., without the proposed expansion). This would be equivalent to the 'Do Nothing' scenario.
- The identification of the potential effects (i.e., visual disruption) related to landfill development within the landfill optimization area (i.e., the existing fill area and the 26.3 hectare area delineated for potential landfill expansion).
- The completion of a comparative evaluation and assessment of the 'Alternative Methods' specific to the potential visual effects.
- Suggestions for visual mitigation to further minimize the effects of the proposed landfill expansion on the visual environment.
- Upon the selection of a Preferred Alternative Method, the potential visual impacts will be further examined and final recommendations for mitigation will be provided.

The VIA will generally include a review of background information, field work and data collection, the illustration of existing conditions, the identification of pertinent receptors and potential effects, and will provide recommendations for mitigation to minimize the effects of the proposed landfill expansion on the visual environment.

Study Area

The Study Area proposed for the Visual Impact Assessment (VIA) will address localized impacts and will focus on the lands in the immediate area of the site where the visual impact is expected to be most

significant. The VIA will include a review of the location and use of all lands and buildings within 500 meters of the perimeter of the landfill optimization area which includes the existing fill area and the 26.3 hectare area delineated for potential landfill expansion. This area is equivalent to the Broader Study Area identified in the Environmental Assessment for the Town of Saugeen Shores' Waste Management Project.

This Study Area may be refined, as needed, based on feedback obtained during the consultation process associated with the issuance of the Notice of EA Commencement and associated circulation of the workplans.

Guideline and Policies

Guidelines and policies that will be considered in the report may include the following:

- Local Official Plan
- Provincial Policy Statement
- MECP Land Use Compatibility

Assessment Criteria, Rationale, Indicators and Data Sources

A preliminary set of evaluation criteria, indicators and potential data sources were identified in the Terms of Reference (ToR) of the Town of Saugeen Shores' Waste Management EA. These were to be used for the comparative evaluation and assessment of 'Alternative Methods'. The following Table builds upon the description of the rationale, indicators and potential data sources for the visual impact assessment provided in the ToR:

Southampton Landfill EA (VIA) – Rationale, Indicators and Potential Data Sources

Rationale	Indicators	Potential Data Sources
Criteria - Visual		
Expansion of the landfill, specifically the location, contours and the overall height, can have a potential effect on the visual appearance of the site and the surrounding viewscape.	Predicted changes in the viewsheds: The relative visual impact for residences and businesses with impacted views, where identified, will be based on the type and extent of change (relative to the 'Do Nothing' scenario), the proximity of the receptor, and the visibility (existence and type of screening).	▪ Site surveys and assessments, including an assessment of the type of screening available (i.e., vegetative cover and trees surrounding the proposed landfill expansion area) ▪ Digital viewshed mapping using the Digital Elevation Model (DEM) for the area ▪ Air photos ▪ Ground photography ▪ Preliminary landfill design drawings (i.e., characteristics of landfill design) prepared by GEI

		Consultants (scheduled to be completed in June 2026) ▪ Line of site modelling

Details of Stages, Methodology, and Study Parameters:

MHBC's proposed Work Plan methodology is as follows:

Preliminary Project Investigation:

- Coordinate with governing agencies and any stakeholder groups to confirm expectations and key considerations.
- Background information including related reports and digital base materials will be collected and reviewed.
- Synthesis of all collected data and summarization of this information.
- A digital viewshed mapping will be developed using the Digital Elevation Model (DEM) for the area, which will give a preliminary assessment of viewsheds.

Field Work and Data Collection:

- The primary field work is expected to be completed in April, 2026 during leaf-off conditions to illustrate the worst case visual scenario and will include on-site observation complete with both written and photo documentation. The digital viewshed mapping will be field verified during this portion of the study. Photo vantage points will be GPS located and documented for reference and consistency.
- Basic vegetative observations of the trees surrounding the immediate site will be included as part of the field work and will provide a simple summary of the type of screening that this may provide.
- Follow - up field work will be completed in the summer (June / July, during leaf-on condition). Photo documentation of these conditions will be included in the report as support for the provision or absence of proposed visual mitigation.

Preparation of the Draft EA Report:

- A description of the study methods will be provided. This will include the study area, the indicators and data sources, data collection and methodology.
- Data collected from the field reviews will be compiled into a report which will summarize pertinent receptors, significant views, and existing visual screening.
- The report will contain a combination of plans, cross-sections, aerial and ground photography (including panoramic photos), as required to clearly and objectively illustrate existing conditions. Changes associated with the development of the remainder of the existing approved landfill area (i.e., the Do Nothing scenario) will also be illustrated.
- An assessment of the potential visual effects of expansion within the landfill optimization area delineated will be provided. A maximum waste height/elevation will be assumed. The elevation will be based on the preliminary design drawings that will be provided to MHBC by GEI Consultants.
- The completion of a comparative evaluation and assessment of the 'Alternative Methods' specific to the potential visual effects. This may be presented in a summary table wherein a 'relative potential visual impact' rating is assigned for each pertinent receptor identified (i.e., negligible, low, medium or high) to determine the Alternative Method that may have the most/least significant visual impact.
- The report will include suggestions for visual mitigation, which will take into account any existing structures (berms, planting, etc.), as well as those that may be proposed as part of other disciplines (if available). Final recommendations for mitigation, specific to the recommended 'Preferred Alternative Method' will be summarized with both text and supporting graphics.

Preparation of the Final VIA Report:

The Visual Impact Assessment will be circulated in conjunction with the Notice of Draft EA Study Report (i.e., at the completion of Phase 1 of the EA). Comments will be received for consideration and incorporated as part of the revision for the Final Report.

Details of the VIA Study Process That are Objective and Reproducible:

In preparing a Visual Impact assessment, it is important to illustrate objective and reproducible results. To achieve this goal, the VIA study and report will contain the following:

- GPS coordinates;
- Detailed description of photo equipment and settings used;
- Detailed description of software products, methods and settings used;
- Detailed methodology used in the production of any digital renderings;
- Listing of all base material used, including sources.

ATTACHMENT G
BIRD HAZARD AND RISK ASSESSMENT
(BEACON ENVIRONMENTAL)

February 16, 2026

BEL 226030

Town of Saugeen Shores

C/o

Andrea Nelson
Project Manager
GEI Consultants
1260-2nd Avenue East
Owen Sound, ON N4K 2J3

Re: Town of Saugeen Shores; Detailed Workplan, Bird Hazard and Risk Assessment, Southampton Landfill Expansion

Dear Ms. Nelson:

Beacon Environmental Limited (Beacon) is pleased to submit a detailed workplan to conduct a Bird Hazard and Risk Assessment as a component of the Environmental Assessment (EA) for the provision of future waste landfill capacity at the Southampton Landfill Site, in the Town of Saugeen Shores. Landfills represent a strong food attractant to several bird species, particularly gulls, crows, vultures, raptors and blackbirds, and their numbers can be significantly increased in the local area around a landfill. As a result, landfills in the vicinity of airports may pose a potential bird hazard and risk to aircraft operating at the local airports due to the movements of birds in and around the landfill. Transport Canada guidelines detailed in Safety Above All (TP 8240, 2009) and the Airport Wildlife Management and Planning Regulations (Canadian Aviation Regulations -CAR 302.301-306) identify landfills as a potential hazardous land use in the vicinity of airports and require that an assessment of bird hazards and risk to aircraft be undertaken. The Southampton Airport (CPF7) is located in close proximity to the proposed landfill expansion with the runway 675 metres to the north and the helipad 775 metres to the northwest of the proposed expansion.

The following outlines a work plan to complete a bird hazard and risk assessment as part of the EA for the proposed landfill expansion. The study and assessment will be undertaken following the current standards of the aviation industry as well as Transport Canada's regulations and guidelines. To meet these requirements, it will be necessary to first determine the existing conditions on the landscape as they relate to bird numbers, movements and land uses that function as attractants. The assessment of current wildlife hazards and operations at the Southampton Airport will also be undertaken. To assess bird hazards and risk to these airports, the data collected with be incorporated with Transport Canada's Airport Bird Hazard Risk Assessment Process.

Study Area

To establish existing background conditions with respect to bird hazards a field program will be undertaken for a primary and secondary study area.

The primary study area will be the lands in the immediate area of the site including the landfill and the airport, this is roughly equivalent to the Broader Study Area identified in the Environmental Assessment for the Town of Saugeen Shores Waste Management Project.

Since birds will often travel long distances to reach a food source like a landfill, a much wider geographic area will need to be considered for the Bird Hazard Assessment. The secondary study area will include lands located within 30 km of the site, which will be assessed for breeding colonies, roosting areas and other congregations of birds that may pose a hazard. These surveys are done for the purpose of determining possible flight lines these birds may take to the landfill. The secondary study area will be on a similar geographic scale to the Community Study Area identified in the Environmental Assessment for the Town of Saugeen Shores Waste Management Project but may not be confined to the municipal boundaries.

Work Plan

Beacon's work plan is designed to provide a defensible Bird Hazard to Aircraft Safety Assessment for the proposed expansion of the landfill. Details of the work plan are provided in the following sections.

Background Data and Review of Existing Operations (February-March 2026)

This task will gather existing information that is relevant to this undertaking. Information will be gathered from a variety of sources. This will include, but not be limited to:

- eBird data, Christmas Bird Count data and other relevant sources such as consultation with local bird watchers;
- Environment Canada Gull Breeding Colony Surveys;
- Information regarding nearby gull attractants, loafing sites and roosts;
- Review of local airport operations information (e.g., air traffic movements, aircraft types, bird strike data and gull use data, wildlife control measures). This task will also include consultation with airport operators to gain additional relevant information;
- Transport Canada's Airport Bird Strike Records for airports of the Region; and
- Observations from landfill staff or records kept by landfill, if available

Field Surveys to Establish Existing Conditions (February- July 2026)

To establish existing background conditions with respect to bird hazards a field program will be undertaken for a primary and secondary study area. It is anticipated that gulls will be the primary focus of the field surveys. Field surveys will be conducted during periods when gull numbers in the local environment will be at their highest. The peak season for gull activity in southern Ontario generally occurs during the early spring (March/April) and fall (October) migration periods. However, there is a large gull colony on Chantry Island Bird Sanctuary, located just offshore from Southampton, roughly 5 kilometres from the subject property which means that there could be increased activity during the breeding season. In addition, large numbers of gulls have been recorded at the landfill in winter, a time when gull flight patterns may be altered if normal roost sites are frozen over.

Therefore, we are recommending field surveys during three seasons, winter (February), spring (late March/April) and summer (July). Bird activity at the airport and existing landfill in the region will also be surveyed. We have identified a total of eight (8) field survey days.

During the field program the following information will be gathered:

- Species, numbers and age (adult, juvenile);
- Bird concentration areas in the vicinity of the landfill, including other feeding sites, loafing sites, roosts and nesting sites;
- Movements and regular fight paths (i.e. gull movements – direction and altitude from roosts to feeding and loafing sites); and
- Bird towering events (species, altitude time of day, number of birds).

Together, these activities of the field program will provide a sound basis for understanding what types and numbers of birds can be expected to occur at the landfill.

Bird Hazard Assessment (Fall 2026)

At this stage of the project, we will undertake a detailed review and analysis of the information gathered. The objectives of this step in the process will be to identify and/or confirm the following:

- Existing bird or other wildlife hazards (by species, temporally and spatially); and
- Undertake Transport Canada's Airport Bird Hazard Risk Assessment Process for the local airport. This task includes analysis of data gathered during the background review and the field surveys.

Risk Assessment (Fall 2026)

The previous steps undertaken for the study will have identified the wildlife species that can reasonably be associated with the landfill and interact with the airport environment. Based on a review of the information gathered in previous sections of the work plan, hazardous wildlife species will be assessed for risk using the following criteria:

- Species that are high mass and occur regularly at the landfill and on airport lands;
- Species that often occurs in flocks; and
- High mass and/or flocking species originating from the landfill that have flight movements in the vicinity of the airport that cross aircraft flight lines on approach or departure.

This will result in the development a risk matrix for landfill associated species. A draft and final report will be prepared.

Integrated Wildlife Management Plan (IWMP) (Fall 2026)

For the EA process and based on the findings of the Risk Assessment, it is anticipated that an IWMP may be required for the landfill expansion. The IWMP would be a primary mitigation measure to reduce the risk of bird hazards to aircraft operating at the local airport.

The key elements that should be addressed by the program will be identified and the plan will integrate design, operation, habitat management and active wildlife control measures that are effective and can be maintained throughout the operational life of the landfill. The completion of an operational IWMP can only be undertaken as the landfill expansion moves into the operational phase.

Key recommendations for the development of the plan will focus on the following elements:

- Landfill and facility design;
- Habitat management;
- Daily operations;
- Active wildlife control measures;
- Contingency measures;
- Monitoring requirements;
- Permitting requirements and suppliers; and
- Staff responsibilities and training requirements.

Tasks outlined in this workplan are designed to support the assessment of the three "Alternative Methods" for the expansion of the existing landfill with respect to bird hazards and associated risks to aircraft operations at the Southampton Airport. Beacon will provide input to the alternatives assessment matrix as part of the EA process. Potential hazards will be considered for all phases of project implementation including construction, operation, closure and post-closure. The IWMP will identify mitigation measures for the proposed landfill expansion and will include a commitment to further develop the IWMP once a Preferred Alternative Method is determined.

Prepared by:
Beacon Environmental Ltd.

Andrew Davis, BSc
Senior Ecologist

Reviewed by:
Beacon Environmental Ltd.

Kristi Quinn, B.E.S., Cert. Env. Assessment
Principal, Senior Environmental Planner