

Ministry of the Environment, Conservation and Parks

Ministry Review of the Ridge Landfill Expansion Environmental Assessment

May 2020

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Ministry of the Environment, Conservation and Parks
Public Information Centre
Toll free 1-800-565-4923
In the GTA 416-325-4000
TTY 1-800-515-2759
Email picemail.moe@ontario.ca

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Ministry of the Environment, Conservation and Parks
Environmental Assessment Branch
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
Tel: 416-314-8001
Toll-free: 1-800-461-6290
Fax: 416-314-8452

Ministry Review of the Ridge Landfill Expansion Environmental Assessment

Environmental Assessment Act

R.S.O. 1990, Subsection 7(1)

This Review is subject to the provisions of Ontario Regulation 616/98 which sets out a deadline for the completion of this document. The deadline for the completion of the Review was April 17, 2020. This paragraph and the giving of the Notice of Completion are the notices required by subsection 7(3) of the *Environmental Assessment Act*.

The Review documents the ministry's evaluation of the Ridge Landfill Expansion Environmental Assessment (EA) and takes the comments from government agencies, the public, and Indigenous communities into consideration.

Executive Summary

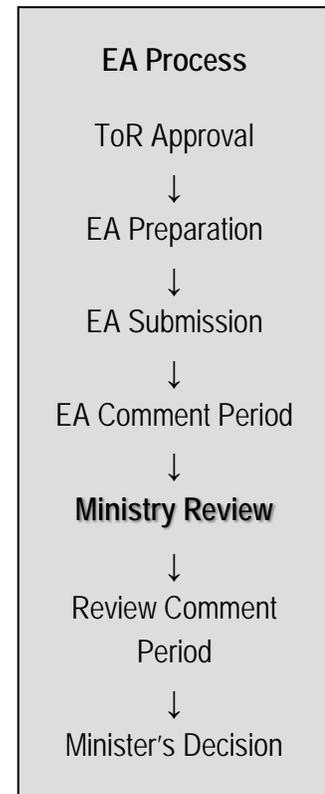
Who	Waste Connections of Canada Inc. (Waste Connections)
What	Waste Connections is proposing to expand the Ridge Landfill to provide an additional 28.9 million cubic metres of waste disposal capacity (plus 1.3 million cubic metres of final cover material) for solid, non-hazardous waste. The undertaking will involve the vertical expansion of the old landfill area, and horizontal expansion of the south and west landfill areas, which would increase the landfilling area by 55 hectares.
When	The EA was submitted on January 24, 2020.
Where	20262 Erieau Road, Blenheim, Chatham-Kent, Ontario
Why	The Ridge Landfill is approaching its approved capacity of 21 million cubic metres. Waste Connections has identified the opportunity to expand the Ridge Landfill by 28.9 million cubic metres to continue providing industrial, commercial and institutional waste disposal services, and provide municipal waste disposal to the Municipality of Chatham-Kent for an additional twenty years from 2021 to 2041.
Conclusions	<p>The ministry’s Review concludes that the EA was prepared in accordance with the approved Terms of Reference (ToR) and contains sufficient information to assess the potential environmental effects of the proposed undertaking.</p> <p>The ministry is considering conditions of approval related to air quality and odour management, landfill gas utilization, and leachate level monitoring. The Minister of the Environment, Conservation and Parks (Minister) must decide whether or not to approve the EA.</p>

1. Environmental Assessment Process

The *Environmental Assessment Act* (EAA) provides a proponent-driven planning process designed to incorporate the consideration of the environment into decision-making by assessing the effects of an undertaking on the environment. In Ontario, the EAA sets out the general contents for the preparation of an environmental assessment (EA), as well as the Ministry of the Environment, Conservation and Parks' (MECP/ministry) evaluation process. For those proponents and undertakings subject to the EAA, approval under the EAA is required before the undertaking can proceed.

Proponents address a wide range of potential effects on the natural, social, cultural and economic environments to ensure the protection, conservation and wise management of the environment. An EA determines, on the basis of the environmental effects, if an undertaking should proceed, and if so, how environmental effects can be managed.

Environmental assessments may identify a problem or opportunity, consider alternative ways of addressing the problem or opportunity, evaluate the environmental effects of the alternatives and select a preferred undertaking from the alternatives. The proponent must consider actions to avoid, reduce and mitigate potential environmental effects. In preparing the EA, the proponent completes various studies and consults with interested stakeholders including government agencies, the public and affected Indigenous communities to evaluate the alternatives and determine the preferred undertaking. Once the undertaking is approved, the proponent is required to monitor to demonstrate compliance with standards, regulations and conditions of the EAA approval.



1.1 Terms of Reference

Completing the EA process involves two separate steps – the terms of reference (ToR) and the environmental assessment. The first step requires the proponent to prepare and submit a ToR to the MECP for review and decision. The ToR is the work plan or framework for how the EA will be prepared.

Waste Connections submitted a ToR for the Ridge Landfill Expansion EA that outlined the preparation of a focused EA pursuant to Sections 6(2)(c) and 6.1(3) of the EAA. The

ToR outlined a process for identifying and assessing alternative design methods for expanding the landfill. The reason for focusing the EA on evaluating alternative design methods and assessing the preferred project design was that other options such as establishing a new landfill or an energy-from-waste facility was not economically viable.

On May 1, 2018, the Minister approved the Ridge Landfill Expansion Environmental Assessment ToR with amendments. The amendments required Waste Connections to:

- Examine and evaluate the feasibility and viability of implementing an on-site diversion program as part of the preferred landfill expansion method;
- Assess how the project may contribute to greenhouse gas emissions;
- Revisit the purpose and opportunity for the undertaking;
- Determine study areas as part of the development of detailed EA work plans;
- Develop criteria and indicators for the evaluation of alternative methods and the preferred undertaking in consultation with agency stakeholders, Indigenous communities and members of the public;
- Determine the potential effects from all phases of the project;
- Consider potential extreme weather effects on landfill infrastructure components;
- Finalize EA work plans with input from interested government agencies, Indigenous communities and the public; and,
- Develop a tracking table of commitments made during the ToR.

The ToR established the framework for the preparation of the EA, including describing the purpose and the rationale for the undertaking; identifying and evaluating potential environmental effects (both positive and negative), as well as outlining a consultation plan for obtaining input from the public, government agencies and Indigenous communities during the preparation of the EA.

1.2 Environmental Assessment

Once the ToR is approved by the Minister, the proponent can proceed to the second step of the EA process and carry out the EA. The EA must be prepared in accordance with the approved ToR and the requirements of the EAA. Once the proponent has carried out the EA, including consultation, the EA is submitted to the ministry for review and a decision.

On January 24, 2020, Waste Connections submitted the Ridge Landfill Expansion Environmental Assessment and made the EA available for a seven-week public comment. The EA comment period ended on March 13, 2020. During this period, Indigenous communities and the public had an opportunity to review the EA and submit

comments to the ministry. The EA was also circulated to the Government Review Team (GRT) for review. The GRT, comprised of provincial and local agencies, reviewed the EA to ensure that the information and conclusions of the EA were valid based on the mandates of each respective agency. All comments received by the ministry are considered by the Minister before a decision is made about the EA and the undertaking.

1.3 Ministry Review

The EAA requires the ministry to prepare a review of the EA, known simply as the ministry Review (Review). The Review is the ministry's evaluation of the EA. The purpose of the Review is to determine if the EA has been prepared in accordance with the approved ToR, meets the requirements of the EAA, and whether the evaluation in the EA is sufficient to allow the Minister to make a decision about the proposed undertaking.

The Review comment period allows the GRT, the public and Indigenous communities to see how their concerns with the EA and the proposed undertaking have been considered. During the Review comment period, anyone can submit comments on the EA, the undertaking, and the Review. In addition, anyone can request that the Minister refer the EA, or any matter relating to the EA, to the Environmental Review Tribunal for a hearing if they believe that there are significant outstanding environmental effects that the EA has not addressed. Requests for a hearing can only be made during this comment period. The Minister will consider all requests and determine if a hearing is necessary.

A Notice of Completion of Ministry Review has been issued indicating that this Review is complete and is available for a five-week comment period. Copies of the Review have been distributed to the GRT and potentially affected or interested Indigenous communities. Members of the public who submitted comments during the EA comment period will have received electronic copies of the Review.

2. The Proposed Undertaking

2.1 Background

The Ridge Landfill is located at 20262 Erieau Road in Blenheim, Ontario (see Figure 1). The landfill is situated on 340 hectares (ha) of land owned by Waste Connections. The landfill site occupies 262 ha of the property and 131 ha is the designated waste fill area. The site is situated on a thick layer of clay and has a system to collect leachate, the

liquid that drains from a landfill, which is piped to the Blenheim Treatment Lagoons for treatment. The current approved waste disposal capacity is 21 million cubic metres (m³) and the site is approved to accept waste at a maximum annual fill rate of 1.3 million tonnes. Approximately 200 waste trucks per day (this includes a combination of tractor trailers and collection vehicles) currently access the Ridge Landfill. The landfill receives non-hazardous industrial, commercial and institutional (IC&I) waste from across the province as well as residential waste from local municipalities, but mainly from the Municipality of Chatham-Kent. The landfill is expected to reach its approved capacity by March of 2021.

The Ridge Landfill (old landfill area) has been operating since the 1960s. The site first received approval under the *Environmental Assessment Act* for its expansion on June 24, 1998 when it was operated by Browning-Ferris Industries Limited, later acquired by Progressive Waste Solutions. The Ridge Landfill is now operated by Waste Connections of Canada Inc. following the merger of Progressive Waste Solutions with Waste Connections in June 2016.

2.2 Purpose

Waste Connections proposes to increase the disposal capacity for solid, non-hazardous waste at the Ridge Landfill since it had identified an opportunity to continue providing IC&I waste disposal, as well as residential waste disposal for the Municipality of Chatham-Kent for an additional twenty years from 2021 to 2041. Waste Connections is requesting to increase the waste disposal volume at the Ridge Landfill by 28.9 million m³ (30.2 million m³ including final cover material). If approved, the Ridge Landfill would become the largest landfill in Ontario.

2.3 Study Areas

The EA primarily used two study areas: the on-site study area which refers to the Ridge Landfill Site property; and the off-site study area, which extends one kilometre from the Ridge Landfill except for certain environmental components where a larger off-site study area is warranted. A haul route study area was also used to assess the impacts of extending the use of the designated waste truck haul route for an additional twenty years.

2.4 Local Environment

The Municipality of Chatham-Kent has expansive rural areas and agricultural land. There are 24 residences within one kilometer of the Ridge Landfill property boundary.

Waste Connections also leases two on-site residences on Allison Line at the southern limit of the Ridge Landfill site. Over the years, tenant farm operators on the Ridge property have planted crops such as soybean, corn and winter wheat. A six-hectare apple orchard is located on the east side of the property. There are two businesses (a small equipment dealer and year-round market) operating near the site approximately 1.2 kilometres (km) from the fill area as well as agricultural operations. The Chatham-Kent Municipal Airport is approximately one kilometre west of the Ridge Landfill.

The Ridge Landfill site is situated on top of a thick layer (over 30 metres) of Tavistock Till, which is soil material of low permeability. The unweathered till found at the Ridge Landfill is a grey, dense clay with traces of sand and fine gravel. The material in the vicinity of the Ridge Landfill consists of slightly stony, clayey, fine sediment, that ranges in thickness from 38 metres (m) to 44 m. As the landscape is relatively flat and soil materials have poor surface drainage, municipal drains have been excavated to improve drainage for agricultural activities. The Howard, Duke and Scott Municipal Drains receive surface water discharged from the stormwater management ponds at the Ridge Landfill.

There are a number of wells used by residences adjacent the landfill, with the closest supply well being approximately 60 m east of the site boundary. The landfill does not fall under any vulnerable areas for the protection of drinking water sources. The general direction of groundwater flow is towards the southwest in the bedrock aquifer (layer of permeable rock). Due to the low permeability of the natural clay under the site, it is estimated to take more than 3,000 years for water to travel from the base of the Ridge Landfill waste fill areas to the underlying groundwater aquifer.

2.5 Description of the Proposed Undertaking

There are three (3) distinct waste areas at the Ridge Landfill which are: the Old Landfill, the West Landfill, and the South Landfill (see Figure 2). Vertical expansion is proposed at the Old Landfill and horizontal expansion for the West and South Landfills. The proposed expansion will increase the waste fill area by approximately 55 ha for an overall waste fill area of approximately 186 ha. The proposed landfill expansion design will provide an additional 28.9 million m³ of capacity waste to meet the anticipated waste disposal opportunity over the 20-year planning period. The proposed expansion will add approximately 30 m of waste on top of the Old Landfill area, add 32.1 ha of fill area to the West Landfill, and 22.8 ha of fill area to the South Landfill. Horizontal expansion will remove the existing southwest woodlot, require the relocation of the Howard Drain on the south side of the West Landfill expansion area, in addition to minor modifications to the Lewis and Duke Drains (see Figure 2).

Upon completion of the expansion, the Old Landfill, West Landfill and South Landfill will have a maximum height of approximately 42 m above ground level. Additional berms will be constructed around the southern perimeter of the site in order to shield and screen the landfill expansion activities from view. The new West and South Landfill expansion areas will be lined with a 0.6 m (minimum) thick compacted clay liner and have side slopes of no more than 33 percent (3:1 horizontal to vertical slope ratio).

Landfill gas is currently captured on-site through a series of vertical extraction wells and from the leachate collection system. The collected gas is then flared at the two (2) existing flares on-site. A third flare will be completed in 2020. Over the life of the expansion, additional vertical gas collection wells and flares may be installed to capture and flare landfill gas.

Leachate is currently collected at the site in perimeter (finger) drains surrounding the Old Landfill and underdrains located beneath the West and South Landfills. The collected leachate is pumped to a temporary storage tank on-site and is subsequently pumped to the Blenheim Treatment Lagoons. For the expansion, this collection system will be expanded, and leachate will continue to be pumped and treated at the Blenheim Treatment Lagoons.

Two new stormwater ponds will be constructed to accommodate the additional surface water runoff from the proposed landfill expansion areas. Four of the five existing stormwater ponds will be expanded, and one stormwater pond will be decommissioned as it is located within a proposed expansion area. The flood control facility will be expanded by approximately 7 ha for a total area of 17 ha to allow for higher storage capacity.

The landfill expansion will also include the modification of site accesses and entrances, and on-site roads. The perimeter roads will be extended around expansion areas and new access roads will be constructed to the leachate and landfill gas management areas. A 12 m wide equipment road is also proposed for hauling soil from the excavation of the new expansion areas and for moving heavy equipment. Temporary haul roads over the waste fill area will be constructed as needed to provide access to the landfill working face (active surface of the landfill). A maintenance access road to the relocated Howard Drain will also be constructed.

2.6 Timing

The Ridge Landfill is expected to reach capacity in 2021. If the EA is approved and other approvals are obtained, Waste Connections will proceed with vertical expansion of

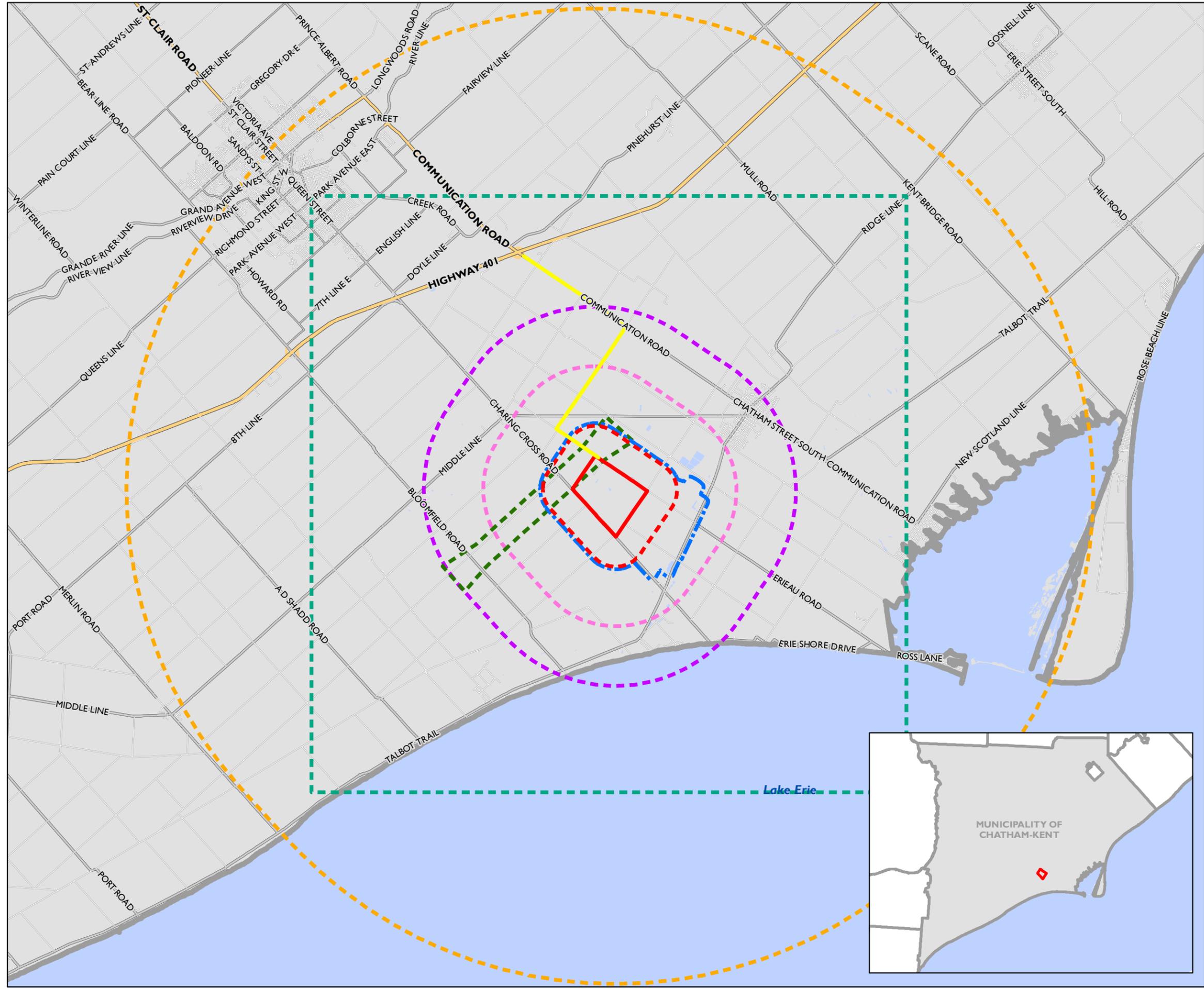
the Old Landfill, followed by the excavation of waste cells in South Landfill area, and then the expansion of the West Landfill area. In addition to waste cell construction, various supporting infrastructure such as the landfill gas collection system, stormwater ponds, screening berms, municipal drains and leachate management facilities will be constructed or modified as landfill expansion progresses. Landfilling areas will be progressively rehabilitated as landfill development reaches its final contours. Waste Connections will submit a closure plan to the ministry for approval two years from the Ridge Landfill Site's projected closure.

Figure 1: Study Areas

This map displays the study areas in relation to the Ridge Landfill site location in the Municipality of Chatham-Kent and major roads. The on-site study area encompasses the Ridge Landfill property boundary and off-site study areas vary from one to fifteen kilometres from the site boundaries depending on the component of the environment being studied.

**RIDGE LANDFILL
ENVIRONMENTAL ASSESSMENT**

**FIGURE 3-1
STUDY AREAS**



- On-Site:**
 - Agriculture
 - Archaeology and Heritage
 - Biology
 - Climate Change
 - Hydrogeology
 - Atmospheric
 - Bird Hazard
 - Surface Water
 - Design and Operations
 - Noise
 - Socio-economic
 - Transportation
- Haul Route:**
 - Climate Change
 - Atmospheric
 - Agriculture
 - Noise
 - Socio-economic
 - Transportation
- Off-Site Agriculture and Socio-economic Study Areas**
- Off-Site Surface Water Study Area**
- Off-Site Aviation Study Area**
- Off-Site Visual Study Area**
- Off-Site Hydrogeology Study Area**
- Off-Site Atmospheric Study Area**
- Off-Site Bird Hazard Study Area**

1:125,000
0 1 2 4 km



MAP DRAWING INFORMATION:
DATA OBTAINED FROM MNRF

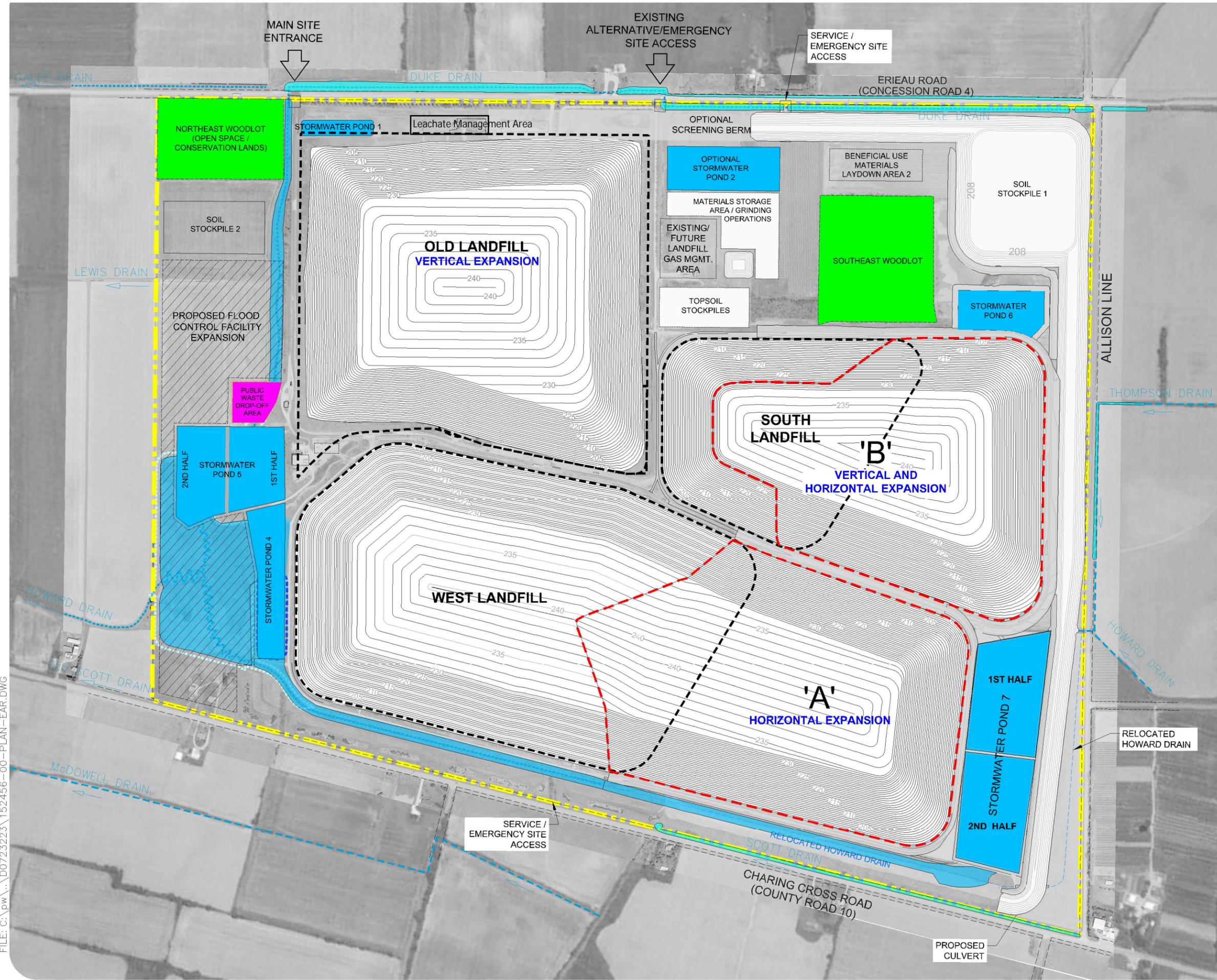
MAP CREATED BY: GM
MAP CHECKED BY: MB
MAP PROJECTION: NAD 1983 UTM Zone 17N



PROJECT: 152456
DATE: 2019-07-12

Figure 2: Proposed Landfill Expansion

This figure shows the proposed layout of the landfill expansion including the locations of waste piles, stormwater ponds, stockpile areas, woodlots, accesses, the public waste drop-off area, and leachate and landfill gas management areas. Black dotted lines represent the existing approved waste limits. Red dotted lines show the proposed waste limit for expansion.



RIDGE LANDFILL ENVIRONMENTAL ASSESSMENT

PROPOSED LANDFILL EXPANSION - PREFERRED ALTERNATIVE
Figure 5-1

- PROPERTY BOUNDARY
- APPROVED WASTE LIMIT
- EXISTING WATER COURSE
- PROPOSED WASTE LIMIT FOR EXPANSION AREAS
- PROPOSED STORMWATER POND
- EXISTING WOODLOT AREAS
- EXISTING FLOOD CONTROL FACILITY



MAP/DRAWING INFORMATION
MAPPING FROM THE BASE MAP CO. LTD.,
MAY 1, 2018

CREATED BY: SKB
CHECKED BY: CO
DESIGNED BY: FG



PROJECT: 15 2456

DATE: 07/03/19

FILE: C:\pw\...D0723223\152456-00-PLAN-EAR.DWG

3. Results of the Ministry Review

The Review provides an analysis of the EA. It is not intended to summarize the EA, nor present the information found in the EA. For information on the decision-making process, please refer to the EA itself. The EA and supporting documentation outline the EA planning process and demonstrate how the proponent has selected the preferred undertaking.

3.1 Conformance with ToR and EAA

3.1.1 Ministry Analysis

The ministry coordinated an analysis of the EA with the GRT that, in part, looked at whether the requirements of the ToR have been met. The ministry concludes that the EA followed the framework and commitments outlined in the ToR and meets the components of the EAA.

Appendix A of this Review summarizes this analysis and identifies how the ToR and EAA requirements have been addressed in the EA. Conditions of EA approval may be proposed to reinforce commitments made in the EA and Waste Connections' responses to comments received during the EA comment period.

3.1.2 Consultation

One of the key requirements of the EAA is consultation during the preparation of the EA. This consultation is the responsibility of the proponent and must be carried out prior to the submission of the EA to the Minister.

Consultation must be in accordance with the consultation plan outlined in the ToR.

Waste Connections established a consultation program to inform and gain input from the GRT, members of the public, as well as Indigenous communities and organizations. The program included:

The purpose of the Ministry Review is to determine whether:

- The EA has met the requirements of the ToR and the EAA.
- There are any outstanding issues with the EA.
- The proposed undertaking has technical merit.

Must Haves in the EA:

- The EA must be prepared in accordance with the approved ToR.
- EA must include all the basic EAA information requirements.
- EA demonstrates where all the additional commitments in the ToR were met, including studies and the consultation process.

- Establishing a project contact list;
- Meetings with neighbours, agency and municipal stakeholders, and Indigenous communities;
- Conducting an evaluation workshop;
- Hosting three public open houses;
- Preparing and distributing a community newsletter;
- Circulating notices via local newspapers and mail outs;
- Maintaining a project website with EA documentation; and
- Publishing the draft EA for a 45-day comment period from July 23 to September 6, 2019.

In accordance with the requirements of subsection 6.1(2) of the EAA, section 8.0 of the EA describes the consultation activities carried out as part of the EA. Waste Connections also submitted an EA Record of Consultation as Appendix B of the EA. Waste Connections carried out a comprehensive level of consultation and documented the activities adequately in the EA and Record of Consultation.

Once the EA was submitted to the MECP, additional ministry-driven consultation occurred during the EA comment period which began on January 24, 2020 and ended on March 13, 2020. The GRT, the public, and Indigenous communities were provided with the opportunity to review the EA and to submit comments to the ministry related to the fulfillment of ToR requirements, the EA itself, and the proposed undertaking. All comments received by the ministry during the EA comment period were forwarded to Waste Connections for a response. Summaries of all the comments received along with Waste Connections' responses are included in Tables 1 to 3 of Appendix B of this Review.

Government Review Team

Waste Connections invited government agencies and municipal stakeholders to participate and provide comments at the ToR stage. Waste Connections maintained a GRT contact list that was carried through to the EA.

Section 5.1 of the EAA states:

"When preparing proposed terms of reference and an environmental assessment, the proponent shall consult with such persons as may be interested."

During the preparation of the EA, Waste Connections coordinated meetings and teleconference calls with the MECP, the Ministry of Natural Resources and Forestry (MNR), the Ministry of Transportation (MTO), the Lower Thames Valley Conservation Authority (LTVCA), the Municipality of Chatham-Kent and the Chatham-Kent Municipal

Airport to consult on EA work plans and to identify potential concerns and approvals. Federal agencies consulted included Transport Canada and the Department of Fisheries and Oceans. Section 8.8 of the EA provides an overview of agency consultation activities. Original correspondence can be found in Appendix B-8 of the Record of Consultation.

Waste Connections circulated the draft EA for GRT review. The MECP was the only ministry who commented on the draft EA. A summary of the comments received on the draft EA is provided in section 8.9.3 (Comments on the Draft EA) of the EA. Draft EA comments with responses are tabulated in Appendix B-9 of the Record of Consultation.

Following the formal submission of the EA to the ministry, GRT members were provided with copies of the final EA for review during the seven-week review period. All comments received by the ministry during the EA review period were forwarded to Waste Connections for a response. These comments are included in Table 1 of Appendix B and are summarized in section 3.3 of this Review.

Public Consultation

Waste Connections has a strong relationship with the local communities of Charing Cross, Cedar Springs, Blenheim and the broader community of Chatham-Kent. Throughout the EA, Waste Connections met in-person, and corresponded by phone and email with local residents. Members of the public were invited to attend a workshop in July 11, 2018 to comment on evaluation criteria to be used in the EA. Waste Connections hosted three public open houses on July 25, 2018, December 6, 2018, and July 11, 2019, respectively. Waste Connections also provided EA updates at the Ridge Landfill Liaison Committee, which includes representatives from the Municipality of Chatham-Kent (staff and elected officials), the public, the Ridge Community Trust, and the MECP. A summary of consultation with public stakeholders during the preparation of the EA is included in section 8.6 (Overview of Public Consultation Activities) of the EA. Reports from the evaluation criteria workshop and public open houses are provided in Appendix B-4 and B-5 of the Record of Consultation, respectively. Correspondence with members of the public and Ridge Landfill Liaison Committee meeting minutes are included in Appendix B-6 of the Record of Consultation.

Waste Connections made the draft EA available for public comment via the project website and at public locations such as the Chatham-Kent Public Libraries. No comments on the draft EA were received by members of the public.

Members of the public also had an opportunity to review and comment on the EA

following the formal submission of the final Ridge Landfill Expansion EA to the MECP. All comments received by the ministry were forwarded to Waste Connections for a response. Comments and responses are included in Table 2 of Appendix B and are summarized in section 3.3 of this Review.

Indigenous Community Consultation

In addition to the EAA requirement for interested persons to be consulted, proponents are required to consult with Indigenous communities who have credibly asserted or established Aboriginal or treaty rights that may be negatively impacted by the proposed undertaking. The proponent identified a list of the following Indigenous communities with a potential interest in the project for continued consultation throughout the EA process:

- Aamjiwnaang First Nation;
- Caldwell First Nation;
- Chippewas of the Thames First Nation;
- Delaware Nation (Moravian of the Thames First Nation);
- Kettle and Stony Point First Nation;
- Munsee-Delaware Nation;
- Oneida Nation of the Thames; and
- Walpole Island First Nation.

Aboriginal rights stem from practices, customs or traditions which are integral to the distinctive culture of the Aboriginal community claiming the right.

Treaty rights stem from the signing of treaties by Aboriginal peoples with the Crown.

Aboriginal rights and treaty rights are protected by section 35 of the *Constitution Act, 1982*.

Waste Connections also contacted the Chiefs of Ontario and Métis Nation of Ontario to see if there was interest in the project.

At the ToR stage, the MECP provided Waste Connections with a list of Indigenous communities to consult based on the Crown's preliminary assessment of Aboriginal rights and project impacts. The MECP formally delegated the procedural aspects of consultation to Waste Connections. During the preparation of the EA, Waste Connections invited Indigenous communities to attend public open houses and offered in-person meetings with community members. Waste Connections also shared studies to interested Indigenous communities including archaeological assessment reports.

Indigenous communities were contacted at key decision-making milestones during the preparation of the EA and were provided with the following notices: Notice of Commencement and Open House #1; Notice of Open House #2; Notice of Alternative Methods Report and Review of Diversion Options Report; and, the Notice of Open

House #3 and Draft EA Report. Indigenous community engagement is summarized in section 8.7 (Overview of Indigenous Communities and Organizations Consultation Activities) of the EA and is documented in Appendix B-7 of the Record of Consultation.

Copies of the draft EA were distributed to Indigenous communities for review and comment. Consultant firm Neegan Burnside provided comments on the draft EA on behalf of Walpole Island First Nation. Walpole Island First Nation comments on the draft EA are summarized in section 8.9.3.2 of the EA and a comment-response table with Waste Connections' responses is in Appendix B-9 of the Record of Consultation.

Indigenous communities and organizations had the opportunity to review and comment on the EA following the formal submission of the final Ridge Landfill Expansion EA to the MECP. All comments received by the ministry were forwarded to Waste Connections for a response. Comments and responses can be found in Table 3 of Appendix B and are summarized in section 3.3 of this Review.

Ministry Conclusions on the Consultation Program

The EAA requires that the proponent consult with all interested persons during the preparation of the EA, provide a description of consultation activities undertaken by the proponent, and document consultation results. Overall, the ministry believes that Waste Connections provided sufficient consultation opportunities for the public, interested stakeholders, government agencies, and Indigenous communities during the preparation of the EA. The level of consultation undertaken was appropriate for the proposed undertaking. The ministry is satisfied that EA consultation met the requirements of the EAA and followed the consultation plan outlined in the approved ToR.

3.2 EA Process

Environmental assessment is a planning process that requires a proponent to identify a problem or opportunity, consider alternative ways of addressing the problem or opportunity, evaluate the potential environmental effects of alternatives against select criteria, and then select a preferred alternative. In general, Waste Connections followed a logical and transparent decision-making process to select the preferred method for expanding the Ridge Landfill to address the business opportunity to continue providing waste disposal services from 2021 to 2041. Below is a summary of the EA process followed, including the study areas used, and the methodology for assessing alternatives and environmental effects. Please refer to Appendix A of this Review for the ministry's analysis of how the EA has met the requirements of the EAA and the approved ToR.

3.2.1 Focused EA

Waste Connections prepared its EA in accordance with Sections 6(2)(c) and 6.1(3) of EAA, which resulted in an EA that “focused” on the consideration of alternative methods for increasing waste disposal capacity at the Ridge Landfill. The ToR provided justification for limiting the examination of alternatives through an analysis of alternatives available to Waste Connections for achieving additional waste disposal capacity to provide integrated waste disposal services at the Ridge Landfill over a 20-year planning period.

In the analysis of alternatives to the undertaking in the ToR, Waste Connections identified that as a private sector proponent with an existing operational landfill, it had a limited number of reasonable ways to address the opportunity of securing additional disposal capacity. Waste Connections reviewed waste management options and then undertook a screening of landfilling alternatives during the development of the ToR. The screening of alternatives considered four reasonable alternatives, including:

- Close Ridge Landfill and construct a new landfill;
- Expand the existing landfill;
- Expand the existing landfill with enhanced diversion; and
- Do nothing.

The alternative selected was to expand the existing Ridge Landfill as it is the only property large enough to provide the additional capacity requested. The EA prepared by Waste Connections focused on the development and assessment of alternative methods of expanding the Ridge Landfill, as well as methods for leachate treatment and landfill gas management.

3.2.2 Study Areas

The EA identifies an on-site study area consisting of the Ridge Landfill Site, an off-site study area that extends mainly one kilometre from the site’s property boundaries, and a haul route study area. The on-site and off-site study areas were modified or extended as needed for different disciplines to assess the effects on individual environmental components (see Figure 1).

Section 3.0 (Description of the Environment Potentially Affected) of the EA provides a description of the environmental conditions in the on-site, off-site, and haul route study areas to establish a baseline for comparison with alternative methods. The environments described in the EA are:

- Natural environment – biological, hydrogeological, surface water, atmospheric, climate change;
- Socio-economic environment – social, economic, atmospheric (odour, dust, blowing litter), noise, visual, agricultural;
- Cultural environment – archaeology, cultural heritage; and
- Built environment – bird hazards to aviation safety, land use, transportation, design & operations.

The ministry is satisfied that a broad definition of the environment was considered and that the EA adequately describes the existing environmental conditions in the study areas.

3.2.3 Assessment of Alternative Methods

Waste Connections considered alternative methods of expanding the existing landfill, including options for managing landfill gas and treating leachate in section 4.0 (Consideration of Alternative Methods) of the EA. Waste Connections developed evaluation criteria and indicators to identify and assess the impacts of these alternatives on the natural (biological and physical), socio-economic, cultural and built environments. Waste Connections predicted the net effects from each alternative method, then compared and ranked each method to determine the preferred option. The options for expanding the landfill to provide additional waste disposal capacity were:

- Alternative 1 - horizontal expansion of the South and West Landfills and vertical expansion of the Old Landfill;
- Alternative 2 - horizontal expansion of the South and West Landfills and both landfill mining and vertical expansion of the Old Landfill; and
- Alternative 3 - horizontal expansion of the South and West Landfills and a new fill area east of the South Landfill with no vertical expansion or alteration of the Old Landfill.

Alternative 1 was selected as the preferred site development method from biological, atmospheric, socio-economic, and built environment perspectives. It was reasoned that Alternative 2, which would involve mining of the Old Landfill, would result in higher dust and odour impacts, affect worker safety, and have higher capital costs. Alternative 3 was not favoured as it would result in the largest landfill footprint and the removal of two woodlots, one of which is the northeast woodlot that contains significant wildlife habitat for rare wildlife and species of special concern including a bat species at risk.

The landfill gas management methods considered were:

- Alternative 1 – Continued flaring of collected landfill gas;
- Alternative 2 – Utilization of landfill gas (renewable natural gas) by selling it to a third party; and
- Alternative 3 – Utilization of collected landfill gas by converting it to electricity.

Alternative 1 was preferred from socio-economic and built environment perspectives as it would not have additional construction and capital costs. However, it was noted that this alternative was least preferred from a greenhouse gas emissions reduction standpoint as it does not provide an opportunity for landfill gas to be recovered and used as an alternative to fossil fuels.

The leachate treatment methods considered were:

- Alternative 1 – continued discharge of leachate to the existing sanitary sewer and treatment at the Blenheim Treatment Lagoons (BTL);
- Alternative 2 – on-site pre-treatment of leachate prior to discharge to the existing sanitary sewer with further treatment at the BTL; and
- Alternative 3 – on-site full treatment of leachate and discharge to a surface water feature.

Alternative 1 was considered as the preferred leachate treatment alternative since there would be no construction-related natural, social, and cost impacts.

3.2.4 Assessment of Environmental Effects

Waste Connections describes the potential effects, mitigation measures and residual (net) effects of the overall Ridge Landfill Expansion project in section 6.0 (Impact Assessment of the Preferred Alternative) of the EA. Waste Connections developed impact assessment criteria which were used to identify the net effects resulting from the project after the application of mitigation measures. Fourteen environmental components were considered:

- Biological;
- Hydrogeological;
- Surface Water;
- Atmospheric;

- Climate Change;
- Social;
- Economic;
- Agricultural;
- Cultural Heritage;
- Archaeological;
- Land Use;
- Transportation;
- Aviation Safety; and
- Design and Operations.

The biological impact assessment examined the potential effects of the project on endangered or threatened species habitat, species of importance to Indigenous communities; terrestrial systems (wildlife and wildlife habitat); as well as effects on fish and fish habitat. The expansion of the Old Landfill and West Landfill areas would remove meadow habitat for the eastern meadowlark, which is a threatened species in Ontario; however, Waste Connections proposes to gradually replace this habitat as landfill areas are filled, capped and seeded. The expansion would also remove the nests of another threatened species, the barn swallow, located in agricultural buildings, which would also require replacement. The horizontal expansion of the West Landfill would result in the removal of the southwest woodlot which does not contain significant wildlife habitat; however, Waste Connections will partner with Indigenous communities and the LTVCA to replace trees at a 2:1 ratio. The relocation of approximately 1.3 km of the Howard Drain is anticipated to affect non-sensitive fish habitat but impacts to fish will be minimized as Waste Connections proposes to complete construction works within the appropriate seasonal timing windows.

Waste Connections predicted contaminant concentrations, contaminant travel times, and recharge rates to the drinking water aquifer during the expansion. Groundwater modelling indicates that organic contaminants and heavy metals reduce in concentration a few metres below the landfill base. Because of the thick layer of impermeable clay under the landfill, it would take more than 3,000 years for water to travel from the base of the waste fill areas to the underlying drinking water aquifer. Therefore, water supply wells will not be affected. The time it would take for landfill contaminant concentrations to reduce until they would have no more impact to the environment (contaminating lifespan) was estimated to be on the order of 380 years, compared to 325 years without the expansion. This means that Waste Connections will need to ensure that engineering controls such as the clay liner, and leachate collection and treatment systems be maintained for this amount of time after landfill closure in 2041.

Waste Connections modelled the surface water flows for the expanded landfill and compared them with surface water flows from the existing landfill. The modelling concluded that with upgraded stormwater pond and flood control facilities, peak flows will remain similar to existing conditions and there will be no impacts upstream or downstream on the Howard Drain and its associated tributaries. Potential surface water quality impacts may arise during excavation when creating new landfill cells and during the relocation of a portion of the Howard Drain which would require the application of adequate sediment and erosion control measures.

Air quality impacts from landfill operations and the continued use of the haul route were examined in the EA. Air modelling was used to determine impacts to receptors (residences and businesses) and contaminant levels were compared to Ontario's Ambient Air Quality Criteria and Canadian Ambient Air Quality Standards (CAAQS). For most indicator compounds, there will be an increase in air contaminant concentrations relative to existing conditions, but these concentrations will meet all regulatory criteria and objectives, with the exception of nitrogen dioxide concentrations infrequently exceeding the CAAQS at three receptors for the year 2039 modelled scenario. For the haul route in year 2041, predicted concentrations for all indicator compounds are expected to be the same or lower than existing conditions.

The consideration of the social impacts from landfill expansion included: a) displacement of on-site residents; b) odour, dust, noise and visual effects on off-site residences and businesses; c) haul route dust and noise effects on residents and businesses; as well as d) potential benefits to Indigenous communities and organizations. Two leased residences on Allison Line at the southern limit of the Ridge Landfill site will be removed to accommodate the landfill expansion. There will still be off-site dust, odour, noise and blowing litter impacts for residents located within one kilometre of the site. As different areas of the landfill are expanded, the residences and businesses closest to the active fill areas may experience more noticeable impacts. The air quality impact assessment in the EA indicates that dust levels will be below the relevant air quality criteria for the protection of human health and visibility concerns, and that odour emissions at residences will remain under the MECP's one odour-unit standard.

Predicted noise levels within one kilometre of the site for all three landfill expansion phases will be below the MECP's daytime and nighttime guidelines of 55 decibels (dBA) and 45 dBA, respectively. The noise impacts along the haul route in year 2041 for the expanded landfill are anticipated to be similar to existing levels and will range from the low 30 to high 60 dBAs.

Visibility mapping extending three kilometres from Ridge Landfill site illustrates that the landfill will be more visible in the future because of the expanded landfill footprint at the southwestern portion of the site. Waste Connections proposes to construct and vegetate a berm along Erieau Road and Allison Line to mitigate the visual impacts.

The Ridge Landfill Expansion project will have a positive impact on the Municipality of Chatham-Kent as Waste Connections and the Ridge Landfill will continue to contribute to the regional economy through the renewal of the Host Community Agreement, contributions to the Ridge Landfill Community Trust, and the provision of employment opportunities. Property values around the landfill site are unlikely to be affected as Waste Connections mitigates property value impacts through its Property Value Protection Program. The capital costs of the landfill expansion will be on the order of \$60 million.

Approximately 94 ha of Class 2 farmland will be removed by the expansion, which includes approximately 88 ha of crop production area and 6 ha of orchard. The loss of this farmland is not deemed to be significant as it represents a small portion of the available agricultural land in Chatham-Kent. The two farm operators on the Ridge Landfill property have short-term leases, but Waste Connections indicates that on-site farming will continue as long as possible until the land is needed for landfill development activities. There will be occasional blowing litter, dust and odour impacts on neighbouring farm properties. No impacts to access and field entrances are anticipated to the farm operations along the haul route.

Waste Connections conducted field surveys to determine cultural heritage and archaeological resources on areas of the Ridge Landfill property that will be affected by the landfill expansion. Two properties, which include a residence, barn and tenant house along the southwestern portion of the site (8765 and 8779 Allison Line), will be cleared. The barn at 20323 Charing Cross Road at the northwest corner of the Ridge Landfill property will also be removed. Documentation and salvage activities are proposed to mitigate impacts to heritage attributes and features. Archaeological assessments in the southwest portion of the site recovered ceramic pieces, bottle glass, metal tools, and one projectile point, which will require further assessment to determine their cultural value and interest.

The landfill expansion will require changes to the Chatham-Kent Official Plan and

Zoning By-law Amendments in order to designate previous agricultural and open space/conservation lands for waste management while maintaining regulatory buffer requirements between the property boundary and waste filling areas. An approval under the *Drainage Act* will be required for relocating the Howard Drain and the proposed landfill design will comply with Chatham-Kent Municipal Airport's height restrictions.

Traffic volumes in year 2041 along the waste haul route were modelled at five intersections, including the Highway 40 and Highway 401 westbound off-ramp. The study concludes that the intersections are anticipated to operate in a similar fashion to existing conditions as the total number of daily waste haul trucks will remain constant throughout the expansion period and the growth rate in the municipality is expected to be low. Traffic safety is expected to remain the same as existing conditions. There have been no recorded collisions between waste haul trucks and local vehicles during a review of collisions that occurred since 2013.

A study on bird hazard effects on the Chatham-Kent Municipal Airport was completed and compared against the results of 1995-96 study completed for the previous expansion of the Ridge Landfill. The study indicates that the presence of the Ridge Landfill has not created an unacceptable hazard to aircraft safety; however, continued bird control is necessary.

Climate Change Impacts

Waste Connections estimated greenhouse gas emissions that would result from the landfill expansion. As the expansion progresses over its 20-year life span, emissions will increase to about 762,000 tonnes per year of carbon dioxide equivalent (CO₂e) in year 2042. The maximum future peak emissions will be a significant increase in greenhouse gas emissions compared to the 391,000 tonnes per year of CO₂e that is currently emitted. Waste Connections proposes to optimize its landfill gas flaring system to more effectively convert methane gas to carbon dioxide. The Ridge Landfill's currently contributes about 0.2% of Ontario's total greenhouse gas emissions, but the future contribution as a result of the expansion could be doubled to 0.4%.

Greenhouse gas emissions associated with haul route traffic were also assessed. The haul route assessment was performed for: a) the year 2018; b) a "no expansion" scenario in year 2021; and c) the final year of landfill operation in year 2041. The emissions from the existing haul route (2018) are 5,635 CO₂e/year, compared to 2,870 CO₂e/year for the "no expansion" scenario, and 4,723 CO₂e/year for year 2041. The results show that greenhouse gas emissions from haul route traffic are expected to decrease as vehicles become more fuel efficient. Greenhouse gas emissions related to

the haul route are expected to be less than 1% of the emissions from landfill operations.

The removal of the southwest woodlot will remove the site's ability to store carbon. The annual CO₂e sequestration for the southwest woodlot is estimated to be 29 tonnes/year. Waste Connections proposes to mitigate the impacts by replanting lost trees at a 2:1 ratio adjacent to a woodlot near the landfill and on Chippewas of the Thames First Nation and Oneida Nation of the Thames lands.

Waste Connections also completed an analysis of how changes in climate may interact with site infrastructure and operations. Adaptive measures were identified to address areas of future climate risk and incorporated into the landfill expansion design. Climate projections were completed for the year 2050. Climate change impacts from changes to precipitation and temperature patterns on landfill infrastructure and outdoor worker safety are anticipated to be the most significant. The flood management system for the expanded landfill is designed to accommodate storm events with a 250-year return period. Surface water features such as perimeter ditches, stormwater ponds and the relocated portions of Howard Drain will be sized to accommodate post-2050 storm conditions which are predicted to be 15% higher than current storm conditions. Waste Connections carried out a side slope stability analysis that considered the potential effects of a rapid increase in leachate mounding (accumulated levels) in the waste pile caused by an extreme precipitation event. Waste Connections also proposes to review site protocols periodically to reflect changing temperature conditions for outdoor workers.

Cumulative Effects

The Code of Practice for Preparing and Reviewing Environmental Assessments in Ontario (2014) encourages proponents to include information about the potential cumulative effects of the project in combination with past, present and reasonably foreseeable future activities. Waste Connections outlined steps for determining cumulative effects in the approved ToR. The EA identified activities that could act together with the effects from the proposed Ridge Landfill Expansion project, such as agricultural activities, initiatives to increase forest cover in Chatham-Kent, and potential public works activities (waterline construction, periodic road maintenance, Blenheim Treatment Lagoon upgrades etc.). Cumulative effects were identified for each environmental component. Some cumulative effects include a long-term benefit, such as an increase forest cover surrounding the landfill from planting initiatives. Other potential cumulative effects would be noise, dust and odour from off-site farming activities combined with landfill activities which Waste Connections will address by implementing odour, dust and litter control management practices, and effective

communication with landfill neighbours.

3.2.5 Monitoring and Commitments

Section 7.0 (Monitoring, Reporting and Commitments) of the EA describes environmental effects monitoring activities to ascertain the effectiveness of mitigation measures, in addition to contingency measures to address unexpected occurrences. Monitoring activities are proposed for wildlife (including species at risk), terrestrial and aquatic habitat, tree plantings, groundwater (including private wells), surface water quality, leachate quality, landfill gas, and public complaints. Contingency measures are prescribed for leachate control system failure, accidental spills, archaeological findings, haul route closure, and landfill gas odour and migration. Commitments related to the construction, operation, closure and post-closure of the expanded Ridge Landfill are listed in Table 7-7: Commitments of the EA.

3.2.6 Ministry Conclusions on the EA Process

Overall, the ministry is satisfied with the proponent's decision-making process and that the process is consistent with the requirements of the EAA and the approved ToR. The EA confirms the opportunity for expanding the Ridge Landfill, provides a description of the environment potentially affected which considers the EAA's broad definition of the environment, and considers alternative methods for landfill site development, including leachate and landfill gas management alternatives. The EA identifies the potential effects of alternatives along with mitigation measures and assesses them based on their relative advantages and disadvantages. Net effects of the project are identified in the EA and monitoring measures are proposed to manage environmental effects.

3.3 Comments on the Undertaking

3.3.1 Key Issues

Key issues or comments raised during the review of the EA by the GRT, the public, and Indigenous communities are summarized in the sections below. All comments received during the EA comment period, including Waste Connections' responses and MECP's level of satisfaction can be found in Tables 1-3 of Appendix B.

Government Review Team Comments

The MECP received responses from the following ministries and municipal stakeholders during the seven-week EA comment period:

- Ministry of Agriculture, Food and Rural Affairs;
- Ministry of Heritage, Sport, Tourism and Culture Industries;
- Ministry of Natural Resources and Forestry (Aylmer District Office);
- Ministry of Transportation;
- Lower Thames Valley Conservation Authority;
- Municipality of Chatham-Kent; and
- Chatham-Kent Municipal Airport.

Ministry of Agriculture, Food and Rural Affairs (OMAFRA)

The OMAFRA is generally satisfied with the overall conclusions in the EA but provided suggestions to improve mitigation measures and requested clarification on certain aspects of the EA. The OMAFRA commented that impacts to the farm market located at 19881 Charing Cross Road were not clearly described in the EA. Waste Connections responded that it considered this farm market in its socio-economic, noise, atmospheric, visual, and transportation impact assessments. Key mitigation measures will include the construction of a continuous berm separating the landfill from the market, and operational best management practices for dust suppression, litter control, and landfill gas collection. The OMAFRA also asked if Waste Connections' compensation program factors in losses associated with crop and livestock damage from animal vectors (e.g. bird damage on grain corn). Waste Connections noted that vector issues have not been identified as an issue in the area and thus are not included as a factor to calculate compensation; however, if they were to become an issue or the magnitude of issues were to change, compensation levels would be reviewed.

The OMAFRA suggested that traffic signage be placed along the haul route at regular intervals indicating the presence of slow-moving farm vehicles in the area, in addition to signage indicating that no dumping or trespassing is allowed. Waste Connections responded that the Municipality of Chatham-Kent oversees traffic signage, and that landfill staff have not routinely observed illegal dumping on their daily inspections of the area. Waste Connection also noted that it operates a call-in telephone line that is monitored 24 hours per day for individuals to report concerns.

Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI)

The MHSTCI reviewed the cultural heritage evaluation and archaeological assessment aspects of the EA and was satisfied with the commitments made to undertake further archaeological assessments in advance of project implementation, as well as the mitigation recommendations provided in the heritage impact assessment.

Ministry of Natural Resources and Forestry (MNRF)

The MNRF's Aylmer District Office requested information on bald eagle habitat at the Ridge Landfill Site since a pair of bald eagles was observed nesting in the northeast woodlot near the entrance to the Ridge Landfill in 2019. Waste Connections responded that potential bald eagle habitat within 400 m to 800 m of the nest would encompass the Old Landfill where vertical expansion is proposed and a portion of the existing stormwater management control facilities to the west. Waste Connections noted that only the stormwater management facilities have the potential to provide bald eagle foraging habitat.

The MNRF also inquired about the monitoring and contingency measures that will be used to ensure the success of tree plantings. Waste Connections responded that trees will be monitored bi-annually between May 15 and September 30 for a minimum of three years after planting to assess tree health. The MNRF indicated that it was satisfied with the information provided and did not have any further comments or concerns at this time.

Ministry of Transportation (MTO)

Waste Connections' current approved haul route for the Ridge Landfill uses the Ministry of Transportation's Highway 401/40 (Communication Road) interchange. The MTO recently improved this interchange and provided an alternate haul route for Waste Connections' haul trucks. The MTO continues to strongly recommend the consideration of alternate haul routes in the event that the Highway 401/40 (Communication Road) interchange closes due to unforeseen circumstances. Waste Connections responded that there is already an alternate designated haul route approved by Chatham-Kent that enables trucks to exit Highway 401 at Bloomfield Road, proceed south to Middle Line, then easterly on Middle Line to Erieau Road, and finally south on Erieau Road to the landfill entrance. Waste Connections commits to working with the MTO and Chatham-Kent to find another alternative should this alternative haul route be unavailable.

Lower Thames Valley Conservation Authority (LTVCA)

The LTVCA commented that development on the Ridge Landfill property is regulated by the conservation authority. The issue of concern in this area is erosion at Howard and Scott Drains. Waste Connections will need to submit an application under Ontario Regulation 152/06 (Lower Thames Valley Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and

Watercourses) prior to any works or construction taking place within the regulated area. The LTVCA would also be involved during the relocation process of the Howard Drain as triggered by the municipal *Drainage Act* process. The LTVCA has no objections to vertical expansion of the Old Landfill, nor with the addition of landfill footprint in the South and West Landfill areas.

Municipality of Chatham-Kent

The Municipality of Chatham-Kent indicated that it is satisfied with all the planning and technical aspects in the EA submission. Municipal support of this project will be conditional upon Council consideration and approval of the *Planning Act* matters (Official Plan Amendment, Zoning By-law Amendment, and Site Plan Control approval) as well as the Host Community Agreement.

Chatham-Kent Municipal Airport

The Chatham-Kent Municipal Airport inquired if there will be any equipment, individuals or any other obstacles after the completion of landfill construction at the maximum elevation of 241 metres above sea level (0.3 m below the maximum elevation permitted by Transport Canada Airport Zoning Regulations). Airport staff also inquired about the type of final cover that will be used. Waste Connections responded that no permanent structures or obstacles will be located above the maximum elevation. Waste Connections will notify the airport prior to landfill cap construction which requires earth moving equipment. The final cover will comprise of a 0.85 m thick layer of soil and a 0.15 m thick layer of topsoil seeded with native grasses. Following the completion of the cap construction, occasional maintenance will be required to mow the grass or conduct monitoring activities. In both cases the airport will be notified prior to the work occurring.

Ministry of the Environment, Conservation and Parks

Key comments from MECP staff pertained to landfill gas management, climate change mitigation, air and odour monitoring, and leachate management.

Landfill gas

There are limited greenhouse gas mitigation measures presented in the EA and Waste Connections' rationale for not selecting a landfill gas utilization method (renewable natural gas or electricity generation) as the preferred method of management is primarily based on the lack of a currently viable market. The expanded Ridge Landfill will be the largest landfill in Ontario and greenhouse gas emissions are expected to increase from current levels. According to Waste Connections, the Ridge Landfill's

existing peak conditions would account for 9.7% of the total solid waste disposal greenhouse gas emissions in Ontario. The peak emissions for the expanded landfill could account for 14.2% of the total solid waste disposal greenhouse gas emissions in Ontario.

The MECP suggested that Waste Connections periodically re-evaluate landfill gas utilization options and set timeframes for subsequent re-evaluations since market conditions could change. Waste Connections agreed to re-assessing the viability of landfill gas utilization options four years after EA approval, and conducting re-assessments every four years thereafter for submission to the MECP as part of EA compliance monitoring. The ministry is considering a condition of approval to reinforce this commitment.

The MECP commented that the landfill expansion phasing plan in Appendix D6 - Design and Operations Report of the EA does not include a landfill gas collection design for interim covered areas (inactive for over 6 months) at the Old Landfill as required by O. Reg. 217/08 (General – Waste Management). Waste Connections provided reasons why it would be impractical to collect landfill gas for the waste in the Old Landfill since landfill gas amounts emitted from the Old Landfill have been declining over the past 20 years, and that there is a limited thickness of unsaturated waste from which to collect the gas. The ministry requested that Waste Connections provide an estimation of landfill gas generation at the Old Landfill to show collection feasibility in its Environmental Compliance Approval (ECA) application.

Air and Odour Monitoring

Air quality modelling in the EA has shown particulate (atmospheric aerosol particles) concentrations to be very close to the air quality limits. The MECP noted that the EA does not propose air quality and odour monitoring for the landfill expansion. Monitoring is important to help determine if fugitive dust controls are working effectively and if concentrations remain below air quality criteria. The MECP commented that an air quality and odour monitoring plan should be developed and submitted for MECP review and approval. Waste Connections provided a commitment to develop an air monitoring program that will be submitted to the MECP after it receives its amended air ECA for the landfill expansion. The ministry is considering a condition of approval to reinforce this commitment and to ensure that an odour management plan will be developed for the landfill expansion.

Leachate Management

During the review of the draft EA, the MECP had concerns regarding the proposed

leachate collection system design for the vertical expansion of the Old Landfill. The MECP commented that the finger drain system at the perimeter of the Old Landfill will be inadequate to collect leachate generated during storm events as leachate will mound from within and seep through the side slope as more weight is added. To respond to this concern, Waste Connections modified the finger drain design and sought expert opinion on the design. The MECP was agreeable to the design subsequent to expert review but requested trigger criteria and contingency plans in the event that the finger drain system fails.

During the review of the final EA, the MECP requested additional leachate collection measures at the inside faces of temporary slopes during the vertical expansion of the Old Landfill and the installation of leachate monitoring wells in the Old Landfill. Waste Connections commits to addressing potential leachate mounding and seepages at the Old Landfill as part of the waste ECA amendment application process. The ministry is considering a condition of approval to reinforce this commitment.

The MECP also commented that the evaluation of leachate treatment alternatives does not discuss in detail the off-site infrastructure associated with each alternative and potential effects. As the preferred method is to continue conveying leachate to the Blenheim Treatment Lagoons via the municipal sanitary sewer, the MECP requested information about the location and the condition of the existing sanitary sewer, Ridge Landfill's leachate pipe, and associated pumping stations. Waste Connections confirmed with the Municipality of Chatham-Kent that the municipal sanitary forcemain has sufficient capacity to convey future leachate flows from the landfill and that the infrastructure has approximately 60 years of service life left. Waste Connections provided additional information on the forcemain that connects the leachate storage tank to the municipal forcemain and leak detection measures.

Public Comments

During the EA, key issues and concerns raised through consultation activities with public stakeholders included; odour, blowing litter, risk of water well contamination, haul truck traffic; visual impacts; woodlot removal; and property values. Waste Connections addressed each concern in the EA. Over the course of the EA, various community groups, clubs, organizations and individuals also expressed their support for the proposed expansion of the Ridge Landfill as it contributes to the local community and economy.

The MECP received three (3) formal comment submissions from local residents and businesses during the EA comment period. The main concerns relate to odour, blowing

litter, dust, and contaminants in waste. One member of the public was concerned about leachate contaminants and the ability of the Blenheim Treatment Lagoons (BTL) to remove the contaminants before treated wastewater (effluent) is released to the natural environment. Waste Connections responded that it monitors leachate quality prior to sending it to the BTL and that the Chatham-Kent Public Utilities Commission confirmed that there have been no adverse effects to effluent quality discharged to the environment since the lagoons first started receiving leachate from the Ridge Landfill in 1998.

Two residents who live close to the landfill expressed concerns about odour and noise, in addition to blowing litter on their farm fields. The residents also note that there is road debris and mud on Erieau Road. Waste Connections acknowledges that there will be residual nuisance impacts on residents near the landfill and along the haul route even after best management practices are applied and encourages residents to promptly report issues to Ridge Landfill staff. Waste Connections is updating current compensation and property value protection plans and will provide written notification to additional residents receiving compensation as well as continue providing compensation to impacted residents.

A business owner with orchards adjacent to the Ridge Landfill commented on the social impacts of blowing litter, dust, and odour on agricultural operations. The commenter indicated that the EA did not include appropriate mitigation measures for stopping particulate matter and blowing litter from impacting the orchards. Waste Connections responded with commitments to develop detailed mitigation strategies for controlling blowing litter and dust. These will include compacting waste, minimizing the size of the working face, adjusting on-site litter fences, as well as picking up litter from surrounding fields after high wind events.

Indigenous Community Comments

Throughout the course of the EA, several Indigenous communities expressed interest in participating in and being notified of the findings of archeological assessments and tree planting opportunities. Walpole Island First Nation (WIFN) community members attended an archaeological field survey on April 24, 2019 at the Ridge Landfill and Tri-Tribal Monitoring Services attended a subsequent survey on behalf of Aamjiwnaang First Nation in November of 2019. During the preparation of the EA, Waste Connections formed a partnership with Chippewas of the Thames First Nation (COTTFN) and the LTVCA to plant a total of 3,000 trees on COTTFN lands. Waste Connections also agreed to provide Oneida Nation of the Thames with 1,000 trees.

During the seven-week final EA review period, Oneida Nation of the Thames and

Munsee-Delaware Nation indicated that they do not have comments on the EA. Aamjiwnaang First Nation indicated that the project has been acknowledged and there are no concerns.

A summary of the comments received from WIFN and the COTTFN during the EA process is provided in the subsequent sections.

Walpole Island First Nation

The Walpole Island First Nation retained Neegan Burnside Ltd. to conduct reviews of EA documents and technical supporting studies throughout the EA process. The WIFN was the only Indigenous community to provide comments on the draft EA and final EA. The WIFN's comments related to greenhouse gas emissions, significant wildlife habitats, air quality modelling, stormwater management, aircraft bird hazards, groundwater monitoring, site geology, leachate control, landfill design and operation, and partnership opportunities. The WIFN indicated that it is concerned with the overall stewardship of lands within their traditional and treaty territories. Some of the key concerns are summarized below.

The WIFN commented during the review of the draft EA that the greenhouse gas emissions from the project are not negligible as the EA states. The WIFN also strongly recommends a beneficial use be found for the landfill gas instead of flaring and noted that other sites such as the Waterloo Landfill smaller than the Ridge Landfill use landfill gas to generate electricity. Waste Connections responded that the greenhouse gas estimates in the EA are conservative and assumes that waste diversion rates remain the same as current day. Waste Connections also provided a commitment to review business opportunities to look at the beneficial use of landfill gas four years after EA approval.

The WIFN also requested that Waste Connections provide more specific measures to further reduce bird numbers at the landfill such as employing dawn to dusk (continuous) control at all exposed landfill faces and managing standing water as part of an upgraded bird control program. In addition, the WIFN recommended a monitoring program to gauge the effectiveness of the control measures and to make adjustments if required. Waste Connections commits to incorporating these recommendations into an upgraded bird control program and notes that an ongoing monitoring program is already in place to gauge the effectiveness of control measures.

The WIFN recommended that Waste Connections incorporate Indigenous knowledge by involving Indigenous communities in restoration efforts, such as woodlot replacement

planting, berm naturalization, and closure plan implementation. The WIFN expressed interest in the opportunities associated with restoration plantings and the incorporation of aquatic habitat features for the relocated Howard Drain.

Chippewas of the Thames First Nation

During the EA, the COTTFN requested continued consultation in the tree and seed selection process for woodlot replacement and on-site berm plantings. Waste Connections made a commitment in the EA to consult and engage with Indigenous communities and organizations during woodlot replacement and berm naturalization. The COTTFN indicated that they have minimal concerns with the EA report, but would require notification of upcoming archaeological assessments and the opportunity for participation.

3.3.2 Conclusion

Waste Connections provided responses to all comments received during the EA comment period. The MECP is of the opinion that the Ridge Landfill expansion will be designed and operated to comply with the ministry's standards and that the environmental effects of the proposed undertaking can be managed through the commitments made in the EA, through conditions of approval, or through additional work that must be carried out by Waste Connections in support of future approval applications, if the EA is approved. The conditions of approval being considered by the ministry are summarized below in section 5 of this Review.

4. Other Considerations

4.1.1 Diversion

The ToR included commitments for Waste Connections to: a) consider opportunities to enhance diversion at source, at the landfill or elsewhere in its waste management system; b) examine and evaluate the feasibility and viability of implementing an on-site diversion program as part of the preferred landfill expansion method in consideration of new and emerging technologies; and c) assess how additional resource recovery activities could help reduce the disposal of food and organic waste at the Ridge Landfill consistent with the Food and Organic Waste Policy Statement which directs proponents of new or expanded waste management systems to consider resource recovery opportunities for food and organic waste.

As part of the EA, Waste Connections evaluated on-site and at-source diversion options

that could be implemented:

- Option 1: Construction and operation of a mixed waste processing facility to sort organics and recyclables;
- Option 2: Construction and operation of a materials recovery facility to receive, sort and prepare recyclable materials for the market;
- Option 3: Receive segregated, homogenous loads of construction and demolition waste for beneficial reuse on-site or sale/donation to end markets;
- Option 4: Receive and process source separated organic waste collected within Chatham-Kent from municipal and IC&I sources;
- Option 5: Work with the Municipality of Chatham-Kent to construct a drop-off depot for residential construction and demolition waste;
- Option 6: Identify opportunities to facilitate partnerships among its customers where a waste product of one customer could be a resource for another;
- Option 7: Provide training and educational support to IC&I sector customers for materials designated for recovery;
- Option 8: Respond to amendments to Ontario's 3Rs Regulations governing the IC&I sector: O. Reg. 102/94 (Waste Audits and Waste Reduction Work Plans), O. Reg. 103/94 (Industrial, Commercial and Institutional Source Separation Programs) and O. Reg. 104/94 (Packaging Audits and Packaging Reduction Work Plans) by providing collection and education services to support increased materials recovery in the sector as required;
- Option 9: Invest in infrastructure and equipment to meet market demands for the diversion of additional recyclable or organic materials anticipated to be recovered as part of any future regulatory initiative; and
- Option 10: Support provincial objectives towards enhanced data collection, reporting and performance measures, and conducting customer waste audits to identify opportunities for increased diversion of select materials.

Waste Connections assessed these ten options against a set of questions related to feasibility, compatibility with existing services and infrastructure, economic viability, applicability to other locations, and whether they minimize greenhouse gas emissions. Based on its assessment, Waste Connections proposes to carry forward Option 3 (Beneficial reuse of construction and demolition waste), Option 5 (On-site drop-off), Option 6 (Increased partnerships), Option 7 (Support implementation of designated materials recovery for the IC&I sector), Option 8 (Amendments to the 3Rs regulations); Option 9 (Infrastructure and equipment for new diversion programs); and Option 10 (Monitoring and auditing).

Waste Connections currently diverts approximately 182,000 tonnes of IC&I waste collected within the service area and approximately 17,000 tonnes of residential waste from Chatham-Kent through its blue box and leaf and yard waste collection programs. Through the implementation of the preferred options, it is anticipated that Waste Connections can potentially divert up an additional 14,000 to 19,000 tonnes of waste per year.

In general, Waste Connections fulfilled the waste diversion commitments in the ToR; however, additional detailed analysis and rationale would have provided better support for the options selected. The MECP staff requested additional rationale as to why it would not be commercially viable to process the organic waste generated by residential, and IC&I sources in Chatham-Kent. Waste Connections responded that the assessment in the EA assumed that if an organics collections program were mandated, 5,000 to 6,500 tonnes of organics per year could be collected from residents in the Municipality of Chatham-Kent. Even though an in-depth business case assessment for organics processing in Chatham-Kent was not completed; they note that existing organics facilities in the Province generally have a capacity greater than 50,000 tonnes per year. Therefore, Waste Connections concluded that a processing facility would not be feasible or commercially viable at the Ridge Landfill based on the limited quantity of organics available from within Chatham-Kent, the lack of available space at the Ridge Landfill, and that a composting facility at the Ridge site would likely not meet the set-back requirements prescribed in Guidelines for the Production of Compost in Ontario (2012).

5. Summary of the Ministry Review

The Review explains the ministry's analysis for the Ridge Landfill Expansion EA and concludes that:

- The EA was prepared in accordance with the approved ToR and meets the requirements of the EAA;
- The EA provides sufficient information about the undertaking and its potential impacts for the Minister to make a decision;
- Sufficient opportunities were provided for agency, Indigenous community and public consultation; and,
- Concerns raised by the GRT, the public and Indigenous communities have been considered by the proponent in the EA or a commitment has been made to continue addressing concerns through further discussions in future permitting and approval processes.

5.1.1 Proposed Conditions of Approval

If an undertaking is approved under the EAA, there will be several standard conditions. These conditions include:

- General requirements to comply with the EA and commitments made;
- Documentation requirements for the public record;
- Compliance monitoring provisions for the proponent to conduct and report on;
- Preparation of a complaints protocol to respond to all complaints received during construction and operation;
- Preparation of an Indigenous consultation plan for project implementation; and
- An expiration date on the EA approval.

Below is a preliminary list of potential conditions of approval that may be recommended to the Minister for consideration to further support the commitments made in the EA and the purpose of the EAA:

- Development of an air quality and odour monitoring plan and an odour management plan to be submitted to the MECP for review and approval;
- Re-evaluation of the viability of landfill gas utilization four years after EA approval and every four years thereafter; and,
- Establishment of a leachate level monitoring program and a contingency plan to address potential leachate mounding and seeps for the vertical expansion of the Old Landfill.

This list is not exhaustive and additional conditions may be proposed subject to further review and consultation. During the five-week Review comment period and prior to the ministry making a recommendation to the Minister about this EA, additional conditions of approval specific to the landfill expansion undertaking may be proposed to ensure that the environment remains protected.

6. What Happens Now?

The Review will be made available for a five-week comment period. During this time, all interested parties, including the public, the GRT and Indigenous communities can submit comments to the ministry about the proposed undertaking, the EA and/or the Review. At this time, anyone can make a written request that the Minister refer either all or part of the EA to the Environmental Review Tribunal for a hearing if they feel their environmental concerns have not been considered.

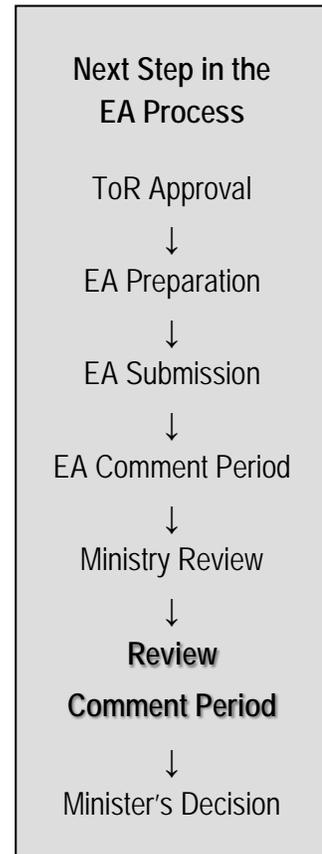
At the end of the Review comment period, ministry staff will make a recommendation to the Minister concerning whether the EA has been prepared in accordance with the ToR, the requirements of the EAA, and whether the proposed undertaking should be approved. When making a decision, the Minister will consider the purpose of the EAA, the EA itself, the Review of the EA, comments received during the formal comment periods, in addition to other matters the Minister may consider relevant.

The Minister will make one of the following decisions:

- Give approval to proceed with the undertaking;
- Give approval to proceed with the undertaking subject to conditions; or
- Refuse to give approval to proceed with the undertaking.

Prior to making that decision, the Minister may also refer either part of or the entire EA to mediation or refer either part of or the entire EA to the Environmental Review Tribunal for a decision.

If the Minister approves, approves with conditions or refuses to give approval to the undertaking, the Lieutenant Governor in Council must concur with the decision.



6.1 Additional Approvals Required

If EAA approval is granted, Waste Connections will still need to obtain other legislative approvals to design, construct and operate this undertaking. Section 10 of the EA outlines additional approvals that may be required. These approvals may include:

- Chatham-Kent *Drainage Act* approval for the relocation of the Howard Drain;
- Chatham-Kent approval of Official Plan, Zoning By-law, and Site Plan Control Amendments under the *Planning Act*;
- The LTVCA Development, Interference with Wetlands and Alterations to Shorelines and Watercourses permit under O. Reg. 152/06 of the *Conservation Authorities Act*;
- Amendments to waste, air, and industrial sewage works Environmental Compliance Approvals under the *Environmental Protection Act* and *Ontario Water Resources Act*; and
- Project registration under O. Reg. 242/08 (General) of the *Endangered Species Act* for the temporary removal of eastern meadowlark habitat.

If EAA approval is granted, the proponent must still obtain any other permits or approvals required to construct and operate this undertaking.

These approvals cannot be issued until approval under the EAA is granted.

6.2 Modifying or Amending the Proposed Undertaking

Any changes outside the scope of this EA may be considered a new undertaking under section 12 of the EAA and may require a new individual EA.

APPENDIX A

ENVIRONMENTAL ASSESSMENT ACT REQUIREMENTS

Appendix A: *Environmental Assessment Act* (EAA) and Terms of Reference (ToR) Requirements of the Environmental Assessment

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
Reg. 334 Environmental Assessment Act Requirements	2.(1) Summary of EA	EA should contain a brief summary of the environmental assessment organized in accordance with the matters set out in subsection 6.1 (2) of the Act.	The EA provides an executive summary organized with the matters set out in subsection 6.1 (2) of the Act.
	2.(1) List of Proponent-led Studies	EA should contain a list of studies and reports which are under the control of the proponent and which were done in connection with the undertaking or matters related to the undertaking.	Table 2-2 (Technical Work Completed) in section 2.3 (Technical Work Completed) of the EA outlines the reports, studies and surveys conducted for the EA.

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
	2.(1) List of Additional Studies	EA should contain a list of studies and reports done in connection with the undertaking or matters related to the undertaking of which the proponent is aware and that are not under the control of the proponent;	None applicable. All studies and reports were prepared by the proponent in support of the EA.
	2.(1) Maps	Where the environmental assessment is for an undertaking with a fixed location, at least two unbound, well marked, legible and reproducible maps that are an appropriate size to fit on a 215 millimetre by 280 millimetre page, showing the location of the undertaking and the area to be affected by it. R.R.O. 1990, Reg. 334, s. 2 (1); O. Reg. 263/07, s. 1.	Figure 3-1 (Study Areas) in section 3.1 of the EA shows the Ridge Landfill site and the areas potentially affected by the undertaking with respect to the different components of the environment. There are figures of the location of the undertaking and the affected study areas throughout section 3.0 (Description of the Environment Potentially Affected).

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
Problem / Opportunities	<p>Identify an existing problem or opportunity</p> <p>Purpose of the Undertaking:</p> <p>s.6.1(2)(a)</p>	<p>The EA should contain a brief explanation of the problem or opportunity that prompted the proposed activity.</p> <p>If a specific undertaking has been identified provide a brief description.</p>	<p>Section 1.5 (Rationale for the Proposed Undertaking) mentions the opportunity for Waste Connections to continue providing waste disposal services to industrial, commercial and institutional (IC&I) customers in southern and central Ontario from 2021 to 2041.</p> <p>The purpose of the undertaking is to expand the Ridge Landfill by 28.9 million cubic metres (30.2 million cubic metres with final cover) to provide long-term, residual non-hazardous waste disposal capacity for the company's IC&I customer base, and municipal waste disposal for the Municipality of Chatham-Kent.</p> <p>Appendix F1 provides an update to the Purpose/Opportunity Assessment Supporting Document #1, originally submitted with the EA terms of reference (ToR), which confirms the opportunity to continue disposing 1.3 million tonnes of waste per year at the Ridge Landfill over the 2021 to 2041 planning period.</p>
Alternatives	<p>Description and Statement of the Rationale for the Alternatives to:</p> <p>Alternative to</p> <p>s.6.1(2)(b)(iii)</p>	<p>“Alternatives to” represent functionally different ways of addressing the problem or opportunity.</p> <p>A reasonable range of “alternatives to” should be identified and evaluated. The proponent should be able to justify that it has considered a reasonable range of alternatives.</p>	<p>Waste Connections reviewed waste management options and undertook a screening of alternatives to the undertaking during the development of the ToR. The screening of alternatives compared a reasonable range of alternatives against the “do nothing” alternative. The alternatives considered were:</p> <ul style="list-style-type: none"> • close Ridge Landfill and construct a new landfill; • expand the existing landfill; and • expand the existing landfill with enhanced diversion. <p>The preferred alternative was to expand the existing landfill.</p> <p>Waste Connections prepared a “focused” EA in accordance</p>

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
		<p>The “do nothing” alternative to should be included in the evaluation and will represent the “bench mark” situation.</p>	<p>with Sections 6(2)(c) and 6.1(3) of the EAA which looked at alternative ways of expanding the landfill.</p>
	<p>Description and Statement of the Rationale for the Alternatives methods:</p> <p>Alternative Methods s.6.1(2)(b)(ii)</p>	<p>“Alternative methods” include a description of different ways of implementing the preferred “alternative to”</p> <p>A reasonable range of “alternative methods” should be identified and outlined.</p>	<p>Waste Connections considered alternative methods of expanding the existing landfill, including methods for managing landfill gas and treating leachate.</p> <p>The methods for expanding the landfill to provide additional waste disposal capacity considered were:</p> <ul style="list-style-type: none"> • Alternative 1 – horizontal expansion of the South and West Landfills and the vertical expansion of the Old Landfill; • Alternative 2 - horizontal expansion of the South and West Landfills and both landfill mining and vertical expansion of the Old Landfill; and • Alternative 3 - horizontal expansion of the South and West Landfills and a new fill area east of the South Landfill with no vertical expansion or alteration of the Old Landfill. <p>The landfill gas management methods considered were:</p> <ul style="list-style-type: none"> • Alternative 1 – Continued flaring of collected landfill gas; • Alternative 2 – Utilization of landfill gas (renewable natural gas) by selling it to a third party; and • Alternative 3 – Utilization of collected landfill gas by

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
			<p>converting it to electricity.</p> <p>The leachate treatment methods considered were:</p> <ul style="list-style-type: none"> • Alternative 1 – continued discharge of leachate to the existing sanitary sewer and treatment at the Blenheim Treatment Lagoons (BTL); • Alternative 2 – on-site pre-treatment of leachate prior to discharge to the existing sanitary sewer with further treatment at the BTL; and • Alternative 3 – on-site full treatment of leachate and discharge to a surface water feature. <p>The decision-making process explains how Waste Connections evaluated the alternative methods to determine the proposed undertaking. Potential environmental effects were considered with the exception of off-site infrastructure associated with landfill gas and leachate management alternatives.</p>
Evaluation	<p>Description of the Environment</p> <p>s.6.1(2)(c)(i)</p>	<p>Proponents must consider the broad definition of the environment including the natural, biophysical, social, economic, built and cultural conditions.</p> <p>The EA must provide a description of the existing environmental conditions in the study area.</p>	<p>The on-site study area established for the EA is the Ridge Landfill property which is surrounded by farmland, and the Chatham-Kent Municipal Airport west of the landfill. Off-site study areas were established for different disciplines to determine potential direct and indirect effects of the undertaking on different components of the environment. A haul route study area was also established.</p> <p>Section 3.0 of the EA provides a description of the environmental conditions in the on-site, off-site and haul route study areas to establish a baseline for comparison when</p>

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
		<p>The EA must identify those elements of the environment that may be reasonably expected to be affected, either directly or indirectly, by the proposed undertaking and/or the alternatives.</p>	<p>evaluating alternative methods.</p> <p>The environments described are:</p> <ul style="list-style-type: none"> • Natural environment – biological, hydrogeological, surface water, atmospheric, climate change; • Socio-economic environment – social, economic, atmospheric (odour, dust, blowing litter), noise, visual, agricultural; • Cultural environment – archaeology, cultural heritage; and • Built environment – bird hazards to aviation safety, land use, transportation, design & operations. <p>The ministry is satisfied that a broad definition of the environment was considered and descriptions of existing environmental conditions in the study areas were provided.</p>
	<p>Description of Potential Environmental Effects</p> <p>s.6.1(2)(c)(ii)</p>	<p>Both positive and negative environmental effects should be discussed.</p> <p>The EA must identify methods and studies used to analyze the potential environmental effects. The methods used are contingent on the type of project.</p> <p>Impact assessment</p>	<p>Potential environmental effects, positive and negative, were identified during the EA. Section 4.0 (Consideration of the Alternative Methods) of the EA describes the comparative evaluation methodology for assessing each alternative method for landfill site expansion, leachate treatment and landfill gas management.</p> <p>Criteria and indicators were assigned to assess the potential effects on natural, socio-economic, cultural and built environments. Section 4.1.2 of the EA describes the potential net effects of landfill site development, section 4.2.5 describes the potential net effects of landfill gas management alternatives, and section 4.3.3 describes the potential net effects of leachate treatment alternatives. The alternative methods were compared</p>

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
		<p>methods and criteria used during the evaluation should be identified.</p> <p>The methods chosen must be clear, traceable and replicable so that interested parties can understand the analysis and logic used throughout the EA.</p>	<p>with respect to their potential effects and ranked according to preference. Section 6.0 (Impact Assessment of the Preferred Alternative) of the EA describes the method used to determine the potential effects of the preferred undertaking (project). Impact assessment criteria and indicators were applied to the project. Predicted environmental effects, mitigation measures and net effects are summarized in tables throughout this section, including climate change and cumulative effects.</p> <p>The methods chosen to select the preferred site development, leachate treatment and landfill gas management options, as well as to assess the impacts of the project were clear, traceable, and replicable where quantitative assessments were made. Qualitative assessments were made where quantitative data were not available.</p>
	<p>Description of the Actions Necessary to Prevent, Change, Mitigate or Remedy the Environmental Effects</p> <p>s.6.1(2)(c)(iii)</p>	<p>A description of future commitments, studies and a work plan may be included as part of the actions necessary to prevent, change, mitigate or remedy environmental effects for each alternative for the ultimate purpose of comparing them.</p>	<p>A description of future commitments to mitigate impacts and environmental effects monitoring is provided in section 7.0 (Monitoring, Reporting and Commitments) of the EA. Table 7-7 lists the commitments and the timing for when each commitment will be carried out during the construction, operation, closure or post-closure phases of the landfill.</p> <p>Section 7.0 outlines monitoring activities for terrestrial and aquatic wildlife and habitat (including species at risk), groundwater, surface water, leachate quality, and landfill gas collection system performance. Contingency measures are proposed for groundwater, surface water, leachate treatment, leachate seeps at the Old Landfill, landfill gas odour, discovery of archaeology resources, and haul truck transportation. A</p>

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
			<p>complaints procedure will also be implemented.</p> <p>The ministry is considering the following conditions of approval to reinforce commitments made by Waste Connections in response to concerns raised by government reviewers, Indigenous communities and members of the public during the EA comment period:</p> <ul style="list-style-type: none"> • Development of an air quality and odour monitoring plan and an odour management plan to be submitted to MECP for review and approval; • Re-evaluation of the viability of landfill gas utilization four years after EA approval and every four years thereafter; and, • Establishment of leachate level monitoring and a contingency plan to address potential leachate mounding and seeps for the vertical expansion of the Old Landfill.
	<p>Evaluation of Advantages and Disadvantages to the Environment</p> <p>s.6.1(2)(d)</p>	<p>The preferred alternative should be identified through this evaluation.</p>	<p>Advantages and disadvantages to the environment for each site development, leachate treatment and landfill gas management alternative were considered in the evaluation of alternative methods to select the preferred alternative method.</p> <p>Table 5-2 in section 5.17 (Comparison of the Preferred Alternative to the “Do Nothing” Alternative) identifies the advantages and disadvantages of proceeding with the Ridge Landfill Expansion project on the natural, socio-economic, cultural and built environments.</p>
	<p>Description of</p>	<p>A description of</p>	<p>Section 8.0 (Consultation) describes the stakeholder and</p>

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
	<p>Consultation with Interested Stakeholders</p> <p>s.6.1(2)(e)</p>	<p>stakeholder consultation that occurred during the preparation of the EA needs be documented and should include consultation methods used, frequency of consultation, dates that events occurred, target audience, descriptions of key milestones for which stakeholders are providing input, comments received.</p> <p>The EA must identify any Aboriginal consultation efforts that have been made including methods for identifying potentially interested First Nations, who was consulted, when and how consultation occurred and any comments received from First Nations.</p> <p>The EA should outline conflict resolution techniques used by the proponent to resolve outstanding issues with</p>	<p>Indigenous community consultation that occurred during the preparation of the EA. Waste Connections held meetings, open houses and distributed newsletters at the following key steps of the EA:</p> <ul style="list-style-type: none"> • Confirmation of alternative methods; • Evaluation of alternative methods; • Assessment of potential effects and development of mitigation measures for the preferred alternative method. <p>Waste Connections also published a draft EA and made it available for 45 days to public and agency stakeholders, and Indigenous communities and organizations to review.</p> <p>Section 8.7 (Overview of Indigenous Communities and Organizations Consultation Activities) of the EA provides a summary of Indigenous communities and organizations that were contacted and consultation efforts. Waste Connections notified communities in advance of public open houses and offered to meet in-person with community members.</p> <p>Residents near the Ridge Landfill expressed concerns about drinking water supply wells, odour, dust, blowing litter and traffic. Waste Connections addressed local resident concerns during the EA and is working to provide compensation to impacted residents who may still experience residual effects.</p> <p>The ministry is satisfied that the public, agencies and Indigenous communities had opportunities to comment and provide input on the EA throughout the process. The ministry is satisfied with the level of consultation undertaken. Waste Connections also made commitments for further Indigenous</p>

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
		any stakeholders. There must be clear documentation as to how issues and concerns have been addressed.	community involvement in archaeological assessments and re-naturalization projects during project implementation.
Selection Process	Proposed Undertaking Description and Statement of the Rationale for the undertaking s.6.1(2)(b)(i)	<p>The description of the undertaking should specify what the proponent is seeking approval for under the EAA.</p> <p>The description should include information on the location, attributes, dimensions, emissions etc.</p> <p>The evaluation process should identify which is the preferred undertaking.</p>	<p>Section 1.5 (Rationale for the Proposed Undertaking) of the EA explains the reasons for Waste Connections seeking an expansion of the Ridge Landfill. The main reason is that there remains a strong demand for IC&I waste disposal in Ontario which presents an opportunity for Waste Connections to continue accepting 1.3 million tonnes of waste annually at the Ridge Landfill from 2021 to 2041. This equates to 26 million tonnes or 28.9 million cubic metres of waste. The “Update to Purpose/Opportunity Assessment Supporting Document #1” memo in Appendix F of the EA provides additional information to support to this business opportunity.</p> <p>The evaluation process in section 4.0 (Consideration of Alternative Methods) of the EA provides the rationale for the preferred site development, landfill gas management, and leachate treatment methods which form the preferred undertaking (project).</p> <p>Section 5.0 (Description of the Preferred Alternative) of the EA clearly describes the preliminary project design and landfill expansion phasing. The site features described are:</p> <ul style="list-style-type: none"> • Site access and roads; • Leachate and landfill gas management; • Surface water management (e.g. stormwater ponds);

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
			<ul style="list-style-type: none"> • Soil management, berms and buffers; • Woodlots; and • Ancillary works (e.g. public waste drop-off area, wood chipping and concrete crushing). <p>There are three (3) distinct waste areas at the Ridge Landfill which are the Old Landfill, the West Landfill, and the South Landfill. Vertical expansion of the Old Landfill area will be the first area of expansion, followed by horizontal expansion of the South Landfill, then horizontal expansion of the West Landfill. Leachate and landfill gas collection infrastructure will be expanded accordingly. Continued leachate treatment at the Blenheim Treatment Lagoons and landfill gas flaring are proposed.</p> <p>Sections 5.15 and 5.16 discuss plans that will be developed for site closure and post-closure monitoring.</p>

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
Next Steps & Additional Commitments	Additional ToR Commitments	Outline any further commitments made by the proponent in the ToR.	<p>Appendix C of the EA (ToR and Work Plan Commitments Table) documents the commitments made at the ToR stage, how each commitment was addressed and referenced in the EA.</p> <p>Commitments related to the construction, operation, closure and post-closure phases of the landfill are listed in Table 7-7 of section 7.0.</p>
	Additional Approvals	Outline additional approval requirements. Provide sufficient detail about the nature of the approval.	<p>Section 10 (Other Approvals) describes the permits and approvals that will be required after EA approval. These may include:</p> <ul style="list-style-type: none"> • Chatham-Kent <i>Drainage Act</i> for the relocation of the Howard Drain; • Chatham-Kent approval of Official Plan, Zoning By-law, and Site Plan Control Amendments under the <i>Planning Act</i>; • Amendments to waste, air, and industrial sewage works Environmental Compliance Approvals under the <i>Environmental Protection Act and Ontario Water Resources Act</i>; and • Project registration under O. Reg. 242/08 (General) of the <i>Endangered Species Act</i> for the temporary removal of eastern meadowlark habitat. <p>One permit that was not on the list was the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses permit under O. Reg. 152/06 of the <i>Conservation Authorities Act</i> from the Lower Thames Valley Conservation</p>

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
			Authority.

APPENDIX B

SUBMISSIONS RECEIVED DURING THE EA COMMENT PERIOD

Table 1: Government Review Team Comment Summary

Proposal: Ridge Landfill Expansion Environmental Assessment
Proponent: Waste Connections of Canada

Submitter	Summary of Comments	Proponent's Response	Status
Ministry of the Environment, Conservation and Parks, Sarnia District	<p>Landfill Gas Alternatives Evaluation</p> <p>The response provided by Waste Connections regarding landfill gas utilization for energy recovery:</p> <p><i>“Commitment added to Section 7.1.6 and to Table 7-7. Timeframe specified as 4 years and states a report will be provided to MECP on the results of the analysis.”</i></p> <p>Partially addresses the original comment as it includes a commitment for an initial re-evaluation after four years. The commitment should also include set timeframes for subsequent re-evaluations (e.g. every four years thereafter until landfill closure) as market conditions and other factors influencing the decision would not be expected to remain static after the initial re-evaluation.</p>	Waste Connections will include the re-assessment and subsequent re-assessments every 4 years in the EA annual Compliance report to be submitted annually to the Ministry of the Environment, Conservation and Parks (MECP).	The ministry is considering a condition of approval related to the re-assessment of the feasibility of landfill gas utilization.
Ministry of the Environment, Conservation and Parks, West Central Region	<p>Land Use Buffer</p> <p>It is noted that this EA has been undertaken to enable Waste Connections to expand its existing landfill by approximately 54.9 ha, thereby extending the lifespan of the landfill by an additional 20 years based on anticipated fill rates.</p>	Acknowledged	The ministry is satisfied with the response.

Submitter	Summary of Comments	Proponent's Response	Status
	<p>This means that current impacts associated with proximity to an active landfill will continue for an additional 20 years. The actual magnitude of these impacts may also be different due to the change in configuration of the landfill.</p> <p>The previous MECP Environmental Planner comment #1 on the draft EA indicated that the EA did not clearly state as per MECP Guideline D-4, that a 30-metre buffer area must be maintained around the fill perimeter where no development is to be permitted.</p> <p>Dillon's response has indicated that additional text has been added to Section 5.4.4 and 6.11.1 and the wording is acceptable as it refers to a 100 metre buffer.</p>		
<p>Ministry of the Environment, Conservation and Parks, Southwest Region</p>	<p>Air Quality and Odour Monitoring</p> <p>The draft EA (Section 7.1.4 Monitoring, Reporting and Commitments – Environmental Effects Monitoring – Air and Odour) had stated that additional monitoring and management measures for air quality and odour monitoring will be further defined as part of the ECA approval process and in consultation with the MECP. This final EA states that no monitoring is proposed.</p> <p>The modelling has shown particulate concentrations to be very close to the limits. Monitoring is important to help determine if the</p>	<p>Waste Connections is committed to completing an air monitoring program, and upon receipt of the Site's amended Environmental Compliance Approval (ECA), Waste Connections will submit a monitoring plan to the MECP for approval.</p> <p>The air monitoring plan will be consistent with the program completed at the Ridge Landfill in 2014 and will include twenty-four (24) hour samples of TSP, PM₁₀, and volatile organic compounds or non-methane organic compounds</p>	<p>The ministry is considering a condition of approval related to air quality and odour monitoring.</p>

Submitter	Summary of Comments	Proponent's Response	Status
	<p>fugitive dust controls are working effectively and if concentrations remain below criteria.</p> <p>An air quality and odour monitoring plan should be developed, as had been previously committed. This should, at a minimum, include the monitoring of PM₁₀ (particulate matter with a diameter of 10 microns or less) and TSP (total suspended particulate). The plan should be reviewed and approved by the ministry.</p>	<p>(VOC/NMOC), over a period of six (6) months according to the National Air Pollution Surveillance Program (NAPS) schedule wherever possible.</p> <p>The sampling will be conducted in general accordance with the MECP Operations Manual for Air Quality Monitoring in Ontario, dated May 2019.</p>	
<p>Ministry of the Environment, Conservation and Parks, Southwest Region</p>	<p>Groundwater Monitoring</p> <p>The off-site water well monitoring program may need to be expanded. This was previously raised in the ministry's August 15, 2019 comments on the Hydrogeological Impact Assessment (July 2019). There may be a few a private wells that will become closer to the landfill footprint once it is expanded. This should not be inferred to mean that these wells are at a greater risk of impact. Specific changes to the groundwater monitoring plan, if deemed necessary, can be addressed during our review of the application for the Environmental Compliance Approval (ECA).</p>	<p>As is the case for the current private well monitoring program, additional wells will be added to the program at the request of, and with the consent of, the owners or tenants. This will be described as such in Section 15.2.5 of the Design & Operations report (Monitoring Programs) submitted in support of the Waste ECA amendment application.</p>	<p>The ministry is satisfied with the response.</p>
<p>Ministry of the Environment, Conservation and Parks, Environmental Assessment Branch</p>	<p>Renewable Gas Facility</p> <p>At the EA terms of reference stage, Waste Connections indicated that it was looking to establish a renewable natural gas facility similar to the Lachenaie gas plant that it operates in Terrebonne, Quebec. Commitment #60 (Appendix C – Commitments Table) stated that "<i>Waste Connections is currently evaluating the potential for</i></p>	<p>Evaluation has not been completed and a conclusion has not been reached.</p> <p>Evaluation will include assessment of environmental, social, technical and commercial considerations related to gas utilization. It will be reported in the EA annual compliance report as stated above.</p>	<p>The ministry is considering a condition of approval related to the re-assessment of the feasibility of landfill gas utilization.</p>

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	<p><i>a biogas facility that would use landfill gas from the Ridge</i>". Has this evaluation which commenced prior to the EA been completed, and what were the conclusions?</p> <p>Section 4.2.6.1 (Landfill Gas) of the EA indicates that the preferred landfill gas management method is to continue flaring. Waste Connections also commits in the EA to re-evaluate the commercial opportunities of gas utilization in four years after approval of the EA and report to the MECP the results of the analysis. What will this re-evaluation include and how will it be reported to the MECP?</p>		
<p>Ministry of the Environment, Conservation and Parks, Environmental Assessment Branch</p>	<p>Leachate Treatment Alternatives Off-Site Effects</p> <p>Section 4.3.3 (Potential Net Effects of Leachate Treatment Alternatives) of the EA does not discuss the off-site infrastructure for each leachate treatment method and associated potential effects. This comment was previously raised in the review of the revised draft EA (Record of Consultation - MECP Draft EA Comment and Response Table, Project Officer comment #36).</p> <p>Information such as the location and the condition of the existing sanitary sewer, Ridge Landfill's leachate pipe, and associated pumping stations are not mentioned in the body of the EA report. The memo (Ridge Landfill Off-site Leachate Infrastructure) in Appendix D6 (Design and Operations Report) concludes that the forcemain has sufficient capacity to convey the future</p>	<p>The off-site sanitary sewer and pumping station is owned, operated and maintained by Chatham-Kent Public Utilities Commission (PUC) and, like all users, Waste Connections is charged a fee by the PUC for the use of this infrastructure. The infrastructure is relatively new (2005) and the Chatham-Kent PUC has indicated that its expected service life is 75 years.</p> <p>Waste Connections have confirmed that the PUC has an asset management plan that includes this infrastructure.</p> <p>The forcemain from the leachate storage tank on-site to the municipal forcemain located immediately adjacent to the site on Erieau Road is a 90 m long, 100 mm high density polyethylene (HDPE) pipe</p>	<p>The ministry is satisfied with the response.</p>

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	<p>maximum daily flow of Ridge Landfill leachate and the Charing Cross sanitary flows to the Blenheim Sewage Treatment Plant to the end of the landfill expansion duration in 2041, but there is no information on lifespan or condition. This information would provide an indication of the potential for leaks and the frequency of maintenance activities associated with leachate conveyance infrastructure.</p>	<p>installed in 2005. Ongoing flow measurements indicate that the pipe is conveying leachate as designed. If a decrease in the flow measured in the pipe is observed, it would indicate that the pipe is becoming clogged and would need to be cleaned. To date, this has not been observed, which is normal given the high velocity at which the leachate is pumped through the forcemain.</p> <p>HDPE pipe (especially small diameter pipe such as the forcemain) is very flexible and robust and is not prone to leakage or breakage. As the leachate in the forcemain is under pressure, if a leak were to occur it would likely be expressed at the surface or in the roadside ditch. Regular monitoring of the site and ditch has not detected any leakage; this monitoring will continue to occur through the expansion period and post-closure. In addition, there are 3 shallow groundwater monitoring wells (20, 21 and 22) in the surficial weathered till located close to the forcemain that are part of the site's groundwater monitoring program. If the forcemain were to leak and the leak was not detected at the surface, given the higher permeability of the weathered till it would be expected that the leaked leachate would be detected in at least one of the adjacent wells. If this were the case, then action would be taken to determine the source of the leachate and</p>	

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Ministry of the Environment, Conservation and Parks, Environmental Assessment Branch	<p>Public Waste Drop Off</p> <p>Section 5.4.6 (Ancillary Works) of the EA notes that the existing Public Waste Drop-Off Area located in the portion of the Old Landfill will be relocated to the Proposed Ancillary Facilities area shown in Figure 5-1 (Proposed Landfill Expansion – Preferred Alternative). Figure 5-1 does not show the location of the Proposed Ancillary Facilities. Please indicate where the new Public Waste Drop-Off Area will be.</p>	<p>repair the forcemain if it were the cause.</p> <p>The Public Waste Drop-Off Area is now shown on Figure 5-1.</p>	<p>The ministry is satisfied with the response.</p> <p>Figure 5-1 of the EA is presented as Figure 2 (Proposed Landfill Expansion) of this Review.</p>
Ministry of the Environment, Conservation and Parks, Environmental Assessment Branch	<p>Air Quality Receptors</p> <p>The receptors shown in Figure 6-8 (Environmental Effects Discrete Receptors) of Section 6.4.1.6.1 (Environmental Effects Discrete Receptors) are not labelled with their identifier (R1A, R2, B2 etc.) to correspond with Tables 6-16 and 6-17 in Section 6.4.1.7.1 (Environmental Effects Predicted Air Quality).</p> <p>At receptors R14A, R30, and R30A the predicted cumulative air quality concentration for 1-hr NO₂ is higher than the 2025 Canadian Ambient Air Quality Standards; however, the locations of these receptors cannot be determined from Figure 6-8. Please indicate the locations of receptors R14A, R30 and R30A.</p>	<p>Figure 6-8 has been revised to include identifiers for receptors as requested, including R14A, R30 and R30A.</p>	<p>The ministry is satisfied with the response.</p> <p>The digital version of the EA will need to include the revised Figure 6-8.</p>
Ministry of the Environment,	<p>Climate Change Mitigation</p>	<p>Consideration of the potential effects of climate change have been incorporated</p>	<p>The ministry is satisfied with the</p>

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Conservation and Parks, Environmental Assessment Branch	Section 6.5.2 (Proposed Climate Change Mitigation) of the EA states a commitment to " <i>continue to review assumptions related to climate change and consider how any change in assumptions has the potential to impact the project and how adaptive measures can continue to be incorporated into the site design.</i> " Please provide additional information on how and when this will be completed.	<p>into the design of the stormwater management (SWM) ponds and other SWM system components (including ditches, ponds, flood control berm and stormwater diversion berms on the landfill sideslopes) for the proposed expansion as identified in the workplans developed for completion of the EA. Climate change occurs over the long term, reasonably expected over a much longer time period than the proposed 20-year planning period for the Ridge Landfill expansion. It is proposed that potential effects of climate change on the presently designed SWM system will again be considered at the time of preparation of the closure plan a few years in advance of closure and submitted as part of the closure plan for MECP review and approval. If the assessment at that time indicates that modifications to the SWM system are needed as a result of changes to climate change related assumptions or projections for the post-closure period, modifications to the SWM system components will be made at that time.</p> <p>As well, as part of the closure plan, the slope stability analysis will be reviewed and the capacity of the Blenheim Wastewater Treatment Lagoons (BWTL) to receive the projected leachate volumes will be confirmed.</p>	response.

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		<p>The vegetation specified for the Ridge Landfill cover is the Standard Roadside Mix included in the Ontario Provincial Standard Specification No. 804 Seed and Cover. This seed mix has been tested in difficult conditions such as roadside ditches/slopes and landfill slopes, including the Ridge Landfill, and the composition of the seed mix will be modified as needed.</p>	
<p>Ministry of the Environment, Conservation and Parks, Environmental Assessment Branch</p>	<p>Air Quality and Odour Best Management Practices</p> <p>No air quality and odour monitoring are proposed for the landfill expansion in Section 7.1.4 (Air and Odour) of the EA. How will Waste Connections ensure that the site will remain in compliance with air quality standards in the absence of monitoring?</p> <p>The EA states that “<i>Odour monitoring activities and best management practices are currently being developed for the landfill expansion as part of the ECA process and in consultation with the MECP</i>”. These odour monitoring activities and best management practices are not specified in Section 7.1.4 of the EA. Please provide information on what odour monitoring activities and best management practices are planned for the landfill expansion.</p>	<p>See previous comment above regarding air quality monitoring. For odour, the air dispersion modelling completed for the landfill has shown odour concentrations to be below the MECP guideline value and best management practices provided in support of the air ECA will indicate the practices and controls that will be used to manage odour emissions from the site. Examples of BMP's include:</p> <ol style="list-style-type: none"> 1. Minimum 15 cm of MECP-approved cover applied to the working face at the close of each day. 2. Optimization of the landfill gas (LFG) collection system for the destruction of odourous compounds. 3. Reduction of odourous emissions from leachate by using a closed leachate storage tank and the sealing of leachate manholes, wet 	<p>The ministry is considering a condition of approval related to air quality and odour monitoring and odour management.</p>

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		wells, riser pipes, and cleanouts.	
<p>Ministry of the Environment, Conservation and Parks, Environmental Assessment Branch</p>	<p>EA Consultation Documentation for the Design of the Old Landfill Leachate Collection System</p> <p>The consultation summary in Section 8.9.3.1 does not mention a key issue identified by MECP during the review of the draft EA related to the proposed perimeter and finger drains for leachate collection at the Old Landfill. How this issue was addressed prior to the submission of the final EA was also not mentioned.</p> <p>Dr. Kerry Rowe prepared an expert review (dated January 9, 2020) of the calculations, modelling and drawings related to mounding and seepage control to the side slopes and base of the Old Landfill in response to MECP's concern. The review recommended ongoing maintenance of the finger drains, control of occasional side seeps, and periodic replacement of the perimeter drain over Dillon's estimated contaminating lifespan of 380 years. Dr. Rowe's memo was not included in the Record of Consultation and it is unclear if the recommendations have been incorporated into the EA.</p>	<p>It is acknowledged that the summary in Section 8.9.3.1 does not include the issue raised by MECP regarding the perimeter leachate collection system and finger drains proposed for the Old Landfill. However, pages 47 to 55 of the response table in Appendix B-9 (Record of Consultation), documents the issue and the responses to the comments provided by Waste Connections, including the Dr. Kerry Rowe peer review, and MECP's acceptance of the review. The complete documentation, recommendations and resulting design modifications were incorporated into the final Design & Operations Report submitted in support of the EA.</p> <p>As a result of comments received from the MECP Senior Waste Engineer, the following modifications were made to the design, which were included in the final Design & Operations Report submitted in support of the EA:</p> <ul style="list-style-type: none"> • The infiltration rate was changed to include maximum monthly average infiltration rates during the operational phase of the landfill. • The spacing of the finger drains was reduced from 30 m to 25 m. 	<p>The ministry is satisfied with the response.</p>

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		<p>The depth of the finger drains was increased from 3 m to 3.7 m. Dr. Kerry Rowe peer-reviewed this modified design and concluded that the proposed site-specific design is considered acceptable to control potential leachate seepage on the side slopes. Therefore, no modifications to the design were required as a result of Dr. Kerry Rowe's peer review.</p> <p>Dr. Kerry Rowe also made a general comment that the finger and perimeter drains will require ongoing maintenance and periodic replacements, and it can be expected that occasional seeps will need to be controlled over the contaminating lifespan. Following the peer review report submission to MECP, the Senior Waste Engineer requested the submission of a trigger criteria and contingency plan for the Old Landfill leachate management. The final Design & Operations Report submitted in support of the EA included a seep remediation trigger criteria and contingency plan in its new Section 17.3.2, which addresses both the Dr. Kerry Rowe and MECP comments related to seep control/mitigation. The final Design & Operations Report submitted in support of the EA includes in requirements in Section 10.2 to inspect, maintain and replace the finger and</p>	

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		<p>perimeter drains as needed during the contaminating lifespan.</p> <p>The documentation is included in the Design & Operations Report to be submitted in support of the Waste ECA amendment application, and the design requirements are presented in the detailed design report and drawings for the first cell of the Old Landfill expansion. The Design & Operations Report to be submitted in support of the Waste ECA amendment application will provide more details on the seep remediation trigger criteria and contingency plan. Also, the requirements for the maintenance and replacement of the finger and perimeter drains over the contaminating lifespan of the expansion have been incorporated into the Financial Assurance assessment for the expansion to be submitted in support of the Waste ECA amendment application.</p>	
<p>Ministry of the Environment, Conservation and Parks, Environmental Assessment Branch</p>	<p>Record of Consultation</p> <p>Some correspondence from the Record of Consultation appears to be missing. For example, the February 6, 2017 letter from MECP that formally delegated the procedural aspects of Indigenous consultation to the proponent and provided a preliminary list of communities to consult, was not included. If there is correspondence from agency, public and</p>	<p>The appendix for Record of Consultation from the Terms of Reference (ToR) phase of the project was not changed for the EA. It is not known why the referenced letter was not included at the time the ToR was submitted.</p> <p>Dillon and Waste Connections staff have again reviewed their files and believe that the Record of Consultation for the EA is</p>	<p>The ministry is satisfied with the response.</p>

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	Indigenous community consultation that is missing from the Record of Consultation, please provide it to the MECP as soon as possible.	complete and all relevant correspondence from the EA has been included.	
Ministry of the Environment, Conservation and Parks, Environmental Permissions Branch	<p>Construction and Demolition Depot</p> <p>One of the waste diversion options evaluated, construction and demolition (C&D) waste processing (see EA Table 9-1 Summary of Diversion Options Evaluation), is proposed to be carried forward. However, there is no mention of a C&D depot in the Design and Operations (D&O) Report. Please provide details for the design and operation of the C&D depot in the D&O Report.</p>	<p>For Option 3, The Beneficial Reuse of C & D Waste at the Ridge Landfill, from Table 9.1 of the EA, it is proposed that this activity be located in the Beneficial Use Materials Laydown Area 1 located at the southeast corner of Area A or in the Beneficial Use Materials Laydown Area 2 located immediately east of the Southeast Woodlot as shown on Drawing 4 of Appendix D6 - Design & Operations Report</p> <p>Section 5.13.3 of Appendix D6 describes the location and operation of wood chipping and concrete crushing proposed for the landfill expansion, which are the main beneficial C & D waste materials received at the site.</p>	The ministry is satisfied with the response.
Ministry of the Environment, Conservation and Parks, Environmental Permissions Branch	<p>Landfill Gas Collection for Interim Covered Areas of the Old Landfill</p> <p>Section 8.4.3 (page 35) and Table 12.1 (page 44) of Appendix D6 (Design and Operations Report), state that the active gas collection system will be expanded to the Old Landfill. According to the phasing plan, the gas collection system will be constructed once a cell is completed with final cover. Please note that as per MECP's landfill gas regulation, a gas collection system is also required</p>	The requirement to provide a LFG collection system in areas that have not received waste for six months is in O. Reg. 217/08, Section 11.3(3)(b). The regulations were put into effect in 2008 to increase the amount of LFG captured and thereby reduce the emission of greenhouse gases (GHGs) from landfill sites. There are a number of site-specific factors related to the nature and quantity of LFG currently being generated that	The ministry is satisfied with the response but requests the estimation of landfill gas generation at the Old Landfill to determine collection feasibility to be

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	<p>for interim completed areas which are inactive for over six months. Therefore, the existing interim covered areas should have active gas collection. The design of the landfill gas collection system for interim covered areas of the Old Landfill should be provided.</p>	<p>should be considered in assessing the merits of now applying the regulation to the Old Landfill area, as follows:</p> <ul style="list-style-type: none"> • Landfilling in the Old Landfill commenced in 1966 and was completed in 1999. Landfill gas generation modelling predictions show consistently (including the model prepared for the Ridge Landfill expansion) that gas generation peaks around the time of landfill closure and declines thereafter. The most recently placed waste in the Old Landfill is 20 years old, and the oldest is 54 years old. • As such, the Old Landfill is far along on the gas generation decline portion of its cycle. • The Old Landfill has not received waste for 20 years, and there has not been gas collection over that period. The expansion of the Old Landfill will commence with cell O1; that will leave O2, O3 and O4 as interim covered cell areas. The expected period of landfilling the whole vertical expansion of the Old Landfill is 6 years with the duration of filling in the cells being, in sequence 2, 1, 1 and 2 years. • In addition to the waste being old, it is known that there is a leachate 	<p>addressed at the ECA application stage.</p>

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		<p> mound that is at about one-half the thickness of the waste above its base, leaving a reduced potential thickness of unsaturated waste from which to collect LFG. Considering that the perforated section of a LFG extraction well also cannot extend too close to ground surface so as to avoid air intrusion, the remaining potential LFG extraction interval is quite limited.</p> <p>For all of these reasons, while acknowledging the Regulation, it is considered that under these site-specific circumstances there is very limited environmental benefit to collecting LFG from the existing (pre-expansion) waste, i.e., underneath the proposed Cells O1 to O4. As such, LFG collection in the pre-expansion waste of the Old Landfill is not proposed. However, if during the development of the future proposed Cells O1 to O4 a need arises to mitigate emissions or control odour from the pre-expansion waste, Waste Connections would implement appropriate mitigation measures such as permanent or temporary LFG collection infrastructure when and if required.</p> <p>LFG collection is proposed for the new waste of the vertical expansion of the Old</p>	

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		<p>Landfill as described in Section 8.4.3 of the Design & Operations Report and shown in Drawing 26.</p> <p>The LFG collection system will be installed in the Old Landfill as the waste fill reaches final elevations, i.e., even before construction of final cover, or in areas filled with new waste that become inactive for more than six months. The first phase of the LFG collection system expansion of the Old Landfill is expected to start in the second year of operation as the waste fill is not expected to reach final grades or will not reach six months of inactivity in the first year of operation. After that, the LFG collection system will be expanded as needed on an annual basis. Table 12.1 of the Design & Operations Report that will be submitted to support the Waste ECA amendment application will be revised to reflect this timeline.</p>	
<p>Ministry of the Environment, Conservation and Parks, Environmental Permissions Branch</p>	<p>Leachate Collection at the Inside Slopes of the Old Landfill</p> <p>Section 7.7 (page 24) of Appendix D6 (Design and Operations Report) mentions that the proposed perimeter drain and finger drains at the Old Landfill will be installed at the toe of the side slopes. As the Old Landfill will be developed in four phases (Drawing #6, Phasing Plan), the absence of leachate collection at the inside faces is of concern. Measures should be implemented to collect</p>	<p>The MECP comment requests that the design of the Old Landfill expansion includes measures to prevent potential adverse effects from leachate seepage from the temporary interior side slopes of vertical expansion cells O1, O2 and O3 (cell O4 does not have temporary interior side slopes). The potential adverse effects from this seepage could be breakout to the existing top surface of the cells and then leachate travelling across</p>	<p>The ministry is satisfied with the response.</p>

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	<p>leachate at the inside faces of temporary slopes during Old Landfill development and to prevent leachate spills. Details for leachate collection and management at the inside slopes of the Old Landfill should be developed and included in the ECA application.</p>	<p>the existing top of the cells to reach the perimeter side slopes and thereby enter the surface water management system. It is considered that this has a low risk of potential occurrence because:</p> <ul style="list-style-type: none"> • For any of cells O1, O2 or O3 the travel distance from an interior temporary slope to the perimeter side slope is up to a few hundred metres travel distance; most liquid would be expected to infiltrate the surface over this long travel distance and enter the underlying waste. • In view of the short period of time to complete vertical expansion of the Old Landfill, the existing leachate mound is not expected to increase to a level where it is within the vertical expansion. As such, the only source of potential seepage is infiltrating precipitation, most of which will get absorbed by the fresh waste. • The interior slopes would only be present for a relatively short period of time, ranging from 1 to 4 years, as the cells are progressively filled. The new waste that will be placed in the vertical expansion cells has a relatively high initial capacity to absorb infiltrating precipitation which will be ultimately managed 	

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		<p>by the leachate collection system, thereby minimizing the potential for it to travel laterally and discharge as seepage from the interior slope.</p> <ul style="list-style-type: none"> If leachate were to seep from these interior slopes and unexpectedly manage to travel to the perimeter side slopes without infiltrating into the waste mass, the existing perimeter finger drain system will provide interception. <p>However, to address the MECP's concern, a temporary interior slope berm along the length of the toe of these temporary interior side slopes will be provided as part of design. This temporary interior slope berms will prevent overland discharge of any side slope seepage and cause it to infiltrate into the underlying waste. This design feature will be added into the Design & Operations Report submitted in support of the Waste ECA amendment application, and shown in the detailed design report and drawings for the first cell of the Old Landfill expansion.</p>	
Ministry of the Environment, Conservation and Parks, Environmental Permissions	<p>Leachate Level Monitoring at the Old Landfill</p> <p>To ensure that the leachate finger drains perform as designed (Appendix 6 – Design and Operations Report, Section 15.2.3) and to prevent excess leachate mounding at the Old Landfill, the leachate</p>	Waste Connections will address these two comments related to leachate mounding, monitoring, triggers and contingency for the Old Landfill expansion as part of the Waste ECA amendment application process.	The ministry is considering a condition of approval related to leachate level monitoring and

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Branch	level at the Old Landfill should be monitored. However, there are currently no leachate wells within the Old Landfill. Leachate monitoring wells will need to be installed within the Old Landfill. (Appendix 6 – Design and Operations Report, Section 15.2.3).		contingency planning to address potential leachate mounding in the Old Landfill.
Ministry of the Environment, Conservation and Parks, Environmental Permissions Branch	<p>Leachate Level Trigger Criteria at the Old Landfill</p> <p>To control leachate mounding and to prevent seeps at the Old Landfill, it is important to maintain the leachate level lower than a certain threshold level. Therefore, leachate level at the Old Landfill should be one of the trigger criteria. Please develop trigger criteria for the leachate level at the Old Landfill as part of the contingency plan. This may be completed at the ECA stage. (Appendix D6 – Design and Operations Report, Section 17.3.5)</p>	See above response.	Leachate mounding at the Old Landfill will need to be controlled. Excess leachate mounding will result in leachate break-out through the final cover which will impact surface water, the integrity of final cover, and cause odour problems. In addition, an excessive leachate level will flood the gas extraction wells and significantly affect the gas control system.
Ministry of the Environment, Conservation and	<p>Endangered Species Act Compliance</p> <p>The advice from MECP on September 13, 2019</p>	Acknowledged	The ministry is satisfied with the response.

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Parks, Species at Risk Branch	remains unchanged. In addition, please be aware that it remains the client's responsibility to ensure registered activities comply with relevant sections of O. Reg. 242/08 for Eastern Meadowlark and Barn Swallow respectively. If the activities do not meet conditions of the regulation, authorization under the <i>Endangered Species Act, 2007</i> may be required.		
Ministry of the Environment, Conservation and Parks, Resource Recovery Policy Branch	<p>Organic Waste Processing</p> <p>Waste Connections' evaluation concludes that a source separated organic waste processing (SSOWP) facility is not practical from greenhouse gas (GHG) emissions reduction and economic viability standpoints.</p> <p>Appendix E (Review of Diversion Options), Section 2.2.4 (Option 4: Source Separate Organic Waste Processing) notes that there is a calculation for the estimated annual quantity of GHG emissions saved from processing the source separated organic (SSO) waste in the Greater Toronto Area (GTA) for comparison with the 2,730 tonnes of CO₂e (carbon dioxide equivalent) that would result from transporting organic waste to the Ridge Landfill for processing. Please provide the estimate of the annual quantity of GHG emissions saved from processing SSO in the GTA and a description of the method used to determine this estimate.</p> <p>Waste Connections indicates that it is not commercially viable to process the limited amount of organic waste generated by residential, and</p>	<p>The assumption was made that the GHG's emitted from the actual processing of organics in the GTA would be the same as a facility located in Chatham-Kent. The difference being that GHG's would be saved by avoiding trucking of the material. GHG's from processing were not calculated. The GHG emissions from trucking were based on each truck transporting organics to Blenheim generating 700 kg of CO₂e per round trip. The organics content of the 1.3 million tonnes per year of waste disposed at the Ridge Landfill was assumed to be 12% based on visual survey of transfer stations or about 150,000 tonnes per year (less than 3% of the waste received is residential; it is primarily an IC&I facility). At 40 tonnes per truck, this would be about 3,900 trips per year or 2,730 tonnes CO₂e per year.</p> <p>Organics treatment is currently not a core business line for Waste Connections. An in-depth business case assessment for</p>	The ministry is satisfied with the response.

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	<p>industrial, commercial and institutional (IC&I) sources in Chatham-Kent. Please clarify or provide additional rationale for why Option 4 – SSOWP is not commercially viable. Indicate what costs were considered in the assessment of the viability of Option 4. Please also clarify what quantity of organic waste is needed to make the SSOWP option viable.</p>	<p>organics processing in Chatham-Kent is beyond the scope of this EA and was not completed. The assessment in the EA was based on an assumption that as the local Ridge Landfill residential waste service area is restricted to Chatham-Kent, if an organics collections program were mandated then 5,000 to 6,500 tonnes per year could be collected from residents in the Municipality. The waste diversion survey completed for IC&I stakeholders in the Municipality did not identify other significant sources of organics available for processing. Existing organics facilities in the Province generally have a capacity greater than 50,000 tonnes per year.</p> <p>It was concluded, based on the combination of the limited quantity of organics available from within Chatham-Kent, the lack of available space at the Ridge Landfill (understood as detailed site design for the expansion progressed), and the fact that a composting facility at the Ridge site would not likely meet the set-back requirements prescribed in Guidelines for the Production of Compost in Ontario, that a processing facility would not be feasible or commercially viable at the Ridge Landfill.</p>	

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Ministry of the Environment, Conservation and Parks, Resource Recovery Policy Branch	<p>Greenhouse Gas Emissions</p> <p>Reducing GHG emissions is a provincial priority. The predicted peak GHG emissions of 762,000 tonnes CO₂e per year (Table 6-26) represents a significant quantity of GHG emissions.</p> <p>Consistent with the objective noted in Section 6.5.2 (Proposed Climate Change Mitigation) of the EA: "<i>Waste Connections has targeted a high landfill gas collection efficiency for the expansion (80% collection efficiency)</i>", the measurement or estimation of the overall landfill gas (LFG) generated is needed in order to determine the collection efficiency achieved each year.</p> <p>Maintaining regular and ongoing review and transparency of the LFG collection system performance supports both provincial and proponent interests. Please include a commitment to:</p> <ul style="list-style-type: none"> • Measure or estimate the LFG generated each year from the landfill; • Determine the LFG collection efficiency each year (LFG collected compared to LFG generated) – in the same manner as described in Section 6.5.4 of the EA; and, • Report both the LFG generated and LFG collection efficiency in the current reporting of LFG collected. 	<p>Waste Connections currently reports and will continue to report this information through the reporting process that is submitted annually as required by the National Pollutant Release Inventory (NPRI), the federal GHG reporting program and the Airborne Contaminant Discharge Monitoring and Reporting (Ontario Regulation 127/01). This information will be submitted to Environment Canada's Environmental Protection Branch - Ontario Region, and MECP's Environmental Monitoring and Reporting Branch annually as required.</p>	<p>The ministry is satisfied with the response.</p>

Submitter	Summary of Comments	Proponent's Response	Status
Ministry of Natural Resources and Forestry, Aylmer District Office	<p>Significant Wildlife Habitat for Bald Eagle</p> <p>In 2019, a pair of Bald Eagles were observed nesting in the Northeast Woodlot near the entrance to the Ridge Landfill. Given the completion of the Environmental Assessment Report and associated biological surveys, the Ministry of Natural Resources and Forestry (MNRF) suggests classifying the Northeast Woodlot as a Significant Wildlife Habitat (SWH) for Bald Eagle and Osprey Nesting, Foraging and Perching Habitat. As such, please provide characterization of the Bald Eagle habitat according to the definition in the Significant Wildlife Habitat Criteria Schedule for Ecoregion 7e.</p>	<p>The SWH criterion schedule for Ecoregion 7e describes Bald Eagle habitat as the area within 400-800 m of the nest (the Old Landfill where vertical expansion is proposed and a portion of the existing stormwater anagement (SWM) control facilities to the west). Only the SWM control facilities have the potential to provide foraging habitat for Bald Eagle, the Old Landfill does not. As a result, impacts to SWH for Bald Eagle are avoided.</p>	<p>The ministry is satisfied with the response.</p> <p>The MNRF Aylmer District is satisfied with the information provided, and do not have any further comments or concerns at this time.</p>
	<p>Southwest Woodlot Replanting</p> <p>MNRF understands that the Southwest Woodlot will be removed in its entirety and replaced adjacent to the site, east of Erieau Road, based on a two-tree replacement for each tree removed. This compensation ratio is adequate, however; it is unclear what monitoring and contingency measures will be used to measure success of the plantings. Please provide.</p>	<p>Waste Connections is working in partnership with the Lower Thames Valley Conservation Authority (LTVCA) who will be planting a cover material (white clover) which among other benefits will support weed suppression but enable permeability. Section 7.1.1.5 of the EA outlines the monitoring and contingency measures proposed for the plantings as follows: "Trees will be monitored bi-annually between May 15 and September 30 for a minimum of 3 years after planting to assess tree health. To promote tree growth and overall health, trees will be tended to in accordance with the following:</p> <ul style="list-style-type: none"> • Tending activities will take place bi-weekly from May 15 to Sept 30 during the first three (3) growing seasons after planting; 	

Submitter	Summary of Comments	Proponent's Response	Status
		<ul style="list-style-type: none"> • Vegetation will be maintained a minimum of 60 cm around the base of the trees until the trees are above the herbaceous vegetation; • A watering plan will be in place for periods of drought or low rainfall; and • Trees assessed as dead during the 3-year monitoring period will be replanted. <p>A record of tending will be maintained to include the following:</p> <ul style="list-style-type: none"> • Planting date(s); • The date tending activities are completed and a description of the tending activity (e.g., vegetation maintenance); and • An assessment of overall tree health (good, poor, dead) for each bi-annual monitoring event." 	
Ministry of Heritage, Sport, Tourism & Culture Industries, Programs and Services Branch	<p>Cultural Heritage Evaluations and Archaeological Assessments</p> <p>The Ministry of Heritage, Sport, Tourism & Culture Industries (MHSTCI) finds that due diligence has been undertaken in the EA report by:</p> <ul style="list-style-type: none"> • Depicting the existing conditions at 20262 Erieau Road; • Undertaking archaeological assessments and committing to further fieldwork; • Undertaking a cultural heritage evaluation report that identified adjacent properties as 	<p>Minor changes recommended regarding the wording of the EA report will be made to the online version as requested.</p> <p>Waste Connections confirms its commitments for carrying out the recommendations for mitigation.</p>	<p>The ministry is satisfied with the response.</p> <p>The MHSTCI is satisfied with the response.</p>

Submitter	Summary of Comments	Proponent's Response	Status
	<p>cultural heritage resources;</p> <ul style="list-style-type: none"> • Conducting a heritage impact assessment which provided recommendations for mitigation; and • Committing to carrying out these recommendations. <p>The MHSTCI recommends minor changes to the wording in the EA report.</p>		
<p>Ministry of Transportation, Provincial Highways Management (West Region)</p>	<p>Alternate Haul Route</p> <p>The Ministry of Transportation (MTO) continues to strongly recommend the consideration of review and analysis of alternate haul routes.</p> <p>Identification and approval of an alternate haul route will allow Waste Connections uninterrupted service in the event that MTO needs to fully close the interchange and/or ramps due to unforeseen circumstances or for future improvements at the Highway 401/Highway 40 interchange. The MTO requests that Waste Connections considers the impacts of the existing haul route and the alternate haul route on MTO Highway 401 interchanges in their assessment.</p>	<p>There is already an alternate haul route in place for landfill truck traffic in the event of a 401/40 closure.</p> <p>The route enables trucks to exit Highway 401 at Bloomfield Road and proceed south to Middle Line, then easterly on Middle Line to Erieau Road and finally south on Erieau Road to the landfill entrance. This route has been previously approved with by-law amendments enacted by the Municipality of Chatham-Kent.</p> <p>The route is in good condition with recent improvements including intersection improvements such as shoulder strengthening and radius improvements, and the intersection of Charing Cross Road and Middle Line now has permanent traffic signals; installed in 2019.</p> <p>Notwithstanding the suitability of the</p>	<p>The ministry is satisfied with the response.</p> <p>The MTO indicated that as long as there is an alternate haul route in place, it has no concerns.</p>

Submitter	Summary of Comments	Proponent's Response	Status
		existing alternate haul route if some unforeseen circumstances arise Waste Connections will work with MTO and Chatham-Kent to find another alternative.	
Ministry of Agriculture, Food and Rural Affairs, Land Use Policy & Stewardship Unit	<p>Farm Market Impacts</p> <p>Ministry of Agriculture, Food and Rural Affairs (OMAFRA) staff note that Section 3.2.3 of Appendix D1 - Agricultural Impact Assessment which briefly itemizes 'Off-site Farming Infrastructure' does not reference the farm market located at 19881 Charing Cross Road. While there is reference to the farm market in other portions of the EA, it has not been clearly demonstrated how the proposed landfill expansion may affect this agribusiness immediately adjacent to the subject lands (e.g. odour impact on consumer frequency and experience), and what monitoring and mitigation measures will be put in place to address its long-term viability.</p>	<p>The referenced market was included as a business in the socio-economic impact analysis in Section 6.6 of the EA as well as in the impact assessment evaluations included in: Appendix D8 – Landfill Site and Haul Route Noise Impact Assessment, Appendix D3 – Atmospheric Impact Assessment (which includes odour and litter), Appendix D12 – Visual Impact Assessment, and Appendix D11 – Transportation Impact Assessment. The assessments concluded that with appropriate mitigation, impacts would be avoided.</p> <p>Key mitigation measures include construction of a continuous berm separating the landfill from the market (in a location determined in consultation with the market owner), operational best management practices including but not limited to dust suppression, litter fencing and monitoring, and landfill gas collection.</p> <p>Traffic volumes are not projected to increase from landfill-related traffic so decreased accessibility to the market will not be caused by the landfill expansion.</p> <p>The owner of the market is in regular</p>	<p>The ministry is satisfied with the response.</p> <p>There are no further comments from OMAFRA.</p>

Submitter	Summary of Comments	Proponent's Response	Status
		<p>contact with the Ridge Landfill and if any issues arise, they are addressed and recorded.</p>	
<p>Ministry of Agriculture, Food and Rural Affairs, Land Use Policy & Stewardship Unit</p>	<p>Vector Impacts</p> <p>With respect to vector, whether birds, insects or mammals that may be found in the study area around the landfill in higher than natural numbers, Ministry staff note that Appendix D9 - Socio-Economic Impact Assessment states that compensation may be provided based on the magnitude of the residual effect for noise, odour, dust, litter and view. This mitigation measure is premised on the condition that if compensation occurs, the effect is considered to be negligible. It has not been identified how compensation will be addressed for vectors, or should the magnitude of the impact be greater than negligible, which may include, for example losses associated with crop and livestock damage from vectors (e.g. bird damage on grain corn resulting in yield or quality issues, biosecurity protection and sanitation measures for livestock facilities). To address this, Ministry staff suggest that through the EA, the proponent consider establishing an Agricultural Community Mitigative Measures Fund that addresses individual or group claims related to agricultural impacts that are temporary or on-going. This could be funded through a very small portion of tipping fees received, which is a practice used in other jurisdictions in Ontario. Such community funds are typically governed by a formal committee comprised of members of the immediate rural community, the proponent, municipality and other agricultural stakeholders. This committee can</p>	<p>Three separate surveys were conducted as part of the EA, including detailed in-person interviews of landfill neighbours (not including extensive consultation during the Terms of Reference stage). There were also three (3) open houses and a workshop conducted. Throughout that process only one resident raised a concern about the possibility of bird damage to their crops.</p> <p>Another resident raised concerns with rats in their outbuilding, but they live 5 kilometers from the landfill and are not on the haul route.</p> <p>The concerns regarding vectors were not identified through the interviews as being a critical issue of concern. All trucks are covered so that haul waste to the landfill is not exposed, the landfill working face is kept as small as possible, and all waste is covered on a daily basis.</p> <p>There is an active bird management program that includes birds of prey, percussion devices and lethal means to discourage birds from being attracted to the landfill. The historical records of complaints from the landfill do not identify vectors as an on-going or major concern.</p>	<p>The ministry is satisfied with the response.</p> <p>There are no further comments from OMAFRA.</p>

Submitter	Summary of Comments	Proponent's Response	Status
	<p>monitor the annual revenues generated by the tipping fees, administer programs, and review applications to access the fund for losses (claims) over the lifespan of the fund, which may exceed the lifespan of the landfill itself. Inclusion of this measure could serve to mitigate effects that the agricultural community may experience beyond just vectors.</p>	<p>Losses to farm crops and livestock damage from vectors related to the landfill have not been identified as an issue by the local farm community.</p> <p>As vector issues have not been identified as an issue in the area, it has not been included as a factor to calculate compensation. If this were to become an issue or the magnitude of issues were to change, then the compensation levels would be reviewed. This would occur in direct consultation with the potentially impacted party(s).</p> <p>Compensation programs that will continue during the life of the expansion include direct financial contribution to neighbours, most of whom are farmers. The compensation program which is similar to that being proposed by OMAFRA already exists and has been operating for more than 20 years. The existing program is administered in conjunction with the Ridge Landfill Community Trust, that in combination with other community benefits, represent community compensation in the order of \$1,100,000 on an annual basis. These programs are administered based on tonnage received at the site and will continue throughout the expansion period. The current model for the compensation program has proven itself to work very well, Waste Connections</p>	

Submitter	Summary of Comments	Proponent's Response	Status
		does not believe there is a need to modify the structure or mandate of the committee that governs it. The structure of the fund is flexible in that it can address additional compensation and/or new compensation matters as they arise.	
Ministry of Agriculture, Food and Rural Affairs, Land Use Policy & Stewardship Unit	<p>Traffic Signage</p> <p>With respect to transportation and road safety, in addition to the regular contractor driver training suggested, Ministry staff also suggest traffic signage be placed along the haul route placed at regular intervals indicating the presence of slow-moving farm vehicles in the area. A sample of typical signage for this purpose is attached for reference.</p>	Road signage is the mandate of the Municipality of Chatham-Kent. Chatham-Kent works directly with the Ridge Landfill to develop signage associated with the designated haul route. This suggestion for traffic signage will be conveyed to Chatham-Kent.	<p>The ministry is satisfied with the response.</p> <p>There are no further comments from OMAFRA.</p>
	<p>Illegal Dumping</p> <p>With respect to illegal dumping that may take place on agricultural land, ditches or field accesses around the study area, Ministry staff suggest a signage program to indicate no dumping, or trespassing and the associated fines that can be levied under the relevant municipal (e.g. by-law under the <i>Municipal Act</i>) or provincial legislation (e.g. <i>Trespass to Property Act</i>) for each offence. Further, Ministry staff suggest a protocol be established to address illegal dumping in a timely manner, such as a dedicated contact number or email account that is monitored by Waste Connections of Canada to respond to issues reported by local landowners and farm operators.</p>	<p>The Ridge Landfill has been operating in its same location for over 50 years. Roadside dumping has not been an issue in the area adjacent the landfill. Landfill staff has not routinely observed this issue on their daily inspections of the area with the exception of only very infrequent dumping of yard waste (presumably not collected in curbside programs for some reason).</p> <p>The socio-economic survey completed by residents for the EA, in-person interviews conducted with neighbours and all other consultations associated with the EA did not identify roadside dumping as an issue.</p>	<p>The ministry is satisfied with the response.</p> <p>There are no further comments from OMAFRA.</p>

Submitter	Summary of Comments	Proponent's Response	Status
		<p>Waste Connection operates a call-in telephone line that is monitored 24 hours per day. The number is well publicized and local landowners and farm operators know to call it if there is a concern. A record of all calls is maintained.</p>	
<p>Ministry of Agriculture, Food and Rural Affairs, Land Use Policy & Stewardship Unit</p>	<p>Specialty Crops</p> <p>Ministry staff note that Page 17 of Appendix D1 - Agricultural Impact Assessment refers to fruit crops such as an orchard as not being defined as "Specialty Crops" by the Ministry of Agriculture, Food and Rural Affairs (see footnote 23). The crops listed in the footnote appear to be those found at: www.omafra.gov.on.ca/english/crops/index.html.</p> <p>It should be noted that this is not necessarily a definition, but rather a list used by OMAFRA's Agriculture Development Branch for categorizing various crops for agronomic purposes. From a land use planning perspective, it would be more appropriate to refer to the Provincial Policy Statement - PPS (2020) which contains the following definition [emphasis added]:</p> <p><i>Specialty crop area: means areas designated using guidelines developed by the Province, as amended from time to time. In these areas, specialty crops are predominantly grown such as tender fruits (peaches, cherries, plums), grapes, other fruit crops, vegetable crops, greenhouse crops, and crops from agriculturally developed organic soil, usually resulting from:</i></p> <p><i>a) soils that have suitability to produce specialty crops, or lands that are subject to special climatic</i></p>	<p>The phrase "Specialty Crop Areas" should have been used on page 17 of Appendix D1 instead of the phrase "Specialty Crops".</p> <p>The changes will be made to the digital version of Appendix D1 on the Ridge Landfill website to reflect this.</p> <p>The apple orchard on-site was identified as a "fruit crop" on page 17 of Appendix D1, for clarity and consistency with the PPS, it should have been identified as an "other fruit crop".</p> <p>The legend of Figure D1-4 identifies the orchard as "specialty", no change required.</p> <p>Section 3.2.2, page 25 of Appendix D1 identifies that there are currently no designated "Specialty Crop Areas" in the study areas associated with the EA. Waste Connections acknowledges that this may change in the future.</p>	<p>The ministry is satisfied with the response.</p> <p>There are no further comments from OMAFRA.</p>

Submitter	Summary of Comments	Proponent's Response	Status
	<p><i>conditions, or a combination of both;</i> <i>b) farmers skilled in the production of specialty crops; and</i> <i>c) a long-term investment of capital in areas such as crops, drainage, infrastructure and related facilities and services to produce, store, or process specialty crops.</i></p> <p>The apple orchards contained on-site and adjacent to the subject lands are considered 'other fruit crops' and for a land use planning exercise are better described by the legend in Figure D1-4 as 'specialty' or specialty crop.</p> <p>In addition to the above term, the PPS (2020) also defines 'prime agricultural land' as "specialty crop areas and/or Canada Land Inventory Class 1, 2, and 3 lands, as amended from time to time, in this order of priority for protection." The prioritizing portion of this definition highlights the importance of specialty crop areas as a unique resource for the Province. While the subject lands and surrounding off-site study area have not yet been designated a specialty crop area, by virtue of the existing orchard crops being grown both on and adjacent the potential is evident and should be noted.</p>		

Submitter	Summary of Comments	Proponent's Response	Status
Ministry of Agriculture, Food and Rural Affairs, Land Use Policy & Stewardship Unit	<p>General</p> <p>While OMAFRA staff are generally satisfied with the overall conclusions in the EA, the above items are intended to improve mitigation measures, reduce specific impacts and address technical nuisances with terminology associated with the agricultural environment. By implementing these strategies, the project may be slightly more compatibly with the surrounding agricultural area.</p> <p>Staff raise these items for your consideration and are available to discuss, if MECP decides that they may warrant modification to the EA or be appropriate to include as conditions of approval. These comments reflect Ministry of Agriculture, Food and Rural Affairs staff's interpretation of provincial policy with regard to agricultural land, and do not reflect an overall provincial position on this matter. There may be concerns or interests of other agencies that should be considered, in addition to any municipal land use planning considerations.</p>	Acknowledged	<p>The ministry is satisfied with the response.</p> <p>There are no further comments from OMAFRA.</p>
Chatham-Kent Municipal Airport	<p>Maximum Landfill Elevation</p> <p>Chatham-Kent Municipal Airport has a couple of questions in regards to the "maximum elevation of 241 metres above sea level (masl) which is 0.3 m below the maximum elevation permitted by Transport Canada Airport Zoning Regulations".</p> <ol style="list-style-type: none"> 1. Will this point of maximum elevation have any equipment, individuals or any other obstacles on it after construction is complete? 	<p>No permanent structures or obstacles will be located above the maximum elevation. During cap construction, earth moving equipment will be required to complete the work and the airport will be advised beforehand when this work would be scheduled to occur. Following completion of the cap construction, occasional maintenance will be required to mow the lawn or conduct monitoring activities, and in both cases the airport will be advised prior to the work</p>	<p>The ministry is satisfied with the response.</p> <p>The Chatham-Kent Municipal Airport is satisfied with the responses.</p>

Submitter	Summary of Comments	Proponent's Response	Status
	2. What kind of cover will be on this point?	<p>occurring.</p> <p>The final cover will be comprised of a 0.85 m thick layer of soil and a 0.15 m thick layer of topsoil seeded with native grasses.</p>	
Municipality of Chatham-Kent	<p>General</p> <p>Chatham-Kent is satisfied with all planning and technical aspects in the Report and therefore has no objection to the final submission.</p> <p>Municipal support of this project will be conditional upon Council consideration and approval of the <i>Planning Act</i> matters and the Host Community Agreement.</p>	<p>Chatham-Kent has issued a Notice of Complete application and Public Meeting to consider an application for Official Plan Amendment and Zoning By-law Amendment for the Ridge Landfill. The meeting is currently scheduled for April 27th, 2020 for Council consideration and approval.</p> <p>Waste Connections continues to negotiate in good faith with Chatham-Kent towards a mutually satisfactory Host Community Agreement.</p>	The ministry is satisfied with the response.
Lower Thames Valley Conservation Authority	<p>Bald Eagle Habitat</p> <p>Bald Eagle(s) attempting to nest in the woodlot at the Ridge Landfill. It looks like they are utilizing the northeast woodlot. So there are no concerns as there are no plans to remove this woodlot. However, the consultant may want to update their list.</p>	List will be updated	<p>The ministry is satisfied with the response.</p> <p>The Lower Thames Valley Conservation Authority (LTVCA) has no further comments.</p>

Submitter	Summary of Comments	Proponent's Response	Status
	<p>Works on Regulated Floodplains</p> <p>After reviewing files and mapping, staff determined that the property in question is subject to the Authority's Development portion of the regulations. The issue of concern in this area is the Howard Drain, the Scott Drain and erosion.</p> <p>An application from this office is required prior to any works/construction taking place within the regulated area. The lands are not subject to flooding of a general nature and as such structures are not required to be flood proofed. However, the flood proofing of structures for the purposes of prevention of flood damage from local, overland drainage waters is always recommended. Setbacks from the drains will be required to any proposed structure(s).</p>	<p>Acknowledged</p>	<p>The ministry is satisfied with the response.</p> <p>The LTVCA has no further comments.</p>
	<p>Drainage Act Process</p> <p>For the preferred Alternative 1 option involving the vertical expansion of the old landfill, with the addition of footprint A + B, the LTVCA has no objections to this proposed option. The LTVCA would be involved during the relocation process of the Howard Drain. LTVCA involvement would be triggered by the municipal <i>Drainage Act</i> process.</p>	<p>Acknowledged</p>	<p>The ministry is satisfied with the response.</p> <p>The LTVCA has no further comments.</p>

Table 2. Public Comment Summary Table

Proposal: Ridge Landfill Expansion Environmental Assessment

Proponent: Waste Connections of Canada

Submitter	Summary of Comments	Proponent's Response	Status
Resident	<p>A number of Freedom of Information and Protection of Privacy (MFIPPA) requests have suggested that:</p> <ol style="list-style-type: none"> 1. The toxic leachate is pumped through a pipeline to the municipal-Blenheim Pollution Control Plant. The toxic leachate is mixed with regular sewage then sent out into our natural waterway. The Municipality has indicated that there is no testing of the leachate when it enters or leaves the plant. 	<p>Waste Connections is not in a position to speak on behalf of the Chatham-Kent Public Utilities Commission (PUC) with respect to testing requirements at the Blenheim Wastewater Treatment Lagoons (BWTL).</p> <p>Those requirements are part of the Environmental Compliance Approval (ECA) for the BWTL not the Environmental Compliance Approval (ECA) for the Ridge Landfill.</p> <p>Quality monitoring of leachate generated at the Ridge Landfill is conducted through the analyses of samples collected from the on-site leachate storage tank before it is pumped to the BWTL. Numerous parameters are tested three (3) times per year. The results are reported in the Annual Operating Report for the site and are provided to the Chatham-Kent Public Utilities Commission (PUC) and the Ministry of the Environment, Conservation and Parks (MECP).</p> <p>Leachate quality has been monitored since 1995 with the results being consistent over time and meeting BWTL regulatory requirements.</p> <p>In addition, if the BWTL were not able to treat the leachate, contingency plans are in place to truck it to the Chatham Wastewater Treatment Plant. The EA</p>	The ministry is satisfied with the response.

Submitter	Summary of Comments	Proponent's Response	Status
		<p>also identified the potential for a leachate pretreatment system to be operated on-site if the BWTL could not adequately treat specific parameters in the leachate.</p> <p>As the build-up of leachate in the landfill is very slow, in the event of an unforeseen issue, leachate collection and pumping to the BWTL can be stopped for a period of time with no adverse environmental impact.</p>	
Resident	<p>2. The American Corporation indicated in their annual report that they utilize toxic auto fluff on the roads and within the facility to mitigate mud and dust. This is a direct assault on our environment. "A review of ASR auto fluff by the Ecology Center in Michigan (www.ecocenter.org) found several toxic contaminants in fluff. Studies by the German EPA and the U.S. EPA report that auto fluff contains mercury, lead, cadmium, chromium, arsenic, polyvinyl chloride, and PCBs."</p>	<p>All auto shredder residuals used at the Ridge Landfill are subject to a waste approvals process that includes a toxicity test to prove it meets MECP regulatory requirements.</p> <p>The testing procedure generates a liquid (leachate) from the material being tested to determine the material's appropriate classification of waste. For the auto fluff material, testing has confirmed that it is an acceptable non-hazardous solid waste, suitable for use at the Ridge Landfill.</p> <p>The manufacture, processing, distribution, and use of PCBs (polychlorinated biphenyls) have been banned for more than 40 years in both Canada and the U.S.</p>	The ministry is satisfied with the response.
	<p>3. The leachate processing required for the current and proposed expanded landfill appears to exceed the ability of the Pollution Plant to process the toxic material safely before returning it to our waterways.</p>	<p>In a letter dated October 19, 2018 the Chatham-Kent PUC (Section 4.3.1, page 336 of the EA) confirmed that the Blenheim Wastewater Treatment Lagoons (BWTL) will have adequate capacity to treat the leachate expected from the existing Ridge Landfill operation and from the proposed landfill expansion. The current flow from the landfill at its highest peak combined with the sewage flow is well below the capacity of the BWTL.</p>	The ministry is satisfied with the response.

Submitter	Summary of Comments	Proponent's Response	Status
		<p>The same letter states that the BWTL has been receiving leachate from the landfill since 1998 and quality testing over that time period shows there have been no adverse effects to effluent. The BWTL meets its effluent discharge parameters.</p> <p>Waste Connections will continue, as it always has, to have regular communication with the Chatham-Kent PUC to monitor capacity of the BWTL.</p>	
Resident	4. The Landfill site is dangerously close to the Thames Waterway system with numerous drainage access points to our natural environment.	<p>Section 3.2.3.8 of the EA identifies the historical and current baseline surface water quality on-site and in the watershed surrounding the Ridge Landfill Site. Since 1995, samples are collected from the local drains on a quarterly basis and a 12-month surface water quality monitoring program was completed as part of this EA.</p> <p>Run-off from areas of the Ridge Landfill Site that are not landfilling areas is collected in stormwater management ponds and tested before release to the local municipal drains. The on-going surface water quality monitoring program has demonstrated that the Ridge Landfill does not impact surface water quality in the watershed.</p>	The ministry is satisfied with the response.
	5. Air testing has not been, nor is proposed to be part of the monitoring by a third party not hired or influenced by this American Corporation.	Waste Connections is committed to completing an air monitoring program, and upon receipt of the Ridge Landfill Site's amended ECA (air), Waste Connections will submit a monitoring plan to the MECP for approval. The air monitoring plan will include extensive sampling per MECP regulation.	The ministry is considering a condition of approval related to air quality and odour monitoring.

Submitter	Summary of Comments	Proponent's Response	Status
		All monitoring activity (including air) occurring at the site is reviewed by a third-party independent engineer selected and retained by the Ridge Landfill Liaison Committee.	
Resident	6. The Municipality is in direct conflict, as it receives significant revenues from the company proposing this expansion and therefore it (The Municipality) is unwilling or unable to protect the interests of our environment and citizens.	<p>Section 3.2.7.3 of the EA describes Waste Connections and the Ridge Landfill's contribution to the community and the regional economy of Chatham-Kent. The key contributions to the local economy include \$17 million per year in economic activity, \$3.7 million per year to the municipality in the Host Community Agreement (HCA), \$1.1 million per year in community investment through the Community Trust, 23 jobs associated with the site, and a total of 60 jobs with Chatham-Kent.</p> <p>Additionally, the Ridge Landfill has had an excellent environmental track record and is perceived positively by the host community and those that it serves. To ensure proper long-term management of the Ridge Landfill, Waste Connections has an extensive and rigorous environmental management system in place that follows stringent MECP regulations. Regular independent groundwater and surface water monitoring is conducted with annual reports submitted to the MECP. Approximately 35 years of groundwater monitoring through an extensive network of 48 wells at the Ridge Landfill site has confirmed the effectiveness of the landfill's design and operations for groundwater protection.</p> <p>HCAs with host municipalities are established regularly in accordance with infrastructure or facilities whose scope serves a provincial or regional interest. These agreements are associated with a number of sectors,</p>	The ministry is satisfied with the response.

Submitter	Summary of Comments	Proponent's Response	Status
		from energy to gaming, and support infrastructure that benefit communities and municipalities as a whole.	
Resident	7. There is no indication that the people of the Walpole Island First Nation – Bkejwanong Territory have approved or held a vote regarding the permission of this expansion. This is significant given the leachate and contaminants potentially contaminating their lands and waterways.	Waste Connections has been in constant contact and consultation with Walpole Island First Nation (WIFN) since 2017. The WIFN provided written comments on the EA that were discussed in a meeting with WIFN representatives and subsequently addressed. A number of the comments pertained to leachate and water quality. For one comment in particular, Waste Connections agreed to move the location of a monitoring well in order to obtain more representative groundwater data. Waste Connections is committed to continue to work with WIFN as expansion activities are undertaken.	The ministry is satisfied with the response.
	8. The Municipality stated that they have no knowledge of the life cycle of the leachate with regard to the legacy left to our children and grandchildren to continue to process and handle the toxic waste from the landfill, long after it is no longer being used.	<p>Waste Connections is not in a position to speak on behalf of the Chatham-Kent Public Utilities Commission. The Ridge facility is only permitted to receive non-hazardous and non-toxic residual material.</p> <p>Waste Connections of Canada is mandated by its operating license (ECA) to manage leachate well beyond the operating life of the landfill. The current agreement requires the BWTL to reserve capacity for leachate generated from the Ridge Landfill for a 100-year period. Post operation and closure effects of facilities like the Ridge Landfill are addressed in the 100-year plan proponents submit to the MECP for approval in association with a comprehensive closure plan that is subject to public consultation.</p>	The ministry is satisfied with the response.
Resident	9. The majority of the waste (99%) is not from the residents of this Municipality. The decision to allow	Agreements with host municipalities are established regularly in accordance with infrastructure or facilities whose scope serves a provincial or regional interest.	The ministry is satisfied with the response.

Submitter	Summary of Comments	Proponent's Response	Status
	<p>this expansion by the local Municipality as stated must be placed within the context of the Municipality receiving millions of dollars in payments to encourage this approval.</p>	<p>Section 3.2.7.3 of the EA describes Waste Connections' and the Ridge Landfill's contribution to the community and the regional economy of Chatham-Kent, which were summarized in a previous response in this table. Host Community Agreements are in keeping with past, current, and future public policy expectations. Significant consultation has occurred with Chatham-Kent on the technical aspects of the EA.</p>	
Resident	<p>We live in close proximity of the landfill and want to express our concerns. Yes you have your studies but that doesn't really prove anything. The landfill has an effect on the surrounding area every day. Someone is smelling the odour, it just depends which way the wind is blowing. Some days when there is no wind to disperse the odour it just settles around everything. You can talk about odour mitigation but I think this past winter has been one of the worst I have experienced. I would like to know who determines if it has any effect on the surrounding receptors as my family is classified. A little cold as far as I am concerned. At least in your studies the SAR (Species at Risk) are named. The garbage is picked up to some extent but why am I still doing this myself on my farms when I am checking fields. This past week I have picked up garbage on a number of them. The noise is also a</p>	<p>As described in Appendix D9 – Socio-Economic Impact Assessment, there will sometimes be residual effects for residents in the off-site study area and along the haul route.</p> <p>Waste Connections currently provides compensation to the community and affected residents to address the impacts identified during the 1997 expansion environmental assessment as well as the 2011 environmental screening (for an increase to the annual fill rate). Waste Connections is committed to continuing this practice of compensation through the expansion period for those residents identified as being potentially affected by the expansion.</p> <p>In determining the level of individual compensation for residents in the off-site area, Dillon Consulting Limited considered the potential residual nuisance effects in the off-site area based on visual, atmospheric (odour, litter, dust), and noise impact assessments. Residents will be notified of their respective compensation levels once the Trust and Commitments Agreements are finalized.</p>	<p>The ministry is considering a condition of approval related to air quality and odour monitoring, and odour management.</p> <p>If the EA is approved, there will be a standard condition of approval requiring the preparation of a complaints protocol to respond to all complaints received</p>

Submitter	Summary of Comments	Proponent's Response	Status
	<p>concern which once again is dependent on the environmental conditions. One last thing is the Erieau Road debris and mud. If we go to Chatham or anywhere north on the Erieau Road we can be sure we have to wash our vehicle if passing the dump.</p>	<p>As always residents are encouraged to call the site with odour, litter, dust, noise, and any other complaint during the day or to call 519-676-5000 after-hours. After-hours calls to this number are routed to a call centre that notifies Ridge Landfill staff. Prompt call-in will enable staff to investigate the complaint and in the case of litter, mobilize staff for off-site litter pick-up.</p>	<p>during construction and operation.</p>
<p>Siskinds LLP on behalf of Thompson Orchard's Ltd.</p>	<p>We have reviewed the Ridge Landfill Environmental Assessment and have concerns with respect to the agricultural conditions assessed as part of the social impacts specifically the potential effects and proposed mitigation measures. The Ridge Landfill Environmental Assessment recognizes that one of the main social impacts of the Ridge Landfill on the surrounding agricultural operations is the potential for blowing litter, dust in the form of particulate matter, and odour.</p> <p>The Ridge Landfill Environmental Assessment fails to incorporate appropriate mitigation measures to stop the particulate matter and garbage from impacting the Thompson Property causing significant stress to our Clients.</p>	<p>Mitigation measures identified in the Ridge Landfill Environmental Assessment (EA) are typical of normal landfill operations and consistent with industry best practices and include activities like road cleaning, daily cover, road watering, other applicable dust suppression techniques, and site monitoring activities.</p> <p>The EA identifies that portable and permanent litter fences will be used on-site to catch blowing litter and adjustments will be made to operations during strong wind conditions to shield the working face and compact the waste. Minimizing the size of the working face will also help reduce litter generation. Waste Connections will continue to carry out daily inspections and pick up litter from surrounding fields after high wind events.</p> <p>More descriptive and detailed mitigation strategies to minimize these potential impacts will be formulated in the next stage of approval.</p> <p>These Best Management Practices (BMPs) will be identified in the waste Environmental Compliance Approval (ECA) submission that will be reviewed and considered for approval by the MECP. The BMPs will include various measures to control off-site impacts as well as incident recording and reporting requirements.</p>	<p>The ministry is satisfied with the response.</p>

Submitter	Summary of Comments	Proponent's Response	Status
	<p>While some potential for off-site dust in certain conditions is recognized within the Ridge Landfill Environmental Assessment it fails to address or acknowledge the social impacts of the off-site dust on our Clients' apple orchards.</p>	<p>Waste Connections is aware that there have been dust complaints related to the apple orchard located within the overall Ridge Landfill Site which under an existing legal agreement will be purchased by Waste Connections from the respondent upon the approval of the EA by the MECP.</p> <p>There are no dust complaint records that indicate a similar issue exists for the orchard owned to the south of the landfill by the respondent. However, it is acknowledged that the expansion of the landfill will be to the south of the existing fill areas.</p> <p>The site-specific modelling which included ambient concentrations of total suspended particulate (dust) for the future landfill development indicates that the highest off-site concentration of dust will be less than 70% of the regulated criteria at the discrete receptors. In addition, as the predominant wind direction is from the southwest (along Allison Line) with minor easterly and westerly components, the area to the south of the landfill owned by the respondent would have a lower potential for off-site nuisance dust impacts.</p> <p>Section 6.6.1.2 of the EA discusses the social effect of odour and dust on off-site receptors. Nuisance sources of fugitive dust, including road dust and material handling will be further managed and controlled through the Best Management Practices plan for the site.</p> <p>The respondent currently receives compensation from Waste Connections for the impacts experienced (referred to by his legal counsel as "social impacts").</p>	<p>The ministry is considering a condition of approval related to air quality and odour monitoring.</p> <p>If the EA is approved, there will be a standard condition of approval requiring the preparation of a complaints protocol to respond to all complaints received during construction and operation.</p>

Submitter	Summary of Comments	Proponent's Response	Status
	<p>In addition to the social impacts from the particulate matter the Thompson Properties often experience refuse, debris and garbage blowing from the Ridge Landfill across the Thompson Properties.</p>	<p>In addition to the key mitigation measures for managing blowing litter mentioned above and in addition to routine off-site inspections undertaken by landfill staff, it is very important that reporting of off-site litter occur promptly so that Ridge Landfill staff can mobilize to collect it as soon as possible.</p>	<p>The ministry is satisfied with the response.</p>
<p>Siskinds LLP on behalf of Thompson Orchard's Ltd.</p>	<p>The existing mitigation measures have proven unsuccessful in stopping the material, debris, and garbage from entering the Thompson Property from the Ridge Landfill. The Ridge Landfill Environmental Assessment fails to effectively address the issue and as a proposed mitigation measure stated that <i>"Permanent litter fences will be installed, and temporary litter fences used when needed."</i> However, there is no commitment to the installation of the fences as a mitigation measure and no clear timeline as to when our Client can expect the implementation of these mitigation measures. There are significant social impacts as a result of the continued material, debris and garbage entering the Thompson Property from the Ridge Landfill.</p> <p>Much of the litter impacting the Thompson Property is too high for fencing to stop and gets trapped in the apple trees and is not necessarily always on the ground making it difficult</p>	<p>Descriptive and detailed mitigation strategies to minimize these potential impacts will be formulated in the next stage of approval. These Best Management Practices (BMPs) will be identified in the ECA submission that will be reviewed and considered for approval by the MECF. The BMPs will include various measures to control off-site impacts as well as incident recording and reporting requirements.</p> <p>Waste Connections will identify the timing of installation of the fences relative to landfill activities. Mitigation measures (such as fences) are part of the project assessed in the EA and will be commitments to be fulfilled by Waste Connections.</p> <p>Waste Connections currently provides compensation to the community and affected residents to address impacts identified during the 1997 expansion environmental assessment as well as the 2011 environmental screening process (for the increase in annual fill rate). Waste Connections is committed to continuing this practice of compensation through the expansion period for those residents identified as being potentially affected by the expansion.</p>	<p>The ministry is satisfied with the response.</p> <p>If the EA is approved, there will be a standard condition of approval requiring the preparation of a complaints protocol to respond to all complaints received during construction and operation.</p>

Submitter	Summary of Comments	Proponent's Response	Status
	<p>to remove from the orchard. The net effect of the blowing litter is acknowledged as a potential for temporary disruption. However, this temporary disruption fails to take into account the social impacts on the Thompson Property.</p>	<p>In determining the level of individual compensation for residents in the off-site area, Dillon Consulting Limited considered the potential residual nuisance effects in the off-site area based on the visual, atmospheric (odour, litter, dust), and noise impact assessments. Residents will be notified of their respective compensation levels once the Trust and Commitments Agreements are finalized.</p> <p>As always residents are encouraged to call the site with odour, litter, dust, noise, and any other complaint during the day or to call 519-676-5000 after-hours. After-hours calls to this number are routed to a call centre that notifies Ridge Landfill staff. Prompt call-in will enable staff to investigate the complaint and in the case of litter to mobilize staff off-site for litter pick-up.</p>	
<p>Siskinds LLP on behalf of Thompson Orchard's Ltd.</p>	<p>The term "precautionary principle" at its core, calls for preventative, anticipatory measures to be taken when an activity raises threats of harm including social impacts. The social impacts of the litter and dust (particulate matter) on the Thompson Property needs to be taken into consideration when determining appropriate mitigation measures including compensation for these social impacts.</p>	<p>The blowing litter analysis completed for the Landfill expansion concluded that only 2 residences (neither one of which is the respondent's) would be in the medium impact zone for blowing litter, and all other receptors (including the respondent's) would be in the low impact zone. Similar for all receptors, the mitigation employed by Waste Connections such as temporary and permanent fencing, daily cover, shutting down on high wind event days, and a rigorous monitoring and clean-up program, should address the issue of blowing litter on the respondent's property for most cases. Due to the fact that not all blowing litter can be prevented, monetary compensation is provided.</p> <p>The site-specific modelling which included ambient concentrations of total suspended particulate (dust) for</p>	<p>The ministry is satisfied with the response.</p>

Submitter	Summary of Comments	Proponent's Response	Status
		<p>the future landfill development indicates that the highest off-site concentration of dust will be less than 70% of the regulated criteria at the discrete receptors. In addition, as the predominant wind direction is from the southwest (along Allison Line) with minor easterly and westerly components, the area to the south of the landfill owned by the respondent would have a lower potential for off-site nuisance dust impacts.</p> <p>The social impacts of the litter and dust (particulate matter) will be taken into consideration when determining appropriate mitigation measures including compensation for potential social impacts.</p>	
Siskinds LLP on behalf of Thompson Orchard's Ltd.	We note that the Ridge Landfill refers to maintaining compensation through the landfill trust for affected residents and that notification will occur with respect to this notification. Our Client is willing to work cooperatively with the Ridge Landfill to resolve these outstanding concerns and discuss other compensation measures where appropriate. Our Client is willing to meet with Waste Connections to discuss a resolution to these social impacts.	Waste Connections have met with the respondent and his lawyer on a number of occasions. Waste Connections is committed to maintaining this communication to resolve outstanding and any new concerns as they arise.	The ministry is satisfied with the response.

Table 3. Indigenous Communities and Organizations Comment Summary Table

Proposal: Ridge Landfill Expansion Environmental Assessment

Proponent: Waste Connections of Canada

Indigenous Community	Summary of Comments	Proponent's Response	Status
Walpole Island First Nation	Section 5.6 Existing/Future Landfill Gas Management Area: This section indicates that beneficial use of landfill gas (LFG) will be considered if it becomes economically viable. The site is already 21 Million cubic metres (Mm ³) yet it only uses LFG flares. The expansion proposes to add 28.9 Mm ³ . Other sites smaller than this use their LFG to generate electricity or other beneficial uses – the Waterloo landfill, at 15 Mm ³ , is an example. WIFN strongly recommends a beneficial use be found for LFGs instead of flaring in consideration of greenhouse gas impacts.	Waste Connections is actively seeking beneficial use opportunities for the LFG and at minimum has committed to the Ministry of the Environment, Conservation and Parks to review business opportunities to look at the beneficial use of gas in 3 to 5 years.	The ministry is considering a condition of approval related to the re-assessment of the feasibility of landfill gas utilization.

Indigenous Community	Summary of Comments	Proponent's Response	Status
Walpole Island First Nation	<p>Appendix D4 (Assessment of Bird Hazard to Aircraft Safety) concludes that “to reduce the residual to aircraft safety there is a need to upgrade the bird control program at the landfill” and “the proponent plans to implement such measures at the Ridge Landfill”. The upgraded program should ensure that controls are in place to ensure dawn to dusk control (continuous) at all exposed faces, as a minimum. The applicant has noted that these measures will be considered as part of the expansion. Such mitigation measured should be committed to at this time.</p> <p>Commitments should be confirmed for the upgrading of the bird control measures at both the landfill and at the airport. An ongoing monitoring program should be provided to gauge the effectiveness of the control measures.</p>	<p>As part of the commitments made in the final Ridge Landfill EA, planned improvements to the existing bird control program, as recommended in the Assessment, are anticipated to effectively manage and potentially reduce residual risk of potential bird hazards to aircraft safety.</p> <p>Waste Connection is committed to continue coordination with Chatham-Kent Municipal Airport on on-site bird control operations and activities.</p> <p>An ongoing monitoring program is in place to gauge effectiveness of control measures; currently undertaken by Predator Bird Services.</p>	<p>The ministry is satisfied with the response.</p> <p>The ministry is considering a condition of approval for an Indigenous consultation plan to be prepared for project implementation that will allow Indigenous communities to remain engaged on monitoring programs.</p>
	<p>Please update Figure D5-11: Significant Natural Features in Appendix D5, to replicate Figure 3-2: Significant Natural Features in EA document. Figure D5-11 does not include Pale Avens locations.</p>	<p>Figure D5-11: Significant Natural Features in the EA was updated to include Pale Avens locations on the EA version contained on the website and on the DVDs. Paper copies of the draft Appendix D5 were re-used for the final version in an effort to use less paper and an errata provided to note the changes.</p> <p>The changes to the document as</p>	<p>The ministry is satisfied with the response.</p>

Indigenous Community	Summary of Comments	Proponent's Response	Status
		described in the errata (including Errata Item number 4 – Figure D5-11 revised to include Pale Avens), were incorporated into the on-line and DVD versions.	
	It is understood that a new Layer 1 monitoring well downgradient (northeast) of the Old Landfill will be installed. This will be a Layer 1 well between the waste and Duke Drain. With this amendment to the monitoring program, no further changes are required at this time. Any significant monitoring results should be forwarded to WIFN.	Correct. As part of the commitments made in the final Ridge Landfill EA, future annual monitoring reports will be made available and WIFN will be notified, as requested.	The ministry is satisfied with the response. The ministry is considering a condition of approval for an Indigenous consultation plan to be prepared for project implementation that will allow Indigenous communities to remain engaged on monitoring programs.
	A commitment should be made to this effect: "Waste Connections will continue to liaise with WIFN regarding tree planting and employment opportunities."	As part of the commitments made in the final Ridge Landfill EA, Indigenous communities and organizations will be consulted during the seed and tree identification process and engaged in woodlot replacement and on-site berm naturalization.	The ministry is satisfied with the response. The ministry is considering a condition of approval for an Indigenous consultation plan to be prepared for project implementation that will allow Indigenous communities to remain engaged on re-naturalization activities.
	It is acknowledged that the location of	The designated haul route is the	The ministry is satisfied

Indigenous Community	Summary of Comments	Proponent's Response	Status
	the landfill site is conducive to most of the traffic using the designated haul route (i.e., from the Highway 401 interchange and/or from the Harwich Transfer Station). It should be acknowledged by the applicant that traffic along secondary haul routes would be to service local areas only, if required.	only approved route to the site as documented in the Official Plan and Comprehensive Zoning By-laws for the Municipality of Chatham-Kent. There is no secondary haul route for truck traffic.	with the response.
Chippewas of the Thames First Nation	After reviewing the Environmental Assessment Report, we have identified minimal concerns.	Comment noted	The ministry is satisfied with the response.
	If there is an Archaeological Assessment conducted we require notification and the opportunity to actively participate by sending First Nation Field Liaisons on Behalf of the First Nation.	<p>Indigenous communities and organizations who have expressed an interest will continue to be informed of archaeological activities and be invited to participate and/or review the results.</p> <p>Stage 1, 2 and a portion of a Stage 3 Archaeological Assessments (AA) have been completed. The Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) have been notified of all outcomes.</p> <p>There is no recommendation for a Stage 4 AA for the locations already surveyed during Stage 3 AA. The remainder of the Stage 3 AAs will be conducted in Spring 2020 prior to which those Indigenous communities who have</p>	<p>The ministry is satisfied with the response.</p> <p>The ministry is considering a condition of approval for an Indigenous consultation plan to be prepared for project implementation that will allow Indigenous communities to remain engaged on archaeological activities.</p>

Indigenous Community	Summary of Comments	Proponent's Response	Status
		expressed an interest will be notified.	

Making a submission?

A five-week public review period ending June 26, 2020 will follow the publication of this Review. During this time, any interested parties can make submissions about the proposed undertaking, the EA, or this Review. Should you wish to make a submission, please send it electronically to Carolyn.Lee@Ontario.ca and address it to:

Director
Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario M4V 1P5

Re: Ridge Landfill Expansion Environmental Assessment

Attention: Carolyn Lee, Special Project Officer

All personal information included in a submission—such as name, address, telephone number and property location of requester—is collected, maintained and disclosed by the ministry for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the *Freedom of Information and Protection of Privacy Act*.

Personal information that is submitted will become part of a public record that is available to the general public unless a request is made that personal information remain confidential. For more information, the ministry's Freedom of Information and Privacy Coordinator can be contacted at 416-314-4075.

