DILLON CONSULTING

WASTE CONNECTIONS OF CANADA

Ridge Landfill Expansion: Socio-Economic Impact Assessment

Appendix D9

January 2020

Errata Sheet

Ridge Landfill Environmental Assessment Report: Appendix D9 – Socio-Economic Impact Assessment

The Draft Ridge Landfill Environmental Assessment (EA) Report and supporting documentation (appendices) were provided for review and comment to the MECP, Stakeholders, Indigenous Communities and Organizations on July 22, 2019. The final version of the Ridge Landfill Environmental Assessment was revised where appropriate, to address the comments received. All revised versions of the final environmental assessment report and supporting documentation are posted on the website for the Ridge Landfill, www.ridgelandfill.com/our-future-plans.

As there were minimal changes required from the review for this particular document, it has not been reprinted for the final version. The changes to the document as described below, have been incorporated into the on-line and DVD versions.

Revisions to Appendix D9 – Socio-Economic Impact Assessment:

Errata No.	Section	Revision
1	All	Date changed – from July 2019 to January 2020
2	All	Report name changed - Draft Ridge Landfill EA to Ridge Landfill EA

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Acronyms, Abbreviations, Definitions

***Act** (the), refers to the Environmental Assessment Act. Also known as EAA, or the EA Act.*

***AFN**, Aamjiwnaang First Nation.*

***Alternatives to**, Alternatives to the proposed undertaking are functionally different ways of approaching and dealing with a problem or opportunity.*

***Alternative Daily Cover**, cover material other than earthen material placed on the surface of the active face of a landfill at the end of each operating day to control odours, blowing litter, scavenging, etc. (California Department of Resources, 2016)*

***Alternative Methods**, Alternative methods of carrying out the proposed undertaking are different ways of doing the same activity. Alternative methods could include consideration of one or more of the following: alternative technologies; alternative methods of applying specific technologies; alternative sites for a proposed undertaking; alternative design methods; and, alternative methods of operating any facilities associated with a proposed undertaking.*

***BWTL**, Blenheim Wastewater Treatment Lagoons. The connection to the BWTL is via forcemain / sanitary sewer (both terms used interchangeably).*

***CFN**, Caldwell First Nation.*

***Consultation**, a two-way communication process to involve interested persons in the planning, implementation and monitoring of a proposed undertaking. Consultation is intended to:*

- *Identify concerns;*
- *Identify relevant information;*
- *Identify relevant guidelines, policies and standards;*
- *Facilitate the development of a list of all required approvals, licences or permits;*
- *Provide guidance to the proponent about the preparation of the terms of reference and EA;*
- *Ensure that relevant information is shared about the proposed undertaking;*
- *Encourage the submission of requests for further information and analysis early in the EA process; and*
- *Enable the ministry to make a fair and balanced decision.*

***COTTFN**, Chippewas of the Thames First Nation.*

***Commitment**, represents a guarantee from a proponent about a certain course of action, that is, "I will do this, at this time, in this way." Proponents acknowledge these guarantees by documenting obligations and responsibilities, which they agree to follow, in environmental assessment documentation (terms of reference and environmental assessment). Once the Minister and Cabinet approve an application, the commitments within the document are often made legally binding as a condition of approval.*

***EA**, Environmental Assessment, means an environmental assessment process described in Part II of the EAA and/or report submitted pursuant to subsection 5(1) of the EAA.[1]*

***ECA**, Environmental Compliance Approval is a license or permit issued by the Ministry of the Environment, Conservation and Parks for the operation of a waste management facility or site.*

***Environment**, the Environmental Assessment Act defines environment to mean:*

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

***Evaluation**, refers to the determination of the value, nature, character, or quality of something.[2]*

***Haul Route**, this area refers to the right-of-way of the designated truck haul route to the landfill. Traffic to the landfill travel from Highway 401 via interchange 90, heading southeast along Communication Road (County Road 11), to Drury Line then along Erieau Road to the main site entrance of the landfill at 20262 Erieau Road.*

[1] Ministry of the Environment, Conservation and Parks (1990). *Environmental Assessment Act*, R.S.O. 1990, c. E.18. Last Updated: July 2019.
[2] Merriam-Webster Dictionary (n.d.). Available at: http://www.merriam-webster.com/dictionary/evaluation

***Haul Route Study Area**, for the Socio-Economic Impact Assessment, refers to the residences and businesses abutting the Haul Route.*

***IC&I**, Industrial, Commercial and Institutional.*

***Indigenous Communities and Organizations**, the First Nations and Métis communities identified by the Ministry of the Environment, Conservation and Parks (MECP) that have potential to be interested in, or impacted by the Undertaking. These groups include the Caldwell First Nation, Walpole Island First Nation, Kettle and Stoney Point First Nation, Chiefs of Ontario, Chippewas of the Thames First Nation, Moravian of the Thames First Nation, Munsee-Delaware Nation, Oneida Nation of the Thames, Métis Nation of Ontario and the Aamjiwnaang First Nation.*

***Landfill Site Area**, this term encompasses the 262 ha area identified by the MECP which includes the fill areas and associated environmental works, and facilities required for the ancillary waste management activities.*

***LTVCA**, Lower Thames Valley Conservation Authority.*

***MNRF**, Ministry of Natural Resources and Forestry.*

***MECP**, Ministry of the Environment, Conservation and Parks; formerly Ministry of the Environment and Climate Change (MOECC), Ministry of the Environment (MOE), and Ministry of the Environment and Energy (MOEE).*

***Off-site Study Area**, this generally refers to the area outside of the Ridge Landfill site boundary (also referred to as "off-site").*

***Old Landfill**, this refers to the waste cells located at the northeast corner of the Ridge Landfill Site. The Old Landfill area was capped in 1999.*

***On-site Study Area**, this refers to the study area within the Ridge Landfill site boundary (also referred to as "on-site").*

***Ridge Landfill**, property that encompasses existing Landfill Site Area and proposed expansion. The site is owned by Ridge Limited Partnership. Ridge (Chatham) Holdings L.P., is the general partner and Waste Connections of Canada Ltd. is the limited partner.*

***SEIA**, Socio-Economic Impact Assessment.*

***South Landfill**, refers to the waste cells located south of the Old Landfill. Development of the South Landfill began in August 2016.*

***Stakeholders**, refers to individuals or organizations with an interest in a particular undertaking. Persons with an interest in a particular undertaking often include neighbours and individuals, environmental groups or clubs, naturalist organizations, agricultural organizations, sports or recreational groups, organizations from the local community, municipal heritage committees, ratepayers associations, cottage associations, Francophones and businesses. Interested persons are not required to demonstrate that they will personally be affected by a particular undertaking.*

***Undertaking**, an enterprise, activity or a proposal, plan, or program that a proponent initiates or proposes to initiate (also described herein as the "Project").*

***WIFN**, Walpole Island First Nation.*

***Waste Connections of Canada Inc.**, or "Waste Connections", is the proponent for this Undertaking. Waste Connections was formerly Progressive Waste Solutions Canada Inc. Progressive Waste Solutions and Waste Connections merged in an all-stock transaction as of June 1, 2016.*

***Waste Fill Area**, this term encompasses the 131 ha area that is presently approved for the disposal of waste. The Waste Fill Area includes the Old Landfill, South Landfill, West Landfill and Infill Area.*

***West Landfill**, refers to the waste cells located west of the Old Landfill.*

***WMA**, Waste Management Area.*

	Units
ha	*hectare*
km	*kilometre*
L	*litre*
m	*metre*
m^3	*cubic metres*
masl	*metres above sea level*

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Executive Summary

Waste Connections is proposing a 54.9 ha expansion of its landfilling operation at the Ridge Landfill. The proposed expansion would extend the life of the site by 20 years until 2041. The expansion will take place incrementally over the 20-year period with similar levels of staffing and equipment at the site as currently exists. Waste Connections is proposing to continue using the same haul route and current fill rate.

In assessing potential impacts to the socio-economic environment, the following was considered:

- Current land uses and planning documents;
- Demographic data and the socio-community of Chatham-Kent and other local communities;
- Outdoor tourism and recreation near the site;
- Indigenous Communities and Organizations within the vicinity of the site;
- Existing atmospheric and noise conditions at the existing site;
- The economic profile of Chatham-Kent and other local communities; and,
- Waste Connection operational activities and community contributions.

A primary data collection program was also undertaken. During November and December 2018, residents and businesses located within 1 km of the site and along the haul route were invited to participate in individual interviews. The interview included meeting with individual respondents to ascertain information regarding social and economic characteristics of the land uses surrounding the Ridge Landfill.

The expansion of the Ridge Landfill has potential positive and negative socio-economic effects on the communities and residents on-site, around the site and along the haul route. Expanding the Ridge Landfill will require a By-Law Zoning amendment to rezone the expansion area as a Waste Management Area. If that approval is granted and the environmental assessment approval is also granted, expansion would, over time, result in displacement of agricultural activities and two (2), residences on site. However, the displaced residences (2) and agriculture operations (Two [2] plots of land and one [1] orchard) on-site represent a very small portion of residences and agriculture within the region.

This expansion would result in social and economic benefits for the local communities of Charing Cross, Cedar Springs and Blenheim as well as the Municipality of Chatham-Kent as a whole, as they are associated with the economic activity of the site and the contributions to the community that will be made over the 20-year expansion period. Members of the community have voiced their concern with respect to the potential loss of these contributions. The expansion would also continue to provide the Municipality of Chatham-Kent, and others like Walpole Island First Nation, a local and safe place to dispose of solid waste.

Noise, atmospheric and visual effects from the existing landfill are managed through mitigation and operational practices to minimize the impact on the surrounding neighbours. These mitigation and operational practices would also continue through the expansion to minimize the effects to businesses and residents of impacts such as noise, truck traffic, odour, visual disturbances and litter. These effects are likely to occur in the off-site study area and along the haul route. The noise, atmospheric and visual effects to those in the off-site study area, along the haul route and within the community are considered to be negligible as Waste Connections addresses any residual noise, atmospheric and visual effects through its mitigation, operational practices and compensation measures.

Waste Connections has committed to renegotiating the Host Community Agreement and Commitments Package that forms the basis for the Ridge Landfill Community Trust Fund, and entering into agreements with interested Indigenous Communities and Organizations. As a result, compensation to the affected communities and residents will continue to take place over the expansion period.

Waste Connections is an important contributor to the communities and economy of the local area and the Municipality of Chatham-Kent. The expansion of the Ridge Landfill would enable existing community contributions to continue for an additional 20-years. While noise, atmospheric and visual effects can occur for socio-economic receptors, compensation is provided to affected residents to mitigate the effects. As a result, any negative effects to the socio-economic environment are classified as not significant.

1.0 Introduction

Waste Connections of Canada Inc. (Waste Connections) has undertaken an Environmental Assessment pursuant to the *Environmental Assessment Act* (*EA Act*)[3] to expand its Ridge Landfill site in the Municipality of Chatham-Kent (Municipality) in accordance with the Amended Terms of Reference (ToR), approved by Ontario's Minister of the Environment, Conservation and Parks (MECP) on May 1, 2018; to continue to provide long-term disposal capacity to serve the growing population and economy of the province of Ontario.

The Ridge Landfill has been in operation since 1966 and was expanded in 1999. The landfill is located at 20262 Erieau Road near Blenheim, Ontario in the Municipality of Chatham-Kent, and is operated by Waste Connections (**FIGURE D9-1**). The site is currently approved to receive waste from the industrial, commercial and institutional (IC&I) sectors in Ontario, and residential waste from the Municipality of Chatham-Kent and the surrounding Counties of Essex, Lambton, Middlesex and Elgin.

FIGURE D9-1: LOCATION OF RIDGE LANDFILL

[3] Ministry of the Environment, Conservation and Parks (1990). *Environmental Assessment Act*, R.S.O. 1990, c. E.18. Last Updated: July 2019.

The Landfill Site Area of 262 ha, is permitted by the Environmental Compliance Approval (ECA) from the MECP for waste management and environmental work purposes. The area within which waste disposal is permitted, called the Approved Waste Disposal Area, is 131 ha or half of the Landfill Site Area. The current approved capacity for the Ridge Landfill is 21 million m^3. As per the current ECA for the Ridge Landfill, the annual fill rate at the Ridge Landfill is 1.3 million tonnes.

Associated on-site features include internal roadways, scale house, office, leachate storage tank, landfill gas flaring station, berms, stormwater ponds, flood control management area, agricultural areas, and three (3) woodlots. **FIGURE D9-2** highlights the key on-site features.

As of October 1, 2019 the existing Waste Disposal Area at the Ridge Landfill site will provide waste disposal capacity until approximately March 1, 2021 at the current fill rate. The expansion would increase the lifespan of the Ridge Landfill from 2021 to 2041. The landfill expansion will not result in an increase in annual waste volumes disposed at the site.

WASTE CONNECTIONS OF CANADA

RIDGE LANDFILL
ENVIRONMENTAL ASSESSMENT

STUDY AREA

- On Site Study Area and Property Boundary
- Approved Waste Disposal Area
- Existing Berm
- Existing Flood Control Facility
- Existing Stormwater Pond
- Woodlot

1:12,000

0 120 240 480 m

N W E S

MAP DRAWING INFORMATION:
DATA OBTAINED FROM MNRF

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

DILLON CONSULTING

PROJECT: 152456
STATUS: DRAFT
DATE: 2019-05-17

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1.1 Work Plans

Work plans were prepared for each impact assessment study. The socio-economic work plan was completed in September 2018.

The work plans were circulated to interested stakeholders, key government reviewers, and Indigenous Communities and Organizations who desired to review them; and they were posted on the Future Plans page of the Ridge Landfill website for public review and comment. The input received during that review has been carefully considered and incorporated into this study, where applicable.

1.2 Role of the Socio-Economic Discipline in the Environmental Assessment

In this impact assessment of the proposed Ridge Landfill expansion, the analysis focused on the predicted net environmental effects which the operating landfill may have on the social and economic characteristics of the surrounding communities and wider municipality.

The primary objective of this assessment is to address the requirements of **Section 6.1**(2)(c) and (d) of the *EA Act*[4], as it pertains to socio-economic environment; specifically:

(c) a description of,

(i) the environment that will be affected or that might reasonably be expected to be affected, directly or indirectly,

(ii) the effects that will be caused or that might reasonably be expected to be caused to the environment, and

(iii) the actions necessary or that may reasonably be expected to be necessary to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment,

by the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking;

(d) an evaluation of the advantages and disadvantages to the environment of the undertaking.

1.3 Scope of Assessment

The scope of the Socio-Economic Impact Assessment (SEIA) is to consider existing conditions, review current and future land use, evaluate feedback from stakeholders and analyse the

[4] Ministry of the Environment, Conservation and Parks (1990). *Environmental Assessment Act*, R.S.O. 1990, c. E.18. Last Updated: July 2019.

impact of potential effects (e.g., noise, dust, visual and odour) of the preferred alternative on residents and businesses. To carry out the SEIA, stakeholder surveys and interviews were conducted and a document review was completed. **Section 2.3** provides an overview of the data collected for the SEIA. In addition, the SEIA relied on input from other disciplines: Agriculture, Atmospheric, Climate Change, Aviation and Bird Hazard, Biology, Hydrogeology, Noise, Surface Water, Transportation, and Visual Impacts.

The cumulative effects of these impacts are considered in the SEIA to determine how the social and economic components of the community may be affected by the undertaking.

1.4 Overview of Report Contents

This report describes the baseline socio-economic environment in the area surrounding the Ridge Landfill site and potential changes to the future socio-economic characteristics due to the proposed landfill expansion. The report consists of the following:

- **Section 1** presents an introduction to the study, a description of the site, and the role and scope of the SEIA;
- **Section 2** describes the study methods to this assessment including: study areas, criteria and indicators, data collection and method analysis;
- **Section 3** provides a description of the existing socio-economic conditions;
- **Section 4** provides a summary of interview input from residents and businesses in the study area;
- **Section 5** lists key assumptions concerning the proposed landfill expansion that are relevant to the SEIA;
- **Section 6** provides an assessment of the potential socio-economic impacts of the proposed landfill expansion and associated and applicable mitigation measures;
- **Section 7** presents an assessment of net effects of the socio-economic impacts of the proposed landfill expansion;
- **Section 8** provides a brief overview of the current compensation plan;
- **Section 9** summarizes conclusions and recommendations of the SEIA; and
- **Appendices** provide information that supports the SEIA.

2.0 Methods of Assessment

The potential for social and economic impacts from the proposed landfill expansion was evaluated using three (3) study areas, and through the completion of an impact assessment that included consideration of results from interviews with potentially affected residents and businesses within the three (3) study areas described in the following section.

2.1 Study Areas

The term "study area" refers to those areas for which data was collected and the impact analysis was carried out. The three (3) study areas were investigated and are illustrated in **FIGURE D9-3**:

- **On-site** - (Socio-Economic On-Site Study Area) this area includes the property on which the current Ridge Landfill and proposed expansion is situated;
- **Off-site** - (Socio-Economic Off-Site Study Area) this area encompasses the area within 1 km of the proposed fill area limits; and
- **Haul route** - (Socio-Economic Haul Route Study Area) this area encompasses lands immediately adjacent to Communication Road, Drury Line and Erieau Road which are identified as the designated haul route for the site. The designated haul route will not change as a result of the expansion.

Some areas of the SEIA required the consideration of broader study areas, which have been identified and addressed on a case-by-case basis.

For the socio-economic environment, the study area also includes consideration of wider social and economic impacts and benefits for the Municipality of Chatham-Kent. This is further discussed in subsequent sections below.

FIGURE D9-4 illustrates the extent of the Municipality of Chatham-Kent that is considered in the broader assessment of socio-economic impacts and benefits.

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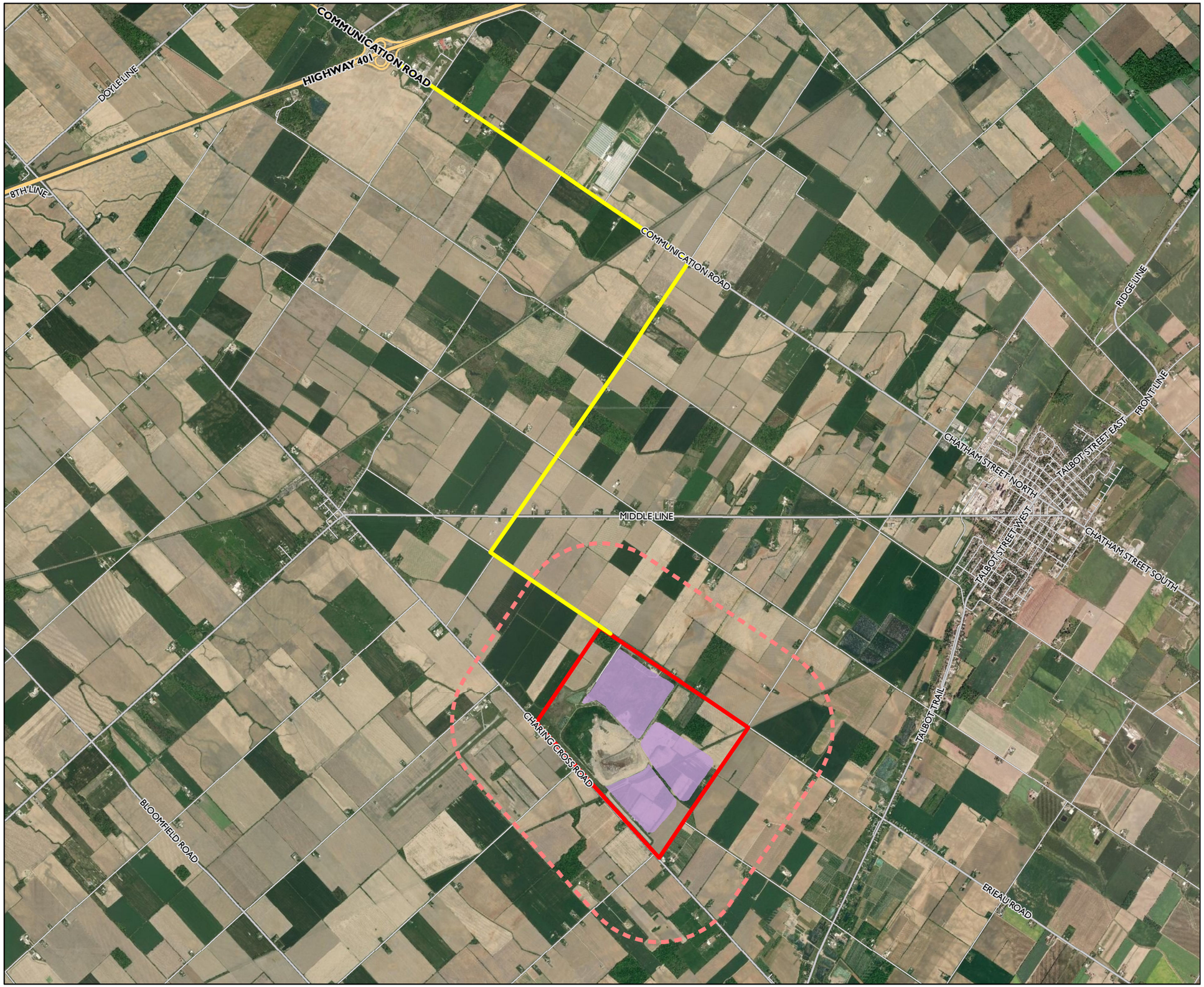

WASTE CONNECTIONS OF CANADA

RIDGE LANDFILL
ENVIRONMENTAL ASSESSMENT

SOCIO-ECONOMIC STUDY AREAS

- Haul Route
- On-Site Socio-Economic Study Area
- Off-Site Socio-Economic Study Area
- Preferred Alternative Waste Limit

1:44,000

0 435 870 1,740 m

N W E S

MAP DRAWING INFORMATION:
DATA OBTAINED FROM MNRF

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

DILLON CONSULTING

PROJECT: 152456
STATUS: DRAFT
DATE: 2019-06-12

Document Path: I:\GIS\141382 - Ridge Landfill\Mapping\EA Report\Appendices\Figure D9-3 Socio-Economic Study Areas.mxd

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WASTE CONNECTIONS OF CANADA

RIDGE LANDFILL
ENVIRONMENTAL ASSESSMENT

BROADER SOCIO-ECONOMIC STUDY AREA

Ridge Landfill

1:250,000
0 1 2 4 km

N
W E
S

MAP DRAWING INFORMATION:
DATA OBTAINED FROM MNRF

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

DILLON CONSULTING

PROJECT: 152456
STATUS: DRAFT
DATE: 2019-06-12

Document Path: I:\GIS\141382 - Ridge Landfill\Mapping\EA Report\Appendices\Figure D9-4 Municipality of Chatham-Kent, Broader Socio-Economic Study Area.mxd

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2.2 Assessment Criteria

A set of criteria and indicators was developed for the SEIA to assess potential socio-economic effects resulting from the preferred site development alternative.

The SEIA included an investigation of potential effects, mitigation and monitoring measures. This included the documentation of impact management plans to address potential effects including the Property Value Protection Program and the compensation program.

The criteria used in the assessment are designed to identify and evaluate the social and economic impacts of the landfill expansion as required by the *EA Act*[5] and related Code of Practice[6]. The assessment of social and economic effects relied on the input of other disciplines including agriculture, atmospheric (e.g., dust), noise, surface water, transportation, and visual. The potential for positive 'financial' effects on the community was also considered such as employment and economic benefits.

Table D9-1 presents the socio-economic criteria and indicators, including rationale and data collection measures used for the assessment. There are no criteria related to community services such as emergency or health services as there are no community services located within the proposed study area apart from the landfill itself. The haul route and preferred site development activities are not anticipated to alter existing community services. In addition, criteria related to archaeological and cultural heritage resources are addressed in separate reports, see Appendix D2.

[5] Ministry of the Environment, Conservation and Parks (1990). *Environmental Assessment Act*, R.S.O. 1990, c. E.18. Last Updated: July 2019.
[6] Ministry of the Environment, Conservation and Parks (2014). Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario, January 2014.

Table D9-1: Impact Assessment Criteria and Indicators

Criteria	Indicator	Rationale	Data Source
Social Environment Impact Assessment			
Potential for displacement of residents or residential properties.	Number of residents or residential properties that will be displaced.	There are two on-site residences which will need to be vacated as a result of the expansion.	• Socio-economic interviews. • Public consultation activities. • Preliminary Design and Operations Report.
Potential for effects to off-site residents and businesses (e.g., fruit market and small equipment dealer).	Relative predicted odour levels at receptors.	Landfill operations have the potential to generate odours. Odours can cause impacts on receptors located near the site.	• Socio-economic interviews. • Public consultation activities. • Results of odour modeling using MECP emission factor for odour for landfill gas (US EPA LandGEM modelling).
	Predicted TSP (dust) levels relative to MECP criteria.	Activities such as on-site materials handling and vehicle traffic (road dust and tailpipe emissions) can generate an impact.	• MECP criteria (*O.Reg. 419/05*). • Results of air quality study (existing and proposed site characteristics based emission estimates and dispersion modelling results). • Interviews. • Public consultation activities.
	Predictions of potential for blowing litter occurrences.	Impact to residents and businesses will be assessed against blowing litter threshold wind speed criteria previously defined for the site.	• Proposed site characteristics (working face location). • Five years of meteorological data.
	Predicted level of noise at receptors near site relative to established criteria.	On-site and landfill machinery/equipment operation create noise that propagates beyond the boundary of the landfill site and has the potential to be disruptive to	• GIS mapping/secondary sources. • Noise modelling results. • MECP Noise criteria. • Preliminary Design and Operations Report.

Criteria	Indicator	Rationale	Data Source
		residents and businesses.	
Potential for impacts on residents and businesses from dust and noise along the haul route.	Degree of change for households with impacted views based on type and extent of change, proximity of receptor, and ability to screen.	The degree of disruption will depend on extent of visual impacts for each impacted household.	• Socio-economic interviews. • Civil 3D modelling. • GIS mapping. • Public consultation activities. • Results of visual assessment.
	Predicted TSP (dust) levels at residences and businesses along the haul route.	The degree of disruption will depend on the characteristics of the affected households, and the proximity of the receptors to sources of dust.	• Socio-economic interviews. • Public consultation activities. • Transportation assessment results. • Results of noise/air quality studies.
	Predicted level of noise at receptors along the haul route relative to established criteria.	Transport trucks travelling along haul route create noise that has the potential to be disruptive to residents.	• GIS mapping/secondary sources. • Transportation assessment results. • Noise modelling results. • MECP Noise criteria.
Potential for impacts and benefits to Indigenous Communities and Organizations.	Opportunities for direct benefit (e.g., partnership; use of site; capacity building) or direct impacts (e.g., removal of woodlot on traditional territory)	The landfill is located on traditional lands. It is important to recognize both the benefits and the impacts that the site has on Indigenous Communities and Organizations lands and peoples in the EA.	• Preliminary Design and Operations Report. • Waste Connections agreements with Indigenous Communities and Organizations
Land Use Impact Assessment			
Potential for changes to land use designations.	Extent and complexity of change in existing land use designations.	The expansion will result in the permanent change to the existing land use as designated in the municipal Official Plan.	• Official Plan Review. • Agency/municipal consultation. • GIS Mapping.

Criteria	Indicator	Rationale	Data Source
Potential for additional approvals or permits (e.g., airport zoning).	Requirement for municipal and/or regional permitting or approvals as a result of landfill expansion.	The identification of permits or approvals required from the local municipality and/or Region to ensure that the landfill expansion is in conformity with municipal plans.	• Agency/municipal consultation. • Official Plan and Zoning-By-law Review. • *Drainage Act*, R.S.O. 1990.
Economic Environment Impact Assessment			
Potential for impacts to the wider economy in the Municipality of Chatham-Kent.	Changes in characteristics of local/municipal economy as a result of landfill such as jobs, investment, municipal revenue and expenditures.	Expansion may result in benefits to the local and broader economy of the Municipality.	• Waste Connections employment and spending estimates. • Agency consultation. • Secondary sources. • Financial information from the Municipality of Chatham-Kent. • Statistics Canada data.
Potential impacts to property values.	Home and property value in local area and comparable jurisdictions.	Expansion may or may not affect property values in the local area or along the haul route.	• Preliminary Design and Operations Report. • Property value data. • General reports from private sector and academia.
Capital and operating costs.	Change in capital and operating costs including closure costs.	The landfill expansion will require capital investment and will extend the cost of landfilling operations and closure.	• Preliminary Design and Operations Report.

Criteria	Indicator	Rationale	Data Source
Loss of agricultural products and employment on-site[7]	Area disturbed by landfill development.	The expansion will result in the permanent loss of agricultural lands.	• Interviews. • GIS mapping. • Agricultural Assessment.
	Number and extent of agricultural businesses impacted and number of employees at each.	The expansion will result in the permanent loss of agricultural lands.	• Socio-economic interviews. • GIS mapping. • Agricultural Assessment.

[7] Note: The Agricultural Impact Assessment (see Appendix D1) provides extensive investigation into the agricultural conditions, impacts and mitigation for the proposed landfill expansion. This Socio-Economic Impact Assessment refers to the Agricultural Impact Assessment and findings where required.

2.3 Data Collection

Data collection for the SEIA included the use of existing published information, comments received through consultation, and the completion of household, business and agricultural interviews. Data collection included the following:

- Review of current land uses;
- Collection of information concerning use and enjoyment of residential property through household interviews;
- Collection of information concerning employment and business operations through household and business interviews;
- Collection of information from other disciplines related to potential noise, dust, visual and odour effects;
- Agricultural data collected through field work, windshield surveys and farmer interviews;
- Review of feedback received through public, stakeholder and agency consultation activities; and
- Review of secondary source information such as Statistic Canada data/reports, provincial and municipal policy, GIS mapping, aerial photographs, government publications, municipal finance documents and existing literature.

The sections below provide a detailed overview of the data collection for the SEIA:

2.3.1 Social

Data collection for the assessment of social impacts consisted of:

- A review of secondary data sources including municipal planning publications and archives, Statistics Canada census data and MECP records, to obtain demographic and historic information about the community and its relationship with the Ridge Landfill;
- Municipal assessment rolls and maps were used to locate and identify property owners and tenants on-site, within the off-site study area and along the haul route;
- Roadside visual surveys were conducted to verify and maintain an updated record of residences and their locations within the off-site study area and along the haul route;

- Interviews with residents and property owners on-site, off-site within 1,000 meters of the proposed site boundary and along the haul route (details regarding the household interviews are provided in **Section 4.0**);
- Monitoring and reviewing of public comments concerning the proposed Ridge Landfill expansion, received throughout the EA public consultation process (details on the issues and comments received are included in Section 8.0 of the EA Report); and
- Information from other disciplines was used primarily to assist in the characterization of the community and potential impacts.

2.3.2 Economic

Data collection for the assessment of economic impacts consisted of:

- A review of secondary data sources including municipal planning publications and archives, Statistics Canada census data and Municipal financial records, to obtain economic and historic information about the community and its relationship with the Ridge Landfill;
- Roadside visual surveys were undertaken to locate buildings and facilities used for business operations by property owners, leasers and tenants on-site, within the off-site study area and along the haul route;
- Interviews with businesses, including agricultural operations on-site, off-site, and within 1,000 meters of the proposed site boundary and along the haul route (details regarding interviews with agricultural businesses are provided in **Section 4.0**);
- Financial information from the Municipality of Chatham-Kent as the host community regarding economic contributions from Waste Connections related to Ridge Landfill operations; and
- Financial data from Waste Connections, including annual local expenditures and payroll, and projected local expenditures and payroll following expansion.

2.4 Methods of Analysis

This section provides an overview of the methods of analysis for the social and economic components of the SEIA. The methods of analysis included consultation with other disciplines where possible to provide an enhanced understanding of the socio-economic environment of the Ridge Landfill. Existing socio-economic conditions were identified to complete the assessment of the preferred site development alternative. Existing socio-economic conditions are documented in **Section 3.0.**

2.4.1 Social

Assessment of the social impacts of the proposed landfill expansion is based upon the preferred landfill development alternative and the subsequent completion of the Preliminary Design for the expansion (see Appendix D6 – Design and Operations Report). The social impacts were identified by comparing the social environment under baseline conditions, and the social environment anticipated if the proposed expansion is to be undertaken. Baseline conditions are described using the existing conditions in 2018 and include consideration of input from residents and businesses received through interviews and public consultation activities.

Using the data collected through activities noted in **Section 2.3**, consultation with the following technical disciplines was undertaken to identify potential impacts on the social environment, magnitude of impacts and impact mitigation measures to minimize the negative effects of the proposed landfill expansion (construction and operation):

- Air Quality (e.g., dust);
- Noise;
- Agriculture;
- Transportation and Traffic; and
- Visual Assessment.

The SEIA identifies impacts and mitigation on four (4) aspects of the landfill expansion (construction and operation):

- On-site;
- Off-site within 1 km of the Ridge landfill property;
- Designated Haul Route; and
- Local community as it relates to investments from the Ridge Landfill Community Trust and other charitable community contributions and sponsorships.

2.4.2 Economic

The economic impacts were identified by comparing the economic environment under baseline conditions, and the economic environment anticipated if the proposed landfill expansion is to be undertaken. Baseline conditions are described using the existing conditions in 2018 and include consideration of input from residents and businesses received through interviews and public consultation activities.

The assessment of economic impacts identifies:

- Impacts to businesses on-site (existing agricultural activities), off-site and along the haul route;
- Impacts on the economy related to employment and economic spin-offs;
- Impacts on the economy related to investments from the Ridge Landfill Community Trust and through other charitable community contributions; and
- Impacts on municipal finances.

3.0 Existing Conditions

The following sections describe the existing socio-economic environment in the vicinity of the Ridge Landfill property, including the on-site area, off-site area within 1 km of the site, the haul route study area, and the larger community within the Municipality of Chatham-Kent.

3.1 Land Use

The Ridge Landfill property is located near Blenheim, Ontario in the Municipality of Chatham-Kent. The Municipality's current Official Plan (OP)[8] includes land use policies specific to the ongoing operation, potential expansion and closure of the Ridge Landfill.

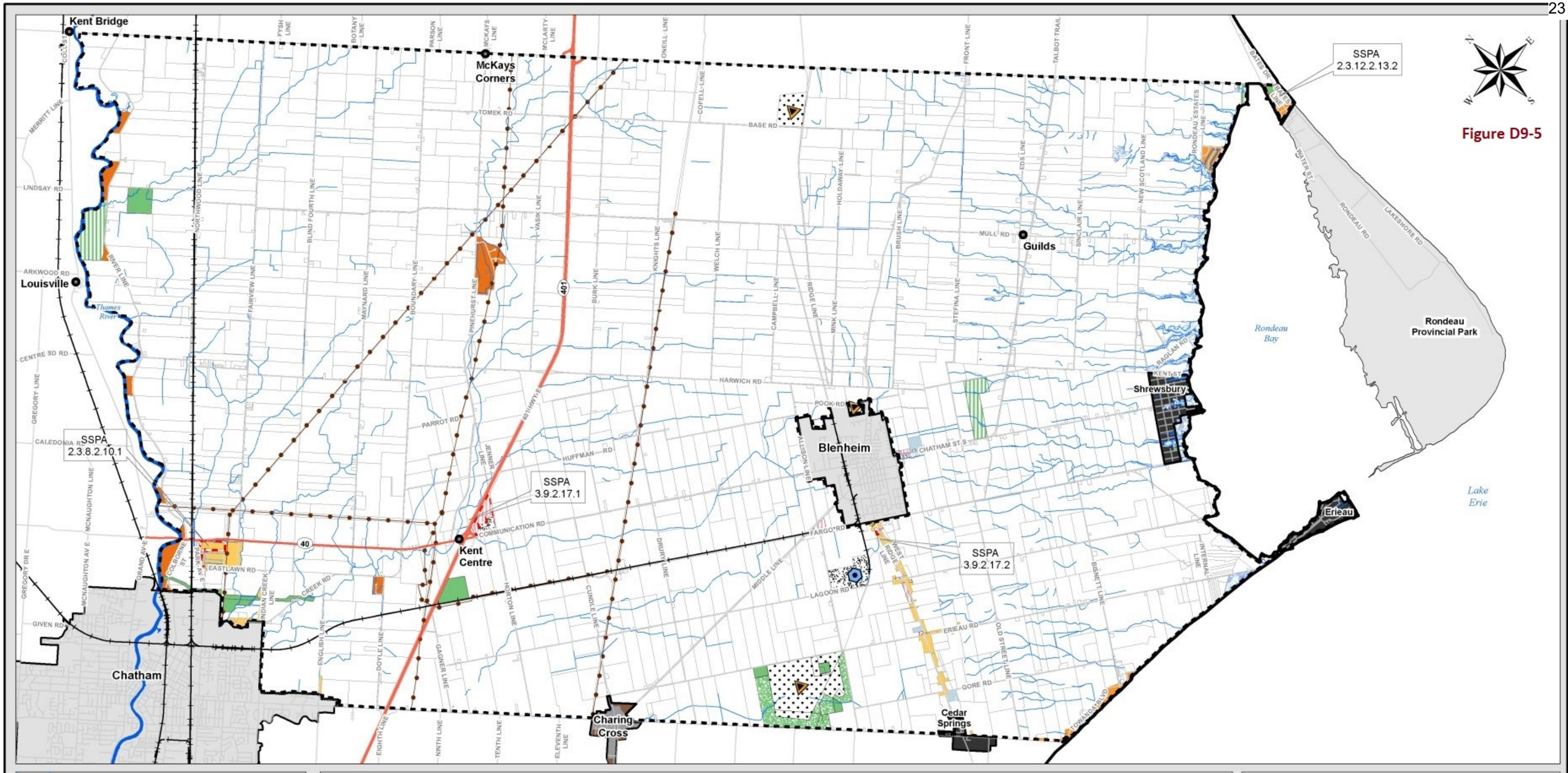
The Ridge Landfill site currently has two (2) Official Plan (OP) designations, a Waste Management Area (WMA) and a Conservation and Agricultural/Buffer Area (**FIGURE D9-5**):

- **Waste Management Area (WMA):** As outlined in the OP, the WMA designation is intended to safeguard the environment, public health and safety, and the interests of residents from the effects of waste management activities by controlling or mitigating impacts to surrounding agricultural uses and neighbouring residents. The site is required to maintain a peripheral area around the landfill site a buffer between other land-use designations (such as accessory buildings on-site), as well as an agricultural buffer around the landfill site to provide a physical separation between neighbouring land uses; and
- **Conservation and Agricultural/Buffer Area**: The current site is bounded on three sides by lands under the Conservation and Agricultural/Buffer Area designation, which allows for agriculture, farm-related industrial and farm-related commercial uses and accessory uses. Portions of Erieau Road, Drury Line and Communication Road between Allison Line and Highway 401 fall under the Waste Management Truck Route OP designation, also referred to in the OP schedules as the Ridge Landfill Truck Route.

Under the existing Zoning By-law for the site (**FIGURE D9-6**), the Waste Fill Area is zoned "Landfill" and permits disposal of solid non-hazardous waste. The site is required to maintain minimum setbacks of 100 m and a minimum open space of 20%. In addition, there are three (3) woodlots on the site designated as Open Space Recreational Zone OS1-105, which permits open space, private recreational uses, forestry and fisheries, conservation, and preservation of wildlife and fisheries.

[8] Municipality of Chatham-Kent (2017). Official Plan. Consolidated as of June 7, 2017.

Figure D9-5



Legend

- Municipal Boundary
- Schedule Boundary
- Primary Urban Centre
- Secondary Urban Centre
- Hamlet
- Rural Settlement Area
- Local Road
- Provincial Highway
- Future CWTL
- Railway
- Hydro Electric Power Commission
- Water Course
- Property Not Included in Official Plan
- Special Policy Area
- Site Specific Policy Area
- Site Specific Policy Area 2.3.7.2.14.1

Land Use Designations

Agriculture
- Agricultural
- Agricultural Buffer

Residential
- Residential
- Suburban Residential
- Recreational Residential
- Estate Residential
- Mobile Home Park

Commercial / Industrial
- Employment Area
- Industrial Rural
- Business Park
- Future Development
- Downtown / Main St
- Power Centre
- Shopping Centre Commercial
- Community Commercial Centre
- Highway Commercial

Other
- Public Facility
- Sanitary Sewage Treatment Works
- Urban Reserve
- Open Space / Conservation Lands
- Recreational Area
- Waste Management Site
- Airport
- Provincially Significant Wetland

MUNICIPALITY OF CHATHAM-KENT LAND USE SCHEDULE

Chatham-Kent
Cultivating Growth, Shore to Shore

A4
COMMUNITY OF HARWICH TOWNSHIP

Date Printed: December 17, 2015
Projection: NAD 83 Zone 17N

0 0.5 1 2 3 Kilometers

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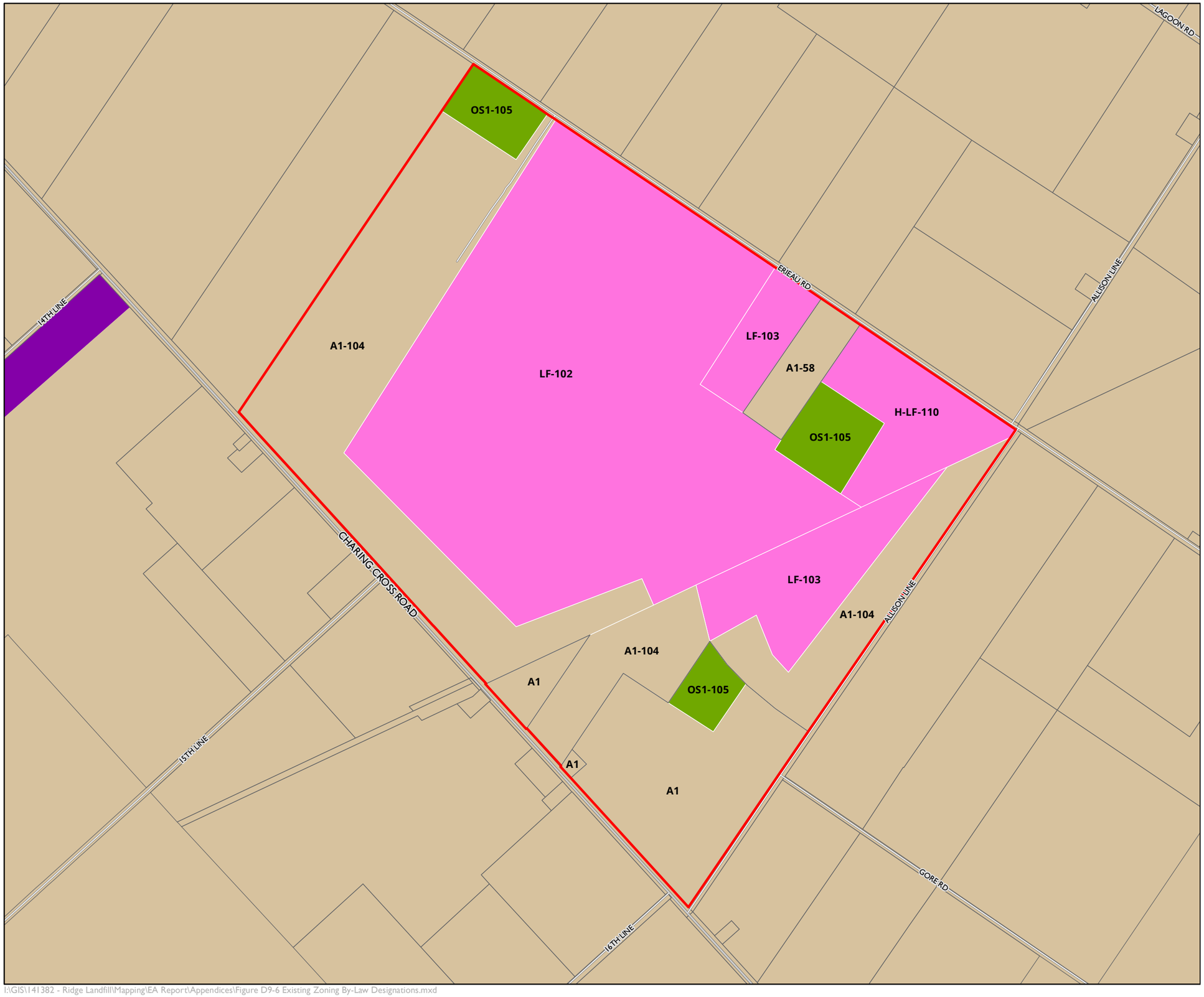
WASTE CONNECTIONS OF CANADA

RIDGE LANDFILL
ENVIRONMENTAL ASSESSMENT

EXISTING ZONING BY-LAW DESIGNATIONS



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N W E S

MAP DRAWING INFORMATION:
DATA OBTAINED FROM MNRF/CHATHAM-KENT

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

DILLON CONSULTING

PROJECT: 152456
STATUS: DRAFT
DATE: 2019-06-12

I:\GIS\141382 - Ridge Landfill\Mapping\EA Report\Appendices\Figure D9-6 Existing Zoning By-Law Designations.mxd

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The southeast corner of the site is currently zoned as Holding Landfill, which is a provision of Section 36 of the *Planning Act* and the Holding Zones policies of the OP. This designation provides the Municipality and MECP an opportunity to determine whether an expansion application meets the criteria outlined within the OP. The OP stipulates that an expansion will only be permitted if the landfill operator can satisfactorily demonstrate that the capacity of the current landfill will be reached within a 10-year period or less (currently projected to reach capacity in 2021), and whether the expansion meets the environmental, social and economic criteria outlined in the OP, including EA approval from the MECP. In order for the landfill expansion to occur, an Official Plan and Zoning By-law Amendment is required to change the Agricultural Zone, allowing for an expansion of the landfill area on site. The surrounding off-site area is designated Agricultural, which permits typical agricultural and farming-related uses.

3.2 Demographic, Social, and Cultural Characteristics

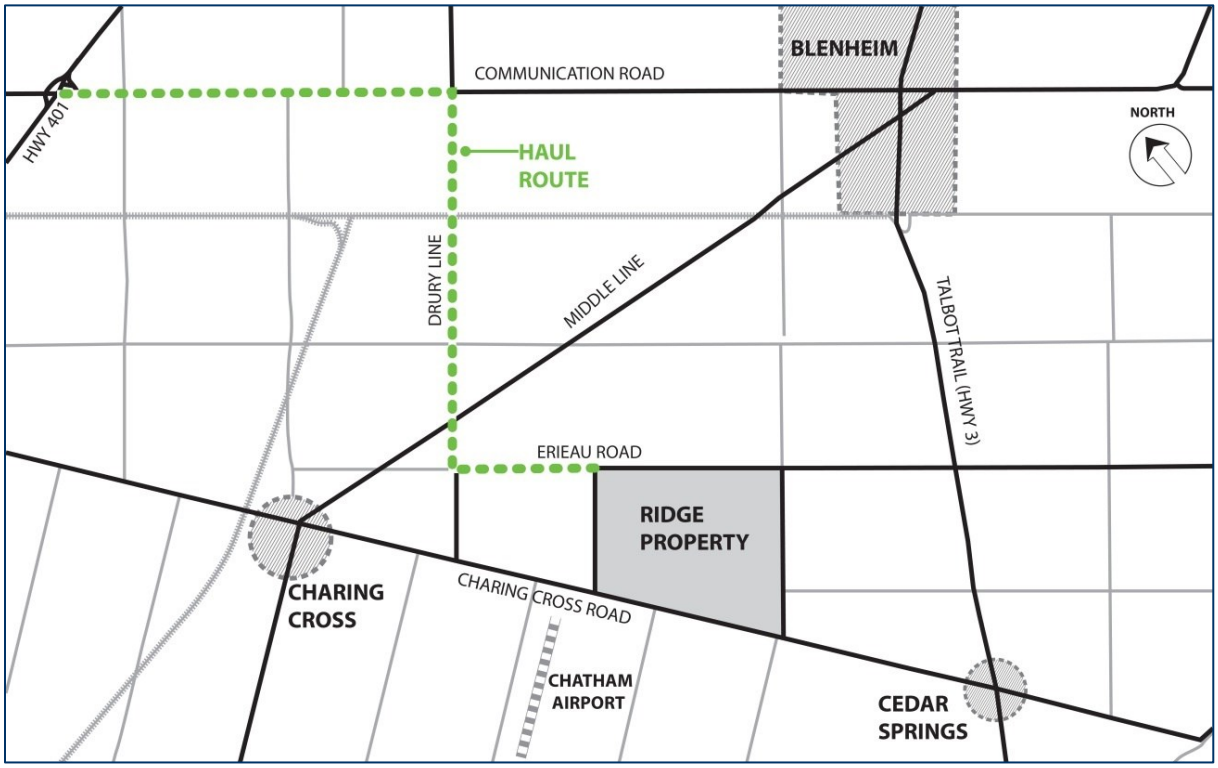
The following is a summary of the existing demographic, social, and cultural characteristics associated with the Ridge Landfill, the community of Blenheim, and the Municipality of Chatham-Kent.

3.2.1 Demographic and Household Characteristics

The Municipality of Chatham-Kent constitutes the regional socio-demographic setting for the proposed Ridge Landfill expansion. The Municipality has a population of 101,647 as of 2016[9]. The Municipality is comprised of seven (7) prime urban centres and six (6) secondary urban centres[10]. The communities of Blenheim, Charing Cross and Cedar Springs are in close proximity to the Ridge Landfill. **FIGURE D9-7** shows the location of the Ridge Landfill in relation to Blenheim, Charing Cross and Cedar Springs.

[9] Statistics Canada (2017a). Census Profile. 2016 Census, Chatham-Kent. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Accessed November 27, 2018.
[10] Municipality of Chatham-Kent (2017). Official Plan. Consolidated as of June 7, 2017.

FIGURE D9-7: RIDGE LANDFILL LOCATION



Blenheim is considered a primary urban centre with a population of 4,563 as of 2016[11]. It is the closest primary urban centre to the Ridge Landfill. Charing Cross is a secondary urban centre with a 2011 population estimate of 300 and Cedar Springs is identified as a hamlet with a 2011 population estimate of 280[12].

The area has experienced a slight population decrease between 2011 and 2016. During that time period, the Municipality of Chatham-Kent experienced a 2% decrease in population (see **Table D9-2**). However, according to the Municipality's Official Plan[13], by 2031 the Municipality and the community of Blenheim are expected to have a population of 108,200 and 5,000 people respectively.

[11] Statistics Canada (2017b). Census Profile. 2016 Census, Blenheim. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Accessed November 27, 2018.
[12] Statistics Canada (2013a). National Household Survey, 2011 Census, Chatham-Kent. Statistics Canada Catalogue no. 99-004-XWE. Ottawa. Released June 26, 2013. Accessed November 27, 2018. (Note: This sub-community no longer counted by Census)
[13] Municipality of Chatham-Kent, 2017. Official Plan. Consolidated as of June 7, 2017.

Table D9-2: Population Change 2006, 2011, and 2016

Year	Population Change					
	Municipality of Chatham-Kent		Blenheim		Ontario	
	#	%	#	%	#	%
2006	108,589	n/a	n/a	n/a	12,160,282	n/a
2011	103,671	-4.2%	4,595	n/a	12,851,821	5.7%
2016	101,647	-2.0%	4,344	-5.5%	13,448,494	4.6%

Source: Statistics Canada 2007, 2013, 2017a, b
n/a = not available

The population of the Municipality of Chatham-Kent has a median age of 45.9 years, which is 4.6 years greater than the median for the province (**Table D9-3)**. In comparison, in 2006 the median age of the Municipality was 41.2 years[14]. The Municipality has a notable over-representation in the 65 years-and-older cohort. In 2016, 21% of Chatham-Kent's population was 65 years and older, which is 4.4% higher than the provincial proportion[15]. The over-representation is offset by under-representation in age cohorts from 20 years to 50 years. The age distribution is typical for rural communities in Ontario as younger demographics are moving towards urban areas for career and education opportunities[16].

Blenheim's population has a median age of 47.8 years. Similar to the Municipality of Chatham-Kent, the majority of Blenheim's population is over-represented in the 65 years and older cohort while being under-represented in age cohorts from 20 years to 50 years[17].

[14] Statistics Canada (2007). Community Profiles, 2006 Census, Chatham-Kent. Statistics Canada Catalogue no. 92-591-XWE. Ottawa. Released March 13, 2007. Accessed November 27, 2018.
[15] Statistics Canada (2017a). Census Profile. 2016 Census, Chatham-Kent. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Accessed November 27, 2018.
[16] Matthew Fischer and Associates and Mellor Murray Consulting (2014). Chatham-Kent Workforce Planning Board: 2013 Local Labour Market Planning Report. Available at: http://ckworkforcedev.com/wp-content/uploads/2014/10/FINAL-LLMPD.pdf
[17] Statistics Canada (2017b). Census Profile. 2016 Census, Blenheim. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Accessed November 27, 2018.

Table D9-3: Age Cohorts in 2016

Age Cohort	Age Cohorts (2016)					
	Municipality of Chatham-Kent		Blenheim		Ontario	
	#	%	#	%	#	%
Under 15 years	16,645	16.4%	670	15.4%	2,207,970	16.4%
15 to 19 years	6,075	6.0%	245	5.6%	811,670	6.0%
20 to 24 years	5,520	5.4%	220	5.1%	894,390	6.7%
25 to 29 years	5,100	5.0%	200	4.6%	874,350	6.5%
30 to 34 years	5,540	5.5%	230	5.3%	864,765	6.4%
35 to 39 years	5,355	5.3%	220	5.1%	842,485	6.3%
40 to 44 years	5,555	5.5%	225	5.2%	871,875	6.5%
45 to 49 years	6,195	6.1%	275	6.3%	937,385	7.0%
50 to 54 years	8,090	8.0%	320	7.4%	1,056,345	7.9%
55 to 59 years	8,555	8.4%	365	8.4%	989,460	7.4%
60 to 64 years	7,605	7.5%	315	7.3%	846,145	6.3%
65 years and over	21,415	21.1%	1,060	24.4%	2,251,655	16.7%
Median Age	45.9	n/a	47.8	n/a	41.3	n/a

Source: Statistics Canada 2017a, b
n/a = not applicable

Table D9-4 includes household characteristics showing that the Municipality of Chatham-Kent is comprised of 45,026 owner-occupied, private dwellings and a total of 28,830 one-census-family households[18]. The community of Blenheim is comprised of 1,890 private dwellings that are owner-occupied and a total of 1,235 one-census-family households[19]. The population density is lower in both communities than the Ontario average, consistent with the rural character of the region. The average number of persons per household is also lower than the provincial average consistent with the older demographics of the region. Those who are 65 years and older are less likely to live in households with children or other family members.

[18] Statistics Canada (2017a). Census Profile. 2016 Census, Chatham-Kent. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Accessed November 27, 2018.
[19] Statistics Canada (2017b). Census Profile. 2016 Census, Blenheim. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Accessed November 27, 2018.

Table D9-4: Household Characteristics 2016

Household Characteristics 2016 (on-site, off-site and haul route study areas)				
Area	**Private dwellings owner occupied**	**One-census-family household**	**Population density per Square kilometer**	**Average number persons per household**
Municipality of Chatham-Kent	43,026	28,830	41.3	2.3
Blenheim	1,890	1,235	1,025.3	2.2
Ontario	5,169,174	3,481,885	14.8	2.6

Source: Statistics Canada 2017a, b

The defining features of the Blenheim community include its farming landscape interspersed by small residential clusters and wind turbines.

FIGURE D9-8 identifies the location of residences and businesses in the on-site, off-site and haul route study areas. These residences and businesses are considered to be receptors for potential effects. There are two (2) rented dwellings on-site within the Waste Connections property boundary. A total of 27 receptors (24 residences, two [2] businesses and one [1] institution) within 1 km (not including the two [2] on-site). There are a total of 37 receptors along the haul route. Occupants may experience effects related to landfilling or waste hauling activities due to their proximity to the Ridge Landfill site or along the haul route.

It is noted that within 1 km of the site there was one (1) unoccupied residence owned by Waste Connections, which has since been demolished. As such, this residence is not included in the assessment of impacts to receptors within 1 km of the site.

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WASTE CONNECTIONS OF CANADA

RIDGE LANDFILL
ENVIRONMENTAL ASSESSMENT

EXISTING RESIDENCES, BUSINESSES AND INSTITUTIONS IN THE SOCIO-ECONOMIC STUDY AREA AND ALONG THE HAUL ROUTE

- Business
- Institution
- Residence
- On-Site Socio-Economic Study Area and Property Boundary
- Off-Site Socio-Economic Study Area (1 km)
- Haul Route Socio-Economic Study Area

1:45,000

0 200 400 800 m

N W E S

MAP DRAWING INFORMATION:
IMAGERY PROVIDED BY DIGITAL GLOBE/
DATA OBTAINED FROM MNRF

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

DILLON CONSULTING

PROJECT: 152456
STATUS: DRAFT
DATE: 2019-06-24

Document Path: I:\GIS\141382 - Ridge Landfill\Mapping\EA Report\Appendices\Figure D9-8 Existing Residences, Businesses and Institutions in the Socio-Economic Study Area and Along the Haul Route.mxd

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3.2.2 Outdoor Recreational Opportunities

A land use review identified minimal tourism and recreational uses in the vicinity of the Ridge Landfill site. The northeastern corner of the Ridge Landfill contains a small parcel of open space that is identified in the Official Plan. The Chatham-Kent Municipal Airport is located west of the Ridge Landfill, with only a small segment of its 170.7 ha (422 acres) within the 1 km study area.

There are a few regional outdoor recreation areas within the region that include Lake Erie and Lake St. Clair. Rondeau Provincial Park is also located within the Municipality of Chatham-Kent.

3.2.3 Indigenous Communities and Organizations

Treaty 2, also referred to as the McKee Purchase, was signed on May 19, 1790 by over 50 signatories representing the Crown and various Indigenous Communities and Organizations. Current municipalities in the area of Treaty 2 include: Windsor, Chatham-Kent and part of London. A commemoration plaque is found in Blenheim Memorial Park of this treaty.

As the Ridge Landfill falls within the area of Treaty 2[20], there may be varying levels of interest from the following Indigenous Communities:

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

In addition, the following Indigenous Organizations were consulted throughout EA process:

- Chiefs of Ontario; and
- Métis Nation of Ontario.

These Indigenous Communities and Organizations have all been identified by the MECP as key stakeholders that need to be engaged as part of the EA. These Indigenous Communities and

[20] Indigenous and Northern Affairs Canada (2016). Treaty Texts - Upper Canada Land Surrenders. Available at: https://www.aadnc-aandc.gc.ca/eng/1370372152585/1370372222012#ucls4

Organizations were contacted and consulted as part of the proposed landfill expansion's consultation and engagement program. Section 8.0 of the EA Report provides an overview of the consultation with the Indigenous Communities and Organizations.

Through communication with Indigenous Communities and Organizations who expressed an interest in the proposed landfill expansion, it was confirmed that the Ridge Landfill is currently not used for community purposes with the exception that the site provides waste disposal for waste generated at Walpole Island First Nation (WIFN). The consultation activities confirmed that Indigenous Communities and Organizations are aware of the existing Ridge Landfill. There were no specific concerns raised with the existing operations of the landfill by the Indigenous Communities and Organizations, who expressed an interest in the proposed expansion.

3.2.4 Existing Noise, Atmospheric and Visual Characteristics

To assess the potential effects of the preferred site development method, the noise, atmospheric (air quality, odour and dust) and visual conditions need to be understood.

The ambient noise environment in a rural area is primarily defined by the sounds of nature, agricultural-related practices and to a lesser extent, road traffic noise. Further information regarding the noise conditions of the area can be found in Appendix D8 – Noise Impact Assessment.

Odour can be produced on-site from the existing operation of the Ridge Landfill. Odours within the 1 km study area can also be generated by agricultural operations and the Blenheim Wastewater Treatment Lagoons (BWTL). The BWTL is located on Lagoon Road approximately 1.5 km east of the site boundary. Dust can also result from farming operations, by passing traffic and to a lesser extent the existing Ridge Landfill operations. Additional information regarding the atmospheric conditions of the area can be found in Appendix D3A – Atmospheric Impact Assessment.

The Ridge Landfill site, while part of the landscape, is an anomalous form that is different from the surrounding topography. The 2019 viewshed analysis noted that the waste fill area is currently noticeable for approximately 1 km and is most visible along the Middle Line, Erieau Road, Charing Cross Road, Drury Line and the Talbot Trail (Appendix D12 – Visual Impact Assessment).

The visual impact is the greatest within 500 m of the site in locations where berms and roadside hedgerows are not present. The impact diminishes further with increased distance from the site. Although the visibility modelling indicates that there are views to the site, once the view is beyond 1 km the site becomes part of the broader landscape and the impact diminishes.

Regionally, the visual landscape surrounding the Ridge Landfill is dominated by several uses including rural residential areas, agricultural operations, wind turbines and pockets of small woodlots. The regional landscape has been altered in the last ten to fifteen years due to the installation of wind power generation facilities around the Ridge Landfill and more broadly across the Municipality of Chatham-Kent. Further information regarding the visual conditions of the area can be found in Appendix D12.

Noise, dust, odour and visual impacts on-site, off-site and along the haul route may provide effects for members of the community and visitors disrupting their activities and businesses or may impact the character of the community. More information regarding existing noise conditions, atmospheric conditions and visual conditions can be found in Appendix D3A, Appendix D8, and Appendix D12.

3.3 Economic Characteristics

The economic characteristics section considers the regional economy, the regional labour force, municipal finances and economic activities undertaken on-site, off-site and within the region. The Ridge Landfill is the major economic activity in the area. It contributes to the regional economy through employment, expenditure, and municipal financing and community investments. Community investments are focused on the local communities in close proximity to the site. Within the off-site study area, agriculture is the primary economic activity. Across the region, agriculture and manufacturing are the primary economic activities.

3.3.1 Economic Characteristics of the Municipality of Chatham-Kent and Blenheim

Table D9-5 presents a summary of employment characteristics in the study area. The Municipality of Chatham-Kent had a labour participation rate of 60.1% and an unemployment rate of 7.6% in 2016[21]. The labour force participation rate has declined while the unemployment rate has been relatively stable. This suggests the labour force is shrinking with fewer jobs available within the community. The labour force participation rate has likely declined due to aging population with a higher proportion of community members exiting the labour force. This is evidenced by the lower than average labour force participation rate in Chatham-Kent. The employment profile of Blenheim is similar to the profile of Chatham-Kent as 2016 census data does not show a substantive difference in the labour force statistics[22].

[21] Statistics Canada (2017a). Census Profile. 2016 Census, Chatham-Kent. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Accessed November 27, 2018.
[22] Statistics Canada (2017b). Census Profile. 2016 Census, Blenheim. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Accessed November 27, 2018.

Table D9-5: Summary of Employment and Income Characteristics

Employment and Income	Municipality of Chatham-Kent	Blenheim	Ontario
2006			
Participation (%)	65.8	n/a	67.1
Employment (%)	61.0	n/a	62.8
Unemployment (%)	7.2	n/a	6.4
Median Income Before Tax for Persons 15 years and over ($)	$25,753	n/a	$24,604
2011			
Participation (%)	60.3	n/a	65.5
Employment (%)	54.1	n/a	60.1
Unemployment (%)	10.2	n/a	8.3
Median Income Before Tax for Persons 15 years and over ($)	$26,176	n/a	$30,526
2016			
Participation (%)	60.1	60.2	64.7
Employment (%)	55.6	55.6	59.9
Unemployment (%)	7.6	7.5	7.4
Median Income Before Tax for Persons 15 years and over ($)	$30,895	$30,923	$33,539

Source: Statistics Canada 2007, 2013, 2017a, b
n/a = not available

The employment proportions for local communities are shown in **Table D9-6** below. Blenheim and Chatham-Kent have a disproportionate amount of community members employed in agriculture relative to the provincial average. This is consistent with the businesses surrounding the site and general character of the region noted in **Section 3.2**. The local communities are also much more reliant on manufacturing than the province overall. This is consistent with traditional regional economic trends where a strong manufacturing base was found in the municipality.

Manufacturing has declined since 2008 in the region with over half of manufacturing jobs lost between 2006 and 2011. The largest growth sector in the municipality is construction[23]. Blenheim and Chatham-Kent have lower than average participation in finance, insurance, real

[23] Matthew Fischer and Associates and Mellor Murray Consulting (2014). Chatham-Kent Workforce Planning Board: 2013 Local Labour Market Planning Report. Available at: http://ckworkforcedev.com/wp-content/uploads/2014/10/FINAL-LLMPD.pdf

estate and professional services. Young adults are exiting the region to move to urban areas to pursue education and careers in these fields explaining the underrepresentation in these cohorts described in **Section 3.2.1**. Chatham-Kent is identified as having a skills gap with high unemployment for low skilled workers while having labour shortages for high skill jobs[24].

Table D9-6: Labour Force Distribution 2016

Sector	Labour Force Characteristics					
	Municipality of Chatham-Kent		Blenheim		Ontario	
	#	%	#	%	#	%
All industry categories	48,645	100%	1,955	100%	6,970,625	100%
Agriculture, forestry, fishing and hunting	3,785	7.8%	110	5.6%	102,070	1.5%
Mining, quarrying, and oil and gas extraction	175	0.4%	0	0.0%	32,340	0.5%
Utilities	995	2.0%	10	0.5%	50,820	0.7%
Construction	3,265	6.7%	155	7.9%	476,835	6.8%
Manufacturing	6,430	13.2%	310	15.9%	683,335	9.8%
Wholesale trade	1,815	3.7%	85	4.3%	270,745	3.9%
Retail trade	5,590	11.5%	220	11.3%	783,540	11.2%
Transportation and warehousing	2,530	5.2%	130	6.6%	329,240	4.7%
Information and cultural industries	750	1.5%	10	0.5%	176,715	2.5%
Finance and insurance	1,130	2.3%	50	2.6%	380,765	5.5%
Real estate and rental and leasing	550	1.1%	20	1.0%	144,275	2.1%
Professional, scientific and technical services	1,455	3.0%	45	2.3%	567,825	8.1%
Management of companies and enterprises	20	0.04%	0	0.0%	12,365	0.2%

[24] Matthew Fischer and Associates and Mellor Murray Consulting (2014). Chatham-Kent Workforce Planning Board: 2013 Local Labour Market Planning Report. Available at: http://ckworkforcedev.com/wp-content/uploads/2014/10/FINAL-LLMPD.pdf

Sector	Labour Force Characteristics					
Administrative and support, waste management and remediation services	2,490	5.1%	80	4.1%	338,640	4.9%
Educational services	2,945	6.1%	120	6.1%	528,470	7.6%
Health care and social assistance	6,125	12.6%	260	13.3%	754,555	10.8%
Arts, entertainment and recreation	830	1.7%	50	2.6%	147,425	2.1%
Accommodation and food services	3,370	6.9%	110	5.6%	478,070	6.9%
Other services (except public administration)	2,190	4.5%	110	5.6%	296,960	4.3%
Public administration	2,210	4.5%	70	3.6%	415,635	6.0%

Source: Statistics Canada 2017a, b

Approximately $335 million in annual revenue is received by the Municipality of Chatham-Kent. Primary funding sources include grants and taxation. Chatham-Kent has operated with a surplus between 2012 and 2016. Primary expenditures for the municipality include: protective services, transportation services, environmental services and social and family services. A summary of the municipal finances for Chatham-Kent is provided in **Table D9-7.**

Table D9-7: Summary of Municipal Finances

Item	Year				
	2012	2013	2014	2015	2016
Revenue (Million dollars)					
Taxation	188.90	200.15	206.46	204.78	215.14
Grants	106.93	107.30	115.34	107.55	110.87
Contributions of landowners and developers	0.96	1.26	0.23	0.43	0.56
Other	8.53	10.28	8.57	11.6	8.60
Total revenue	305.33	318.99	330.61	324.42	335.18
Expenses (Million dollars)					
General government	3.44	6.67	7.64	3.94	4.28
Protection of persons and property	51.16	53.06	55.35	56.96	56.31
Transportation services	42.93	45.49	49.12	48.52	51.27
Environmental services	44.84	44.85	46.22	44.81	49.98
Health services	21.85	23.01	22.49	23.15	23.36
Social and family services	85.86	85.58	85.77	85.29	85.90
Social housing	12.50	13.39	11.71	12.57	13.24
Recreation and cultural services	22.30	22.50	23.29	23.64	24.94
Planning and development	6.21	5.17	5.14	4.91	4.78
Total expenses	293.13	299.71	306.76	303.93	314.06

Source: Deloitte, 2013, 2014, 2015, 2016, 2017
Note: Sums may not add up due to rounding

3.3.2 Economic Activities within the Study Area

The existing economic environment of the area surrounding the Ridge Landfill reflects the agricultural operations, the wind turbines lease payments, the rural nature of the community, and the presence of the Ridge Landfill.

Agricultural activities are a core component of the economy and character of the Municipality of Chatham-Kent. According to a 2011 report by the Centre for Regional Economic Competiveness, the concentration of agriculture is five (5) times greater in Chatham-Kent than it is overall in Ontario[25].

The study areas (i.e., on-site, off-site and along the haul route) are located in an agricultural area with mainly Canada Land Inventory Class 2, and 3 lands[26]. The types of crops grown in this area often include soybean, corn, mixed grains, and pasture/hay.

In 2016, the total farm cash receipts for main commodities for Chatham-Kent comprised $650.65 million (increasing from $406.34 million in 2007 and $470.56 million in 2011), with fruits and vegetables being the majority crop type, followed by soybeans, corn, hogs, wheat, cattle and calves, floriculture/nursery, and agricultural program payments[27].

On-Site Economic Activities (excluding the Ridge Landfill): The agricultural lands on-site are presently leased to local tenant farm operators that do not reside at the site. Soybeans were grown in 2017. Soybeans are a high value crop that requires a well-drained, flat, smooth soil with minimal rock. There is also a small apple orchard on-site (see Appendix D1 – Agricultural Impact Assessment).

Off-Site Economic Activities: Businesses operating within 1 km of the site include an agricultural fruit stand operation at Charing Cross Road and Allison Line, a small equipment dealer also on Charing Cross Road, and the institutional use of the Chatham-Kent Municipal Airport on 14th Line. Other businesses include various agricultural operations on the farmland surrounding the site.

Off-site, the dominant crop grown in the area at the time of field reconnaissance was soybean. Fruit crops in the vicinity of the site include apple and pear orchards adjacent to the southwest property boundary. There is little evidence of non-farm use within the off-site study area. With the exception of the existing landfill and a portion of the Chatham-Kent Municipal Airport, all of the land area is in rural residential and active agricultural use.

Haul Route Economic Activities: Along the haul route, economic activity includes Platinum Produce (a large greenhouse operation growing hydroponic sweet peppers), and Dig R Wright Excavating Inc. There are various agricultural operations on the farmlands located along the haul route.

[25] Centre for Regional Economic Competiveness (2011). Chatham-Kent Labour Market Analysis. Accessed August 8, 2017. Available at: http://www.ckworkforcedev.com/wp-content/uploads/2011/11/Labour-Market-Analysis-Final.pdf
[26] Canada Land Inventory (1998). National Soil Data Base, Agriculture and Agri-Food Canada. 1998.
[27] Ministry of Agriculture, Food and Rural Affairs (2009). Chatham-Kent Rural Guide 2009. Accessed August 8, 2017.

3.3.3 Waste Connections and the Ridge Landfill's Contribution to the Regional Economy of Chatham-Kent

The Ridge Landfill is one of the primary economic activities in the area. Waste Connections and the Ridge Landfill contribute to the regional economy of the Municipality of Chatham-Kent through the Host Community Agree, community contributions and operational expenditures. The total economic activity generated by Waste Connections is more than $22 million annually through a variety of economic activities generating direct and indirect economic benefits to the community. Additional benefits are likely to be induced due to this economic activity. Key contributions to the regional economy include:

- $17 million in economic activity related to site expenditures annually;
- $3.7 million to municipal finances as part of the host community agreement;
- $1.1 million in community investment through the Ridge Landfill Community Trust; and
- 23 jobs directly associated with the Ridge Landfill site and an additional 60 jobs for people from the region.

These contributions position the Ridge Landfill as an important contributor to the Chatham-Kent economy and their municipal finances.

3.3.3.1 Host Community Agreement

The Ridge Landfill has a 50-year history of being an important part of the economic and social structure of the Municipality of Chatham-Kent. The Host Community Agreement includes but is not limited to:

- An annual royalty payment paid based on the number of tonnes received to the landfill each year;
- A Volume Buy Back agreement that pays the municipality for any landfill capacity they don't utilize under 35,000 tonnes in a given year with a maximum buyback of 10,000 tonnes;
- A Haul Route Road Maintenance Fee agreement;
- Provisions for capacity and payment for leachate treatment undertaken at the Blenheim Wastewater Treatment Lagoons; and
- Co-ordination and payment for disposal and recycling of household hazardous waste by a third party.

All Host Community Fees are adjusted annually based on the Consumer Price Index Adjustment. The changes are effective as of October 1 of each year.

Table D9-8 summarizes Waste Connections' payments with respect to the Host Community Agreement between 2012 and 2018. In the last five (5) years these contributions have totalled $11,035,581 and since the year 2000, these contributions are in the order of $35 million.

Table D9-8: Waste Connections' Host Community Agreement Payments

Summary of Waste Connection Payments ($)

Year	2012	2013	2014	2015	2016	2017	2018
Host Community Agreement Fees	2,043,777	2,252,320	3,150,926	3,406,132	3,824,484	3,196,824	3,457,216

Note: Host Community Payments were provided by Waste Connections.

3.3.3.2 Community Benefits

The Ridge Landfill Community Trust Fund, was established in order to provide benefits to select local property owners and for community projects that principally benefit the communities of Cedar Springs, Charing Cross and Blenheim. According to the 2011 Commitments Package, the purpose of funding to local residents is to provide accommodation for the possible residual environmental effects of landfill operations and the effects of truck traffic related to the site. Payments to residents off-site and along the haul route in 2018 amounted to $341,835 (**Table D9-9**).

Approximately $750,000 in 2018 was donated from the Ridge Landfill Community Trust to 37 different community programs including donations to the Glad Tidings Community Church, the Blenheim Breakfast Program, Charing Cross Park, Bereavement Support Program, Blenheim Golden Acres Curling, Blenheim Seniors Centre, Blenheim District High School, Blenheim Youth Centre, Blenheim Skating Club, Blenheim Blades Hockey Club, Rotary Club of Blenheim, St. Annes School, Crimestoppers, The New Animal Shelter and the Golden Acres Hockey School.

Payments by Waste Connections into the Fund are based on waste quantities disposed at the site. The funding rates are subject to adjustment according to the Consumer Price Index commencing in the year in which the service area application was approved. Trust Fund payments have increased approximately 46% between 2012 and 2018 (**Table D9-9**) and as the result of increased tonnage received to the site. Since 2000 it is estimated that the Trust has received somewhere in the order of $11 million.

Table D9-9: Community Benefits Package Payments by Waste Connections from 2012 to 2018

Summary of Waste Connections Community Benefits Payments ($)

Year	2012	2013	2014	2015	2016	2017	2018
Residential Payments	272,734	285,981	317,575	330,687	332,462	350,109	341,835
Trust Fund Payments	472,005	487,009	692,611	800,850	774,307	753,775	750,397
TOTALS	746,751	775,003	1,012,200	1,133,552	1,108,785	1,105,901	1,094,250

Local Residents Waste Collection Program:

A weekly waste collection program for local residents located along the following roads surrounding the site: County Road 10 (from Drury Line to Allison Line), Allison Line (from County Road 10 to Concession Road IV), Concession Road IV (from Allison Line to Drury Road) and Drury Line (from a point 1.2 km east of Concession Road IV to County Road 10). This displaces the need for the Ridge's immediate neighbours to pay for private rural waste collection and/or disposal fees.

Property Value Protection Program:

Waste Connections also offers a Property Value Protection Program to guarantee specific property owners in proximity to the site downside protection for the value of their properties in the event of the sale of the property.

Under the terms of the agreement an appraisal is undertaken for the property of interest. Appraisals reflect sales of comparable rural properties in the Municipality of Chatham-Kent that are not in proximity to the site. At such a time as a property owner decides to sell his or her property, Waste Connections has the first right of refusal of the property but foregoing purchase of the property, agrees to pay the property owner the difference between the proposed purchase price and the established appraised value of the property. The program expires the year in which waste disposal at the site is completed.

Discretionary Community Contributions beyond the Ridge Landfill Community Trust

Waste Connections is an active participant in the community contributing to a variety of community activities through sponsorships and donated services. In 2018, discretionary contributions to the community included sponsoring an awareness activity book, a kid's race for an autism foundation, community festivals and gatherings, community living, sports teams, breakfast programs, magic shows, retroforest, an arts centre and diabetes association. At many of these events, Waste Connections also provided services to the community. These contributions demonstrate Waste Connections is an active contributor to the community and sponsor a variety of community enhancing activities.

3.3.3.3 Waste Connections Operational Expenditures in the Region

Waste Connections estimates that current purchases of goods and services related to existing operations made in the regional economy, which have been considered for purposes of the assessment of economic impacts, amount to approximately $9 million annually. These ongoing expenditures of services and goods that provide an economic benefit to the region include: engineering services, machinery, fuel, equipment, repairs, parts and labour.

Waste Connections currently employs 60 people who live in the community, 23 of whom are directly involved with the landfill operation, and the remainder who are associated with municipal waste collection activities off-site. There are no businesses located on-site other than the landfill operation.

4.0 Interview Input to Socio-Economic Characteristics Experienced by Residents and Businesses

During November and December 2018, residents and businesses located within 1 km of the site and along the haul route were invited to participate in individual interviews. Invitations were mailed to all residents and businesses in the two (2) study areas in October 2018. Participants were also informed of the interview opportunity at the first Open House held on July 25, 2018 and provided with an opportunity to arrange a time and location for the interview.

The interview included meeting with individual respondents to ascertain information regarding social and economic characteristics of the land uses surrounding the Ridge Landfill. Respondent interviews included a brief summary of the proposed landfill expansion, and followed a pre-defined questionnaire. A total of 18 interviews were conducted, representing 55 residents (there were multiple members of households at each interview). All respondents used their properties as their primary residences, with the average length of residency being approximately 36 years. Eleven of the 18 respondents indicated that the property also served as a location for primarily agricultural purposes. A copy of the questionnaire used during interviews is included in Appendix D9-A.

Key comments and concerns raised by participants related to existing experience and perception of the Ridge Landfill are provided in the following sections.

4.1 Community Living Commentary

Part of the interview focused on the respondents' current level of satisfaction and desired areas of improvement within their community. All respondents replied that they were either 'satisfied' or 'very satisfied' with the community as a place to live. A point of dissatisfaction raised by three (3) respondents was the proximity of the property and community to the landfill. Respondents were asked to identify elements of importance to their satisfaction with the community. The response was overwhelmingly noted to be the small-town atmosphere and sense of community. It was also noted that proximity of the community to amenities and agricultural viability were important to respondents.

Respondents were given the opportunity to discuss any known issues related to the Ridge Landfill at their property. The primary issues were related to odour, truck traffic, litter and

noise. **Table D9-10** below summarizes the topics and frequency of identification of each issue raised.

Table D9-10: Topic and Frequency of Issues Identified

Nature of Issue	Frequency of Response
Odour	13
Truck traffic	12
Litter	10
Noise	8
Communication protocols	3
Bird concerns (crows, birds of prey, seagull migration)	3
Management of Landfill, Liaison Committees and Trust Fund	3
Groundwater quality	3
Tree/woodlot impact	2
Property value	2
Transparency with government agencies	1
Exposure to insects such as weevils associated with produce waste	1
Leachate	1
Rats	1
Road quality of Allison Line	1
Visual impacts	1

Eleven of the 18 respondents had communicated issues in the past related to the landfill. The issues were primarily communicated to Ridge Landfill staff; however, respondents have also communicated to the MECP, MNRF, Municipality of Chatham-Kent, and the OPP. The nature of these complaints included truck traffic safety, odour, litter, landscaping practices and impacts to the existing woodlot and potentially to local wildlife.

4.2 Economic Related Commentary

Based on input received, 10 respondents currently run active agricultural operations primarily related to crop growing. One (1) respondent indicated that their property was used for livestock operations. Of the respondents growing crops, two (2) respondents indicated that their properties were also used for some livestock operations. Four (4) respondents identified that non-agricultural home-based businesses are also operated at their properties. Concerns were

raised regarding impacts of the landfill on local businesses, specifically related to odour, road condition, and litter.

Four (4) of the respondents currently receive compensation from the landfill. All respondents were aware of the financial benefits the Ridge has brought to the community, and many identified specific community infrastructure that has become available as a result of funding. See **Section 3.3** for further discussion related to current economic characteristics of the area.

4.3 Diversion Related Commentary

In general, respondents agreed with the implementation of diversion strategies with the objective of reducing the amount of material being landfilled. For the most part, respondents currently use the transfer station to dispose of their household waste and recycling materials, as required. Most respondents indicated that they were satisfied with this system, and did not express interest in having the services duplicated at the Ridge Landfill. Respondents agreed in general with the diversion programs presented, however, there was no significant or specific interest in implementation of additional diversion strategies at the landfill in particular due to concerns with increased odour, noise, and traffic.

Respondents also had an opportunity to provide additional comments beyond the topics covered specifically through the interview.

5.0 Landfill Expansion Assumptions

Waste Connections has prepared a set of working assumptions for the design and operation of the proposed landfill expansion. A detailed description of assumptions about the proposed expansion is provided in Appendix D6 – Design and Operations Report. The following list of key assumptions about the expansion is particularly relevant to the SEIA:

- The expansion (construction and operation) period of the landfill will commence in 2021 and last about 20 years (to 2041). The expansion will not require additional labour, goods or services beyond normal historical variances for operations of the site;
- Site access will remain the same, via Erieau Road;
- The haul route will remain the same, being the approved truck route as designated in the Chatham-Kent Official Plan;
- The landfill expansion areas consist of a total of 54.9 hectares;
- Continuation and updating of the Host Community Agreement and the Ridge Landfill Community Trust; and
- Benefits agreements will be negotiated with Indigenous Communities and Organizations as required.

6.0 Impact Assessment

The SEIA evaluates impacts to the socio-economic environments and provides a summary of the potential effects and interactions between the proposed Ridge Landfill expansion and the socio-economic environments. This section also provides recommended mitigation measures. The purpose of **Section 6.0** will be to identify if a residual effect, positive or negative, is likely to occur due to the Ridge Landfill expansion.

Section 7.0 will characterize residual effects. This will include a discussion of:

- The direction of the effect (positive or negative);
- The magnitude of the effect;
- The geographic extent of the effect;
- The duration/ reversibility of the effect;
- The effect's frequency; and
- The likelihood of occurrence.

This section will characterize if effects are considered to be significant based on these criteria. For noise, atmospheric and air quality effects to residents, compensation may be provided based on the magnitude of the residual effect.

6.1 Social Environment

6.1.1 Residents Displaced On-Site

Potential Effect

There are two (2) rental dwellings on-site within the Ridge Landfill property boundary. As part of the expansion, Waste Connections will expand the landfill waste footprint by a total of 54.9 ha. The Ridge Landfill phasing plans include the vertical expansion of the Old Landfill; horizontal expansion of Area 'B' south of the South Landfill (22.8 ha), and Area 'A' south of the West Landfill (32 ha). These expansion activities will displace the two (2) residences on-site.

The residents being displaced will be required to relocate from the site (the area in which these two (2) residences are located will not be needed immediately as the Old Landfill vertical expansion will occur first). Waste Connections will not displace the residents until the area is

needed. Activities proposed for the Ridge Landfill expansion will not displace any residents in the off-site study area. While two (2) residences on-site will need to relocate, this represents a small portion of the 43,026 private dwellings available in the municipality of Chatham-Kent. With 43,026 private dwellings within the region, there are a variety of opportunities for relocation within the region for those displaced on the site.

Mitigation

As residences are on land currently leased from Waste Connections, the leases will be terminated at the appropriate expansion time. Waste Connections will terminate the leases in accordance with the terms of the lease.

Net Effect

Despite mitigation, residents will be displaced during the expansion. Therefore, it is anticipated there will be a net effect due to displacement. This effect is minor as the leaseholders know that Waste Connections has proposed plans to expand and that the lease will eventually come to an end. Further this displacement only affects two (2) households within the region with, the region having many housing opportunities available.

6.1.2 Effects in the Off-Site Area

There are a total of 24 residences within 1 km of the site, plus one unoccupied residence on Charing Cross Road that is owned by Waste Connections. Occupants of the 24 residences within 1 km of the site may experience effects due to the expansion of the landfill and its ongoing operation. As discussed in **Section 4.0**, during interviews with stakeholders within 1 km of the site, concerns were raised regarding odour (13 of 18), truck traffic (12 of 18), litter (10 of 18) and noise (8 of 18). Air quality was not an issue raised by residents interviewed. Eleven of the 18 residents interviewed had communicated a concern regarding effects of the landfill with various agencies and the Ridge Landfill.

Activities associated with the proposed expansion of the Ridge Landfill may result in effects to residents in the off-site and haul route study areas. The activities associated with the expansion will be similar to what occurs on-site today. Changes to the on-site operations, predominantly landfilling in new areas, include excavation, working face activities and covering of the working face. In addition, the expansion will result in the continuation of existing site and haul route activities similar to existing conditions for a 20-year period between 2021 and 2041.

During the expansion period, various construction and maintenance activities will take place. These include cell construction, ditch cleaning, service road maintenance, and pond

maintenance. Equipment to complete these tasks includes bulldozers, backhoes, and dump trucks. These activities are not expected to differ from existing conditions.

Odour

Potential Effect

Appendix D3A – Atmospheric Impact Assessment considered the effects of odour on the off-site area. Odour has the potential to negatively impact people in the off-site area as an effect that could reduce the enjoyment of property.

The odour assessment (Appendix D3A) resulted in a low potential impact on receptors. Odours from all potential odour sources were well below MECP guidelines for odour emissions. Odour emissions are not expected to ever exceed 50% of the MECP criteria.

This effect may impact the use of properties in the off-site study area.

Mitigation

Waste Connections will undertake the following mitigation:

- Expansion of landfill gas collection system to the landfill expansion areas and continued flaring;
- Use of odour control when needed (e.g., misting systems);
- Application of cover material at the end of each operating day;
- Place waste with strong odours at the toe of the working face and immediately cover with other garbage or daily cover; and
- Continue regular communications with neighbours as site evolves.

Residents and businesses are encouraged to contact Waste Connections with specific concerns.

Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues.

Waste Connections will reduce effects by undertaking mitigation measures applied to the environment as described in other sections of the EA such as Atmospheric Impact Assessment (Appendix D3A).

Net Effect

Odour effects are likely to impact residents near the site within the off-site study area. Despite mitigation, net effects are still anticipated, and as result, net effects are carried forward to **Section 7.1.2**

Dust

Potential Effect

Dust may be problematic to residents and businesses located within the off-site study area. Concerns were expressed by some local farm operators regarding the impact of dust on the fruit crops that are located within the off-site study area. In response to this concern, dust impacts have been modeled for the site and monitoring of key compounds was previously completed in conjunction with the MECP.

As described in Appendix D3A, the desktop modelling of dust impacts indicated that there may be some exceedances of the relevant criteria. However, previously completed site-specific MECP approved monitoring, of dust particulate at the site showed that dust particulate levels were well below the relevant criteria (17% of criteria). As such, although the desktop modelling indicated exceedances, on-site measurement has demonstrated that dust concentrations are not expected to significantly impact receptors in the off-site study area.

Mitigation

Waste Connections will:

- Use of dust control measures (e.g., cleaning truck wheels, clean/water site roads when necessary); and
- Continue regular communications with neighbours as site evolves.

Residents and businesses are encouraged to contact Waste Connections with specific concerns.

Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues.

Waste Connections will reduce effects by undertaking mitigation measures applied to the environment as described in other sections of the EA such as Atmospheric (Appendix D3A).

Net Effect

Although the on-site dust monitoring results indicated that dust particulate levels were well below relevant criteria, there is the potential for some dust related effects to impact residents near the site within the off-site study area. Despite mitigation, net effects are still anticipated, and as result, net effects are carried forward to **Section 7.1.3**

Blowing Litter

Potential Effect

Appendix D3A describes the effects of blowing litter on receptors in the environment. It was determined the magnitude of the effect of blowing litter was expected to be low beyond 500 m, medium if the receptor is between 200 m and 500 m, and high if the receptor is within 200 m of the working face. The blowing litter assessment considered four (4) scenarios:

- The active working face;
- The working face at the old landfill;
- The working face at the south landfill; and
- The working face at the west landfill.

An analysis of wind events between 2014 and 2018 observed that winds tend to be blowing from the southwest primarily. It was concluded that the winds will have the greatest potential to carry litter towards the receptor sites to the northeast of the landfill.

In Appendix D3A, it was noted there were no receptors found in the high impact zone of blowing litter. Under all of the various operating scenarios evaluated, only two (2) receptors are identified as “medium” impact. For the purposes of conducting this assessment, no control measures were assumed to be in place at the landfill. As part of daily operations, extensive control measures are in place and they are expected to prevent and limit off-site blowing litter events.

Mitigation

As described in Appendix D3A, the following control measures are proposed:

- The working face will be kept to a minimum and additional equipment will be used to compact waste if necessary during higher winds. To the extent possible the working face will be shielded during higher winds;

- Permanent litter fences will be installed and temporary litter fences used when needed. The fences will be appropriately maintained;
- Adjust operation as feasible during strong wind conditions to shield the working face and minimize working face size to reduce litter generation;
- Carry out daily inspections and litter pickup as required;
- Monitor wind conditions and pick up litter from surrounding fields after high wind events; and
- Continue regular communications with neighbours as site evolves.

Residents and businesses are encouraged to contact Waste Connections with specific concerns.

Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues.

Net Effect

Blowing litter effects are likely to impact residents near the site within the off-site study area. Despite mitigation, net effects are still anticipated, and as result, net effects are carried forward to **Section 7.1.4.**

Noise

Potential Effect

The noise emissions from the site have the potential to disrupt residents in the off-site study area. These noise emissions are characterized as effects. The noise receptors in the area include residences and businesses that are located in proximity of the site. Noise impacts at receptors within 1 km of the site and along the haul route were assessed in the Noise Impact Assessment (see Appendix D8).

The results indicate that based on the proposed operations at the landfill for the three (3) phases of expansion, the predicted noise levels for all the receptor sound levels for all three (3) operational phases are below the MECP's daytime and nighttime criteria of 55 dBA and 45 dBA, respectively. The Noise Impact Assessment includes several conservative assumptions such as, worst-case operations for each activity occurring simultaneously. Therefore, it is expected that

the actual receptor sound exposures will be lower than the worst-case values predicted in Appendix D8.

The expected low background noise environment (rural setting) at the nearby receptors will likely result in landfill operations being audible and noticeable at receptors in the vicinity of the landfill. As result, there would be the potential to impact residents.

Mitigation

Waste Connections will undertake the following mitigation during expansion:

- The berms and associated landscaping/naturalization will reduce noise.
- On-site machinery will be operated to reduce noise where possible (e.g., noise abatement equipment on machinery will be properly maintained, the use of reverse gear will be minimized, impulsive noise (e.g., horns) will be minimized to the extent possible).
- Waste Connections will continue regular communications with neighbours as site evolves.

Residents and businesses are encouraged to contact Waste Connections with specific concerns.

Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues.

Waste Connections will reduce effects by undertaking mitigation measures applied to the environment as described in other sections of the EA such as Noise (Appendix D8).

Net Effect

Noise effects are likely to impact residents near the site within the off-site study area. Despite mitigation, net effects are still anticipated, and as result, net effects are carried forward to **Section 7.1.5.**

Visual Changes

Potential Effect

Regionally, the visual landscape surrounding the Ridge Landfill is dominated by the rural residential, agricultural, wind turbine and pockets of small wooded natural environment. The regional landscape has been altered since the visual impact assessment work completed in 1997 due to the installation of wind power generation facilities around the Ridge Landfill and more broadly across the Municipality of Chatham-Kent.

As described in Appendix D12 – Visual Impact Assessment, the proposed berm associated with the expansion of the site will be visible along Erieau Road and Allison Line. The top of the proposed berm will be visible throughout the off-site study area. The berm will be landscaped with naturalizing vegetation that can be expected to grow to a height of 10 m, extending the visual screening of proposed berms. The perimeter berms and existing woodlots are effective in screening the site from adjacent residents. There are eight properties along Charing Cross Road, Erieau Road and Allison Line where the landscape berms will screen the waste area.

Of the 26 receptors identified within the off-site study area in Appendix D12, there are ten receptors that will have a view of the expanded facility. Of those, seven (7) currently see the existing landfill. There are three (3) receptors that will have views of the facility where previously the waste fill area was not visible. Visual renderings, included in Appendix D12, show minimal change in the existing viewscape as the changes to the landfill form are incremental. These changes are within the existing character of the region due to this incremental change and existing anthropogenic disturbances on the landscape such as wind turbines and the existing site.

Mitigation

Visual impacts will be mitigated using the measures identified in the Visual Impact Assessment (Appendix D12). These include:

- Construction of proposed berms and naturalization with native species including shade trees, evergreen trees, shrubs, etc.
- Consider localized plantings to minimize views.
- Areas of the landfill areas that are not actively being filled will be restored to a seeded condition.
- Continue regular communications with neighbours as site evolves.
- Maintaining the height of the expansion to match the current fill area.

Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues.

Net Effect

The expansion of the Ridge Landfill is expected to result in some visual disturbance to the existing environment. Therefore, the net effect was carried forward to **Section 7.1.6.**

6.1.3 Effects along the Haul Route

During the operation stage, activities around the site are expected to be similar to existing conditions. Waste Connections will receive the same amount of waste materials, and as such the haul route will be used for the same approximate number of trucks as is currently the case.

There are a total of 37 receptors along the haul route. Occupants may experience effects due to the continued use of the haul route for the expansion period. These effects are expected to remain similar to existing conditions.

Dust

Potential Effect

Dust particulate concentrations were below relevant criteria for all dust indicators considered in Appendix D3A. Much of the dust along the haul route can be attributed to existing background concentrations. As there is no change to the use of the haul route as result of the proposed landfill expansion, the effects experienced by residents in the haul route study area are expected to be consistent with existing conditions.

Mitigation

Residents and businesses are encouraged to contact Waste Connections with specific concerns.

Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues.

Waste Connections will reduce effects by undertaking mitigation measures applied to the environment as described in other sections of the EA such as the Atmospheric Impact Assessment (Appendix D3A).

Net Effect

Overall, the construction and operations of the Ridge Landfill may continue to provide an effect from dust along the haul route during construction and operations despite mitigation. Therefore, the net effect is carried forward to **Section 7.1.7**.

Noise

Potential Effect

As described in Appendix D8-B, landfill truck traffic volumes are not anticipated to change over the extended life of the landfill until the year 2041. The predicted peak-hour receptor sound levels range from low 30's to high 60's dBA which is consistent with current noise emission levels from the use of the haul route as part of the on-going operation of the landfill. These predicted levels are typical of receptors in rural settings that are in close proximity of regional roads/highways and side roads with low to medium traffic volumes. The 37 receptor residents and business operators will hear no discernible change in sound levels from what they currently hear today until the completion of the expansion in 2041.

As per MECP's landfill noise guideline, for access (haul) routes, increases in receptor sound levels that are between 0 to 3 dBA are considered insignificant; between 3 and 5 dBA are noticeable and considered minor; between 5 and 10 dBA are considered significant; and greater than 10 dBA are considered very significant.

The 37 receptors in the haul route study area will experience varying magnitudes of noise emissions. Compared to the landfill not operating, most of the receptors on the Communication Road would experience a change in sound level ranging from 0 to over 5 dBA. Compared to the landfill not operating, most of the receptors on Drury Line would report a change a sound level change above 10 dBA. This is considered a very significant increase in sound levels. As such, Waste Connections currently provides compensation to residents along the haul route to address the impacts related to landfill operation. As the use of the haul route is not anticipated to change, compensation is expected to continue.

The continuation of noise emissions at current levels will continue to have an effect on receptors along the haul route. These receptors are expected to continue to experience effects related to noise at varying magnitudes.

Mitigation

Residents and businesses are encouraged to contact Waste Connections with specific concerns.

Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues.

Waste Connections will reduce effects by undertaking mitigation measures applied to the environment as described in other sections of the EA such as the Noise Impact Assessment (Appendix D8).

Net Effect

Overall, the continued construction and operations of the Ridge Landfill may result in noise impacts along the haul route. Therefore, the net effect is carried forward to **Section 7.1.8**.

6.1.4 Indigenous Communities and Organizations

Potential Effect

Waste Connections has consulted Indigenous Communities and Organizations throughout the Ridge Landfill EA process. Since the initiation of the Terms of Reference four communities, WIFN and Chippewas of the Thames First Nation (COTTFN), Aamjiwnaang First Nation (AFN) and Caldwell First Nation (CFN) have expressed an interest in the proposed landfill expansion. During the EA WIFN has continued to be engaged and COTTFN has expressed an interest specifically related to partnering for planting replacement trees. The engagement activities confirmed that Indigenous Communities and Organizations are aware of the existing Ridge Landfill and no specific concerns regarding its operation were raised by Indigenous Communities and Organizations who expressed an interest in the proposed expansion.

As part of the expansion, Waste Connections will expand the landfill within their existing property. This land is currently utilized for landfilling operations, open space, agriculture and residential purposes. The lands are not currently being used by Indigenous Peoples. Through discussions with actively engaged Indigenous Communities and Organizations it has been identified that the Ridge Landfill and its proposed expansion have the potential for both impacts and benefits to Indigenous Communities and Organizations. The key potential impact of concern to Indigenous Communities and Organizations is the removal of the 3.7 ha southwest woodlot on the site. Input from WIFN identified that maintaining intact and healthy native ecosystems is culturally relevant to Indigenous Communities and Organizations.

WIFN has suggested that Indigenous Communities and Organizations knowledge of the land can best be incorporated through the employment of Indigenous people to assist with the woodlot

restoration, naturalization of the existing berms and the future development and implementation of the closure plan for the site. WIFN has provided on-site archaeological oversight for the EA and Waste Connections will pay to employ staff at COTTFN to ensure that the trees planted on their identified lands will be maintained. These partnering approaches may benefit community members as well as Waste Connections by providing employment, experience, and training.

Mitigation

Waste Connections will confine expansion activities to the landfill site and expansion areas to minimize disturbance to the off-site area. Waste Connections will replace the southwest woodlot at a 2:1 ratio including planting approximately 8,000 trees across Erieau Road from the landfill and an additional 3,000 trees on lands identified by COTTFN. Waste Connections has worked with the Lower Thames Valley Conservation Authority (LTVCA) to identify the types of native trees to be planted. The species list will be reviewed with WIFN and COTTFN. WIFN will also review the species list for naturalization of the berms on site.

In addition, Waste Connection will establish a benefits agreement with WIFN. The community benefits agreement will accommodate WIFN's interests in the proposed expansion. The agreement would formalize a long-term relationship between WIFN and Waste Connections. The agreement would be anticipated to be signed following environmental approval of the expansion. The benefits agreement would be mutually beneficial for both parties strengthening relationships between the community and Waste Connections.

One benefit identified by WIFN is that the expansion of the landfill will enable continued use of the landfill for the safe and local disposal of their waste.

Net Effect

The removal of the woodlot will result in a net effect on Indigenous people. Therefore, the net effect is carried forward to **Section 7.1.9.**

6.2 Built Environment

6.2.1 Land Use Compatibility

Potential Effect

The Ridge Landfill site has two Official Plan (OP)[28] designations, namely: Waste Management Area (WMA), Conservation and Agricultural/Buffer Area (**FIGURE D9-5**). The site is required to maintain a peripheral area around the landfill area as a buffer between other land-use designations (such as accessory buildings on site), as well as an agricultural buffer around the landfill site to provide a physical separation between neighbouring land uses. The current site is bounded on three sides by lands under the Agricultural/Buffer Area designation, which allows for agriculture, farm-related industrial and farm-related commercial uses and accessory uses. Portions of Erieau Road, Drury Line and Communication Road between Allison Line and Highway 401 fall under the Waste Management Truck Route OP designation, also referred to in the OP schedules as the Ridge Landfill Truck Route.

Waste Connections intends to expand horizontally to 'Area A' of the West Landfill into the southwest corner, currently zoned as Agriculture and Open Space and 'Area B' of the South Landfill southward towards Allison Line and currently zoned as Agricultural. Waste Connections will continue to use the existing haul route and will not require any zoning changes pertaining to the haul route.

The southeast corner of the site is currently zoned as Holding Landfill, which is a provision of Section 36 of the *Planning Act* and the Holding Zones policies of the OP. This designation provides the Municipality and MECP an opportunity to determine whether an expansion application meets the criteria outlined within the OP. The OP stipulates that an expansion will only be permitted if the landfill operator can satisfactorily demonstrate that the capacity of the current landfill will be reached within a 10-year period or less, and whether the expansion meets the environmental, social and economic criteria outlined in the OP, including EA approval from the MECP. In order for the landfill expansion to occur, an Official Plan and Zoning By-law Amendment is required to change existing zoning to Waste Management Area allowing for an expansion of the landfill area on-site.

An Official Plan and a Zoning By-law Amendment will be submitted to change the zone category of the subject land, to introduce site specific development standards, and to permit the expansion.

[28] Municipality of Chatham-Kent (2017). Official Plan. Consolidated as of June 7, 2017.

Mitigation

Prior to expansion of the landfill, Waste Connections will obtain the required amendment to re-zone the expansion lands as a Waste Management Area. As this activity will occur prior to expansion, it is not considered an impact of the expansion of the Ridge Landfill. Waste Connections will comply with all Zoning By-laws.

Net Effect

As all necessary permits and land use plan amendments will be approved prior to beginning site expansion, the site is expected to remain compatible with the land uses as designated under the Municipality of Chatham-Kent OP when the expansion occurs. Therefore, no net effect is anticipated.

6.2.2 Additional Permits and Approvals

No additional land use and municipal planning permits or approvals are required beyond the amendment to ensure land use and zoning compatibility. Therefore, no effect from the proposed expansion is anticipated due to other additional municipal planning permits or approvals.

There are other environmental permits related to water and environmental compliance. These are listed in Section 10 of the EA Report**.**

6.3 Economic Environment

6.3.1 Regional Economy

Summary of Economic Activity

As described in **Section 3.3.3** Waste Connections currently contributes $17 million to the regional economy with the Municipality of Chatham-Kent. This contribution includes:

- Direct employment of 60 people within the region;
- Procurement of goods and services;
- Contributions to municipal finances (approximately $3.4 million annually over the last 5-years); and
- Supporting community development through the Community Trust ($1.1 million annually).

Waste Connections procurement of materials and services from within the region indirectly employs people regionally in supporting industries. In addition, these incomes will support consumption and other employment derived from that consumption in the region.

Potential Effect

Chatham-Kent has a disproportionate amount of agricultural and manufacturing economic activity relative to the provincial average. As noted in **Section 3.3.1**, Chatham-Kent is identified as having a skills gap with high unemployment for low skilled workers while having labour shortages for high skill jobs.[29]

The Ridge Landfill employs local residents and provides economic benefits including those outlined in the Ridge Landfill Commitments Package and Host Community Agreement. Contributions to the regional economy from Waste Connections include operational spending, employment and discretionary community investment. The Commitments Package includes contributions to residents and the Ridge Landfill Community Trust and the property value protections program. These contributions are treated as community investment. The Host Community Agreement provides fees and services to the Municipality of Chatham-Kent including an annual royalty payment, a Volume Buy Back agreement, Haul Route Road Maintenance Fee, provisions for capacity and payment for leachate treatment undertaken at the Blenheim Wastewater Treatment Lagoons, and provisions for the disposal of hazardous household waste. With these two (2) agreements, economic activity and discretionary spending, Waste Connections provides economic support to the Municipality of Chatham-Kent, the local community and the surrounding land owners. On average, Waste Connections contributes approximately $17 million annually within Chatham-Kent through the aforementioned economic activities generating direct and indirect economic benefits to the community. Additional benefits are likely to be induced due to this economic activity.

The expansion of the landfill is expected to be staged with construction activities being undertaken consistent with the existing site resources (i.e., capital, labour, materials). Therefore, no additional procurement or hiring is anticipated as a result of the site expansion. The continued operation of the landfill would continue the annual direct and indirect economic benefits of approximately $17 million within the region required to operate the Ridge Landfill site.

[29] Matthew Fischer and Associates and Mellor Murray Consulting (2014). Chatham-Kent Workforce Planning Board: 2013 Local Labour Market Planning Report. Available at: http://ckworkforcedev.com/wp-content/uploads/2014/10/FINAL-LLMPD.pdf

The current level of operations at the Ridge Landfill provides direct, indirect and induced economic activity within the Municipality of Chatham-Kent. This economic activity provides a benefit to the region as it results in the employment of community members and supports improvements in economic welfare. Waste Connections focuses its community investment on the local communities such as Blenheim and Charing Cross and Cedar Springs. The expansion of the Ridge Landfill would extend the economic benefits to the region for another 20-years (2021 to 2041). These benefits are of particular importance to Chatham-Kent as there is reduced economic activity due to the reduction in manufacturing opportunities.[30]

Mitigation

No mitigation measures are required as the expansion of the Ridge Landfill and the continuation of its economic activities is a benefit to the Municipality of Chatham-Kent.

Net Effect

It is anticipated there will be a net effect due to the economic activity associated with the Ridge Landfill site. As a result, this indicator is carried forward to **Section7.2.1.**

6.3.2 Property Values

Potential Effect

An assessment was completed to quantify the impact of the existing landfill and proposed expansion to property values in the area. This assessment is provided in Appendix D9-B.

The property value study considered the trends in property value within the off-site and haul route study areas using data provided by MPAC (Appendix D9-B). The study showed that the existing literature on the impacts of landfills on property values is inconclusive. However, it concluded that landfills were only likely to negatively impact property values if the landfill has contaminated nearby sites or the landfill is easily visually perceived.

The analysis of sale price and value data for properties in the off-site and along the haul route study areas was inconclusive. All types of properties considered were shown to increase in value between 2000 and 2019 though the sample size was small due to the low volume of sales in the study area. In the off-site and haul route study areas, homes increased 4.3%, farm properties increased by 5.1% and farm properties with residences increased by 3.9%. However, the increases in sale price varied relative to regional increases in value. Over the study period, home prices were expected to increase by 1.8%, farm property prices were expected to

[30] Matthew Fischer and Associates and Mellor Murray Consulting (2014). Chatham-Kent Workforce Planning Board: 2013 Local Labour Market Planning Report. Available at: http://ckworkforcedev.com/wp-content/uploads/2014/10/FINAL-LLMPD.pdf

increase by 9.3% and farm properties with residences were expected to increase by a rate between 1.8% and 9.3% depending on the individual property characteristics. Small data sets and other variances in value may explain these differences.

It is unlikely the Ridge Landfill expansion will negatively impact property values as the current operations have not shown a significant suppression of property value appreciation relative to the region. This would be consistent with the literature and the 1997 Ridge Landfill expansion EA where it is identified that well-run landfills without a negative perception are unlikely to decrease property values. The Ridge Landfill is a well-run landfill with no groundwater, gas or soil contamination off-site and has a minimal visual impact on the landscape due to screening features. Therefore, the annual sale price increases and effective operation of the Ridge Landfill suggest it is unlikely the proposed landfill expansion will negatively impact property values.

Mitigation

Potential effects to property values are currently mitigated by the Property Value Protection Program. Waste Connections' Property Value Protection Program guarantees specific property owners in proximity to the site downside protection for the value of their properties in the event of the sale of the property.

Under the terms of the agreement, an appraisal is undertaken for the property in of interest. Appraisals reflect sales of comparable rural properties in the Municipality of Chatham-Kent that are not in proximity to the site. At such a time as a property owner decides to sell his/or her property, Waste Connections has the first right of refusal of the property but foregoing purchase of the property agrees to pay the property owner the difference between the proposed purchase price and the established appraised value of the property. The Program expires the year in which waste disposal at the site is completed.

Net Effect

While it is unlikely the Ridge Landfill expansion will have a negative impact on property values in the area, impact to specific properties will be mitigated by the Property Value Protection Program. As result, no net effect to property values is anticipated due to the proposed expansion of the Ridge Landfill.

6.3.3 Capital and Operating and Closure Costs

Potential Effect

Expansion activities will result in additional capital costs at the Ridge Landfill. The total value of the expansion activities is anticipated to be approximately $65 million. The capital expenditure

on the expansion will include but not limited to: earthwork, geosynthetics, a leachate collection system, a gas extraction system, site costs, permit costs and other miscellaneous costs. These expenditures are likely to take place throughout the lifecycle of the Ridge Landfill.

The Ridge Landfill will also have capital costs associated with closure of the site. Total closure costs are anticipated to be approximately $6.2 million. These costs include earth work and miscellaneous costs such as reports, drawings and surveys.

The additional costs associated with the Ridge Landfill may have a positive effect on the regional economy as capital and labour will require employment or the procurement of goods and services.

Mitigation

No mitigation is required as capital expenditure is likely to benefit the local economy of Chatham-Kent.

Net Effect

It is anticipated there will be a net effect due to the spending associated with the Ridge Landfill site. As a result, this indicator is carried forward to **Section 7.2.2**.

6.3.4 Agriculture

6.3.4.1 Land Displacement

Potential Effect

The agricultural lands on-site are presently utilized by three (3) local farm operators. In the on-site study area, 26% of the land is presently agricultural production (88.07 ha), planted with soybean and corn. There is also a 6 ha apple orchard on-site. None of the three (3) farm operators reside on-site.

The expansion of the site will eventually displace all 94 ha of land currently used for agriculture including the farm infrastructure. However, this is a small amount of overall farmland within the region and the farm infrastructure is not currently used and is not anticipated to be used. Within Chatham-Kent, 223,333 and 138,100 acres of land are used for soybean and corn crops, respectively.

Additional information on the changes to agriculture on the Ridge Landfill site is included in Appendix D1 – Agricultural Impact Assessment.

Mitigation

As the agricultural crop land is currently leased from Waste Connections, the leases will be terminated at the appropriate time during the expansion period. Waste Connections will terminate the leases consistent with the terms of the lease.

Net Effect

The displacement of agricultural lands on-site will result in a net effect due to the expansion of the Ridge Landfill. Therefore, the effect is carried forward to **Section 7.2.3**.

6.3.4.2 Jobs and Businesses

Potential Effect

Three (3) farm operators will lose the business opportunity of cultivating and harvesting agricultural resources on-site. The Agricultural Impact Assessment (Appendix D1) identified one (1) of these tenant farm operators has 90.7% of their total farmed land base on-site. This farmer was identified as winding down their farming operation and wanting to retire. Therefore, the potential for lost jobs and business activity is minimal as there are 3,785 (7.8%) people employed in agriculture and over 350,000 acres of the crops harvested in Chatham-Kent. The potential loss of harvesting jobs and business opportunities is very small.

Off-site impacts to agriculture are considered in Appendix D1.

Mitigation

As the three (3) farm operators currently utilize land owned and controlled by Waste Connections, the leases will be terminated at the appropriate expansion time. Waste Connections will terminate the leases consistent with the terms of the lease.

Net Effect

Despite mitigation, the expansion of the Ridge landfill will have a net effect on agriculture on-site. The proposed expansion will displace three (3) farm operators from using the site for farming purposes. Therefore, the net effect is carried forward to **Section 7.2.4**.

6.4 Summary of Potential Effects

Table D9-11 provides a summary of potential effects and mitigation to the socio-economic environment due to the proposed Ridge Landfill Expansion. The magnitude of net effects are identified in **Table D9-13** in **Section 7.3.**

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Table D9-11: Summary of Potential Effects and Mitigation

Criteria	Indicator	Potential Effect	Mitigation Measures	Net Effect
Social Environment				
Potential for displacement of residences or residential properties.	Number of residences or residential properties that will be displaced.	• Residents in two (2) leased homes will be displaced.	• Waste Connections will terminate the leases consistent with the terms of the lease. • Appropriate notice will be given. • All landfill activities will be confined on-site.	A net effect is anticipated due to the displacement of the on-site residents.
Potential for affects to off-site residents and businesses (e.g., fruit market and small equipment dealer).	Relative predicted odour levels at sensitive receptors.	• The odour assessment identified a low potential impact on receptors.	• Expansion of landfill gas collection system to the landfill expansion areas and continued flaring. • Use of odour control when needed (e.g. misting systems). • Application of cover material at the end of each operating day. • Place waste with strong odours at the toe of the working face and immediately cover with other garbage or daily cover. • Waste Connections will continue regular communications with neighbours as site evolves. • Residents and businesses are encouraged to contact Waste Connections with specific concerns. Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues. Waste Connections will reduce effects by undertaking mitigation measures applied to the environment as described in other sections of the EA such as Atmospheric (Appendix D3).	A net effect is anticipated due to the presence of odour effects associated with the site.
	Predicted TSP (dust) levels relative to MECP criteria.	• Current and future predicted indicator compounds related to dust are anticipated to meet *O.Reg. 419/05* regulatory compliance criteria.	• Use of dust control measures (e.g. cleaning truck wheels, clean/water site roads when necessary). • Waste Connections will continue regular communications with neighbours as site evolves. • Residents and businesses are encouraged to contact Waste Connections with specific concerns. Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues. Waste Connections will reduce effects by undertaking mitigation measures applied to the environment as described in other sections of the EA such as Atmospheric (Appendix D3).	A net effect is anticipated due to the presence of dust effects associated with the site.
	Predictions of potential for blowing litter occurrences.	• The blowing litter assessment identified some limited potential for litter to migrate off-site during high wind conditions.	• The working face will be kept to a minimum and additional equipment will be used to compact waste if necessary during higher winds. To the extent possible the working face will be shielded during higher winds. • Permanent litter fences will be installed and temporary litter fences used when needed. The fences will be appropriately maintained. • Adjust operation as feasible during strong wind conditions to shield the working face and minimize working face size to reduce litter generation. • Carry out daily inspections and litter pickup as required.	A net effect is anticipated due to the presence of blowing litter effects associated with the site.

Criteria	Indicator	Potential Effect	Mitigation Measures	Net Effect
			• Monitor wind conditions and pick up litter from surrounding fields after high wind events. • Waste Connections will continue regular communications with neighbours as site evolves. • Residents and businesses are encouraged to contact Waste Connections with specific concerns. Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues. Waste Connections will reduce effects by undertaking mitigation measures applied to the environment as described in other sections of the EA such as Atmospheric (Appendix D3).	
	Predicted level of noise at receptors near site relative to established criteria.	• Landfill activities have the potential to generate noise which 24 receptors within 1 km of the site could potentially hear. The predicted noise levels for all receptors are below the MECP's daytime and nighttime guidelines of 55 dBA and 45 dBA, respectively. • Some receptors may experience a change in noise level over what is currently being experienced as the working face of the landfill will move as the site develops.	• The berms and associated landscaping/naturalization will reduce noise. • On-site machinery will be operated to reduce noise where possible (e.g. noise abatement equipment on machinery will be properly maintained, the use of reverse gear will be minimized, impulsive noise (e.g. horns) will be minimized to the extent possible). • Waste Connections will continue regular communications with neighbours as site evolves. • Residents and businesses are encouraged to contact Waste Connections with specific concerns. Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues. Waste Connections will reduce effects by undertaking mitigation measures applied to the environment as described in other sections of the EA such as Noise (Appendix D8).	A net effect is anticipated due to the presence of noise effects associated with the site.
	Degree of change for households and businesses with impacted views based on type and extent of change, proximity of receptor, and ability to screen.	• Of the 26 receptors within the study area, 10 will have a view of the expansion. • Three receptors will have views of the facility where previously the waste fill area was not visible.	• Construction of proposed berms and naturalization with native species including shade trees, evergreen trees, shrubs, etc. • Consider localized plantings to minimize views. • Areas of the landfill areas that are not actively being filled will be restored to a seeded condition. • Waste Connections will continue regular communications with neighbours as site evolves. • Maintaining the height of the expansion to match the current fill area. Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues. Waste Connections will reduce effects by undertaking mitigation measures applied to the environment as described in other sections of the EA such as Visual (Appendix D12).	A net effect is anticipated due to the expansion of the site changing its profile on the landscape.

Criteria	Indicator	Potential Effect	Mitigation Measures	Net Effect
	Predicted TSP (dust) levels at residences and businesses along the haul route.	• • Modelling results indicate no increased impact to local air quality compared to current conditions attributable to the haul route as a result of proposed expansion.	• Residents and businesses are encouraged to contact Waste Connections with specific concerns. Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues. Waste Connections will reduce effects by undertaking mitigation measures applied to the environment as described in other sections of the EA such as Atmospheric (Appendix D3).	A net effect is anticipated due to the presence of dust associated with the site.
Potential for impacts on residents and businesses from dust and noise along the haul route.	Predicted level of noise at receptors along the haul route relative to established criteria.	• Noise levels along the haul route are expected to be consistent with current levels as the amount of waste received at the site will remain the same. • When compared to a scenario where there are no landfill trucks the change in sound level for receptors along Drury Line is predicted to be greater than 10 dBA given the rural character of the road and limited background traffic. A change greater than 10 dBA is considered “very significant” in the MECP noise guidelines.	Residents and businesses are encouraged to contact Waste Connections with specific concerns. Waste Connections is committed to maintaining compensation for affected residential parties if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues. Waste Connections will reduce effects by undertaking mitigation measures applied to the environment as described in other sections of the EA such as Noise (Appendix D8).	A net effect is anticipated due to the presence of noise emissions along the haul route associated with the site.
Potential for impacts and benefits to Indigenous Communities and Organizations.	Opportunities for direct benefit (e.g., partnership; use of site; capacity building) or direct impacts (e.g., removal of woodlot on traditional territory).	• Removal of in-tact, healthy ecosystems such as the southwest woodlot is of concern to Indigenous Communities and Organizations. • Waste Connections will collaborate with Indigenous Communities and Organizations to plant trees and naturalize berms providing a desirable benefit for all parties. • Indigenous communities and Organizations have been involved as requested in archaeological investigations.	• Involving Indigenous Communities and Organizations in replanting and naturalizing efforts. • Replant trees and a ratio of 2:1 to compensate for woodlot lost. • Waste Connections will negotiate a benefits agreement with WIFN.	A net effect is anticipated for Waste Connections and the Indigenous Communities and Organizations participating.

Criteria	Indicator	Potential Effect	Mitigation Measures	Net Effect
Built Environment – Land Use				
Potential for changes to land use designations.	Extent and complexity of change in existing land use designations.	• The expansion will require changes to the Chatham-Kent Official Plan and Zoning By-law.	• Continue to work with Chatham-Kent planners to apply for an Official Plan and Zoning By-law amendment to change the land use designation and zoning for the expansion lands prior to construction. • Application process is being discussed simultaneously with the EA and is not anticipated to be complex.	No net effect is anticipated
Potential for additional approvals or permits (e.g., airport zoning).	Requirement for municipal and/or regional permitting or approvals as a result of landfill expansion.	• No additional municipal land use permits or approvals are required.	• No mitigation required.	No net effect is anticipated.
Economic Environment				
Potential for impacts to the wider economy in the Municipality of Chatham-Kent.	Changes in characteristics of local/municipal economy as a result of landfill such as jobs, investment, municipal revenue and expenditures.	• The Ridge Landfill employs local residents and provides economic benefits including those outlined in the Ridge Landfill Commitments Report and Host Community Agreement. Contributions to the regional economy from the Waste Connections include operational spending, employment and discretionary community investment. This will continue with the proposed expansion to 2041. • Continuation of the Ridge Landfill to 2041 provides ongoing disposal service to the Municipality of Chatham-Kent.	• No mitigation required.	A net benefit is anticipated due to the direct and indirect economic effects of the Ridge Landfill
Potential impacts to property values.	Home and property value in local area and comparable jurisdictions.	• • It is unlikely the Ridge Landfill expansion will negatively impact property values as the current operations have not shown a significant suppression of property value appreciation relative to the region.	• Potential effects to property values are currently mitigated by the Property Value Protection Program which would continue with the proposed expansion.	No net effect anticipated.
Capital and operating costs.	Change in capital and operating costs including closure costs.	• The landfill expansion will require capital investment and will extend the cost of operation and closure. • The additional costs associated with the Ridge Landfill may have a positive	• No mitigation required.	A net benefit is anticipated due to spending associated with the expansion and operation of the Ridge Landfill

Criteria	Indicator	Potential Effect	Mitigation Measures	Net Effect
		effect on the regional economy as capital and labour will require employment or the procurement of goods and services.		
Loss of agricultural products and employment on-site	Area disturbed by landfill development.	• The proposed expansion is anticipated to remove 94 ha of agriculture land on-site.	• Terminate the leases consistent with the terms of the lease. • All landfill activities will be confined on-site. • Allow land to be farmed until needed for landfilling	A net effect is anticipated due to the displacement of the on-site agricultural lands.
	Number and extent of agricultural businesses impacted and number of employees at each business.	• The 94 ha of land expected to be displaced is farmed by three (3) farm operators. The farmers will be displaced from farming the on-site land.	No mitigation measures are required as Waste Connections is expanding onto owned and controlled lands that the agricultural operators were aware will be needed for landfill development activity.	A net effect is anticipated due to the displacement of the on-site agricultural operators.

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7.0 Net Effects

Some socio-economic effects are likely to occur due to the proposed expansion of the Ridge Landfill after the application of the identified mitigation. Where net effects were identified, the net effects assessment considered the direction, magnitude, extent, duration, frequency, and likelihood of the effect. This classification was used to determine if the effect was significant. Net effects are classified in in accordance with **Table D9-12**.

Table D9-12: Net Effects Classification

Category	Justification
Direction	• **Positive –** There will be a benefit to the community • **Negative –** The community will be negatively impacted
Magnitude	• **Negligible** – The effect is within the historical variance and is not likely to be discerned by community members. If compensation occurs, the effect is considered to be negligible. • **Low** – A discernable effect that is within historical variability and within the socio-economic system's capacity to respond. • **Moderate** – An effect beyond normal historical variability from baseline conditions but within a system's capacity to respond. • **High** – An effect beyond historical variability of baseline conditions that is beyond the socio-economic system's capacity to respond.
Geographic Extent	The effect will occur at within the study areas defined in Section **2.1:** • On-site • Off-site study area • Haul route study area • Regional
Duration/ Reversibility	The effect will occur during the following phases: • Expansion • Post-closure
Frequency	• **Continuous** – The effect is constantly occurring • **Frequent** – The effect occurs often • **Infrequent** – The effect occurs occasionally
Likelihood of Occurrence	The probability of the effect occurring: • Certain • Likely • Unlikely
Significance	An effect will be classified as significant if the effect is considered high in magnitude; throughout expansion in duration and of any geographic extent.

7.1 Social Environment

As described in **Section 6.1**, net social effects to residents on and near the site and along the haul route; and impacts to Indigenous Communities and Organizations are expected following mitigation. These net effects are described below.

7.1.1 On-Site - Residents Displaced

The proposed expansion of the Ridge Landfill is expected to displace two (2) residences currently on-site. The displacement will occur at some point during the expansion period and is not anticipated to occur immediately. This will have a negative impact on residents on-site. However, this impact is expected to be negligible as two (2) residences represent a very small portion of residences within the region. This means displaced residents will have many opportunities to relocate within the region, if they desire. The effect will be confined to the on-site study area where lands will be used to facilitate the Ridge Landfill expansion. The effect will persist into the post-closure phase as the presence of the landfill will not allow lands to be converted back into residences following closure. The effect is continuous and certain as the expansion will require the lands the dwellings are on to be developed into additional landfill areas. Due to the negligible magnitude and small geographic extent, the effect is determined to not be significant.

7.1.2 Effects Off-Site – Odour

Odour effects are anticipated to be well below MECP guidelines for odour emissions for all receptors. In addition, Waste Connections addresses any residual effects to residents and the community through compensation. As a result, the negative odour effects are anticipated to be of negligible magnitude. Odour effects are anticipated to occur in the off-site area throughout the expansion period. The odour effects are expected to occur infrequently as the odour is expected to be most noticeable during operation periods. The effect is considered to be likely to occur, as the odour assessment was conservative using worst-case operational scenarios. Due to the low magnitude of the effect, the net effect of odour on off-site receptors is considered to be not significant.

7.1.3 Effects Off-Site – Dust

Dust from the landfill site may be problematic for residents and businesses in the off-site area. The dust is considered a negative impact on off-site residents. The magnitude of the effect is negligible as the monitored concentrations are well below relevant criteria, and Waste Connections addresses residual effects to residents and the community through compensation. The dust effects would persist throughout the expansion phase within the off-site study area. The effects from dust are considered infrequent and likely to occur as they are due to regular

operation of the site. Due to the negligible magnitude, the effect is considered to be not significant.

7.1.4 Effects Off-Site – Blowing Litter

Blowing litter may be problematic for residents and businesses in the off-site area. The blowing litter out to the off-site area is considered to be a negative effect on off-site residents. The magnitude of this effect is negligible as Waste Connections addresses residual effects to residents and the community through compensation. Of the receptors considered in Appendix D3A, litter was considered to be low for all but two (2) receptors where it was considered moderate under only one (1) operating scenario. Effects from blowing litter are only expected to occur during the expansion phase and are anticipated to occur infrequently. The effects are considered likely to occur as the assessment considered worst-case scenarios and did not account for recommended mitigation measures. The effect of blowing litter is determined to be not significant as the magnitude is low to moderate and is expected to occur infrequently.

7.1.5 Effects Off-Site - Noise

Noise emissions from the site are expected to have effects on the socio-economic receptors in the off-site study area. As stated in **Section 6.1.2**, Waste Connections will provide compensation to address residual effects. As result, the magnitude of noise impacts are anticipated to be negligible. The effects are anticipated to occur throughout the expansion period and will occur throughout the off-site study area at most receptors. Noise effects are anticipated to occur infrequently and are classified as likely to occur because the noise emission modelling assumed worst-case scenarios. Due to the negligible magnitude of the effect, which remains in compliance with MECP noise requirements, the effect is considered to be not significant.

7.1.6 Effects Off-Site - Visual

As the Ridge Landfill is already part of the existing environment, visual disturbances are expected to be minor and not easily noticeable relative to the existing environment. The expansion will result in ten (10) receptors having a view of the expansion area, seven (7) of which already have a view of the site. Therefore, the magnitude of the visual disturbance on community character is considered negligible as Waste Connections addresses residual effects to residents and the community through compensation. Visual impacts are expected to occur throughout the off-site study area and will extend into the post-closure phase. The visual disturbance is certain to occur and will be continuous as landfilling will take place consistent

with the proposed landfill design if the expansion occurs. Due to the low level of disturbance, the net effect is classified as not significant.

7.1.7 Effects along the Haul Route - Dust

Dust from the site may be problematic for residents and businesses along the haul route. The dust is considered a negative impact on off-site residents. The magnitude of the effect is negligible as the dust concentrations will be below relevant criteria and Waste Connections addresses residual effects to residents and the community through compensation. In addition, much of the dust along the haul route can be attributed to background activities unrelated to the Ridge Landfill. The dust effects would persist throughout the expansion phase along the haul route. The effects from dust are considered frequent and likely to occur as they are due to regular operation of the site, which includes the use of the haul route. Due to the negligible magnitude, the effect is considered to be not significant.

7.1.8 Effects along the Haul Route - Noise

The proposed expansion of the Ridge Landfill will result in the continued use of the haul route consistent with current conditions. As a result, the 37 receptors along the haul route will experience varying magnitudes of noise emissions. However, Waste Connections addresses residual negative effects to residents and the community through compensation. Therefore, the effects of noise along the haul route is considered to be negligible. The effects are anticipated to be frequent and are certain to occur. As the magnitude of noise effects are addressed through compensation, the net effect of noise along the haul route is anticipated to be not significant.

7.1.9 Indigenous Communities and Organizations

Although a small woodlot is proposed to be removed, it will be replaced elsewhere. Through consultation with Indigenous Communities and Organizations, it was determined Indigenous involvement in replanting the trees and planting the berms was desirable for all parties. The magnitude of the effect is anticipated to be low as the size of the woodlot is small and the effort required to assist in the planting is short term. In the longer term the new woodlots will continue to provide valued natural habitat in the region beyond closure and thus is anticipated to be continuous. The benefit to Indigenous Communities and Organizations considered as not significant due to the low magnitude.

Waste Connections also will negotiate a benefits agreement with WIFN. The benefits agreement will result in a net benefit to both parties.

7.2 Economic Environment

As described in **Section 6.3**, net economic effects to the regional economy; businesses on and near the site and along the haul route; and agricultural operations are expected following mitigation. These net effects are described below.

7.2.1 Regional Economy

Waste connections is an important contributor to the regional economy of Chatham-Kent contributing $17 million in direct and indirect economic activity to the local economy annually. The economic contributions of Waste Connections are of low magnitude as they are within the historical variance for the regional economy. The exceptions are Waste Connections contributions to municipal finance and community investment where the magnitude of the effect is moderate as it extends beyond normal historical variance due to the opportunity costs of compensating for the finances and services provided to the community by Waste Connections.

The loss of these revenues, however, would be expected to remain within the community's capacity to respond. The effects occur throughout the region as this is where Waste Connection's economic activities such as procurement and hiring are focussed. Waste Connection's community investment is focused on the local communities of Blenheim, Cedar Springs and Charing Cross within the region. These effects will persist directly until the site closes but will continue indirectly into the post-closure phase as the economic activity of Waste Connections will persist indirectly by creating opportunities for businesses and the community during the expansion phase. The economic impact of Waste Connections is continuous and certain to occur as the economic activities are required to operate the site. Although Waste Connections is a valuable and integral employer and business in the area, based on the low-moderate magnitude of the effect, the regional economic impact of the proposed Ridge Landfill expansion is classified as not significant.

7.2.2 Capital and Operating Costs

Capital and operating costs associated with the Ridge Landfill expansion including the closure of the Ridge Landfill are anticipated to benefit the regional economy of Chatham-Kent. The expenditures are expected to include direct spending from Waste Connections on goods and services directly owned by Waste Connections or procured from external sources. Although a very important part of the local community, the magnitude of the effect is anticipated to be low as it is likely to be within the historical variance for the area and within the community's capacity to respond if it were lost. The expenditures are likely to occur throughout the region and beyond, continuing throughout the expansion phase. The expenditure will be continuous

and is certain to occur in order to facilitate the expansion. The effect is considered to be not significant as the relative magnitude of expenditures associated with the landfill compared to the overall Municipality is low.

7.2.3 Agriculture – Land Displacement

The removal of 94 ha of agricultural land from the on-site area will have a negative impact on the agricultural industry in the region. This effect will be negligible as this represents a very small portion of land available for agricultural production in the region; confined to the on-site study area where lands will be used to facilitate the proposed Ridge Landfill expansion. The effect will persist into the post-closure phase as the presence of the landfill will not allow some lands to be converted back into agricultural lands following closure. However, lands on the southeast corner of the site may become available for agricultural use once waste management operations cease. The displacement may not occur until some point during the expansion period, allowing farmers to continue agricultural opportunities until the lands are required for expansion. Due to the negligible magnitude and small geographic extent, the effect is determined to be not significant.

7.2.4 Agriculture – Jobs and Businesses

The removal of 94 ha of agriculture land from the on-site area will have a negative impact on three (3) farm operators in the region that are currently utilizing the agricultural lands to be displaced. The effect will be negligible as agriculture is a common employment opportunity in the region with a large land base to cultivate. This means the farm operator may have the opportunity to cultivate other lands. The effect will be confined to the on-site area where lands are being displaced. The effect will persist into the post-closure phase as the presence of the landfill will not allow lands to be converted into agriculture lands used to support jobs and operations following closure. The effect is continuous and certain as the expansion will require these lands to be developed displacing the current agricultural operators. Due to the negligible magnitude and small geographic extent, the effect is determined to be not significant.

7.3 Summary of Net Effects

Table D9-13 provides a summary of net effects of the proposed Ridge Landfill expansion on the socio-economic environment.

Table D9-13: Summary of Net Effects

Criteria	Indicator	Direction	Magnitude	Geographic Extent	Duration/ Reversibility	Frequency	Likelihood of Occurrence	Significance
Social Environment								
Residents on the Site	Residences On-Site Land Use	Negative	Negligible	On-Site	Expansion & Post-Closure	Continuous	Certain	Not significant
Effects in the Off-Site Area	Changes to Odour	Negative	Negligible	Off-Site	Expansion	Infrequent	Likely	Not significant
	Changes to Dust	Negative	Negligible	Off-Site	Expansion	Infrequent	Likely	Not significant
	Changes to Blowing Litter	Negative	Negligible	Off-Site	Expansion	Infrequent	Likely	Not significant
	Changes to Noise	Negative	Negligible	Off-Site	Expansion	Infrequent	Likely	Not significant
	Visual Changes for Community Members	Negative	Negligible	Off-Site	Expansion & Post-Closure	Continuous	Certain	Not significant
Effects Along the Haul Route	Changes to Dust	Negative	Negligible	Haul Route	Expansion	Frequent	Likely	Not significant
	Changes to Noise	Negative	Negligible	Haul Route	Expansion	Frequent	Likely	Not significant
Indigenous Communities and Organizations	Indigenous Communities and Organizations	Positive	Low	Region	Expansion	Infrequent	Likely	Not significant

Criteria	Indicator	Direction	Magnitude	Geographic Extent	Duration/ Reversibility	Frequency	Likelihood of Occurrence	Significance
Economic Environment								
Regional Economy	Changes to the Local Economy	Positive	Low to Moderate	Region	Expansion	Continuous	Certain	Not significant
Capital and Operating Costs	Change to Capital and Operating Costs	Positive	Low	Region	Expansion	Continuous	Certain	Not significant
Agriculture	Displacement	Negative	Negligible	On-Site	Post-Closure	Continuous	Certain	Not significant
	Jobs and Businesses	Negative	Negligible	On-Site	Post-Closure	Continuous	Certain	Not significant

8.0 Compensation

As described in **Section 7.3**, there will be residual effects for residents and businesses in the off-site study area and along the haul route. 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. Waste Connections is committed to continuing this practice of compensation through the expansion period for those residents identified as being affected by this expansion in addition to those currently being compensated. Currently, compensation is provided to residents by Waste Connections through a commitments agreement that also includes other funds that are provided to the Ridge Landfill Community Trust Fund. Compensation to individual properties is provided based on the-extent of the effects. Those residences that experience a higher degree of effects receive a higher level of compensation. The potential levels of compensation are shown in **Table D9-14**.

Table D9-14: Compensation Levels

Compensation Level	Magnitude of Cumulative Effects
Level 1	High
Level 2	Medium
Level 3	Low

Note: previously, the Ridge landfill used four (4) levels of compensation. This has been condensed to three levels based on the magnitudes described in the EA.

In determining the level of individual compensation for residents in the off-site area, Waste Connections will consider the potential residual effects in the off-site area based on the Visual (VIA), Atmospheric (AIA), and Noise (NIA) Impact Assessments. Visual disturbances, blowing litter, odour, noise and dust associated with activities on-site have the potential to impact receptors in the off-site area. To determine the level of compensation, the cumulative impacts in the off-site study area will be considered. The cumulative effect is determined by considering the extent of potential impacts to a single receptor in the worst-case scenarios for multiple phases of landfill development.

In determining the level of individual compensation for residents along the haul route, Waste Connections will consider the potential residual effects along the haul route based on the Atmospheric Impact Assessment and the Noise Impact Assessment. Noise and dust associated with the use of the haul route have the potential to impact receptors along the haul route. To

determine the level of compensation, the cumulative impacts along the haul route will be considered. The cumulative effect is determined by considering the extent of potential impacts to a single receptor in the worst-case scenarios taking into account multiple time periods.

Throughout this Environmental Assessment process there has been extensive consultation and discussion regarding compensation with individuals in the off-site study area and along the haul route. Waste Connections is committed to maintaining compensation for affected residents if the landfill expansion is approved and proceeds. Waste Connections will notify those residents who will continue to receive compensation as well as residents who will be newly compensated of their compensation level as the process continues.

9.0 Conclusion

Waste Connections is proposing a 54.9 ha expansion of its landfill footprint at the Ridge Landfill. The proposed landfill expansion would extend the life of the site by 20 years until 2041. The expansion will take place incrementally over the 20-year period with similar levels of staffing and equipment at the site as currently exists. Waste Connections is proposing to continue using the same haul route and current fill rate.

The expansion of the Ridge Landfill has potential for positive and negative socio-economic effects on the communities and residents on-site, around the site and along the haul route. Expanding the Ridge Landfill will require a By-Law Zoning amendment to rezone the expansion area as a Waste Management Area to facilitate the expansion. If that approval is granted and the environmental assessment approval is also granted, expansion would, over time, result in displacement of the agricultural activities and two (2), residences on site and opportunities for traditional land uses. However, the displaced residences and agriculture operations (Two [2] plots of land and one [1] orchard) on-site represent a very small portion of residences and agriculture within the region.

This expansion would result in continue social and economic benefits for the local communities of Charing Cross, Cedar Springs and Blenheim as well as and the Municipality of Chatham-Kent as a whole as they are associated with the economic activity of the site and the contributions to the community that will be made over the 20-year expansion period. Members of the community have voiced their concern with respect to the potential loss of these contributions. These contributions are important to the community and impact all individuals in the community. The expansion would also continue to provide the Municipality of Chatham-Kent, and others such as Walpole Island First Nation, a local and safe place to dispose of local municipal solid waste that is collected within its borders.

Effects from the existing landfill are managed through mitigation and operational practices to minimize the impact on the surrounding neighbours. These mitigation and operational practices would also continue through the expansion period to minimize the effects to businesses and residents by impacts such as: noise, truck traffic, odour, visual disturbances and litter. These effects are likely to occur in the off-site study area and along the haul route. The effects to those in the off-site study area, along the haul route and within the community are considered to be negligible as Waste Connections addresses any residual effects through its mitigation, operational practices and compensation measures.

Waste Connections has committed to renegotiating the Host Community Agreement and Commitments Package that forms the basis for the Ridge Landfill Community Trust Fund, and entering into agreements with interested Indigenous Communities and Organizations. As a result, compensation to the affected communities and residents will continue to take place over the expansion period.

Waste Connections is an important contributor to the communities and economy of the local area and the Municipality of Chatham-Kent. The expansion of the Ridge Landfill would enable existing community contributions to continue for an additional 20-year period. While effects can occur for socio-economic receptors, compensation is provided to affected parties to mitigate the effects. As a result, any negative effects to the socio-economic environment are classified as not significant.

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Appendix D9-A

Socio-Economic Interview Questions

DILLON CONSULTING

Ridge Landfill

Household, Economic and Agricultural Interview Questions

Respondent:
Address:
Date of Interview:

RESIDENCY

1	Please mark your current residence on the map.	*map*
a	How many years have you lived at this address?	
b	Is this dwelling your full-time residence or is it seasonal?	(select)
c	How many people live here?	
	Age group and sex of residents?	
i	0-18 18-25 25-40 40-60 60+	
d	Is this dwelling owned or rented by you or another member of your household?	
2	Other than as your place of residence, what other uses do you have on your property? (recreation, business, etc.)	
3	Is there a well on the property?	(select)
a	Is the well in use and if so what do you use it for? (e.g. lawn watering, livestock, human consumption, etc.)	
b	How often do you test your well?	

ADDITIONAL PROPERTY

1	Do you own any other property in the area? Please mark on map. (*if the property is within the on-site, off-site or haul route study areas then please complete the whole survey for the other property as well).*
a	If yes, what is the primary use of the other property?
b	Do you rent out any of the other property or dwelling units to others?

COMMUNITY LIVING

1	Has this been a good community to live and/or work in? (Select from scale)	(select scale option)
a	Please provide any additional comments.	
2	What are the most important things that you like about this community?	
3	In your opinion, what one or more things would improve your community?	

RIDGE LANDFILL RELATED

1	What is your experience with the Ridge Landfill? (Landfill operations and haul route)	
a	*If respondent cites specific issues ask for the following :*	Issue #1
i	What is the nature and frequency of the issue(s)?	
ii	Under what conditions do they occur? (e.g. wind, dry, time of day, season etc.)	
iii	Has the issue influenced the use of your property? If so, how?	
b	*If respondent cites specific issues ask for the following :*	Issue #2
i	What is the nature and frequency of the issue(s)?	
ii	Under what conditions do they occur? (e.g. wind, dry, time of day, season etc.)	
iii	Has the issue influenced the use of your property? If so, how?	
c	*If respondent cites specific issues ask for the following :*	Issue #3
i	What is the nature and frequency of the issue(s)?	
ii	Under what conditions do they occur? (e.g. wind, dry, time of day, season etc.)	
iii	Has the issue influenced the use of your property? If so, how?	
d	*If respondent cites specific issues ask for the following :*	Issue #4
i	What is the nature and frequency of the issue(s)?	
ii	Under what conditions do they occur? (e.g. wind, dry, time of day, season etc.)	
iii	Has the issue influenced the use of your property? If so, how?	

e		*If respondent cites specific issues ask for the following :*	Issue #5
	i	What is the nature and frequency of the issue(s)?	
	ii	Under what conditions do they occur? (e.g. wind, dry, time of day, season etc.)	
	iii	Has the issue influenced the use of your property? If so, how?	
2		Have you ever logged a complaint with the operators of the Ridge Landfill or with the Ministry of Environment, Conservation and Parks (MECP, formerly MOECC) or the Municipality about the Ridge Landfill?	
a		If so, with who?	
b		What was the nature of the complaint?	
c		Was the complaint addressed/responded to?	
3		Does the Ridge Landfill influence your use of community or recreational facilities?	
a		If so, please describe.	
4		Are you aware of any of the financial benefits the Ridge landfill has brought to the Community?	

ECONOMICS

For Home Occupation

1	Does any part of your employment include a home business?	
	Do you think that the Ridge Landfill has an influence on your business?	
a	If so, how?	

For Agriculture/Farming Households (These questions are for farmers/farm operators)

1	If you rent or own agricultural fields within 1000 m of the Ridge Landfill, please indicate on the map where these fields are located.	*Map*
2	How long have you owned/rented these fields?	
3	Are these fields tile drained?	
4	Please tell us what crops you have grown in these fields in the last 5 years?	
5	What is the actual yield for each crop?	
6	If you grow soybeans, are any considered “Speciality Soybeans” (i.e. those are used for Miso, soymilk or tofu)? If yes, please indicate which fields with the symbol “S+”.	
7	Do you raise livestock in these fields?	
8	Do you find that the Ridge Landfill has an influence on your farming operations?	
a	If so, how?	
9	Do you/family members or farm employees drive any farm equipment along the Haul Route?	
a	If so, while driving farm equipment along the Haul Route, have you encountered any challenges (traffic interactions) with waste carrying trucks? If so what were they?	

Other

1	Is any part of your income related to the Ridge Landfill (compensation or employment)?	
a	If so, please describe	

DIVERSION

1 What materials do you generate that you wish you could bring to the Ridge for reuse or recycling? What do you do with these materials now?

2 What do you like/dislike about current diversion programs in Chatham-Kent?

3 As part of the Ridge Environmental Assessment, Waste Connections of Canada is required to look at different ways to participate in diversion at Ridge. The following are being considered for Ridge:

- Processing facility
  - mixed waste processing facility (i.e. processing of waste to remove
  - source separated organic waste processing facility (e.g. food waste)
  - construction and demolition waste processing facility (e.g. mixed or
  - blue box material recycling facility (e.g. cans, plastics, paper, cardboard)
- Drop off depot that could include things like electronics, tires, bulky items.
- Swap facility or beneficial use program that could include construction and renovation materials, housewares, furniture, paint.
- Collection of specific non-recyclable material to benefit a specific business or community group.
- Agricultural wastes that can be recycled (e.g. jugs, bale wrap/film, containers, bags, twine).

As a Ridge neighbour we would like to know what you think about these on-site facility options.

CLOSING

1 Is there anything else that you would like to say that we have not talked about at this time?

NOTE: Outside of the formal interview questions, interviewers may offer to have a WCC person come by (likely Cathy Smith) if the individual(s) would like to chat more about the Ridge.

Follow-up/Other Comments

Appendix D9-B

Property Value Study

DILLON CONSULTING

MEMO

TO:	Cathy Smith, EA Coordinator, Ridge Landfill Expansion, Waste Connections
FROM:	Bill Allison, Project Manager, Ridge Landfill Expansion, Dillon Consulting Limited
DATE:	July 2, 2019
SUBJECT:	Property Value Brief
OUR FILE:	#15-2456

Purpose of the Report

This report will assess the potential effects of the expansion of Waste Connections' Ridge Landfill site on property values for residences, farm properties and farm properties with residences in the off-site study area (1 km from the site) and along the haul route as identified in **Appendix D9 – Ridge Landfill Expansion: Socio-Economic Impact Assessment**. These study areas were combined due to the low volume of data and will be henceforth known as the study area. The report will draw on existing literature, previous environmental assessment (EA) studies and local data analysis to evaluate the potential impacts to property values.

Method

This report summarizes the quantitative and qualitative assessment of the potential effects to property values that the proposed expansion could have compared to the baseline situation of the landfill closing in 2021. To conduct this analysis, the report will:

- Examine the current literature on the impacts of landfill sites on property values;
- Assess historical trends over the past five years in transaction prices and Current Value Assessment (CVA) within the study area;
- Compare changes in transaction values and CVA within the study area to changes in the surrounding region beyond the study area considering properties with similar value determination characteristics; and
- Utilize the assessment of historical trends and assessment of comparative regional trends to assess expected price and CVA changes within the study area over the next 22 years with or without expansion.

Literature Review

Current Literature Surrounding the Site

The 1997 Ridge Landfill Expansion EA considered the impact of the site on property values. The assessment utilized a literature survey considering 11 studies highlighting the impacts of a landfill on property values and development charges. The 1997 EA was able to conclude a "well managed" landfill does not negatively impact property values or trends in home prices near landfill sites (BFI Canada Inc. (1997) Ridge Landfill Expansion Environmental Assessment). The subsequent 2011 study did not consider changes to property value (BFI Canada Inc. (2011) Fill Rate Modification Study). No other studies of property values at the Ridge site have been conducted since the 1997 EA.

Academic Literature

A review of available literature on the impacts of disamenity sites[1] on property values was undertaken as part the property value impact assessment. The studies that were reviewed, predominantly used hedonic pricing models. Hedonic pricing models utilize the premise that the market price of goods are related to its characteristics and the service it provides. Hedonic pricing is consistent with the valuation methods utilized by the Municipal Property Assessment Corporation (MPAC) in Ontario. Common issues with this using this method for pricing include the section of which variables and characteristics to use. These issues in structuring hedonic models may bias results. Key results from reviewed academic studies include:

- A 2002 study examined six (6) landfill sites with varying sizes and operating statuses and histories of contamination. The study found that five (5) of the landfill sites had no effect on property value while the sixth site had an average 6% loss in property value for houses in close proximity (within up to two (2) miles (3.6 km) of the site). The landfill with negative effects on property values was on the Environmental Protection Agency's potential threat list and was not the only disamenity in the study areas (Bouvier et al, 2002). Similar results were found in Gamble et al. 1982 and Zeiss and Atwater, 1989 (Terrapure 2018).
- Lim and Missios (2003) considered the impacts of two Toronto landfills, Keele Valley and Britannia, on property values. Overall, the study was able to conclude proximity (within three (3) km) to a large landfill has negative impacts on property values but these impacts are not as apparent for small landfills (Lim and Missios, 2005).

[1] A disamenity site has a disadvantage or drawback associated with the site.

- A study of landfills in Berks County, Pennsylvania considered the volume of the landfills. The study concluded that low volume landfills may not impact property values while high volume landfills impact property values in all cases. This study was, however, focused on proximity and did not consider environmental factors such as contamination or the prominence of the landfill (Ready 2005).
- Reichert, Small and Mohanty (2001) found landfills are likely to have the largest negative impact (5.3% - 7.7%) on expensive homes; a smaller effect on other homes (3%-4%); and no effect on rural homes.
- A 2009 study explored the impact of landfill closures on property values. The results suggested landfill closures would increase property values but results were not statistically significant. The increase in property values however was not compared to general property value increases in the region. Therefore, the study was inconclusive (Kinnamin 2009).
- Grant (2017) considers the effects of another disamenity, aggregate pits and quarries, on property values in Wellington County, Ontario. The study did not find a negative impact of aggregate sites on property values. While this study does not consider landfills, it does cover disamenity sites with air quality and noise issues in a county in close proximity and with similar characteristics to Chatham-Kent.

Overall, the literature is inconclusive on the impact of landfills on property values. The only conclusive evidence that can be drawn from the literature is that site characteristics will impact how the landfill impacts property values. Factors such as contamination, perception, size and fill rate can be key determinants of the effect site on property values. These factors also suggest that individual sites need to be considered in the analysis and that general conclusions about the impact of a site are not supported. Therefore, the effective management of a landfill is important to its effect on surrounding property values, consistent with the 1997 Ridge Landfill expansion EA findings.

Previous EA studies

As part of an expansion of the Stoney Creek Regional Facility (SCRF), Terrapure conducted a property valuation impact study. The expansion included no change to the proximity of the existing site to neighbouring lands. In addition, mitigation measures and operational policies at the site minimize negative environmental effects. Using a method assessing historical trends and comparing local sites to regional trends, Terrapure predicted there will be no anticipated effect to property value due to the expansion.

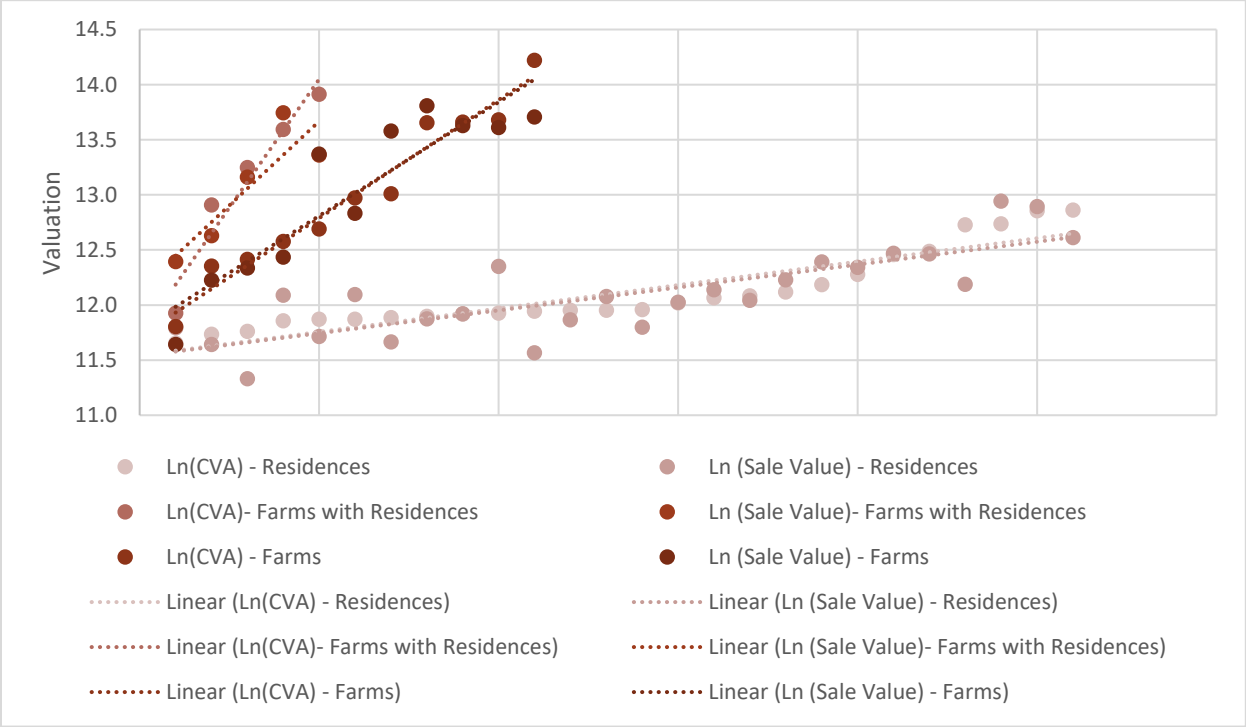
There is no conclusive evidence that landfills have a negative effect or no effect on property values. Different studies have provided various results on the impact of landfill sites and changes in those sites on property values near the site.

Site Specific Data

To examine trends in property values and sale prices within the study area, Dillon acquired data from MPAC. MPAC is responsible for assessing and classifying properties in Ontario in compliance with the Assessment Act and other regulations set out by the Ontario Government. The data set included the property characteristics, last valid sale date, last valid sale amount, and CVA for properties in the off-site study area and along the haul route. Descriptions of MPAC's methods for generating CVAs are available on MPAC's website (2017a, b)

There are three major property types in the study area (homes, farm properties and farm properties with residences). The CVA, as described above, provides an appraisal of home value every five years (2016 is the most recent year). This assessment considers properties sold since 2000. For all property types, CVA was determined to be a good predictor of sale price as shown in **Figure 1**.

FIGURE 1: CVAS COMPARED TO SALE PRICE (2016 $)



Source: MPAC 2019c

Locational and Homogenous Neighbourhood Data

Trends in regional prices were used to provide a comparison of site price changes to changes in the surrounding area. MPAC (2019d) provides a tool for looking at regional CVA changes across similar neighbourhoods. This was used to compare site-specific changes in value to the surrounding region to determine if different trends exist as result of the site.

Analysis

This section provides the analysis of regional data for the Municipality of Chatham-Kent and local data for the off-site study area and the haul route study area. The data analysis is conducted in two (2) parts. The section will:

- Assess historical trends since 2000 in transaction prices and Current Value Assessment (CVA) within the study area; and
- Compare changes in transaction values and CVA within the study area to changes in the surrounding region beyond the study area.

Limitations of this analysis include data availability due small number of properties and low volume of sales in the region. In addition, changes to regional property values are considered in aggregate using changes by homogenous neighbourhood from aboutmyproperty.ca.

Homes

Homes in the study area have appreciated by approximately $3.83 per square foot annually since 2000 as shown in **Figure 2**. Price per square foot was used to control for different home characteristics for properties in study area. While this is inexact, it provides a control for the size of the property when considering sale values standardizing the unit size of a property.

FIGURE 2: HOMES - SALE PRICES PER SQUARE FOOT ($ AND LN)

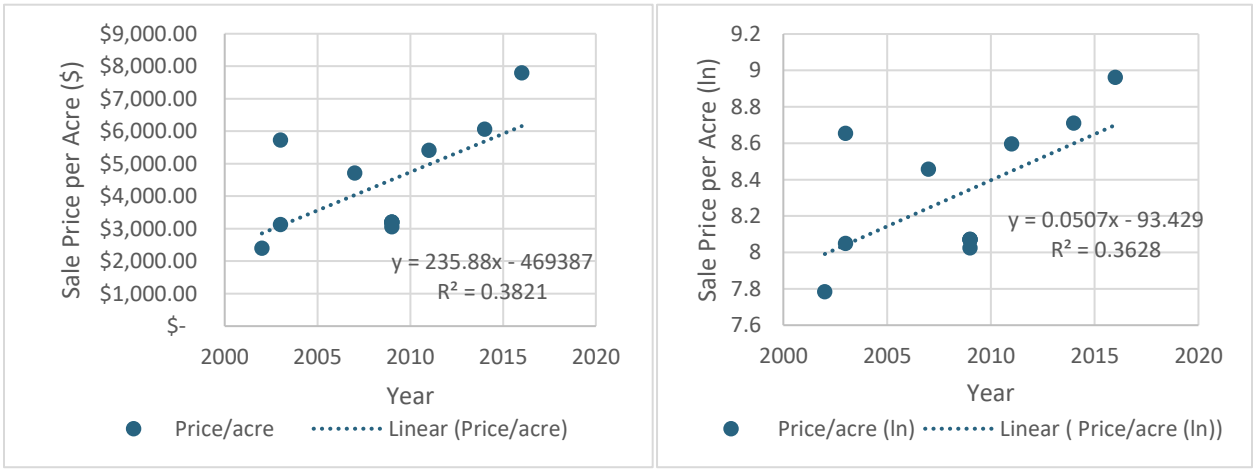
Source: MPAC 2019c

Figure 2, also uses the natural logarithm of the sale prices per square foot for homes. The natural logarithm shows the average increase in price per square foot as a percentage estimate. **Figure 2** shows that home properties in the study area have by appreciated in value by approximately 4.3% annually since 2000. However, the data set is small (n=26) and inexact as not all factors are captured. Regardless, there is a clear upward trend in home prices within the study area since the year 2000.

Farm Properties

Farm properties in the study area have appreciated by approximately $235.88 per acre annually since 2000 as shown in **Figure 3**. Price per acre was used to control for different characteristics for properties in study area. Acreage was chosen as the key determinant variable as residences were removed from the dataset, farmland class was not available, and the type and number of outbuildings varied substantially which may bias the results. As result, the degree of variance relative to homes is most likely to be explained by the quality of farmland and the composition of outbuildings.

FIGURE 3 FARM PROPERTIES - SALE PRICES PER ACRE ($ AND LN)



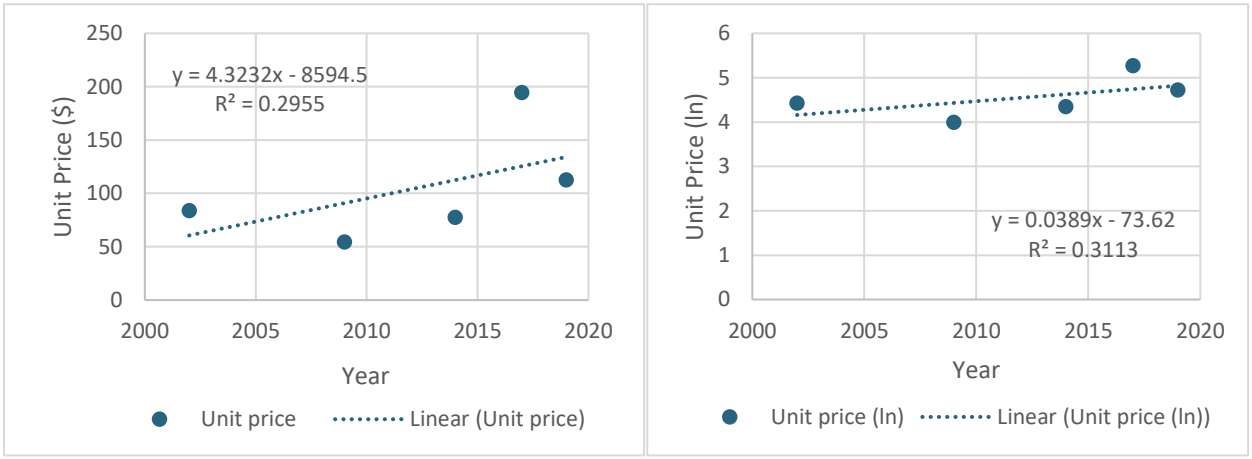
Source: MPAC 2019c

Figure 3 also uses the natural logarithm of farm property sale prices per acre. **Figure 3** shows that the sale price for farm properties in the study area has appreciated by approximately 5.1% since 2000. Additional variance may be due to the high volatility of farm prices in the region with annual growth ranging from 2.7% to over 16%. Regardless, there is an upward trend in farm land prices. This increase (approximately 5.1%) is lower than the average return for the area (9.3%) but the data set is small and inconclusive when considering the high volatility in pricing.

Farm Properties with Residences

Farm properties with residences in the study area have appreciated by approximately $4.32 per unit annually since 2000 as shown in **Figure 4**. The price remains a composite of the home price per unit and the farm property price per unit. As result, the method contains the same data limitations and gaps as each of those assessments. These include lack of controls for quality (construction, farmland), secondary structures, and age. The lack of data on this type of property also limits the explanatory power. These factors explain much of the variance within the data.

FIGURE 4: FARM PROPERTIES WITH RESIDENCES- UNIT PRICES ($ AND LN)



Source: MPAC 2019

Figure 4, also uses the natural logarithm of the sale prices of farm properties with residences. **Figure 4** shows that farm properties with residences in the study area have increased by approximately 3.9% since 2000. However, the data set is small and inexact as not all factors are captured. While the explanatory power of this assessment on its own is limited, the price increase per unit is similar to the price increase for homes (4.3%) and farm properties (5.1%). This suggests that farm properties with residences are likely to appreciate at a rate similar to homes and farm properties within the study area. While this rate is below either of the individual assets, this is likely due to the sample sizes.

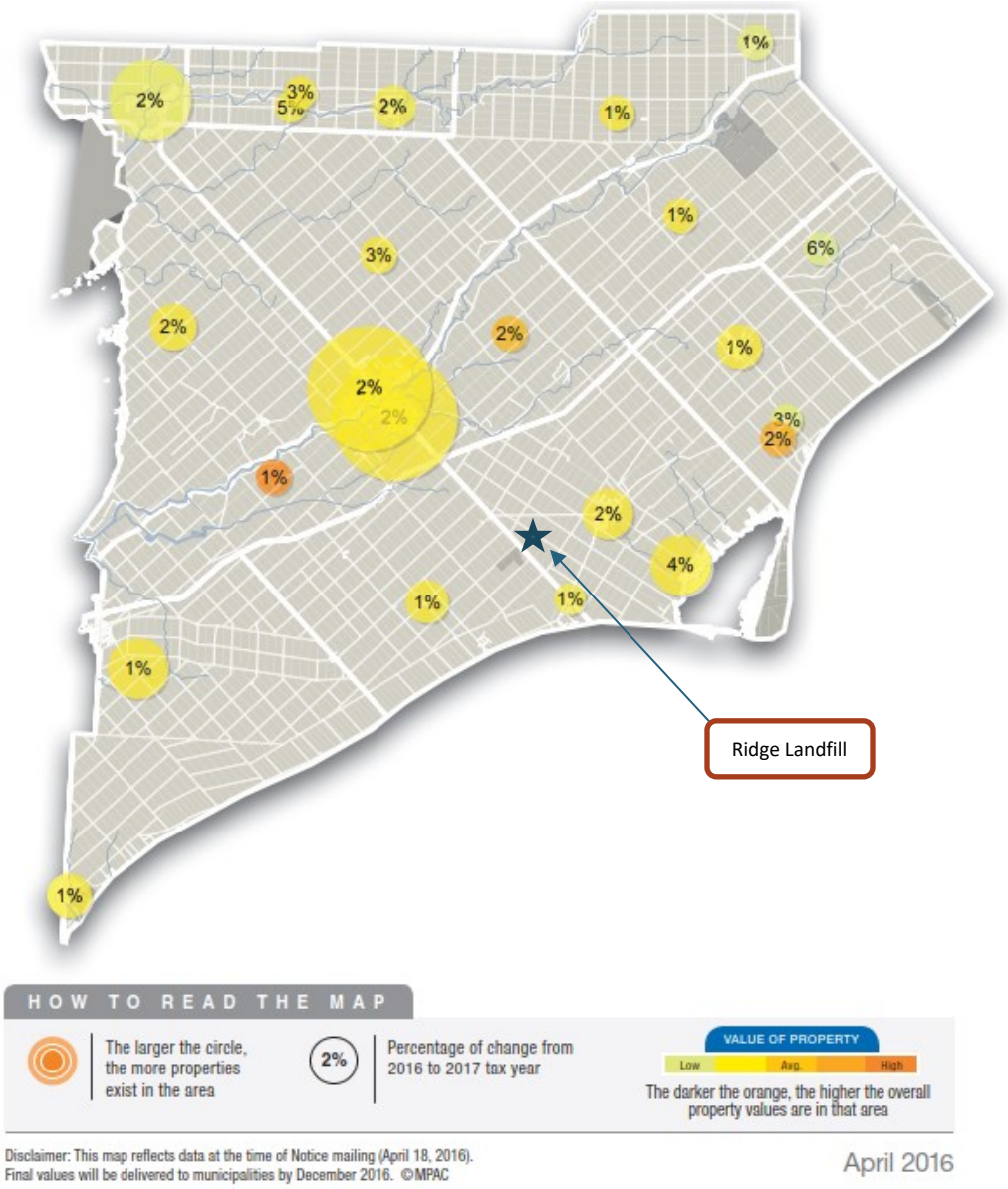
Comparison to Surrounding Areas

Neighbourhoods (Homes)

Figure 5 shows the regional trends in home values using CVA across the Municipality of Chatham-Kent. The map denotes the approximate location of the Ridge Landfill. As has been established above, CVA is a strong predictor of home sale prices for properties in the study area. Therefore, a comparison can be made between changes in sale prices over time and changes in CVA. As shown in **Figure 5**, home prices in the region have increased by approximately 2% between 2016

and 2017. This is less than the average change in sale prices between 2000 and 2019 for properties in the study area (approximately 4.3%). As the difference is small and the study area measure is inexact, it suggests changes in home prices for properties in the study area are similar to changes in CVA.

FIGURE 5: CVA OF HOME PROPERTIES IN THE MUNICIPALITY OF CHATHAM-KENT



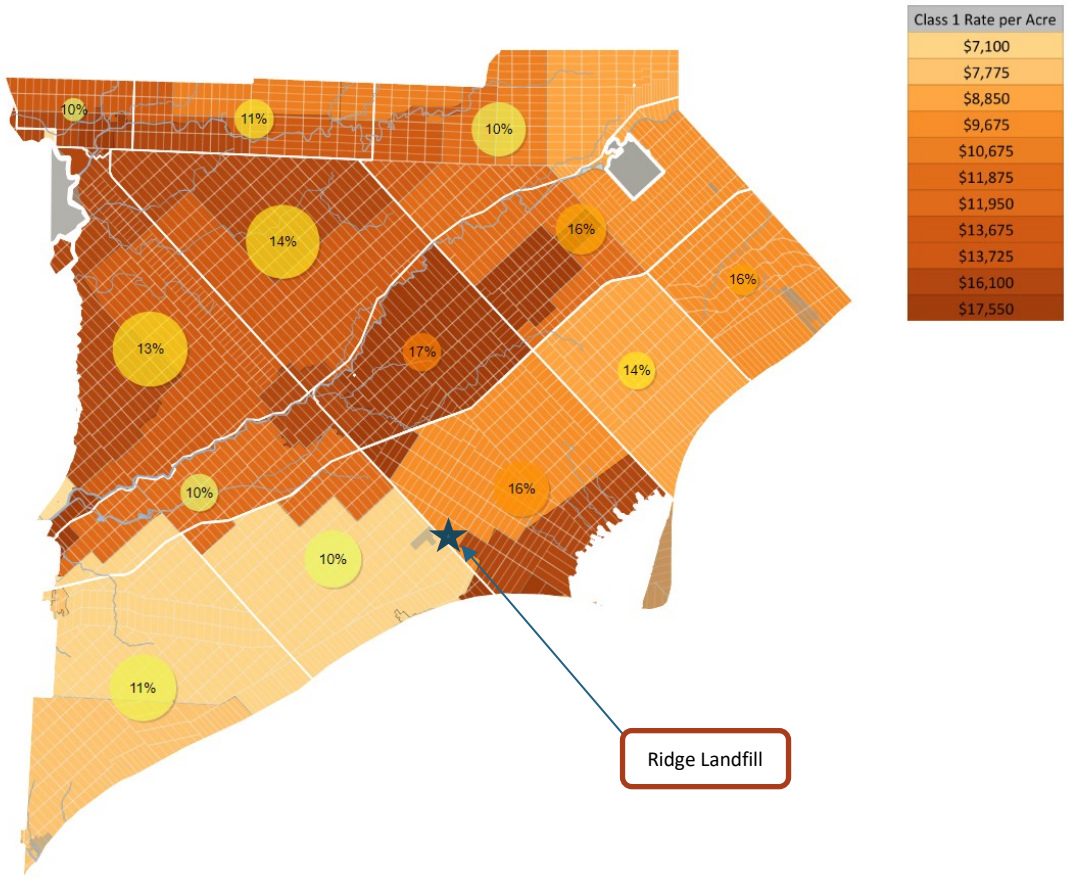
Note: The location of the Ridge Landfill Site on the map is approximate.
Source: AboutMyProperty.ca, 2019a

Farm Properties

Figure 6 shows the regional trends in farm property values using CVA across the Municipality of Chatham-Kent. The map denotes the approximate location of Ridge Landfill. Farm property prices in the region have increased by approximately 16% between 2012 and 2016. This is more than the average change in sale prices between 2000 and 2019 for properties in the study area (approximately 5.1%). However, as described above, the change in price for farmland between 2000 and 2019 is 9.3% annually as farm land prices have rapidly increased in since 2012.

The change in farm land prices in the study area is approximately 5.1% below the average change for farm properties in the region. However, due to the low volume of sales, the results are inconclusive. Individual data points, which may be outliers, skew results. For example, removing the property sold in 2003 for more than twice the expected value per acre results in a 2.1% increase in annual return to 7.2% for farm land properties. This property may be an outlier and skews results heavily influencing the average annual return for sales.

FIGURE 6: FARM PROPERTIES IN THE MUNICIPALITY OF CHATHAM-KENT



Note: The location of the Ridge Landfill Site on the map is approximate.
Source: AboutMyProperty.ca, 2019b

Farms with Residences

Regionally, the value of farm properties with residences are likely to appreciate consistent with the characteristics of the individual property. The residence is likely to appreciate an average of 1.8% annually while the farm land is likely to increase between 2.7% and over 16% annually. This logic is consistent with the literature and MPAC's valuation methods, which view the value of an item as the value of its components. In this case, the value of the farm with residence is assumed to be the value of the farm land and the value of the residence.

The website Aboutmyproperty.ca does not provide a graphic displaying price increases in farm properties with residence. As no regional standard exists, this report differs from the farm property and residence value increases as the reasonable range for property value increases for this type of property. As result, the specific characteristics of the property are likely to govern its value. For example, farm properties with large residences and low acreages are more likely to appreciate at a value closer to 1.8% than a smaller residence with a large acreages. This is consistent with the data as the unit price of farms with residences increased by 3.9% which is similar to the rate of increase for residences and farm properties. However, this result is inconclusive due to the limited data availability. If the increase is considered with the changes in prices for homes and farm properties, it should be reasoned that farms with residences are appreciating at a rate consistent with the components of the property within the study area.

Findings

This section provides a summary of key findings for from the property value study regarding the impact of the Ridge Landfill expansion on property values. These findings include:

- Literature on the effect of disamenity sites such as landfills on property values is inconclusive. Studies show no impact or small impacts of disamenity sites on property sites in close proximity to these sites. Overall, the conclusive evidence is that the characteristics of a site such as its perception, operations and size are important to determining if it has an effect on property values.
- Home sale prices per square foot in the study area have been increasing by approximately 4.3% since 2000. This is similar to the change in the value of homes more generally in the Municipality of Chatham-Kent (1.8%).
- Farm property sale prices per acre in the study area have been increasing by an average of 5.1% since 2000. However, this increase is below the regional average of 9.3%. Farm property prices have a high degree of variance in annual appreciation in value. The variance in value change and the low volume of sales contribute to the results of the study being inconclusive

as individual entries including outliers skew the annual return results. Although the data indicates that the percent increase in property value for farms is slightly less than the area average percent increase, the percentage increase is within the range of annual price increases (2.7%-16%) within the study period. Additionally, the small sample size (n=11) leads to a lack of confidence in the results of the analysis and that no firm conclusion can be drawn regarding the impact of the landfill on farm property price increases.

- Sales of farm properties with residences in the study area increased an average of 3.9% since 2000. There is no comparable for the region for this type of property so it is assumed the rate of increase for these properties should be between 1.8% and 9.3% based on the appreciation rates for residence and farm properties, respectively. This result is inconclusive due to the small sample size (n=5). When considering these results, it should be concluded that farm properties with residences are appreciating in value consistent with the value in the region.

When considering the literature with the study area data analysis, it is unlikely the Ridge Landfill expansion will have a negative effect on property values in the study area. Properties are appreciating at similar rates to properties in the study area so the extension of the life of the landfill is unlikely to negatively impact the value of properties in the study area as they are expected to continue to gain value at a similar rate to the region.

Conclusion

The property value study found that property values within the study area were unlikely to be affected by the proposed expansion of the Ridge Landfill. Existing literature, the previous site EA and comparable Ontario EAs showed the impacts of disamenity sites on property values is inconclusive. Landfills were only likely to negatively impact property values if the landfill contaminated nearby sites or was prominent for residents.

The analysis of sale price and value data for properties in the study area was inconclusive. All types of properties considered were shown to have increased in value between 2000 and 2019. However, the increases in sale price varied relative to regional increases in value. Small data sets and other variances in value may explain these differences. As result, it is unlikely the Ridge Landfill expansion will negatively impact property values as the current operations have not shown a significant suppression of property value appreciation relative to the region.

The Ridge site is well run without any contamination to surrounding sites and has a minimal visual impact on the landscape due to screening features. Therefore, the annual sale price increases

and effective operation of the Ridge Landfill suggest it is unlikely that the site expansion will negatively impact property values.

A summary of these findings was provided in **Appendix D9 – Socio-Economic Impact Assessment Report** as part of the socio-economic effects assessments. A more detailed version of this study including data methods is included in the EA as **Appendix D9-B.**

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