

December 2022 / Rev February 2023

Volume 4

Environmental Assessment of the Township of North Dundas Waste Management Plan



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What is the ToR?

The Terms of Reference (ToR) sets out the framework for the planning and decision-making process to be followed during the preparation of the EA.

What is the EA?

The EA is a study that assesses the potential environmental effects (positive or negative) of this Waste Management Plan.

Terms of Reference (ToR)

The ToR for the EA of the Township's Waste Management Plan was approved by the Minister of Environment, Conservation and Parks in July 2020.

EA Process Tips

The Environmental Assessment Process requires the study to consider an option to "Do Nothing" along with the list of options being considered in the study.

Environmental Assessment

An Environmental Assessment (EA) of the Township of North Dundas (Township) Waste Management Plan (WMP) is being undertaken under the provincial *Environmental Assessment Act*.

In the previous technical bulletin (February 2021), the Township identified the preferred 'Alternative To' as Landfill Site Expansion.



Boyne Road Landfill Site Expansion was determined to be the most preferred overall by comparison of the environmental components. No public feedback was received in disagreement with the proposed alternative of Landfill Site Expansion. No feedback was received on the relative importance of environmental components. Public feedback received was only in regard to general Project questions and consultation methods.

The next steps of the EA Study are to: identify 'Alternative Methods' of expanding the landfill, compare the 'Alternative Methods', identify mitigation measures and determine net environmental effects of the preferred method of landfill expansion. This technical bulletin describes and requests public feedback about the identified preferred 'Alternative To' (landfill expansion), the proposed 'Alternative Methods' of landfill expansion and the comparison of those methods.

What's the difference between 'Alternatives To' and 'Alternative Methods'?

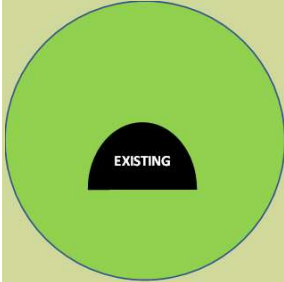
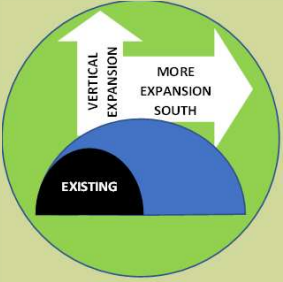
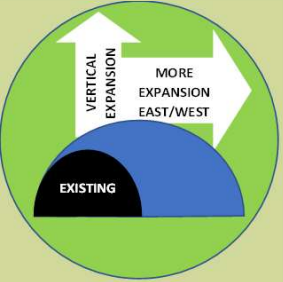
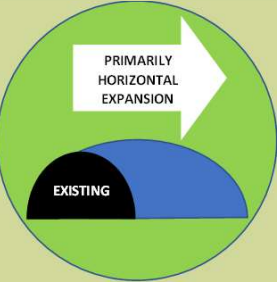
'**Alternatives To**' are functionally different ways of dealing with the problem or opportunity (which in this case is to provide environmentally safe, long-term waste management).

'**Alternative Methods**' are different ways of doing the same activity. 'Alternative Methods' are different ways of doing the preferred 'Alternative To'.

Examples of 'Alternative Methods' for landfill expansion: *horizontal expansion, vertical expansion, or a combination of vertical and horizontal expansion.*

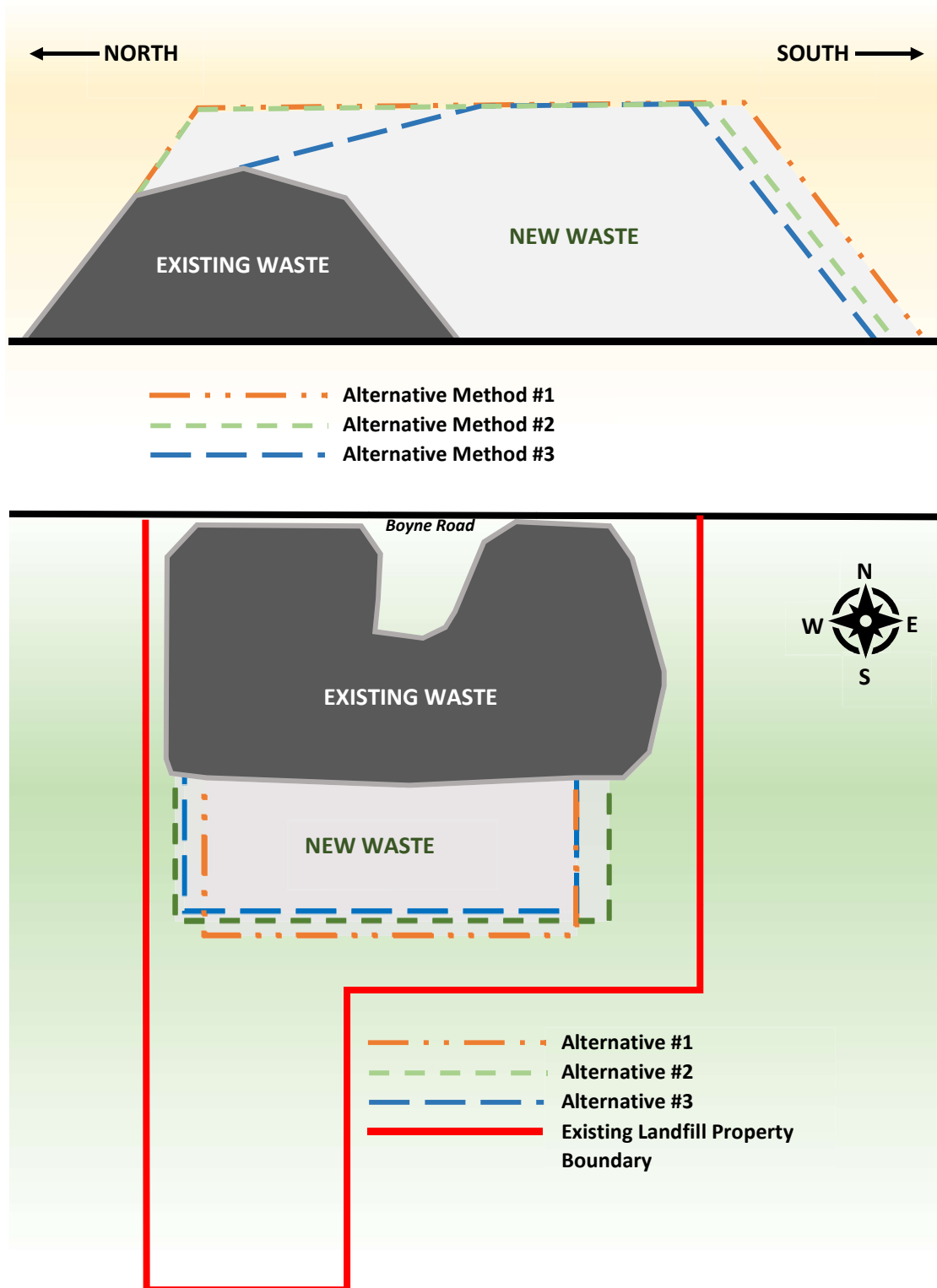


‘Alternative Methods’ of Landfill Site Expansion 

Considerations	Existing Landfill	Alternative 1	Alternative 2	Alternative 3
Description		 Combined Vertical and Horizontal Expansion with Larger East and West Buffers	 Combined Vertical and Horizontal Expansion with Larger South Buffer	 Primarily Horizontal Expansion
Site/Property Area (ha)	89.03	89.03	89.03	89.03
Total Waste Footprint Area (ha)	8.1	12.0	12.6	11.9
Peak Waste Elevation (metres above sea level)	87.75	89.75	89.75	89.75
Height of Peak above Average Ground Elevation (m)	12.5	15	15	15
Horizontal Expansion Area Bottom of Waste Elevation (metres above sea level)	-	75.75	75.75	75.75
Volume of Excavation (m³)	-	12,650	14,150	12,100
Total Additional Airspace (m³)	-	450,000	458,300	450,000
Expansion Area Existing Property Boundary Buffer Distances (m)	-	South: 44 East: 100 West: 50	South: 52 East: 71 West: 34	South: 57 East: 100 West: 30

Comparison of 'Alternative Methods' of Site Expansion

Cross Section and Plan View of Methods



What is a Buffer Area?

A Buffer Area is the part of the landfill site property not used for waste disposal, usually between the perimeter of the disposal area and the landfill property boundary.

Increased buffer distances help reduce the potential for waste placed on-site from having unacceptable impacts outside the site property. Increased buffer distances can help:








- Improve Visual Aesthetics.
- Reduce potential for off-site impacts (dust, odour, groundwater, and noise).

Did You Know?

The purpose of this EA is to provide environmentally safe and cost-effective long-term waste management for the Township of North Dundas for a 25-year planning period.

* Figures presented here are schematic, not to scale.

Preliminary Results of Comparison of 'Alternative Methods'

Environmental Component	Evaluation Criterion/Criteria	Evaluation of 3 Alternative Methods		
		Alt. #1	Alt. #2	Alt.#3
 Atmosphere	<ul style="list-style-type: none"> Potential effects on air quality (including dust, odour, GHG) Potential effects on noise 	✓	✓	✓
 Geology and Hydrogeology	<ul style="list-style-type: none"> Potential effects on groundwater resources 	✓	✓	✓
 Surface Water	<ul style="list-style-type: none"> Potential effects on surface water resources 	✓	✗	✓
 Biology	<ul style="list-style-type: none"> Potential effects on natural environment features (aquatic and terrestrial ecosystems) 	—	✗	✓
 Agriculture	<ul style="list-style-type: none"> Potential effects on existing agriculture 	✓	✓	✓
 Land Use	<ul style="list-style-type: none"> Potential effects on existing land use 	✓	✓	✓
 Cultural Heritage	<ul style="list-style-type: none"> Potential effects on archaeology Potential effects on cultural environment (cultural heritage landscapes, cultural heritage resources) 	✓	✓	✓
 Socio-economic	<ul style="list-style-type: none"> Potential site operational effects on sensitive off-site receptors (i.e., noise, litter, air quality) Relative potential changes in employment, impacts to local commercial businesses and capital/operational costs Potential changes in visibility of the landfill 	✓	✓	✓
 Transportation	<ul style="list-style-type: none"> Potential effect on road network 	✓	✓	✓
 Design and Operations	<ul style="list-style-type: none"> Potential effects on capital/operational costs 	✓	✗	✓

Alternative #3 was identified by the Township and Project Team as the preferred 'Alternative Method' for landfill expansion. Public opinion regarding the 'Alternative Methods' and their comparison is being sought via this technical bulletin.

What are 'Monitoring and Contingency Plans'?

Monitoring plans are how the Township will comply with the commitments made during this assessment such that the expected environmental effects are verified and meet regulations. (e.g., annually monitor groundwater and surface water quality).

Contingency plans are what the Township will do to manage any adverse environmental impacts discovered by the monitoring programs.

Next Steps?

- Collect feedback from public and stakeholders on the proposed 'Alternative Methods' and the identified preferred 'Alternative Method'
- Determine net effects on the environment of the proposed 'Alternative Method' of landfill expansion including a comparison to 'Do Nothing'
- Develop mitigation measures for the preferred 'Alternative Method'
- Consider climate change impacts of the preferred 'Alternative Method'
- Assess cumulative impacts of the preferred 'Alternative Method'
- Develop Monitoring and Contingency Plans
- Prepare the Environmental Assessment Study Report

What is a cumulative impact assessment?

A cumulative impact assessment reviews the potential qualitative effects of the proposed landfill expansion in combination with past, present, and reasonably foreseeable future activities, where possible.



Climate change includes:

Potential impact of climate change on the landfill expansion (i.e., climate change adaptation) and its potential impact on climate change (i.e., climate change mitigation).

Next Consultation Activities:

Open House #3: planned in-person event to present the proposed EA and inform the public about the identification of the preferred 'Alternative Method', as well as inform them of the results of the existing conditions studies and the predicted effects on the environment, and the commitments the Township is making to mitigate any adverse effects.

Questions, Feedback and Comments?

We encourage you to let us know your thoughts by sending your comments to dfroats@northdundas.com and/or using the attached comment form by December 8, 2021.

Or contact us at 613-774-2105 ext. 235 for any accessibility requirements.



If you would like to be notified of any project updates, please let us know and provide either an email address or your mailing address.



Environmental Assessment of the Township of North Dundas Waste Management Plan Technical Bulletin #3 Feedback Form

Thank you for taking the time to provide us with your comments. This comment sheet should be completed after reading Technical Bulletin #3.

If you would like to be added to our project mailing list, please include the appropriate contact information below.

☐ **YES, BY MAIL** ☐ **YES, BY EMAIL** ☐ **NO**

NAME:

EMAIL:

ADDRESS:

PHONE NUMBER:

1. Please provide any general comments regarding this Environmental Assessment Process.

2. Three 'Alternative Methods' of landfill expansion were developed and are described within Technical Bulletin #3. Do you agree with or have any comments on the 'Alternative Methods'?

3. Various components of the environment have been used to assess potential effects of the 'Alternative Methods' considered for the landfill expansion. The following table lists proposed natural, social, economic / financial and technical components of the environment being considered for this EA.

Please tell us how these rank in importance to you. Is there any aspect we may have missed?

Components to Assess and Compare 'Alternative Methods':

Environmental Component	Sub-Component	Importance		
		Very Important	Important	Less Important
Atmosphere	Air Quality /Odour/Greenhouse Gas			
	Noise			
Geology and Hydrogeology	Groundwater Quality			
Surface Water	Surface Water Quality			
	Surface Water Quantity			
Biology	Aquatic Ecosystems			
	Terrestrial Ecosystems			
Agriculture	-			
Cultural Heritage	Archaeology			
	Cultural Heritage Landscapes			
	Built Heritage Resources			
Land Use	Current and Planned Future Land Uses			
Socio-economic	Local Economy			
	Residents and Community			
	Visual			
Transportation	Traffic			
Design and Operations	Financial			



4. Do you agree with the preliminary identification of the preferred 'Alternative Method' for this waste management plan as Alternative 3, primarily horizontal expansion on the south side of the existing footprint? If not, why not?

All personal information included in a submission – such as name, address, email, and telephone number – is collected, maintained and disclosed by the Ministry of the Environment, Conservation and Parks for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the Project Officer at 437-244-9402 or the Ministry of the Environment Conservation and Park's Freedom of Information and Privacy Coordinator at 416-819-5148.

Veillez noter qu'il vous est possible de nous communiquer vos commentaires ou vos questions sur le projet en français en les adressant à Yannick Marcerou au 613-592-9600 ext. 3318 ou par courriel à yannick_marcerou@golder.com.

You can provide your comments on the Environmental Assessment Technical Bulletin #3 or any questions you may have about this project by email, mail or fax to:

Doug Froats
Director of Waste Management
Township of North Dundas

636 St. Lawrence Street, P.O. Box 489
Winchester, ON K0C 2K0

Telephone: 613-774-2105 ext. 235
Fax: 613-774-5699

E-mail: dfroats@northdundas.com

Trish Edmond, P.Eng.
EA Project Manager
Golder Associates Ltd.

1931 Robertson Road
Ottawa, ON K2H 5B7

Telephone: 613-592-9600

E-mail: trish_edmond@golder.com

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Environmental Assessment of the Township of North Dundas Waste Management Plan Waste Diversion Technical Bulletin #3 — ‘Alternative Methods’



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NOVEMBER 22, 2021



Environmental Assessment of the Township of North Dundas Waste Management Plan Technical Bulletin #3 – 'Alternative Methods'

The Township of North Dundas (Township) is undergoing an environmental assessment (EA) for the Township's Waste Management Plan under the *Environmental Assessment Act*. The EA Study will evaluate long-term solid waste management options for a 25-year planning period.

The Township identified the preferred 'Alternative To' in the previous technical bulletin (February 2021) as Boyne Road Landfill Site Expansion. As part of the EA Study, the Township will: evaluate 'Alternative Methods' of landfill site expansion, compare the 'Alternative Methods' and identify the preferred 'Alternative Method', identify mitigation measures, and determine net environmental effects.

The Township has prepared a new Technical Bulletin (#3) presenting the different 'Alternative Methods' of landfill expansion, the environmental components and corresponding evaluation criteria considered, as well as the preliminary results of this evaluation.

This Technical Bulletin #3 has been published on the project website for review by the public and a feedback form is also available to provide comments to the EA Study team. Both files can be accessed at <https://www.northdundas.com/municipal-services/environmental-assessments>. A hardcopy or an electronic copy of these documents on a USB drive can be made available upon request.

If you would like to be added to our project mailing list or have project-related questions, please contact:

Doug Froats
Director of Waste Management
Township of North Dundas
636 St. Lawrence Street, P.O. Box 489
Winchester, ON K0C 2K0

Telephone: 613-774-2105 ext. 235
Fax: 613-774-5699

E-mail: dfroats@northdundas.com

Trish Edmond, P.Eng.
EA Project Manager
Golder Associates Ltd.
1931 Robertson Road
Ottawa, ON K2H 5B7

Telephone: 613-592-9600 ext. 3246

E-mail: trish_edmond@golder.com

If you require any accommodations for a disability to review the 'Alternative Methods' Technical Bulletin #3, contact Doug Froats at 613-774-2105 ext. 235 to make the appropriate arrangements.

Veillez noter qu'il vous est possible de nous communiquer vos commentaires ou vos questions sur le projet en français en les adressant à Yannick Marcerou au 613-592-9600 ext. 3318 ou par courriel à yannick_marcerou@golder.com.

November 17, 2021

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--	--	--

From: McDonald, Robert
Sent: November 24, 2021 2:15 PM
Cc: Doug Froats; Edmond, Trish; jordan.hughes@ontario.ca; Marcerou, Yannick
Subject: Township of North Dundas EA - Technical Bulletin #3 on 'Alternative Methods' and Feedback Form
Attachments: Technical Bulletin #3 'Alternative Methods' 2021 Nov.pdf; Technical Bulletin #3 Feedback Form 2021 Nov.pdf

Hello,

The Township of North Dundas (Township) is undergoing an environmental assessment (EA) for the Township's Waste Management Plan under the *Environmental Assessment Act*. The EA Study will evaluate long-term solid waste management options for a 25-year planning period.

The Township identified the preferred 'Alternative To' in the previous technical bulletin (February 2021) as Boyne Road Landfill Site Expansion. As part of the EA Study, the Township will: evaluate 'Alternative Methods' of landfill site expansion, compare the 'Alternative Methods' and identify the preferred 'Alternative Method', identify mitigation measures, and determine net environmental effects.

The Township has prepared a new Technical Bulletin (#3) presenting the different 'Alternative Methods' of landfill expansion, the environmental components and corresponding evaluation criteria considered, as well as the preliminary results of this evaluation (see attached).

This Technical Bulletin #3 has been published on the project website for review by the Government Review Team stakeholders and a feedback form is also available to provide comments to the EA Study team. Both files can be accessed at <https://www.northdundas.com/municipal-services/environmental-assessments>. A hardcopy or an electronic copy of these documents on a USB drive can be made available upon request.

Please do not hesitate to contact us if you have any questions.

Regards,

Robert McDonald (M.A.Sc., E.I.T.)
Geo-environmental Consultant



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1931 Robertson Road, Ottawa, Ontario, Canada, K2H 5B7
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Appendix H3 Comments from the GRT

**Ministry of Heritage, Sport,
Tourism and Culture Industries**

Programs and Services Branch
401 Bay Street, Suite 1700
Toronto, ON M7A 0A7
Tel: 416-660-1027

**Ministère des Industries du Patrimoine,
du Sport, du Tourisme et de la Culture**

Direction des programmes et des services
401, rue Bay, Bureau 1700
Toronto, ON M7A 0A7
Tél: 416-660-1027



December 3, 2021

EMAIL ONLY

Robert McDonald (M.A.Sc., E.I.T.)
Geo-environmental Consultant
Golder Associates Ltd.
Robert_McDonald@golder.com

MHSTCI File : 0006336
Proponent : Township of North Dundas
Subject : Technical Bulletin #3, Environmental Assessment for the Township of North Dundas Waste Management Plan
Location : Boyne Road Landfill Site, south of Boyne Road, Township of North Dundas, United Counties of Stormont, Dundas and Glengarry

Dear Robert McDonald:

Thank you for providing the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) with Technical Bulletin #3 for the above-referenced project. MHSTCI's interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- Archaeological resources, including land and marine;
- Built heritage resources, including bridges and monuments; and,
- Cultural heritage landscapes.

Under the EA process, the proponent is required to determine a project's potential impact on cultural heritage resources. The comments and recommendations below are for an Individual Environmental Assessment (EA) project.

Project Summary

An EA of the Township of North Dundas (Township) Waste Management Plan (WMP) is being undertaken under the provincial *Environmental Assessment Act*. As part of the EA Study, the Township will: evaluate 'Alternatives To' the Waste Management Plan, identify the preferred WMP, characterize the existing environmental conditions, identify and develop 'Alternative Methods' of waste management, compare the 'Alternative Methods', identify mitigation measures and determine net environmental effects.

MHSTCI Comments

This Technical Bulletin outlined in a general way the 'Alternative Methods' of expanding the landfill, compared the 'Alternative Methods', identified mitigation measures and determined net environmental effects of the preferred method. Our comments focus on these aspects of the EA.

Environmental Components

MHSTCI recommends that the Environmental Component "Cultural Heritage" is changed to "Cultural Heritage Resources," and that the Evaluation Criterion/Criteria be subdivided into

“Archaeological Resources,” “Built Heritage Resources” and “Cultural Heritage Landscapes” for consistency with terminology used in provincial legislation and policy.

Evaluation Criterion/Criteria

This Bulletin does not identify what evaluation methods were used to determine the alternative method's impact on cultural heritage resources. The Terms of Reference (ToR) for this EA committed to undertaking a Stage 1 Archaeological Assessment and completing MHSTCI's checklist [Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes](#). Additionally, the ToR committed to communicating the planned schedule, studies and results of the Stage 1 Archaeological Assessment with the Huron-Wendat Nation. Please advise what technical studies have been undertaken to determine the potential impact on cultural heritage resources, and whether the schedule, studies, and results have been shared with the Huron-Wendat Nation.

Thank you for consulting MHSTCI on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, do not hesitate to contact me.

Sincerely,

Jack Mallon
Heritage Planner
Jack.mallon@ontario.ca

Copied to:

Doug Froats, Director of Waste Management, Township of North Dundas - dfroats@northdundas.com
Laura Hatcher, Heritage Planner, MHSTCI – laura.e.hatcher@ontario.ca

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. MHSTCI makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MHSTCI be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Please notify MHSTCI if archaeological resources are impacted by EA project work. All activities impacting archaeological resources must cease immediately, and a licensed archaeologist is required to carry out an archaeological assessment in accordance with the *Ontario Heritage Act* and the *Standards and Guidelines for Consultant Archaeologists*.

If human remains are encountered, all activities must cease immediately and the local police as well as the Registrar, Burials of the Ministry of Government and Consumer Services (416-326-8800) must be contacted. In situations where human remains are associated with archaeological resources, MHSTCI should also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.

From: McDonald, Robert
Sent: January 18, 2022 12:59 PM
To: Mallon, Jack (MHSTCI)
Cc: Hatcher, Laura (MHSTCI); dfroats@northdundas.com; Edmond, Trish; Marcerou, Yannick
Subject: RE: MHSTCI Letter - Township of North Dundas EA - Technical Bulletin #3 on 'Alternative Methods'
Attachments: L01_MHSTCI TB#3 Response_Jan 17 2022.pdf

Good afternoon,

Please see attached the Township of North Dundas and Golder's response to the letter you provided on December 3, 2021.

Do not hesitate to contact me if further clarification is required.

Regards,

Robert McDonald (M.A.Sc., E.I.T.)
Geo-environmental Consultant



Golder Associates Ltd.
1931 Robertson Road, Ottawa, Ontario, Canada, K2H 5B7
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From: Mallon, Jack (MHSTCI) <Jack.Mallon@ontario.ca>
Sent: December 3, 2021 3:19 PM
To: McDonald, Robert <Robert_McDonald@golder.com>
Cc: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>; dfroats@northdundas.com
Subject: MHSTCI Letter - Township of North Dundas EA - Technical Bulletin #3 on 'Alternative Methods'

EXTERNAL EMAIL

Good afternoon,

Please see attached MHSTCI's response to the Township of North Dundas EA - Technical Bulletin #3.

Do not hesitate to contact me if you have any questions.

Regards,
Jack Mallon
Heritage Planner

Heritage Planning Unit | Programs and Services Branch

Heritage, Tourism and Culture Division

Ministry of Heritage, Sport, Tourism and Culture Industries

January 17, 2022

Project No. 1649396

Jack Mallon, Heritage Planner

Ministry of Heritage, Sport, Tourism and Culture Industries
Program and Services Branch
401 Bay Street, Suite 1700
Toronto, ON
M7A 0A7

**TOWNSHIP OF NORTH DUNDAS
RESPONSE TO TECHNICAL BULLETIN #3, ENVIRONMENTAL ASSESSMENT FOR THE
TOWNSHIP OF NORTH DUNDAS WASTE MANAGEMENT PLAN
MHSTCI FILE: 0006336**

Dear Mr. Mallon,

Thank you for providing a response to Technical Bulletin #3, which summarized the 'Alternative Methods' for landfill expansion as part of the Environmental Assessment for the Township of North Dundas Waste Management Plan. This letter has been prepared to respond to and provide clarification regarding the comments provided in your December 3, 2021 response letter on Technical Bulletin #3.

We acknowledge that Technical Bulletin #3 made reference to the Environmental Component as "Cultural Heritage" when it should have been referred to as "Cultural Heritage Resources". All future material distributed as part of this Environmental Assessment (including the Environmental Assessment Study Report) will refer to this Environmental Component as "Cultural Heritage Resources" with evaluation criterion/criteria subdivided as "Archaeological Resources", "Built Heritage Resources", and "Cultural Heritage Landscapes" for consistency with terminology used in provincial legislation and policy.

Technical Bulletin #3 was prepared to solicit feedback from the public and Indigenous Communities, in addition to being distributed to members of the Government Review Team (GRT). In consideration of this audience, Technical Bulletin #3 was prepared to be understandable to a non-technical audience who may not be familiar with the Environmental Assessment process and Terms of Reference Commitments. As such, Technical Bulletin #3 did not detail the technical studies undertaken to determine the impact of the three alternative methods on cultural heritage resources.

To provide clarity, the Township of North Dundas has completed the Stage 1 Archaeological Assessment, which was submitted to the Ministry of Heritage, Sport, Tourism, and Culture Industries (MHSTCI) on November 18, 2021. The MHSTCI Checklist, which was committed to in the Terms of Reference, has been

completed and will be included with the Environmental Assessment Study Report. All technical studies undertaken to determine the potential impact on cultural heritage resources will be described in the Environmental Assessment Study Report, which will be shared with Indigenous Communities, the public, and the GRT. In addition, the Stage 1 Archaeological Assessment study, results and plans for future studies have been shared with the Huron-Wendat Nation, along with the other two Indigenous Communities consulted as part of this Environmental Assessment.

Thank you for continuing to provide feedback on this project. If you have any questions on the responses provided in this letter, or require further clarification, please do not hesitate to contact the undersigned.

Thank you,

Golder Associates Ltd.



Robert McDonald, M.A.Sc., E.I.T.
Geo-Environmental Consultant



Trish Edmond, M.E.Sc., P.Eng.
Principal, Geo-Environmental Engineer

RPM/PAS/PLE/sg

[https://golderassociates.sharepoint.com/sites/117046/project files/5 technical work/8 - consultation/8.15 technical bulletin #3 - 'alternative methods' ea/feedback/101_mhstci tb#3 response_jan 17 2022.docx](https://golderassociates.sharepoint.com/sites/117046/project%20files/5%20technical%20work/8%20-%20consultation/8.15%20technical%20bulletin%20#3%20-%20'alternative%20methods'%20ea/feedback/101_mhstci_tb#3%20response_jan%2017%202022.docx)

CC: Doug Froats, Director of Waste Management, Township of North Dundas
Laura Hatcher, Heritage Planner, MHSTCI

APPENDIX I

Open House #3 (In-person and Virtual)

Appendix I1 Advertisements and Notices

Appendix I2 Open House #3 Materials and Feedback Form

Appendix I3 Comments from the GRT

Appendix I1 Advertisements and Notices

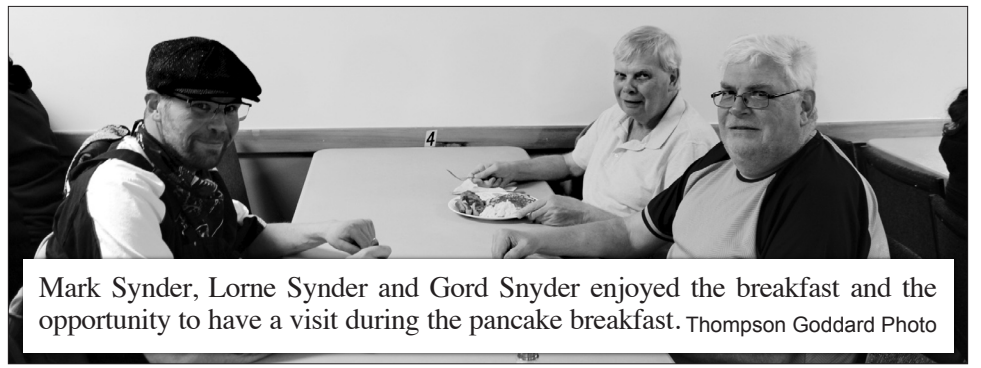
Great day in Williamsburg

Carolyn Thompson Goddard
Record Staff

WILLIAMSBURG – Lodge 349 of the Independent Order of Odd Fellows in Williamsburg held their pancake breakfast in the morning and an evening dance March 19 in their hall, decorated with a nod to the Emerald Isle and St. Patrick.

Organizers commented how the delicious breakfast fed 116 people including pancakes, eggs, sausage, toast, bacon, and a selection of beverages. The evening featured Soundtastic Productions, people were able to dance and visit with friends.

Upcoming events include a Euchre Tournament on April 9 in support of Help Our Homeless, and on April 23 a breakfast in the morning and dance in the evening. The community favourite Surf and Turf dinner is planned for May 7, with limited tickets available.



Mark Synder, Lorne Synder and Gord Snyder enjoyed the breakfast and the opportunity to have a visit during the pancake breakfast. Thompson Goddard Photo

Railway crossings

Continued from the front

Affected landowners have been receiving letters in the mail from the Canadian Pacific Railway focusing on their own railway crossing and what needs to be done, as well as what it will cost to do it in order to meet the TSB's new regulations.

A spokesperson for CP Rail said, CP Rail is reaching out to all private crossing owners to inform them about new regulations and standards that Transport Canada has come up with.

Whenever a railway runs through private property, a farm for example, and the farmer has to cross the railway tracks to get to the other side of his or her farm, that crossing becomes their responsibility.

Private homeowners are responsible for the crossings, so any upgrades that are coming, they will be responsible for that.

The letters have not been well received by farmers and landowners who have had railway crossings on their property for years and normally have CP Railway look after them. Often a farmer is the only person who will need to use a crossing to go from one field to another.

Estella Rose, the former deputy mayor of North Dundas lives in Mountain and received one of the many letters outlining her obligations to look after her railway crossing.

Rose said, "They want \$1,000 to \$2,500 for liability insurance, but we already have farm insurance." The letter suggested that her crossing would need new signage to the tune of \$700 and she would need an assessment every year of the crossing at a cost of \$275.

"They should be paying us. It is an inconvenience for us.

We would only go across to plant the seed and maybe once to spray it and then combine it," she said.

"They have always maintained it. That was the idea when they got the right of way. They used to put up fences to keep cattle in. If you called and told them your gate was not up to par, they would drop off a new gate. They always had a machine to cut the brush to be able to see down the track. Are they going to cut that too?"

In an Ontario Federation of Agriculture, (OFA), member webinar on Farm Safety and Rail Crossings on June 17, 2021, the OFA presenter gave out information about what constitutes a private and farm rail crossing.

The issue discussed was that farm railway crossings were perhaps being designated private when they were actually a farm crossing. The difference being that CP Railway would be responsible for any upkeep on a farm railway crossing but not on a private crossing.

Landowners have to find some kind of record

designating who looks after the crossing on farmland and unfortunately some were placed on farms before adequate records were kept.

In their presentation there was also mention of some grant funding that was available for landowners.

A common misconception is that all railway crossings are owned and operated by the railway when in reality this is not always true. Sometimes a crossing will be the responsibility of a private homeowner, farmer, municipality, or railway company.

The goals of the regulations are to:

Improve crossing safety;

Provide consistent safety standards for new and existing public and private grade crossings;

Clarify and define the roles and responsibilities of

all parties involved with improving the safety of public and private grade crossings;

Promote collaboration between railways and road authorities;

Implement results-based regulations for a consistent level of safety for all types of crossings.

Transport Canada's website stated: "New crossings must meet the regulations and standards immediately. If upgrading or changing an existing crossing, it must meet the regulations and standards immediately. Information on any changes must be shared between parties. Other existing private and public crossings must be inspected and upgraded, or closed, if required to meet the new regulations and standards by Nov. 27, 2021. Landowners

with private crossings are also impacted by this regulation and should review Transport Canada's website for more information."

There is some funding available to help with the cost if a private railway crossing is on your property and has to be upgraded but it is not guaranteed.

Another option is to find another way to get over the tracks on a property and then close the existing crossing.

You can apply for funding through the Rail Safety Improvement Program. The deadline for applications to the program is August 1.

For more information, search the web for the Rail Safety Improvement Program or go to <https://tc.canada.ca/en/programs/funding-programs/rail-safety-improvement-program> for more information.

NOTICE OF PUBLIC MEETING PROPOSED CHANGES TO BUILDING PERMIT FEES

TAKE NOTICE that the Department of Planning, Building and Enforcement will hold a public meeting on **April 19th, 2022 at 6:30 p.m.** in the Council Chambers at 636 St. Lawrence St, Winchester, in order to consider proposed changes to the building permit fees imposed under Section 7 of the *Building Code Act*.

PURPOSE AND EFFECT – The Township of North Dundas has conducted a review of the building permit fees under Section 7(b) of the *Building Code Act*. The purpose is to ensure that the permit fees better reflect the services provided. The effect is to increase select existing fees and to introduce new fees for permits and services that have traditionally not had fees. Information will be provided at the meeting on the amount of the proposed fees and the rationale for changing and imposing the fees.

ANY PERSON may attend the public meeting and/or make written or verbal representation either in support of or in opposition to the proposed fees. Any written comments are to be submitted prior to **April 14th, 2022** and addressed to the following person:

Nancy Johnston
Director of Corporate Services/Clerk
636 St. Lawrence Street, P.O. Box 489
Winchester, ON, K0C 2K0
njohnston@northdundas.com

Such written submissions will be circulated to Council in advance of the public meeting.

ADDITIONAL INFORMATION will be provided at the meeting on the estimated costs of enforcing and administering the *Building Code Act*, the amount of the proposed fees and the rationale for changing and imposing the fees. More information regarding the current fee schedule and the proposed changes to the Building Permit Fee schedule can be found on our website - www.northdundas.com.

You can attend the meeting in person in Council Chambers at the Township office at 636 St. Lawrence St, Winchester without preregistration. You can also watch the meeting live on the Township's YouTube channel: <https://www.youtube.com/channel/UCEHN4ufiBAU-2WZCe2LcyOQ>. To participate in the meeting virtually, you must preregister online: https://us06web.zoom.us/webinar/register/WN_fnSRM2tcTX6rz99hcqYTIA.

The Township of North Dundas' Chief Building Official will be available at the meeting to discuss the proposed fee changes and answer questions and receive comments.

For further information, please contact Jacob Forget, Chief Building Official at 613-774-2105 x243 or by emailing jforget@northdundas.com.

Dated at the Township of North Dundas this 16th day of March, 2022.



Nancy Johnston, MBA
Director of Corporate Services/Clerk
Township of North Dundas
636 St. Lawrence Street, P.O. Box 489
Winchester, ON, K0C 2K0
P: 613-774-2105 x226
F: 613-774-5699



Environmental Assessment of the Township of North Dundas Waste Management Plan Open House #3 – Proposed Environmental Assessment

The Township of North Dundas (Township) is undergoing an environmental assessment (EA) for the Township's Waste Management Plan under the *Environmental Assessment Act*. The EA Study will evaluate long-term solid waste management options for a 25-year planning period.

The Township wants community feedback on the proposed EA and is hosting a third open house (both in-person and virtually) as follows:

April 7, 2022
Council Chambers in the Township Office
636 St. Lawrence Street, Winchester
6:30 p.m. – 8:00 p.m.

For participants who would like to participate in the open house virtually, here is the link to register for the Zoom Webinar (https://us06web.zoom.us/webinar/register/WN_yKnD2Lq7Qa2N1uk2bIGHug).

The presentation will start at 6:30 p.m., followed by a question period.

At this open house, the public will learn about the results and conclusions from the EA, including the confirmed identification of the preferred 'Alternative Method' of landfill expansion, the results of the existing conditions studies, the predicted effects on the environment, and the commitments the Township is making to mitigate any potential adverse effects.

The material for this open house will be published on the Township website on April 7, 2022 for review by the public and a feedback form will also be available to provide comments to the EA Study team. Both files will be accessible at <https://www.northdundas.com/municipal-services/environmental-assessments> and hardcopies will be available at the Township Office. A hardcopy, or an electronic copy of these documents on a USB drive, can be made available upon request following the open house.

If you would like to be added to our project mailing list or have project-related questions, please contact:

Doug Froats
Director of Waste Management
Township of North Dundas
636 St. Lawrence Street, P.O. Box 489
Winchester, ON K0C 2K0
Telephone: 613-774-2105 ext. 235
Fax: 613-774-5699
E-mail: dfroats@northdundas.com

Trish Edmond, P.Eng.
EA Project Manager
Golder Associates Ltd.
1931 Robertson Road
Ottawa, ON K2H 5B7
Telephone: 613-592-9600 ext. 3246
E-mail: trish_edmond@golder.com

If you require any accommodations for a disability to review the material of open house #3, contact Doug Froats at 613-774-2105 ext. 235 to make the appropriate arrangements.

Veuillez noter qu'il vous est possible de nous communiquer vos commentaires ou vos questions sur le projet en français en les adressant à Yannick Marcerou au 613-592-9600 ext. 3318 ou par courriel à yannick_marcerou@golder.com.

From: [Marcerou, Yannick](#)
Cc: [Doug Froats](#); [Edmond, Trish](#); [jordan.hughes@ontario.ca](#); [Marcerou, Yannick](#); [McDonald, Robert](#)
Bcc: [1648253, Township of North Dundas Environmental Assessment](#); ["bonnie.norton@cdsbeo.on.ca"](#); ["pouill@ecolecatholique.ca"](#); ["marc.paquette@cepeo.on.ca"](#); ["kcasselman@sdgcounties.ca"](#); ["proumeliotis@eohu.ca"](#); [wesley.plant@ec.gc.ca](#); ["winchesterfire@northdundas.com"](#); [jocelyn.beatty@ontario.ca](#); ["Robert.Greene@ontario.ca"](#); ["mary.perry@ontario.ca"](#); [omerdin.omer@ontario.ca](#); ["jennifer.paetz@ontario.ca"](#); ["Lee, Scott \(MNR\)"](#); ["andrea.pastori@ontario.ca"](#); ["priva.tandon@ontario.ca"](#); ["grant.karwacki@ontario.ca"](#); ["Michael.elms@ontario.ca"](#); ["kristen.wagner@ontario.ca"](#); [karen.handford@ontario.ca](#); ["Evers, Andrew \(MECP\)"](#); ["McKay, Candice \(MECP\)"](#); ["karla.barboza@ontario.ca"](#); [jack.mallon@ontario.ca](#); ["yvonne.laroche@yow.ca"](#); ["club.pres@rvss.ca"](#); ["jholland@nation.on.ca"](#); [njohnston@northdundas.com](#); ["peter.bosch@ucdsb.on.ca"](#); [Lisa.VanDeligt@rrca.on.ca](#); ["cpol@northdundas.com"](#)
Subject: Township of North Dundas Waste EA - Open House #3
Date: March 28, 2022 3:34:00 PM
Attachments: [1648253 North Dundas EA Open House 3 7Apr22.pdf](#)

Hello,

The Township of North Dundas (Township) is undergoing an environmental assessment (EA) for the Township's Waste Management Plan under the *Environmental Assessment Act*. The EA Study will evaluate long-term solid waste management options for a 25-year planning period.

The Township wants community feedback on the proposed EA and is hosting a third open house (both in-person and virtually) on **April 7, 2022** at Council Chambers in the Township Office (636 St. Lawrence Street, Winchester). There will be a presentation starting **at 6:30pm**, followed by a question period until 8:00pm.

For participants who would like to participate in the open house virtually, here is the link to register for the Zoom Webinar: https://us06web.zoom.us/webinar/register/WN_yKnD2Lq7Qa2N1uk2blGHug

At this open house, the public will learn about the results and conclusions from the EA, including the confirmed identification of the preferred 'Alternative Method' of landfill expansion, the results of the existing conditions studies, the predicted effects on the environment, and the commitments the Township is making to mitigate any potential adverse effects.

We welcome your participation at the Open House. Please do not hesitate to contact us if you have any questions.

Regards,

Yannick Marcerou, *he/him*
Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318



1931 Robertson Road, Ottawa, Ontario, Canada, K2H 5B7

[wsp.com](#) | [golder.com](#)

WSP and Golder have joined together to form the premier environmental consultancy in the industry. Together we are 14,000 strong, future ready and delivering innovative solutions to our clients around the globe.

North Dundas council closes in on development charges

Joseph Morin
Record Staff

WINCHESTER – Growth in any and every community comes at a cost.

Apart from the social consequences, which more often than not are positive, growth creates an increased need for improved, upgraded or new infrastructure.

Some of those extra community expenses are dealt with by having development charges.

North Dundas has a deadline in mind to continue to ask for development charges. Every five years the charges must be reviewed and approved. If a council misses the five-year deadline, they are not allowed to charge development charges.

Fundraising for a good cause

Carolyn Thompson Goddard
Record Staff

CHESTERVILLE – The Kayaking for Cancer fundraising euchre tournament was held at the Royal Canadian Legion Branch 434 in Chesterville on March 26. Organized by Sharon Erdelyi, Fred Bortolussi and Lisa Bortolussi, the in-person event had 52 people participating.

These charges help with the cost of adding new sewer and water lines to an existing community to allow for new growth. Roads may have to be upgraded to deal with increased traffic as a community's population increases or fire services, for example, may have to expand to consider the additional homes.

In November 2021, a Development Charges Background Study was conducted by Watson & Associates Economists Ltd. for North Dundas.

The information in the study became what the council would be charging for development charges in January of 2022. Based on the study, the development charges for a single detached home would be

\$7,450. Since the study was completed and accepted by council, a few new issues have come up in the municipality namely that there are roads that belong in the growth category and should be funded by development charges, as opposed to being paid for by general taxation.

If the council agrees to include the proposed road upgrades; to growth related roads into the existing total development charges, the new amount would jump to \$12,704.

If less of the cost of roads was attributed to growth and more to regular road maintenance, more of the cost would be funded through taxation. The result would be a development charge of \$10,964.

Either way the charges

represent a significant increase.

Mayor Tony Fraser said, "At the end of the day, the development charge has to be paid on residential development. There is a need for development charges so, (those growth-related costs) are not assigned to the taxpayer. If there is added pressure put

on by municipal services through development, that added pressure needs to be paid for somehow."

The council held a public meeting about the proposed changes to the current development charges before its regular council meeting on March 22.

The non-residential

development charges would not change.

The deadline for written responses to the municipality about the addition to the existing development charges is April 5.

The council will be considering the amendment to their existing development charges at their regular council meeting on April 19.



From the left: Sharon Erdelyi, Fred Bortolussi and Lisa Bortolussi. Thompson Goddard Photo

"We are very pleased with the turnout today" commented Lisa, she explained that Kevin Dionne began the Kayaking for Cancer organization in 2000. Fred mentioned that over three-quarters of a million dollars has been raised by the organization to date.

Kayaking for Cancer participants kayak from Kingston to Ottawa via the Rideau Canal over a period of up to seven days. Further information can be found at either the organizations website, Facebook page or by calling Fred Bortolussi at 613-292-6740.

North Stormont adds French to 2022 election forms

Sandy Casselman
Record Staff

BERWICK – The township of North Stormont will offer forms in both French and English during this year's municipal election in October.

"The *Municipal Elections Act* still requires that unless we pass a bylaw, that all forms are to be strictly in English," clerk Mary McCuaig said. "The last election, I did not find a bylaw that was passed, and I don't think that French forms were used in the last election, but I find it a bit odd. They should be used; there's a good Francophone population in this municipality and we should have French forms."

McCuaig made the recommendation during the March 22 council meeting. North Stormont politicians agreed. No further comments were made.



SALE OF LAND BY PUBLIC TENDER

THE CORPORATION OF THE TOWNSHIP OF NORTH DUNDAS

Take Notice that tenders are invited for the purchase of the land described below and will be received until 3:00 p.m. local time on April 13, 2022, at the Township of North Dundas Municipal Office, 636 St. Lawrence Street, Winchester, Ontario.

Description of Land:
Roll No. 05 11 016 003 28500 0000; 13210 River Road, Chesterville; PIN 66146-0066 (LT);
File No. 19-14; **Minimum Tender Amount: \$53,075.04.**

Except as follows, the municipality makes no representation regarding the title to or any other matters relating to the land to be sold. Responsibility for ascertaining these matters rests with the potential purchasers. This sale is governed by the *Municipal Act, 2001* and the *Municipal Tax Sales Rules* made under that Act. A full copy of the tax sale advertisement and further information about this matter is available on line at www.northdundas.com or you may contact Michelle McDonnell, Tax Collector, The Corporation of the Township of North Dundas, 636 St. Lawrence Street, P.O. Box 489, Winchester, ON K0C 2K0, Phone: 613-774-2105 Ext. 221, info@northdundas.com.

EMPLOYMENT OPPORTUNITY AT



Harvex Agromart Inc.

SPRING LABOURER

Job Description: General yard labour and other duties as assigned.

Skills/Requirements: Physical work and will be required to work extended hours and weekends. Some openings for afternoon/weekend work. Farm background and/or equipment experience (Skid Steer, Forklift) is an asset.

Start Date: March, 2022

End Date: June 30, 2022 and could possibly be extended

Please forward your resumé in confidence to:

Harvex Agromart Inc.
1572 County Road 12, c.p. 160
Crysler, Ontario K0A 1R0

or

Email: slafranc@harvex.com
Fax: 613-987-5254
Phone: 613-987-5243



Environmental Assessment of the Township of North Dundas

Waste Management Plan

Open House #3 – Proposed Environmental Assessment

The Township of North Dundas (Township) is undergoing an environmental assessment (EA) for the Township's Waste Management Plan under the *Environmental Assessment Act*. The EA Study will evaluate long-term solid waste management options for a 25-year planning period.

The Township wants community feedback on the proposed EA and is hosting a third open house (both in-person and virtually) as follows:

April 7, 2022
Council Chambers in the Township Office
636 St. Lawrence Street, Winchester
6:30 p.m. – 8:00 p.m.

For participants who would like to participate in the open house virtually, here is the link to register for the Zoom Webinar (<https://us06web.zoom.us/join/9tJ6tG9u7g>).

The presentation will start at 6:30 p.m., followed by a question period.

At this open house, the public will learn about the results and conclusions from the EA, including the confirmed identification of the preferred 'Alternative Method' of landfill expansion, the results of the existing conditions studies, the predicted effects on the environment, and the commitments the Township is making to mitigate any potential adverse effects.

The material for this open house will be published on the Township website on April 7, 2022 for review by the public and a feedback form will also be available to provide comments to the EA Study team. Both files will be accessible at <https://www.northdundas.com/municipal-services/environmental-assessments> and hardcopies will be available at the Township Office. A hardcopy, or an electronic copy of these documents on a USB drive, can be made available upon request following the open house.

If you would like to be added to our project mailing list or have project-related questions, please contact:

Doug Froats
Director of Waste Management
Township of North Dundas
636 St. Lawrence Street, P.O. Box 489
Winchester, ON K0C 2K0
Telephone: 613-774-2105 ext. 235
Fax: 613-774-5699
E-mail: dfroats@northdundas.com

Trish Edmond, P.Eng.
EA Project Manager
Golder Associates Ltd.
1931 Robertson Road
Ottawa, ON K2H 5B7
Telephone: 613-592-9600 ext. 3246
E-mail: trish_edmond@golder.com

If you require any accommodations for a disability to review the material of open house #3, contact Doug Froats at 613-774-2105 ext. 235 to make the appropriate arrangements.

Veillez noter qu'il vous est possible de nous communiquer vos commentaires ou vos questions sur le projet en français en les adressant à Yannick Marcerou au 613-592-9600 ext. 3318 ou par courriel à yannick_marcerou@golder.com.

From: Lisa Devereaux <ldevereaux@northdundas.com>

Sent: March 21, 2022 12:50 PM

To: [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] Calvin Pol <cpol@northdundas.com>; Doug Froats
<dfroats@northdundas.com>

Subject: Environmental Assessment of the Township of North Dundas Waste Management Plan
Open House

Good Afternoon,

Please find attached a notification of our upcoming Open House regarding the
Environmental Assessment of the Township of North Dundas Waste Management
Plan.

Kindly,



Lisa Devereaux

Administrative Assistant – Recreation & Culture

Township of North Dundas

636 St. Lawrence Street, P.O. Box 489, Winchester, ON K0C 2K0

P: (613) 774-2105 x 222

F: (613) 774-5699

E: ldevereaux@northdundas.com

W: www.northdundas.com



This communication is intended only for the addressee indicated above. It may contain information that is privileged, confidential, or otherwise protected from disclosure under *The Municipal Freedom of Information and Protection of Privacy Act*. Any review, copying, dissemination, or use of its contents by persons other than the addressee is strictly prohibited. If you have received this in error, please notify us immediately.



North Dundas

31 mars, à 09 h 00 · 🌐

On April 7, 2022 from 6:30 - 8:00pm there will be an Open House to discuss the Waste Management Plan Proposed Environmental Assessment.

-- You can attend the open house in person in Council Chambers at the Township office at 636 St. Lawrence St, Winchester without preregistration.

-- The open house will not be LIVE streamed.

-- To participate in the open house virtually, you must preregister here:

<https://us06web.zoom.us/j/75829876543>

To read more details, visit:

<https://www.northdundas.com/open-house-3-april-7...>



Appendix I2 Open House #3 Materials and Feedback Form



GOLDER
MEMBER OF WSP

Environmental Assessment of the Township of North Dundas Waste Management Plan

OPEN HOUSE #3

April 7, 2022

CONTENT

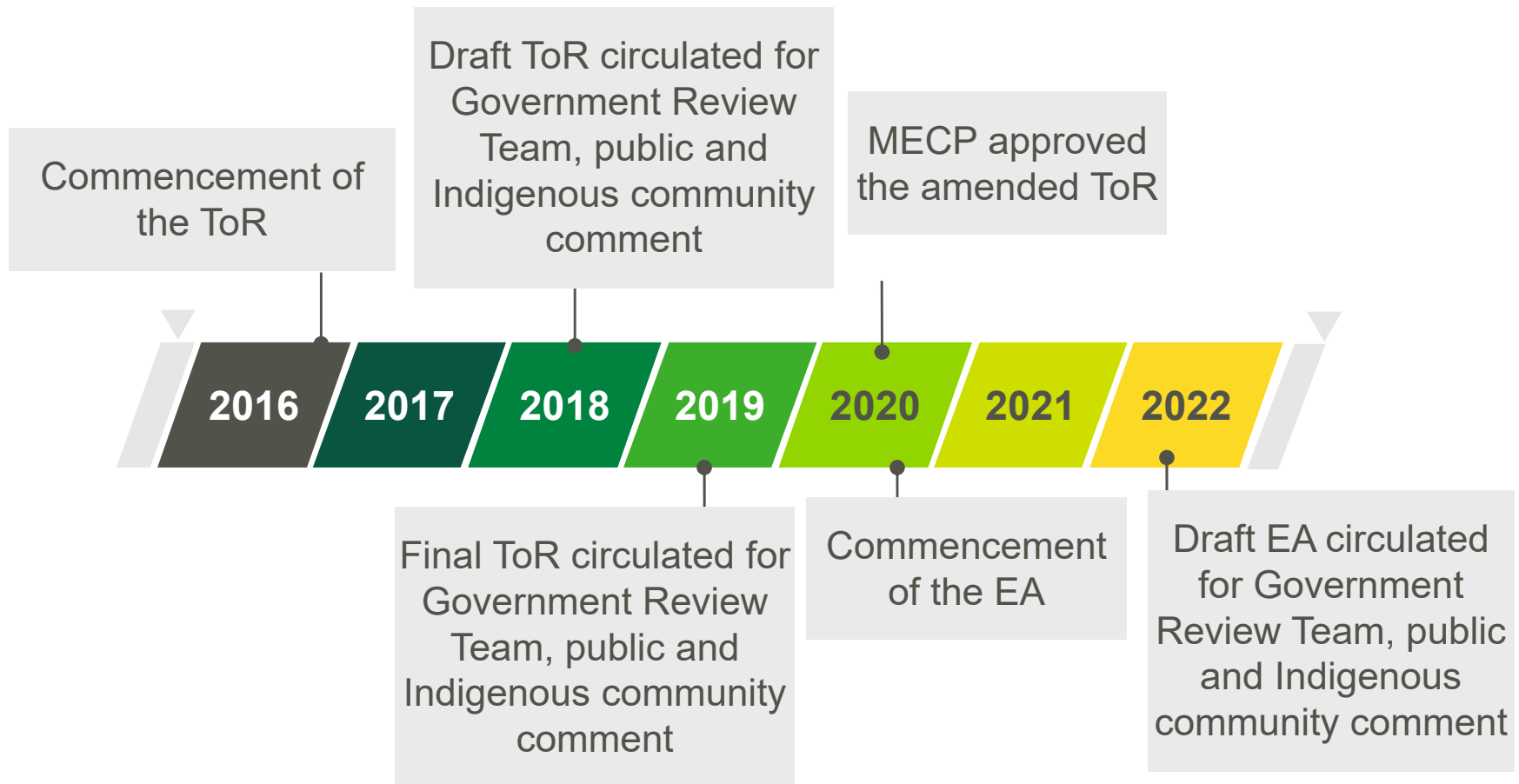
- **Review of the EA Process**
- **Confirm the identification of the preferred 'Alternative Method'**
 - **The Proposed Project**
- **Results of the existing conditions studies and the predicted effects of the landfill expansion on the environment**
 - **Commitments by the Township**
- **Next Steps in this EA and Other Approvals**

Review of the EA Process

- An Environmental Assessment (EA) of the Township of North Dundas (Township) Waste Management Plan (WMP) is being undertaken under the provincial Environmental Assessment Act.
- The EA is comprised of the Terms of Reference (ToR) and the EA.
 - The ToR sets out the framework for the planning and decision-making process to be followed during the preparation of the EA.
 - The EA is a study that assesses the potential environmental effects (positive or negative) of this proposed Waste Management Plan.
- Both the ToR and EA require approval by the Minister of Environment, Conservation and Parks (MECP).

Review of EA Process

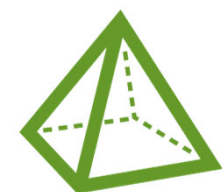
PROGRESS



Review of the EA Process

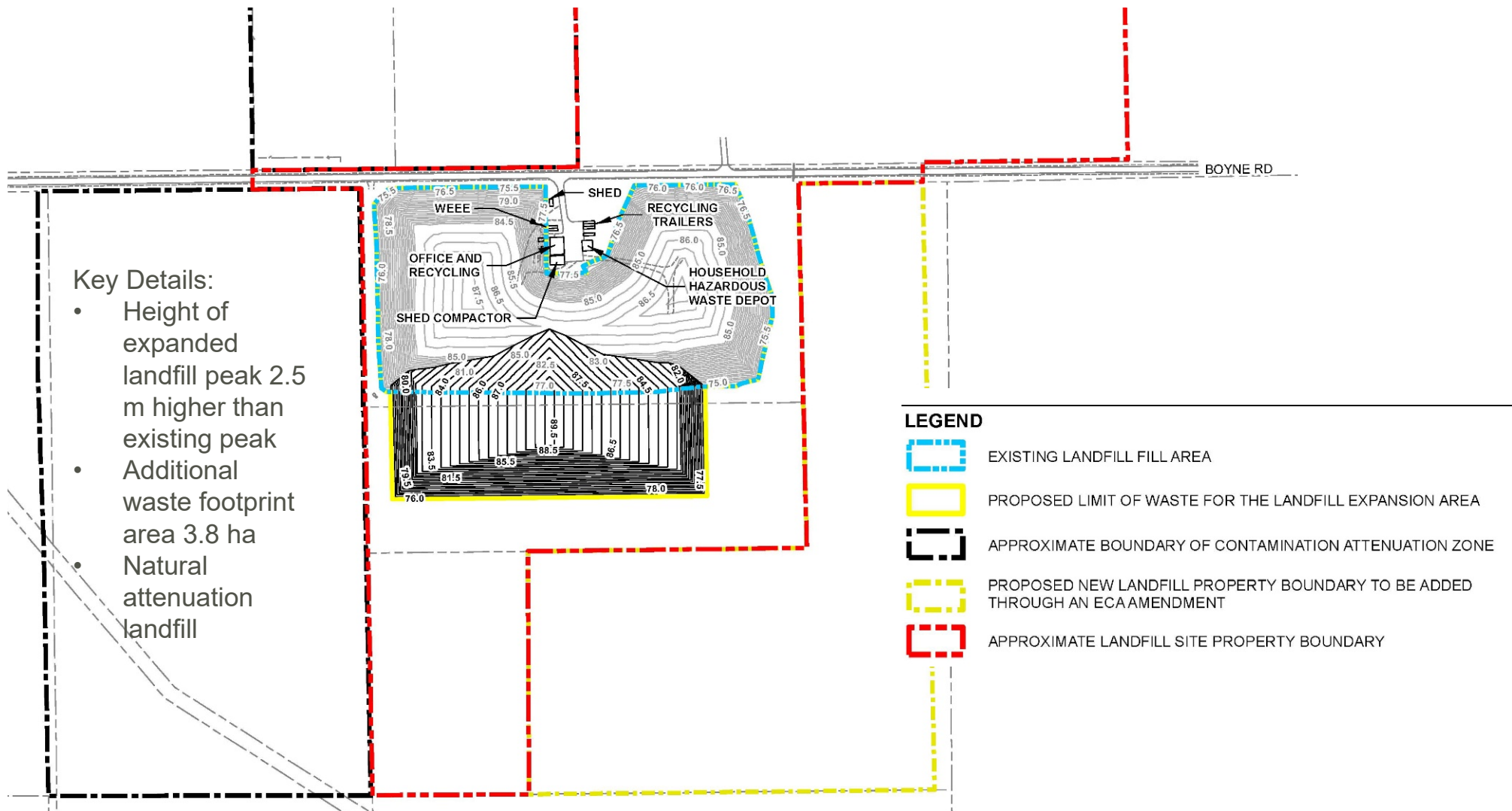
RECAP OF TECHNICAL BULLETINS AND CONFIRMATION OF PREFERRED 'ALTERNATIVE METHOD'

- Existing **diversion** is approximately 23%. Changes to the system to include Backyard Composting of Food Organics, Dual Stream Recycling Program, Curbside Collection of Leaf & Yard Waste and Composting at the Boyne Road Landfill Site, and Use of Existing and New Waste Management Policies. Changes to the system commenced in 2021 and it is expected that the Township's residential waste diversion rate could increase to approximately 28% by 2025 and 33% by 2030
- 'Alternatives To'** are functionally different ways of dealing with the problem or opportunity (which in this case is to provide environmentally safe, long-term waste management). The comparison of 'Alternatives To' identified Boyne Road Landfill Site Expansion as the preferred 'Alternative To'.
- 'Alternatives Methods'** are different ways of doing the same activity. 'Alternative Methods' are different ways of doing the preferred 'Alternative To'. The comparison of 'Alternative Methods' identified Alternative 3, primarily horizontal expansion, as the preferred 'Alternative Method'.

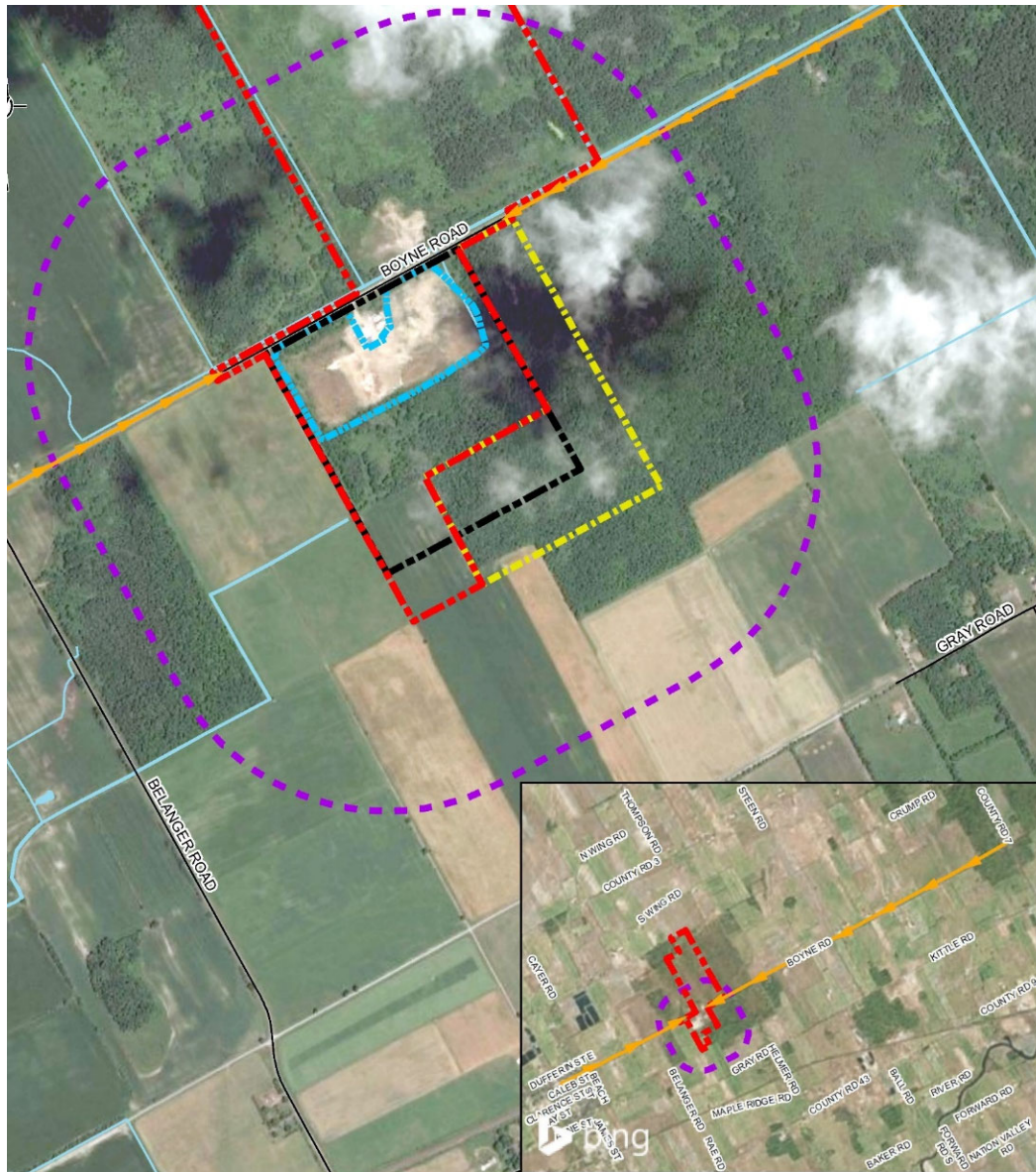


Description of the Proposed Project

PRIMARILY HORIZONTAL LANDFILL EXPANSION



Study Areas



- ROADWAY
- WATERCOURSE
- ← HAUL ROUTE
- EXISTING LANDFILL FILL AREA
- SITE STUDY AREA
- 500 m SITE-VICINITY STUDY AREA
- TOWNSHIP OWNED PROPERTY
- APPROXIMATE PROPERTY BOUNDARY OF LANDFILL SITE

Note: The lands in the area immediately adjacent to the Site Study Area that have the potential to be directly affected by the landfill expansion and activities with the Site Study Area. The extent of the Site-vicinity Study Area will be determined for each of the environmental components. For most environmental components, a Site-vicinity Study Area of 500 metres from the Site Study Area is appropriate

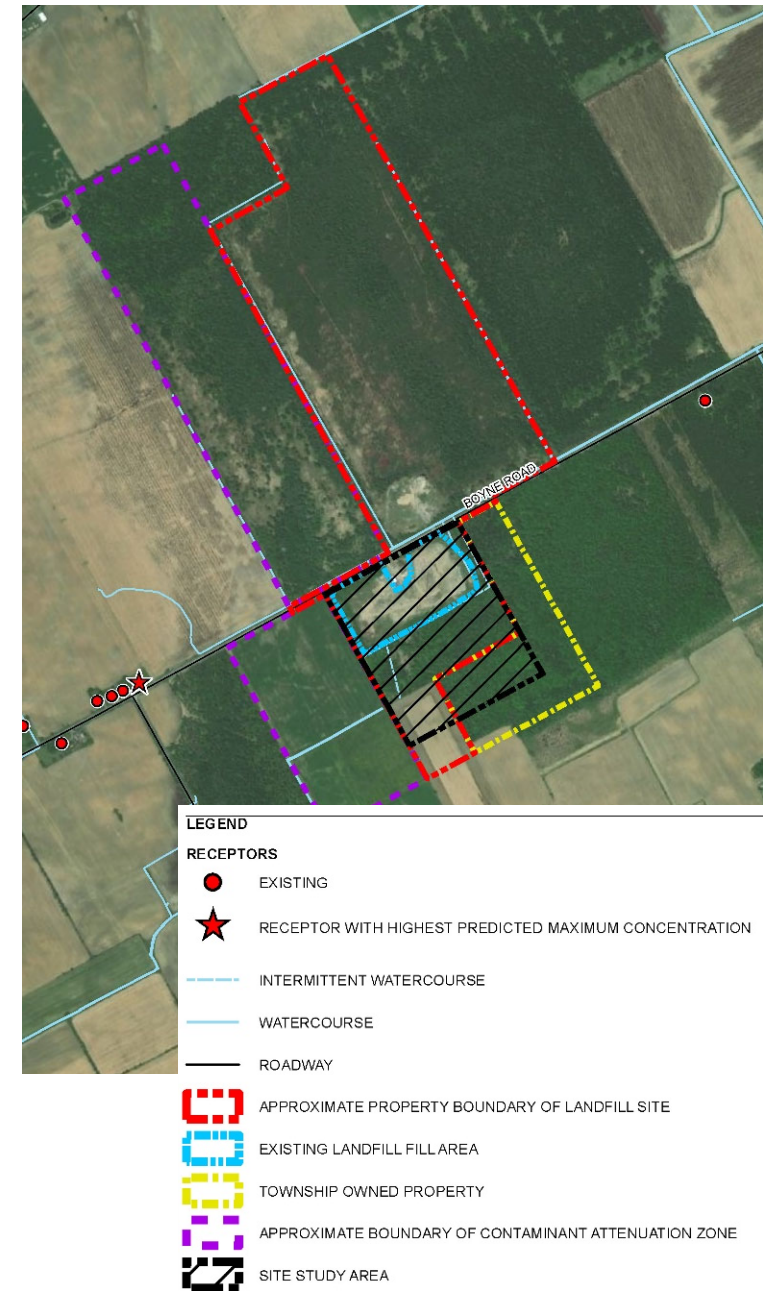
Atmosphere – Air Quality

EXISTING CONDITIONS

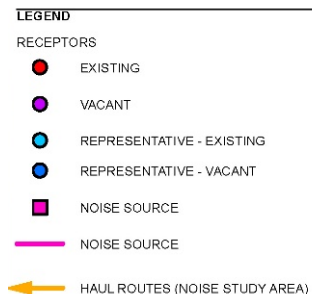
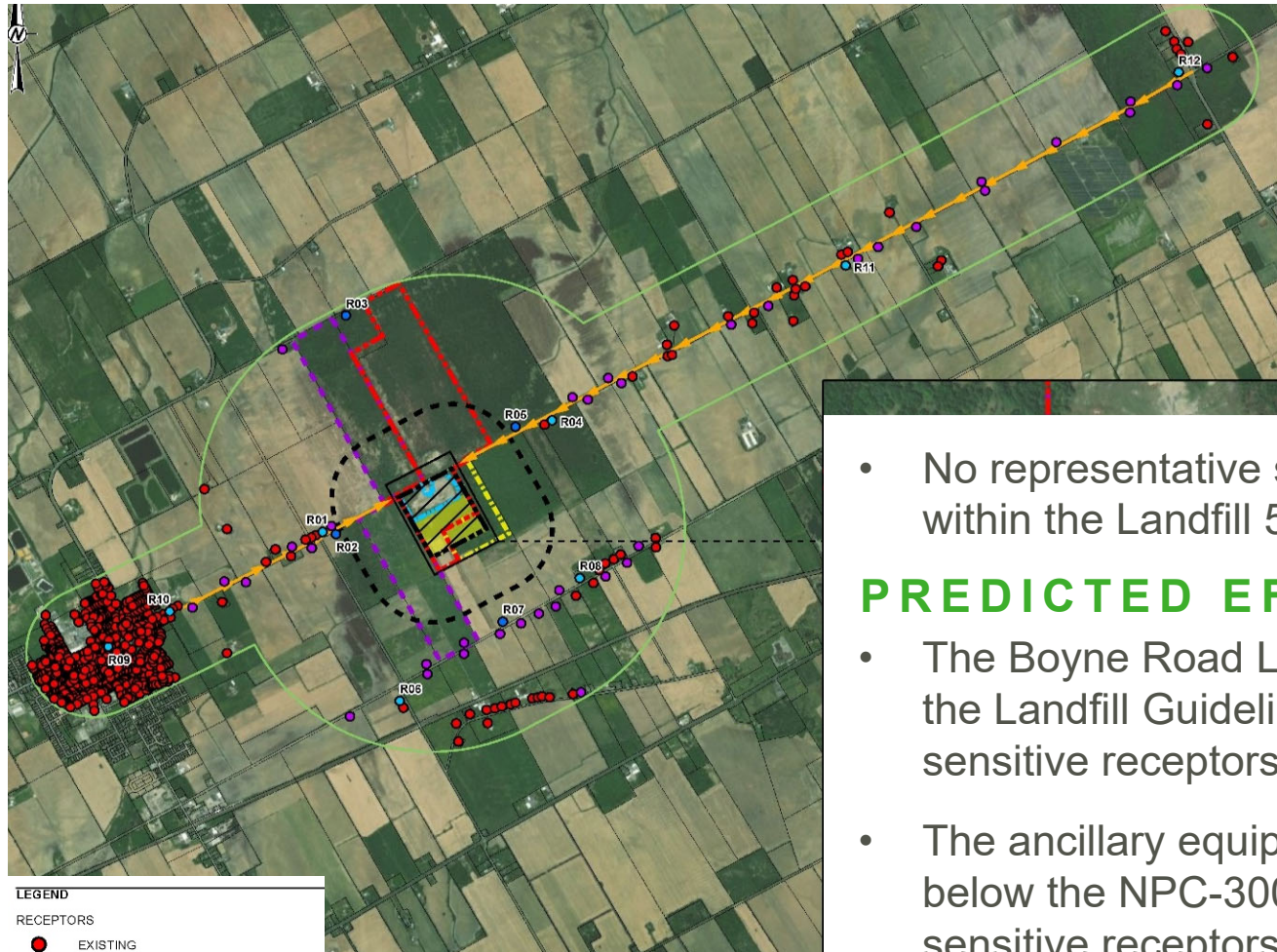
- Existing background air quality from Provincial monitoring station meets applicable Ontario criteria.
- No sensitive receptor locations (residences) have been identified within 500 m of the site.

PREDICTED EFFECTS

- Air quality and odour associated with the landfill expansion are predicted to meet relevant Ontario Regulations at sensitive receptors.



Atmosphere – Noise



EXISTING CONDITIONS

- Existing noise levels are influenced by human activities, vehicle traffic, existing landfill operations and sounds of nature.

- No representative sensitive receptors were identified within the Landfill 500 m Site-vicinity.

PREDICTED EFFECTS

- The Boyne Road Landfill is expected to meet the Landfill Guidelines sound level limits at all sensitive receptors.
- The ancillary equipment is expected to operate below the NPC-300 sound level limits at the sensitive receptors.
- Change in traffic noise levels between the existing landfill and proposed landfill expansion is insignificant to noticeable; this is considered an acceptable change.

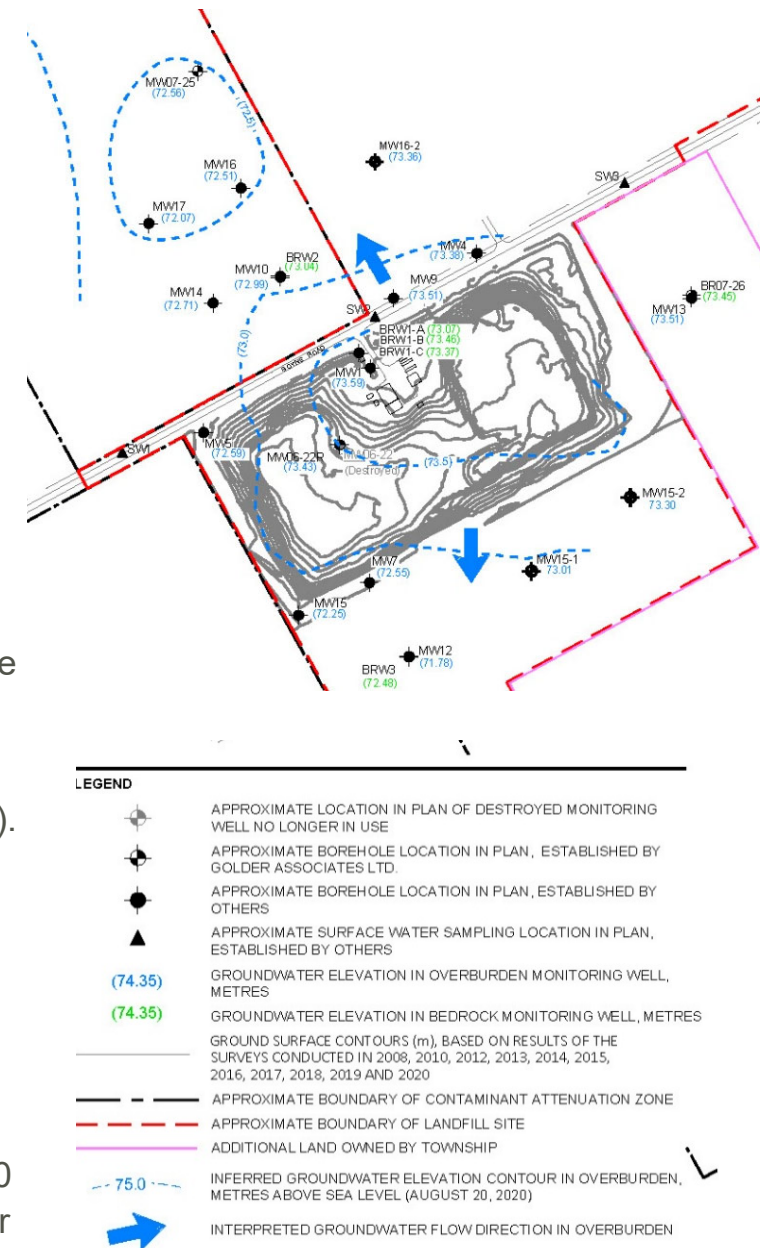
Geology and Hydrogeology

EXISTING CONDITIONS

- The subsurface conditions in the landfill area consist of 0 to 2 m of topsoil/peat, 0 to 3 m of silt/clay, 0.9 to 6 m silty sand/sandy silt till followed by limestone bedrock.
- Topography in the landfill area is flat; as a result, hydraulic gradients, and groundwater flow directions may vary temporarily/seasonally and can be influenced by very slight variations in groundwater elevations. Data from both historical groundwater elevations and historical groundwater chemistry indicate that local groundwater mounding associated with the waste pile has been influencing local groundwater flow direction close to the landfill. Groundwater flow in the area to the north of the landfill is generally to the north, and groundwater flow in the area to the south of the landfill is generally to the south.
- Existing landfill is a natural attenuation landfill and groundwater meets MECP water quality guidelines for landfills (Reasonable Use Guideline).
- Residences in the area get their drinking water from wells within the bedrock.

PREDICTED EFFECTS

- All parameters and conditions modelled met the required groundwater quality guidelines for landfills except chloride to the south
- Additional contaminant attenuation zone land is required extending 400 metres further to the south so that the site will remain in compliance for groundwater.



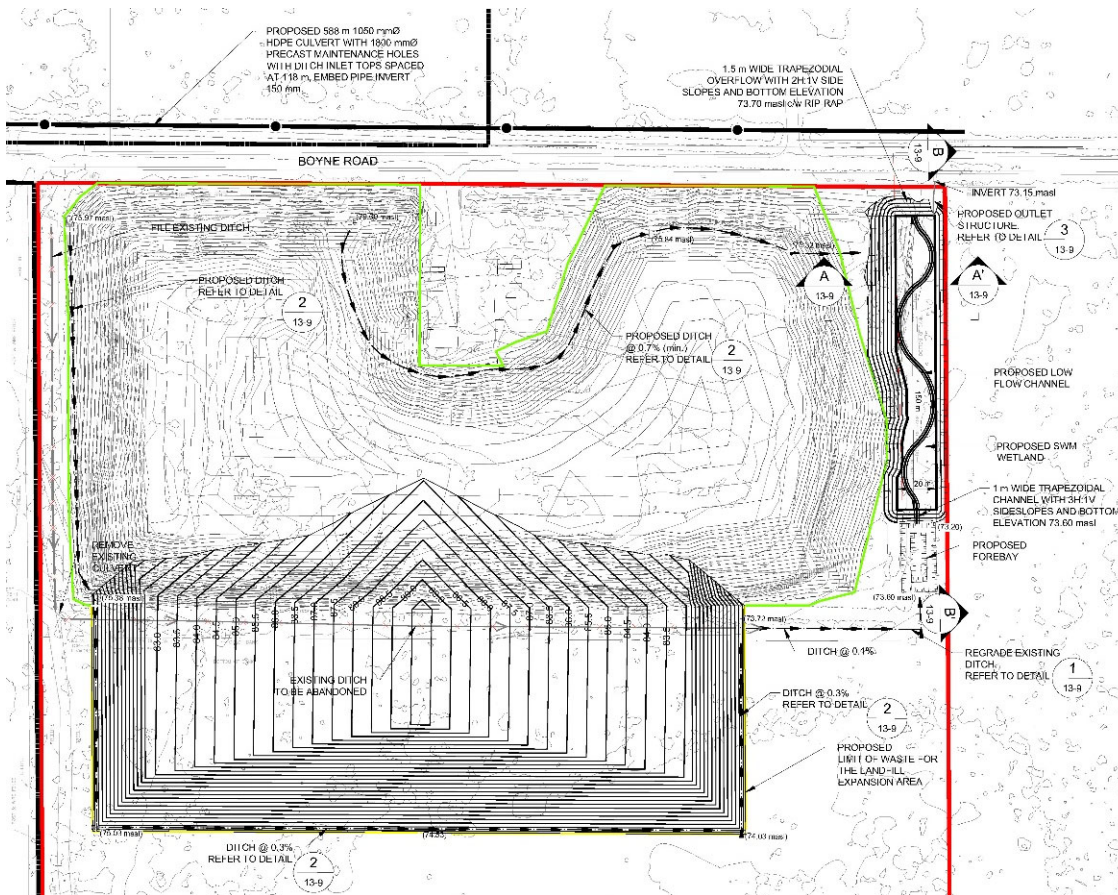
Surface Water – Quality and Quantity

EXISTING CONDITIONS

- Drainage along the northern side of the landfill is directed towards the Boyne Road ditch along the south side of the road. The remainder of the landfill drains to a constructed drainage ditch (perimeter ditch) along the west, south, and east boundaries of the existing landfill.
- Leachate-impacted groundwater can sometimes discharge to the Volks Municipal Drain along the north side of Boyne Road.

PREDICTED EFFECTS

- Provide new perimeter ditch system around the landfill expansion.
- Construct one wetland type stormwater facility at the northeast corner area of the landfill site to provide flow control and quality control.
- Install a culvert along a section of Volks Municipal Drain to the north of the landfill.



Biology – Aquatic and Terrestrial Ecosystems

EXISTING CONDITIONS

- Fish habitat present in existing perimeter ditch, Volks Municipal Drain and Quart Municipal Drain.
- 4 provincially listed Species at Risk (2 bird species and 2 bat species) were observed with the site and 120 m study area beyond the site.
- Significant wildlife habitat in the form of interior forest exists to the west of the landfill expansion.

PREDICTED EFFECTS

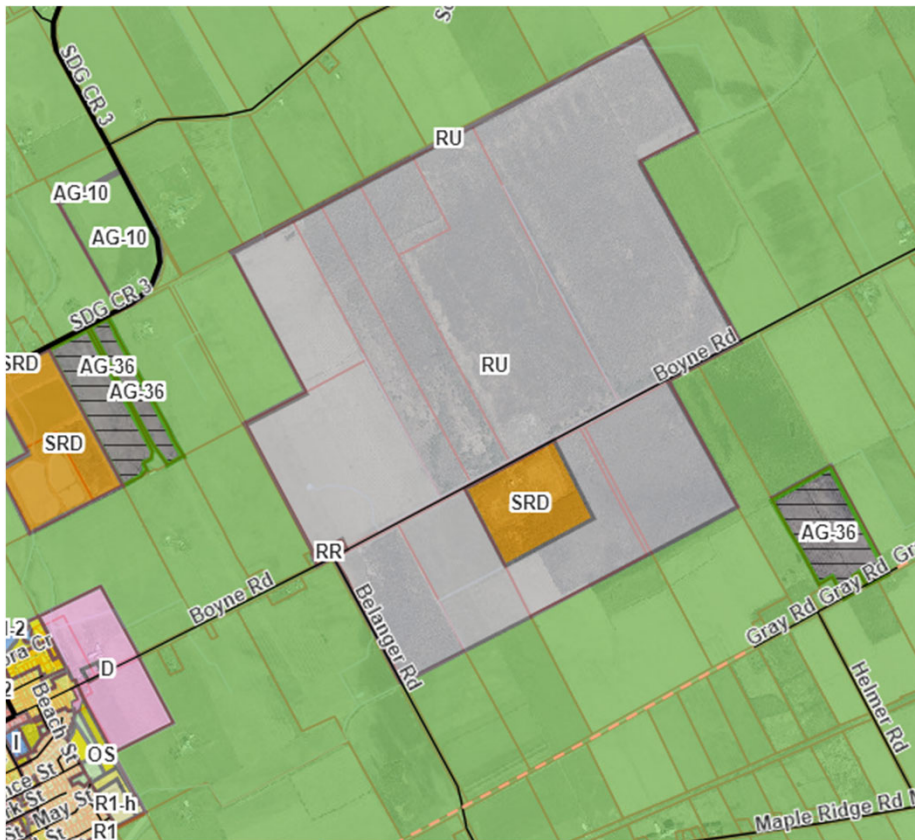
- Potential direct impacts to aquatic species and habitats as a result of installing the culvert in Volks Municipal Drain. The length of culvert is impassable for fish. Alternatively, it was suggested to install a low permeability liner in the ditch to minimize leachate-impacted groundwater discharge. The alternative will be determined during future approvals.
- Potential direct impacts to aquatic species in the perimeter ditch as a result of moving the ditch.
- Potential direct impacts to habitat for endangered or threatened species (little brown myotis bat).
- Potential direct impacts to significant woodland, evaluated non-PSW and unevaluated wetlands, significant wildlife habitat (wood thrush and eastern wood-pewee), and significant wildlife habitat – interior forest.



Land Use Planning and Agriculture

EXISTING CONDITIONS

- Existing land use planning policy and regulatory context allows for landfill in this area.
- The separation distance between SRD (waste site zoning) uses and dwelling units set at 500 metres as stated in the Official Plan.
- In the Official Plan, the majority of the Township of North Dundas is designated as Agricultural Resource Lands outside of the Urban Settlement Area.



- The existing landfill lies within a Muck soil area. Muck soil is soil having a 0 to 0.45 m thickness of organic layer. Presently, this soil is generally not suitable for agriculture and has traditionally not been included in an Agricultural designation, as it requires a great deal of work to prepare for crops and the rate of return is low.

PREDICTED EFFECTS

- The expansion is to take place within the existing lands designated by the Official Plan as a Waste Disposal Site.
- The landfill expansion is to take place within the Muck soil area and it is not anticipated that the expansion will overtly affect neighbouring soils.
- No active agricultural operations will be affected by the proposed landfill expansion. Lands adjacent to the landfill site and used as agricultural fields will continue to be used for this purpose.

Cultural Heritage Resources – Archaeological Resources, Built Heritage Resources and Cultural Heritage Landscapes

EXISTING CONDITIONS

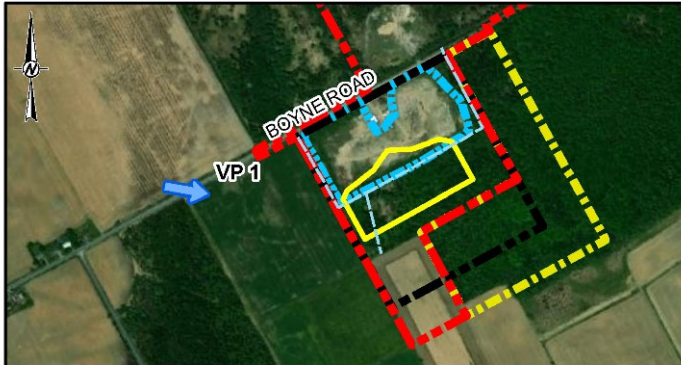
- There are no registered archaeological sites located within a 1 km radius of the Site Study Area according to the Ontario Archaeological Sites Database.
- A Stage 1 Archaeological Assessment was completed.
- No known or potential built heritage resources or cultural heritage landscapes identified within the landfill boundary or on parcels adjacent to the landfill.

PREDICTED EFFECTS

- No further archaeological assessments are required based on findings of Stage 1 Archaeological Assessment.
- No known or potential built heritage resources or cultural heritage landscapes identified within the landfill boundary or on parcels adjacent to the landfill expansion.



Socio-economic – Local Economy, Residents and Community and Visual



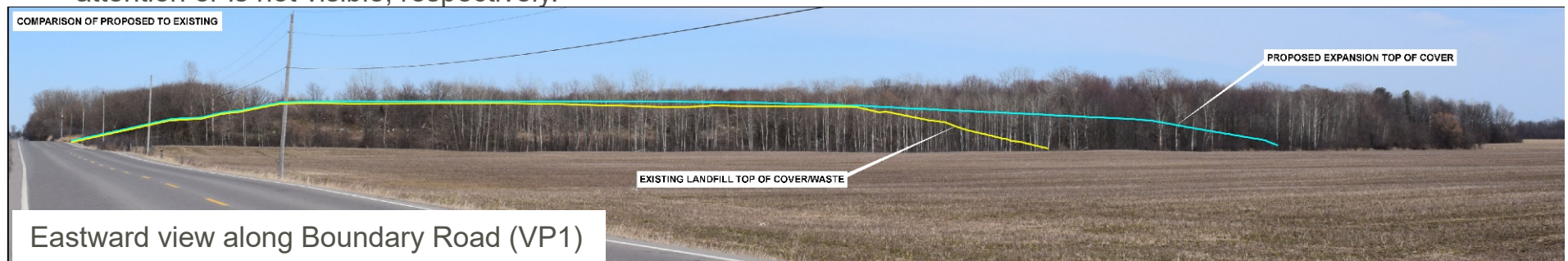
EXISTING CONDITIONS

- The Township of North Dundas is considered an “agri-food cluster” with many agriculture related businesses.
- The landfill site is located in a mainly agricultural setting with few residences or notable features in the immediate vicinity. There are no existing residences within 500 metres of the landfill boundary.
- The overall topographic relief across the landfill surrounding area indicated by topographic mapping shows that the ground surface

ranges in elevation from approximately 75 masl in the northwest to 80 masl in parts of the southeast. The existing landfill rises approximate 12 m above the surrounding terrain but is relatively well screened.

PREDICTED EFFECTS

- No lasting positive or negative effects on the local economy.
- Out-migration is not anticipated since residents are accustomed to living in an agricultural area and near the existing landfill, noting no residences within 500 metres. Nuisance effects are expected to be managed and mitigated appropriately.
- All modelled viewpoints were weak to none, meaning the proposed expansion can be seen but does not attract attention or is not visible, respectively.



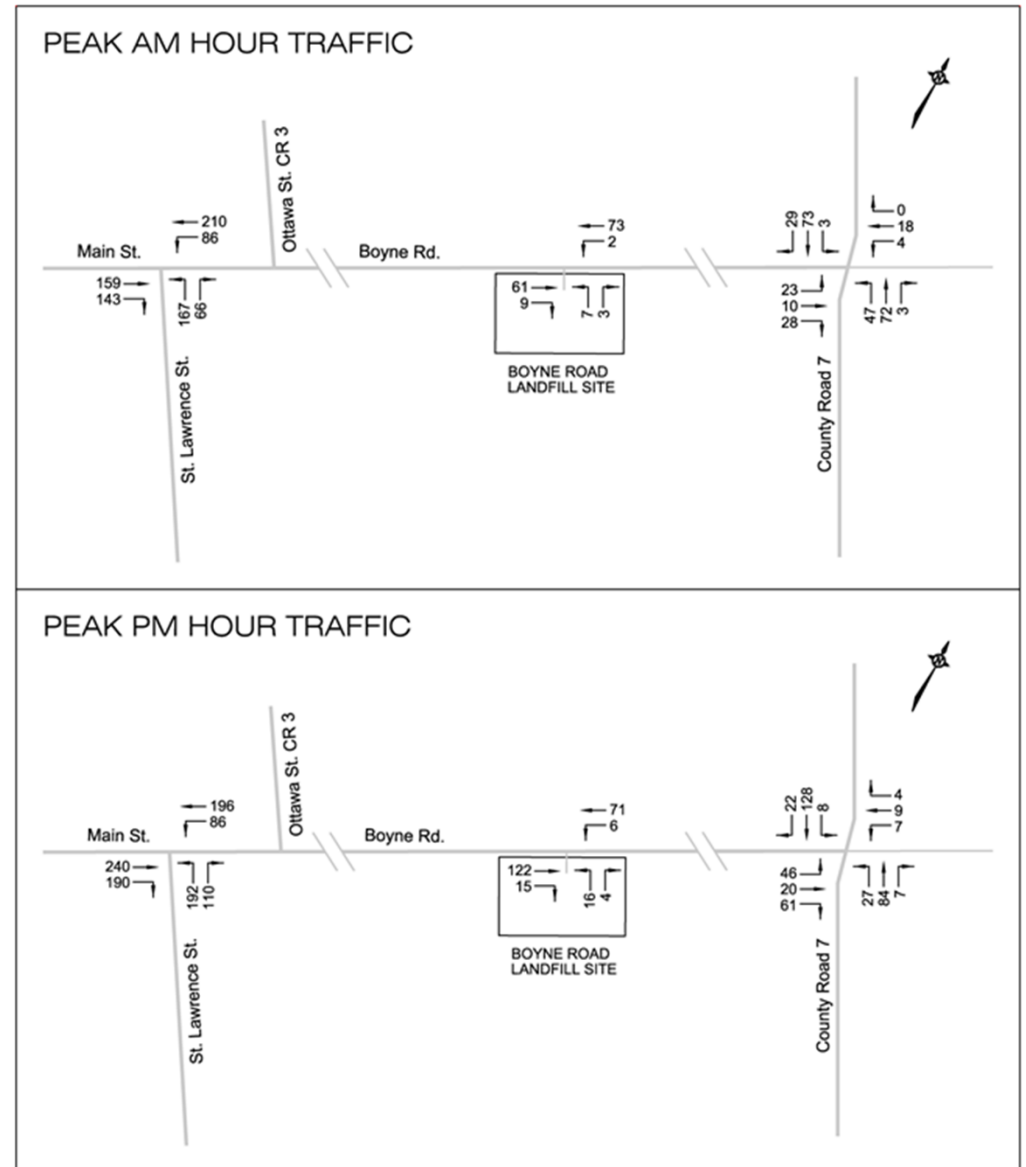
Transportation - Traffic

EXISTING CONDITIONS

- Three intersections were evaluated: the landfill access/Boyne Road intersection, St. Lawrence Street/Main Street intersection in Winchester and County Rd. 7/Boyne Road intersection.
- Peak hour traffic obtained by traffic counts in September 2021. Morning and afternoon peak traffic into the landfill was 4 vehicles and 11 vehicles, respectively.

PREDICTED EFFECTS

- No road improvement or intersection improvements required.



2048

NOT TO SCALE

Design and Operations

EXISTING CONDITIONS

- Landfill has been operational since 1965 and is the only operational waste disposal site in the Township.
- The existing landfill operates as a natural attenuation landfill with no engineered liner or leachate collection system but rather relies on natural attenuation within the site property boundary and contaminant attenuation zone lands.
- Ongoing environmental monitoring demonstrates site compliance with regulatory requirements.

PREDICTED EFFECTS

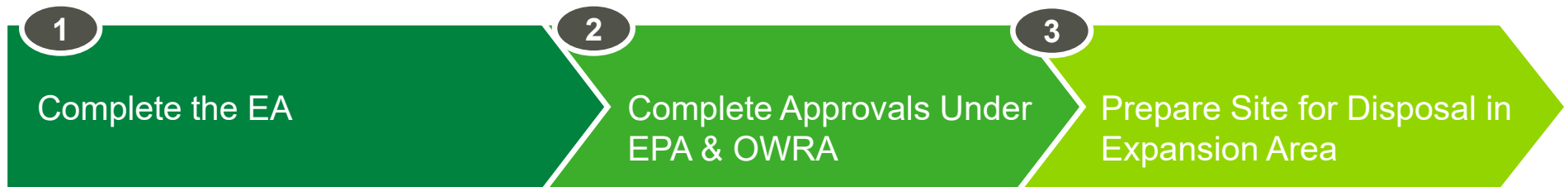
- The management of leachate will continue to rely on the same strategy of natural attenuation based on groundwater modelling results with the addition of 400 m of contaminant attenuation zone land/easement to the south of the current landfill boundary.
- The portion of the Volks Municipal Drain adjacent and north of the landfill will either be lined or have a culvert installed to minimize leachate-impacted groundwater discharging to this drain. A stormwater management wetland is required in the northeast corner of the site.
- No landfill gas collection required.
- Capital costs for construction of the landfill expansion are estimated to be \$2.1 to \$2.8 million, although costs will be expended in a phased approach. Operating costs are expected to be comparable to the current operating costs.

Summary of Commitments

Compliance monitoring of the proposed Boyne Road Landfill expansion will be carried out to confirm that it has been constructed, implemented and operated in accordance with the commitments made in the EA. Some example key commitments include:

- Implementation of all required site effects monitoring and reporting programs.
- The Township commits to implement the practices set out in the Waste Diversion Study.
- The Township commits, in future, to obtain control over an additional 400 m of groundwater travel distance towards the south as contaminant attenuation zone.
- An information gathering form will be prepared and submitted to the MECP prior to any works as it relates to habitat for little brown myotis (bats).
- Prepare and submit a Request for Review application to Department of Fisheries and Oceans to determine if habitat compensation measures are required for fish habitat.

Next Steps in this EA and Other Approvals



Activities to complete include:

- Circulate Draft EA to the public, Indigenous communities and the Government Review Team (spring 2022)
- Circulate Final EA to the public, Indigenous communities and the Government Review Team (summer/fall 2022)

- These approvals are for the Environmental Protection Act and Ontario Water Resources Act.
- The approvals cannot be issued until the EA is approved but can be worked on and submitted before EA approval.
- Once submitted to the MECP, EPA & OWRA approval can take up to 12 months.

- Construction cannot commence until EPA and OWRA approvals received.
- Assume several months required for site preparation - moving ditches, preparing the landfill expansion base and constructing a stormwater management pond.

Questions, Feedback and Comments



We encourage you to let us know your thoughts by sending your comments to dfroats@northdundas.com and/or using the attached comment form by April 28, 2022.

Or contact us at 613-774-2105 ext. 235 for any accessibility requirements.

If you would like to be notified of any project updates, please let us know and provide either an email address or your mailing address.

Project details can be found on the project website at:
<https://www.northdundas.com/municipal-services/environmental-assessments>



GOLDER

MEMBER OF WSP

Thank You.



Environmental Assessment of the Township of North Dundas Waste Management Plan Virtual Open House #3 Feedback Form

Thank you for taking the time to provide us with your comments. This comment sheet should be completed after participating in and/or reading content from virtual Open House #3. Please return your comments by April 28, 2022

If you would like to be added to our project mailing list, please include the appropriate contact information below.

☐ **YES, BY MAIL** ☐ **YES, BY EMAIL** ☐ **NO**

NAME:

EMAIL:

ADDRESS:

PHONE NUMBER:

1. Please provide any general comments regarding this Environmental Assessment Process.

2. Do you agree with the identification of the preferred 'Alternative Method' for this waste management plan – expansion of the Boyne Road Landfill site, primarily horizontal expansion? If not, why not?



3. Were there any environmental component results (predicted effects) not provided in the information that you were expecting?

4. Are there any additional commitments you would like the Township to include in this EA?

All personal information included in a submission – such as name, address, telephone number and property location – is collected, maintained and disclosed by the Ministry of the Environment, Conservation and Parks for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the Ministry of the Environment, Conservation and Parks Freedom of Information and Privacy Coordinator at 416-314-4075.

Veuillez noter qu'il vous est possible de nous communiquer vos commentaires ou vos questions sur le projet en français en les adressant à Yannick Marcerou au 613-592-9600 ext. 3318 ou par courriel à yannick_marcerou@golder.com.

You can provide your comments on the Environmental Assessment Open House #3 or any questions you may have about this project by email, mail or fax to:

Doug Froats
Director of Waste Management
Township of North Dundas

636 St. Lawrence Street, P.O. Box 489
Winchester, ON K0C 2K0

Telephone: 613-774-2105 ext. 235
E-mail: dfroats@northdundas.com

Trish Edmond, P.Eng.
EA Project Manager
Golder Associates Ltd.

1931 Robertson Road
Ottawa, ON K2H 5B7

Telephone: 613-592-9600
E-mail: trish_edmond@golder.com

Appendix I3 Comments from the GRT

From: [McKay, Candice \(MECP\)](#)
To: [Marcerou, Yannick](#)
Subject: RE: Township of North Dundas Waste EA - Open House #3
Date: April 8, 2022 12:06:46 PM

EXTERNAL EMAIL

Hi Yannick,

I called into the Public Open House last night.

The presentation gave a great overview of the project. Is it possible to get a copy of the PowerPoint slides?

Thanks,

Candice McKay
Senior Environmental Officer
Ontario Ministry of the Environment, Conservation & Parks (MECP)
Cornwall Area Office
113 Amelia Street, 1st Floor
Cornwall ON K6H 3P1
(613)551-9438

From: Marcerou, Yannick <Yannick_Marcerou@golder.com>
Sent: March 28, 2022 3:34 PM
Cc: Doug Froats <dfroats@northdundas.com>; Edmond, Trish <Trish_Edmond@golder.com>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Marcerou, Yannick <Yannick_Marcerou@golder.com>; McDonald, Robert <Robert_McDonald@golder.com>
Subject: Township of North Dundas Waste EA - Open House #3

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello,

The Township of North Dundas (Township) is undergoing an environmental assessment (EA) for the Township's Waste Management Plan under the *Environmental Assessment Act*. The EA Study will evaluate long-term solid waste management options for a 25-year planning period.

The Township wants community feedback on the proposed EA and is hosting a third open house (both in-person and virtually) on **April 7, 2022** at Council Chambers in the Township Office (636 St. Lawrence Street, Winchester). There will be a presentation starting **at 6:30pm**, followed by a question period until 8:00pm.

For participants who would like to participate in the open house virtually, here is the link to register for the Zoom Webinar: https://us06web.zoom.us/webinar/register/WN_yKnD2Lq7Qa2N1uk2blGHug

At this open house, the public will learn about the results and conclusions from the EA, including the confirmed identification of the preferred 'Alternative Method' of landfill expansion, the results of the existing conditions studies, the predicted effects on the environment, and the commitments the Township is making to mitigate any potential adverse effects.

We welcome your participation at the Open House. Please do not hesitate to contact us if you have any questions.

Regards,

Yannick Marcerou, *he/him*
Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318



1931 Robertson Road, Ottawa, Ontario, Canada, K2H 5B7

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From: [Marcerou, Yannick](#)
To: [McKay, Candice \(MECP\)](#)
Cc: [Edmond, Trish](#); [Doug Froats](#); [McDonald, Robert](#)
Bcc: [1648253, Township of North Dundas Environmental Assessment](#)
Subject: RE: Township of North Dundas Waste EA - Open House #3
Date: April 8, 2022 12:10:00 PM
Attachments: [Presentation EA Open House 3.pdf](#)
[Open House 3 Feedback Form.pdf](#)

Hi,

Please find attached the documents in question.

The Open House materials are also available on the Township website if the attachments are blocked by your email server: <https://www.northdundas.com/municipal-services/environmental-assessments>

Have a good afternoon and a good weekend!

Sincerely,

Yannick Marcerou, *he/him*
Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318



From: McKay, Candice (MECP) <Candice.McKay@ontario.ca>
Sent: April 8, 2022 12:07 PM
To: Marcerou, Yannick <Yannick_Marcerou@golder.com>
Subject: RE: Township of North Dundas Waste EA - Open House #3

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Candice McKay
Senior Environmental Officer
[Ontario Ministry of the Environment, Conservation & Parks \(MECP\)](#)
Cornwall Area Office

113 Amelia Street, 1st Floor
Cornwall ON K6H 3P1
(613)551-9438

From: Marcerou, Yannick <Yannick_Marcerou@golder.com>

Sent: March 28, 2022 3:34 PM

Cc: Doug Froats <dfroats@northdundas.com>; Edmond, Trish <Trish_Edmond@golder.com>;
Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Marcerou, Yannick
<Yannick_Marcerou@golder.com>; McDonald, Robert <Robert_McDonald@golder.com>

Subject: Township of North Dundas Waste EA - Open House #3

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We welcome your participation at the Open House. Please do not hesitate to contact us if you have any questions.

Regards,

Yannick Marcerou, *he/him*
Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318



1931 Robertson Road, Ottawa, Ontario, Canada, K2H 5B7

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APPENDIX J

Comments Received on the Preliminary Draft EA

Appendix J1 Comments from the MECP and Responses on the Preliminary Draft EA

**Appendix J1 Comments from the MECP and Responses on the Preliminary
Draft EA**

**Ministry of the Environment,
Conservation and Parks**

**Ministère de l'Environnement, de la
Protection de la nature et des Parcs**

Environmental Assessment Branch

Direction des évaluations
environnementales

1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Télé. : 416 314-845

March 25, 2022

MEMORANDUM

TO: Trish Edmond
Principal, Team Lead Waste - Ontario Earth & Environment
WSP & Golder

FROM: Jordan Hughes, Project Officer
Environmental Assessment Services Section
Environmental Assessment Branch

RE: Draft Environmental Assessment of the Township of North Dundas Waste
Management Plan

Thank you for the opportunity to review the draft Environmental Assessment Study Report (draft EASR) for the North Dundas Waste Management Plan Environmental Assessment Report (project). The Ministry of the Environment, Conservation and Parks (the ministry) Environmental Assessment Services Section has conducted a review of the draft EASR taking into consideration the applicable requirements of subsections 6.1 (2) and 6(2) of the *Environmental Assessment Act* (EAA), the Code of Practice for Preparing and Reviewing Environmental Assessments in Ontario (EA Codes of Practice), and the approved Terms of Reference (ToR) for the project. In its review, the ministry has identified several deficiencies in the draft EASR that are summarized herein and detailed in the attached comment table for consideration when finalizing the EASR for submission to the ministry.

Overview of Deficiencies

The ministry offers the enclosed comments to ensure that a clear and comprehensive EASR, that meets the requirements, is prepared prior to formal submission. The following provides an overview of some of the main deficiencies with the draft EASR,

however specific details, actions and other comments are provided in the attached table.

Sufficient Level of Detail

Section 3.2.6 of the EA Codes of Practices states that the level of detail presented in an EA should be sufficient to fulfil the requirements of the EAA and to assure interested persons that the proposed project is technically feasible and achieves environmental protection. Furthermore, Section 4.2.5 of the EA Codes of Practice also states that the EA must provide sufficient information so that the Minister of the Environment, Conservation and Parks (Minister) can have a clear understanding about the undertaking that he or she will be asked to make a decision on.

The EASR is the main document and as a result, should be sufficiently detailed so that it can stand on its own and provide a complete picture of the planning process and its conclusions. Certain sections of the draft EASR contain limited information with respect to the description of the 'alternatives to' the undertaking and 'alternative methods' of carrying out the undertaking, as well as description of the potential effects and impacts of the 'alternatives to' and 'alternative methods'. The EASR must include sufficient detail for a complete understanding of these components. Appendices serve to provide additional technical information for the interested reviewer or reader and should be referenced where appropriate; however, the main EASR should provide enough detail to support the understanding of the undertaking and its potential effects on the environment. The EASR, including supporting appendices, must be logically organized to ensure that information is accessible. Throughout the draft EASR, there are references to various reports in the appendices where the reader is directed to as opposed to being provided a sufficient level of detail or a summary in the draft EASR. Specific examples have been provided in the attached comment table.

Do Nothing

Section 4.2.2 of the EA Codes of Practice states that the do nothing alternative should always be considered as it represents what is expected to happen if none of the alternatives being considered are carried out. It is always included for comparison and therefore, it cannot be screened out. The do nothing alternative is not intended to be considered as a reasonable way on which the problem or opportunity that prompted the initiation of the EA process can be addressed. The do nothing alternative has to be carried throughout the EA as a benchmark for the comparison of the advantages and disadvantages of the preferred undertaking and to determine the extent to which other alternatives address the problem or opportunity.

The EASR must assess the advantages and disadvantages of each alternative method using the do nothing alternative as the reference benchmark or baseline. In the draft EASR, the do nothing alternative was only considered in the 'alternatives to' comparative evaluations. The EASR must assess the advantages and disadvantages of

each 'alternative method' using the do nothing alternative as the reference benchmark or baseline.

Consultation

With regards to Indigenous consultation, the ministry notes that to date the proponent has not received substantive comments from any interested communities. It will be important for the proponent to demonstrate in the final EASR that they have obtained, or at least made meaningful attempts to obtain, input on the draft EASR from the communities that have expressed an interest in the project, at minimum. This should include follow-up with communities and be documented in the final EASR and consultation record.

Next Steps

As information was missing or incomplete in your draft EASR, additional review will be required prior to the submission of a final EA to the ministry. Additional comments may be provided at that time. The ministry expects that you will also provide responses to the enclosed comments prior to the formal submission of the EASR and seek the ministry's acceptance of the proposed method of addressing issues. To facilitate ministry review and support effective issues resolution, please submit responses to all ministry comments in table format, organized by reviewer as well as the final consultation record. The ministry is available to meet with you to discuss any questions you may have, and to support you in resolving any issues prior to the submission of the final EASR.

In advance of submitting the final EASR, you may wish to consult interested persons with regards to the revisions during the final Public Information Centre, as well as meetings with Indigenous communities, and other interested parties. The final EASR should include documentation of those activities as well as any changes that were made to the documentation to address concerns.

Should you have any questions or require further information, please contact the undersigned at 437-770-6953 or by email at jordan.hughes@ontario.ca.

Sincerely,



Jordan Hughes

Attachment

c: Solange Desautels, Supervisor, Environmental Assessment Branch

#	Reference to North Dundas Waste Management Plan draft EASR	Comments & Rationale	Proposed Action/Solution	How Addressed in the EA
Environmental Assessment Branch, Jordan Hughes, Project Officer				
1	Executive Summary	In accordance with Section 4.3.1 of the Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario 2014 (Code of Practice) and Regulation 334, the Environmental Assessment Study Report (EASR) for the North Dundas Waste Management Plan should contain a brief summary of the environmental assessment generally organized in accordance with the relevant matters set out in subsection 6.1 (2) of the Act (e.g. such as).	As previously indicated to MECP, please ensure that an executive summary is completed for the draft EASR.	An Executive Summary has been prepared and included in the draft EASR, organized by the sections of the EASR to meet the requirements of the Act.
2	Glossary of Terms	<u>Term - EA Study</u> The description of the term uses “as described in this ToR prior to the refinement of the definition of the proposed undertaking”. Needs to be updated to the current EASR, not the Terms of Reference (ToR). <u>Term - (the) Site</u> (the) Township of North Dundas is used to describe the term. Needs clarity in whether it means the landfill site or the Township as a whole. <u>Term - (the) Undertaking</u> The description of the term uses “as described in this Tor”. Needs to be updated to the current EASR, not the ToR.	Please make corrections accordingly.	Requested corrections to EA Study and Undertaking made in the Glossary of Terms. It is confirmed that the ‘Site’ refers to the Township of North Dundas for the purpose of the ‘Alternatives To’ assessment. References to the Boyne Road landfill uses the word ‘site’ (not capitalized).
3	Description of EA Study 1.1	This section includes “the proposed Environmental Assessment (EA) Study is the EA of the Township’s waste management plan for a 25-year planning period. The description and rationale will evolve during the preparation of the EA. A description of the undertaking will be defined after a preferred undertaking has been identified during the EA. Therefore, the final description of the proposed undertaking and the rationale for it will be included in the EA once alternatives have been considered and evaluated.” This is the EASR document, and the tense of this description needs to be changed and updated.	Please make corrections accordingly.	Corrections made in Section 1.1 as requested.
4	Current Waste Management System 1.3	The remaining capacity of the Boyne Road Landfill in cubic metres can be provided to give an indication of landfill space remaining relative to the approved capacity. This section does not include any mention or description of the haul route.	Provide the remaining landfill capacity in cubic metres and discuss the operation of the haul route.	Requested information added to Section 1.3.

#	Reference to North Dundas Waste Management Plan draft EASR	Comments & Rationale	Proposed Action/Solution	How Addressed in the EA
5	Current Waste Management System 1.3	Consider reorganizing this section to include “Site History and Background” that will include site history and details followed by “Current Site Waste Management System” that includes the current operations and capacity.	Reorganize information so that the site history and background is separated from current site information.	Section 1.3 has been reorganized into two subsections, 1.3.1 and 1.3.2, to improve clarity. This is an introductory section of the EASR, intended to generally describe the current waste management system as background for the reader. A greater level of detail is not considered to be appropriate, since the preferred ‘Alternative To’ has not yet been identified.
6	Current Waste Management System 1.3 Noise 11.2.1.2	“The parcels are shown on Error! Reference source not found. ” Reference to source relating to the Townships acquisition of groundwater easements unavailable. “The indicator for Noise is: Error! Unknown document property name. Error! Unknown document property name. ” Reference to source relating to noise indicators not available.	Please make corrections accordingly.	Requested correction made in Section 1.3; we did not see what is referred to in Section 11.2.1.2.
7	2.1 Rationale and Purpose of Proposed Undertaking	It is stated that “the purpose statement will be influenced by diversion studies proposed by the Township and made as a commitment in the ToR. It was proposed that the diversion studies be conducted during the EA, early in the process to provide input into post-diversion residual waste management requirements. Diversion is also an ‘Alternative To’ in this EA. The Waste Diversion Study is provided in Volume 3 Appendix J to the main EASR”. The Diversion study was conducted as part of the current EASR, and as such the influence of the results from the study should be indicated. The ministry will have more comments in this regard after the Resource Recovery Branch provides their technical review.	Please revise to reflect the studies undertaken during the EASR.	Reference added in Section 2.1 to a summary of the diversion study results in Sections 6.3.5 and 7.0. Additional information from the findings and conclusions of the diversion study have also been added in Section 7.0.

#	Reference to North Dundas Waste Management Plan draft EASR	Comments & Rationale	Proposed Action/Solution	How Addressed in the EA
8	Organization of the EA Study Report 2.3.2	<p>In accordance with section 2(1) of Regulation 334, the EASR should contain a list of studies and reports done in connection with the undertaking or matters related to the undertaking. The EASR should also include a list of additional studies and reports related to the undertaking but are not under the control of the proponent.</p> <p>The draft EA does not include a list of additional studies and reports related to the undertaking. The full names of reports in support of the EASR need to be included in the list of “Volume 2 Technical Appendices” for clarity.</p>	<p>Revise the EASR report to include a list of the studies and reports completed, as well as a list of additional studies and reports related to the undertaking but are not under the control of the Township. Add the full titles done in connection with the EASR to the list of Volume 2 Technical Appendices list. Additionally, a table can be provided that lists and describes the technical studies completed.</p>	<p>The organization of this EASR is different when compared to others more recently completed for Individual EAs for waste management projects in that all of the studies/work completed for the EA are contained in the EASR with the exception of the Stage 1 Archaeological Assessment contained in Volume 2, Appendix G-2; and the supporting memo and report on Alternative 3 – New Landfill Site Selection Assessment, Application of Exclusionary Criteria and Mapping to Identify Potential Sites and the Waste Diversion Study, respectively, in Volume 3 . The other Appendices in Volume 2 for various environmental components contain supporting information, calculations, etc. for the studies within the EASR itself. For clarity, some additional annotation of Section 2.3.2 has been provided and, where appropriate, reports noted.</p> <p>A complete list of reference documents (additional studies and reports) is provided in Section 19.0 of the EASR (as indicated in the listing of the Sections comprising Volume I in Section 2.3.2), and those documents are properly referenced wherever used/relied upon throughout the EASR.</p>
9	Indigenous Community Involvement 4.7	<p>With regards to Indigenous consultation, the ministry notes that to date the Township has not received substantive comments from any interested communities. It will be important for the Township to demonstrate in the final EASR that they have obtained, or at least made meaningful attempts to obtain, input on the draft EASR from the communities that have expressed an interest in the project, at minimum. This should include follow-up with communities, including the final Open House.</p>	<p>Please ensure that meaningful attempts with indigenous communities is made and documented in the final EASR including the final Open House. Furthermore, please provide a copy of the record of consultation for ministry review when it is available.</p>	<p>A complete record of consultation, and attempted consultation with Indigenous Communities is provided in the Volume 4 Consultation Record (which is provided as part of the draft EA package) and summarized in Sections 4.4.2. 4.7 and 4.8.6 of Volume I.</p>

#	Reference to North Dundas Waste Management Plan draft EASR	Comments & Rationale	Proposed Action/Solution	How Addressed in the EA
10	Noise 5.2.2 6.3.2 Alternative 2 – Landfill Site Expansion Identification of the Preferred ‘Alternative To’ 6.5 Archaeological Resources 9.7.1 Landfill Gas (LFG) Management 12.4 Emissions Estimate 13.1.1.1	<p>Sufficient Level of Detail:</p> <p>The EA is the main document and as a result should be sufficiently detailed, so that it can stand on its own and provide a complete picture of the planning process and its conclusions. It should, in detail, provide sufficient information and understanding of the potential undertaking, the existing environment, and evaluation of the alternatives, environmental effects and impact management, as well as consultation undertaken throughout the EA process. Appendices serve to provide additional technical information for the interested reviewer or reader. The EA, including supporting appendices, must be logically organized to ensure that information is accessible.</p> <p>Throughout the draft EA, there are references to various reports in the appendices (more details below), where the reader is directed to as opposed to being provided a sufficient level of detail in the draft EA. Appendices serve to provide additional technical information and data for the interested reviewer or reader and should be referenced in the main body of the EA where they contain critical information to support the understanding of the undertaking and its potential effects on the environment. For example:</p>	<p>Please ensure that the draft EA is revised to provide sufficient, detailed information that will enable readers to understand the proposed undertaking, the planning process followed by the Township and the conclusions reached.</p>	<p>This EASR has been prepared by providing the entire environmental component report content directly within the appropriate sections of the main EASR, such that there are no separate component reports within the Volume 2 Technical Appendices B through H. In this way, the main EASR contains all information and detail related to the studies completed for each component. The exception is Appendix G-2 for Cultural Heritage Resources, where a complete Stage 1 Archaeology Assessment Report was prepared for the proposed landfill expansion since the provincial requirements are they have to be submitted in that form to the MHSTCI for review and approval. The only information contained in the Technical Appendices is technical details that were not considered necessary to be within the main EASR in regard to the proposed landfill expansion, i.e., source input parameters, modelling output sheets, traffic analysis summary sheets.</p>
		<p><u>Noise 5.2.2:</u></p> <p>This section needs to be expanded with more detail. Provide a summary of existing source of noise at the landfill site and along the haul route. Summarize the key findings from the noise report/study undertaken and conclusions with further detailed technical information referenced to the Appendix report.</p>		<p>Section 5.0 provides a high level description of the existing conditions for the ‘Alternatives To’ Study Area, which is <u>the whole of the Township</u>, for each of the environmental components used to compare the ‘Alternatives To’. As such, it is not specific to the existing landfill site. It is considered that Section 5.2.2 provides an appropriate high level description of noise in the Township. Section 9.0 of the EASR provides a detailed description of the existing conditions for the Study Areas associated with the Boyne Road Landfill site for each of the components, including noise.</p>

#	Reference to North Dundas Waste Management Plan draft EASR	Comments & Rationale	Proposed Action/Solution	How Addressed in the EA
		<u>6.3.2 Alternative 2 – Landfill Site Expansion:</u> This section refers to the alternative already being assessed in detail as part of the 2015 Waste Management Alternatives Evaluation. Provide a summary of what was assessed and its conclusions from the 2015 Waste Management Alternatives Evaluation.		Section 2.1 of the EASR refers to the 2015 evaluation, lists the four alternatives assessed, and the conclusion that expansion of the exiting landfill was preferred. Also, it states that “this previous assessment of waste management alternatives was summarized in Section 4.0 of the approved ToR (Volume 2, Appendix A)”. Section 6.0 is the updated evaluation of ‘Alternatives To’; in our opinion, the description of Alternative 2 in Section 6.3.2 is not the appropriate place within Volume I to provide additional information on what was assessed and the conclusions of the 2015 study, since it was decided by MECP at the ToR stage that the results of the previous evaluation was not suitable for use in the EA (which is also described in Section 2.1). Instead, additional information on the 2015 evaluation has been added in Section 2.1, with a reference back to Section 2.1 added in Section 6.3.2.
		<u>6.5 Identification of the Preferred ‘Alternative To’:</u> The landfill site screening assessment “Volume 3 Appendix I” is referenced as the basis for deeming Alternative 3 (Existing Landfill Site Closure and Establish a New Landfill Site) unreasonable. Include a summary of the screening assessment, and the results of the screening assessment that determined conclusions. The Waste Diversion Study “Volume 3 Appendix J” supports Alternative 5 (Enhanced Waste Diversion). Provide more details on the content provided in Volume 3 Appendix J as well as the final results for the reader.		A summary of the Screening Assessment to establish a new landfill site in the Township is provided in Section 6.3.3; as per the comment, additional information on this assessment has been added to Section 6.3.3. A summary of the waste diversion study is provided in Section 6.3.5. Therefore, it is not considered necessary or appropriate to repeat this information in Section 6.5, the purpose of which is to state what was identified by the comparative assessment provided in Section 6.4 as the preferred ‘Alternative To’. A reference back to Sections 6.3.3 and 6.3.5 has been added in Section 6.5.
		<u>Archaeological Resources 9.7.1:</u> The Stage 1 Archeological Assessment is referenced to “Volume 2 Appendix G-2”. Expand on what was undertaken for the Stage 1 AA as well as the results. Was further work recommended in the Stage 1 AA?		Section 9.1.7 is intended to only describe the existing archeological conditions in the area of the Boyne Road Landfill site. The impact assessment is provided in Section 13.7.1, which states the results including that no further archaeological assessment is recommended. Additional information was added to Section 9.7.1 to describe the purpose of and what was undertaken for the Stage 1 assessment.

#	Reference to North Dundas Waste Management Plan draft EASR	Comments & Rationale	Proposed Action/Solution	How Addressed in the EA
		<p><u>12.4 Landfill Gas (LFG) Management:</u></p> <p>Expand on the results of the air quality impact assessment and provide the Appendix/Volume reference in the EASR. What are the results of the detailed air quality impact assessment, did it recommend a landfill gas collection system?</p>		<p>The purpose of Section 12.4 within the Description of the Preferred Undertaking is only to describe what is proposed in terms of landfill gas (LFG) management/control in advance of completing the impact assessment. The reference to the air quality assessment in Section 13.1.1 is only to indicate that depending on the results of that assessment it may be necessary to implement LFG controls, i.e., an additional mitigation measure, different than what is described in Section 12.4. Section 13.1.1 is considered to be the appropriate location for the air quality assessment, not Section 12.4. There are no additional impact results in a separate Appendix or Volume.</p>
		<p><u>13.1.1.1 Emissions Estimate:</u></p> <p>“Volume 2 Appendix B-2” is referenced for details of the specific emissions calculation methods and resulting emissions by source. Provide a summary of the process and results.</p> <p>“Volume 2 Appendix B-3” is referenced for dispersion modelling inputs and source characterization. Please expand and provide some details of what is included in the Appendix.</p>		<p>The process for calculating air emissions, which is a very technical process, is considered to be appropriately summarized in Section 13.1.1.1. The results are provided in Sections 13.1.1.2 and 13.1.1.3. The results of the air emissions modelling are provided in Section 13.1.1.4. These section numbers where the results are provided have been added to the bullets in Section 13.1.1 where reference is made to Appendices B-2 and B-3.</p>

#	Reference to North Dundas Waste Management Plan draft EASR	Comments & Rationale	Proposed Action/Solution	How Addressed in the EA
11	6.5 Identification of the Preferred ‘Alternative To’	<p>Section 4.2.4 of the Code of Practice states that the proponent will have to determine and clearly articulate the rationale for choosing the preferred alternative, taking into account the relative advantages and disadvantages. This section needs to be expanded with more detail how the preferred alternative was selected. The draft EASR states “based on the results presented in Table 6-12, and also with consideration of the advantages and disadvantages presented in Table 6-11 and the key factors that are most important to the Township, the preferred ‘Alternative To’ from the assessment is Alternative 2 – Landfill Site Expansion”.</p> <p>The assessment of the ‘Alternatives To’ should include sufficient detail to determine the benefits and disadvantages of each of alternative, based on effects. Explain the results from Table 6-12 that lead to the preferred alternative as well as specific points from the advantages and disadvantages Table 6-11. This will more clearly present the decision-making process of the preferred alternative from the advantages and disadvantages evaluation. Furthermore, provide a summary or explanation of how the preferred alternative meets the ‘factors that are most important to the Township’.</p>	<p>Please ensure that the draft EA is revised to provide sufficient, detailed information that will enable readers to understand how the evaluative components lead to selecting the preferred alternative.</p>	<p>Section 6.5 has been revised to provide additional rationale and explanation of the reasons for identification of Alternative 2 as the overall preferred ‘Alternative To’.</p>
12	8.1 Study Areas	<p>The draft EASR states that “Data for the assessment of the ‘Alternative Methods’ will be collected and analyzed for generic study areas that will be confirmed and refined during the EA”. This needs to be revised to reflect that it has been collected and refined as it is the EA document.</p>	<p>Please make corrections accordingly.</p>	<p>Requested corrections made.</p>
13	10.1 Design of Expansion Alternatives	<p>The draft EASR states “the capacity being pursued for the landfill expansion of 417,700 m3 to accommodate landfilling operations until the end of the planning period in 2048” and then “subsections below describe each of the landfill expansion alternatives, and each provides the required 450,000 m3 of airspace for waste and daily cover”. There needs to be consistency in the volumetric capacity expansion (either 417,700 m3 or 450,000 m3) throughout the EASR.</p> <p>Furthermore, there needs to be consistency with the volumetric capacity expansion metric used with regards to whether it includes the cover or not. The proposed volumetric capacity increase with and without cover should be disclosed.</p>	<p>Please ensure that the volumetric capacity expansion is consistent throughout the EASR.</p>	<p>The EASR describes that the 417,700 m³ beyond 2023 is for waste and daily cover. Because the ToR described the estimated additional airspace with reference to ‘beyond 2020’, it is necessary to initially refer to the required airspace confirmed in the EA in this regard. However, when referring to the expansion alternatives, all airspace numbers have been changed to only refer to 417,700 m³ beyond 2023. A value for the additional airspace including the final cover has been added to Section 12.1 for the proposed expansion.</p>

#	Reference to North Dundas Waste Management Plan draft EASR	Comments & Rationale	Proposed Action/Solution	How Addressed in the EA
14	Alternative 2 – Combined Horizontal and Vertical Expansion with Larger South Buffer 10.2.2 Alternative 3 – Primarily Horizontal Expansion 10.2.3	<p>The qualitative descriptions for Alternative Methods 2 and 3 need to be expanded with more details, similarly to what was provided in Alternative 1 for accuracy and consistency. This will avoid assumptions being made by the reader.</p> <p>Will the current disposal area be raised like in Alternative 1 for Alternatives 2 and 3?</p> <p>Will the slope angles meet the requirements of O.Reg. 232/98 for Alternatives 2 and 3?</p> <p>What is the height above typical ground level?</p> <ul style="list-style-type: none">• “The height of all ‘Alternative Methods’ is about 15 m above typical ground level on the southern part of the property” – This is defined in Alternative 1. This should either be disclosed prior to the Alternative summaries under 10.2 or disclosed for each of the Alternatives for consistency. <p>Will the design include the construction of imported permeable fill material for Alternatives 2 and 3?</p> <ul style="list-style-type: none">• Alternative 1 indicates that “south of the existing disposal area is at ground surface/high groundwater table requiring separation”. Is this the same for Alternatives 2 and 3?	<p>Please ensure that the draft EASR is revised to include more details for Alternative Methods 2 and 3.</p>	<p>Section 10.0 was prepared by first describing the factors that would be considered in the design of any ‘Alternative Method’ of landfill expansion in Sections 10.0 and 10.1, i.e., meet the geometrical requirements of O.Reg.232/98, natural attenuation design, fill pad, stormwater management system. Sections 10.2.1, 10.2.2 and 10.2.3 were then intended to provide a brief overview of the main differences between ‘Alternative Methods’, illustrated by the plan and section views and summarized in Table 10-1 in Section 10.2.4. As requested, additional information has been added to Alternatives 2 and 3 such that all three now have a similar level of information provided and cover the comments/questions provided.</p>
15	Summary of Alternative Methods 10.2.4	<p>The summary and comparison table of the alternative methods in the EASR uses mainly a quantitative depiction. Provide simplified visuals of the alternative methods for easier comparison for the reader.</p>	<p>Use the graphics included in the Technical Bulletin #3 for the same comparative table for visual understanding for the reader.</p>	<p>The graphics from Technical Bulletin #3 have been added to Section 10.2.4, Table 10-1 for added reader understanding.</p>

#	Reference to North Dundas Waste Management Plan draft EASR	Comments & Rationale	Proposed Action/Solution	How Addressed in the EA
16	Comparison and Evaluation of Landfill Expansion Alternatives 11.0	<p>Do Nothing:</p> <p>Section 4.2.2 of the EA Codes of Practice states that the do nothing alternative should always be considered as it represents what is expected to happen if none of the alternatives being considered are carried out. It is always included for comparison and therefore cannot be screened out. The do nothing alternative has to be carried throughout the EA as a benchmark for the comparison of the advantages and disadvantages of the preferred undertaking and to determine the extent to which other alternatives address the problem or opportunity.</p> <p>The do nothing alternative is considered in the ‘alternatives to’ comparative assessments. However, the EASR must assess the advantages and disadvantages of each ‘alternative method’ using the do nothing alternative as the reference benchmark or baseline.</p> <p>Sufficient Level of Detail:</p> <p>The assessment of the ‘Alternative Methods’ should include sufficient detail to determine the benefits and disadvantages of each alternative, based on effects. The EASR would benefit with more details provided in the advantages and disadvantages sections for each indicator/component as well as comparing to the ‘do nothing’ scenario. Some advantages and disadvantages sections provide only a table, and no summary explanation following it (example Table 11-7). Some components do not have an advantages and disadvantages comparison and require further explanation beyond that the results yielded similar results for all alternative methods. The ESAR needs to explain why each alternative method yielded similar results to affirm that an advantages and disadvantages comparison is not required.</p>	<p>The EASR needs to be revised to consider the do nothing alternative as a benchmark for the comparison of the advantages and disadvantages of the alternative methods. The revised draft EA also needs to include a description of the do nothing alternative for each alternative method.</p>	<p>The EASR has been revised to consider the Do-Nothing alternative as a benchmark for the comparison of the advantages and disadvantages of the ‘Alternative Methods’. An introduction of the Do-Nothing alternative has been added to Section 10.2.4 and then it has been used for comparison throughout Section 11.</p> <p>It is noted that the proposed expansion of the Boyne Road Landfill is a relatively small expansion as compared to other similar projects in the province. Additionally, there are constraints related to the possible design/layout of landfill expansion ‘Alternative Methods’ for this undertaking. As a result, the potential effects from the ‘Alternative Methods’ of landfill expansion are considered to be similar by many of the environmental components, resulting in an inability of these components to describe unique advantages or disadvantages when compared to each other. Relevant sections of Section 11 have been updated to explain this. As such it is unreasonable to expect that each description of advantages and disadvantages to be similar in length and/or content for each environmental component/sub-component.</p>
17	Potential Indirect Impacts 13.4.1.2.2	<p>The draft EASR states that “these indirect impacts are not considered significant and are mitigatable with standard construction best management practices”. Where mitigation measures are mentioned, the measures should be identified. Although potential indirect impacts of the construction phase are considered not significant and mitigatable, the potential mitigation measures related to ‘best management practices’ should be disclosed for each construction related impact listed.</p>	<p>Please include what the best management practices are with regards to mitigation in the final EASR.</p>	<p>Construction best management practices added to Section 13.4.1.2.2 as requested.</p>

#	Reference to North Dundas Waste Management Plan draft EASR	Comments & Rationale	Proposed Action/Solution	How Addressed in the EA
18	Comparison to Do-Nothing 13.11	<p>The purpose of comparing the preferred undertaking/project to the do nothing alternative is to highlight the advantages and disadvantages of proceeding with the project, rather than to confirm a preferred alternative.</p> <p>Table 13-32: Comparison of Do-Nothing to the Preferred Undertaking, does not clearly identify the advantages/disadvantages (trade-offs) for carrying out the proposed expansion.</p>	Identify the advantages and disadvantages of expanding the Boyne Road Landfill by comparing the preferred undertaking to the do-nothing scenario which would be to closure of landfill when it reaches its approved capacity	Table 13-32 provided in Section 13.11 has been updated with additional details. It is noted that the comparison provided in Section 13.11 does not “confirm” the preferred alternative, it merely highlights the advantages and disadvantages of proceeding with the project.

APPENDIX K

Comments Received on the Draft EA

Appendix K1 Draft EA Notices and Advertisements

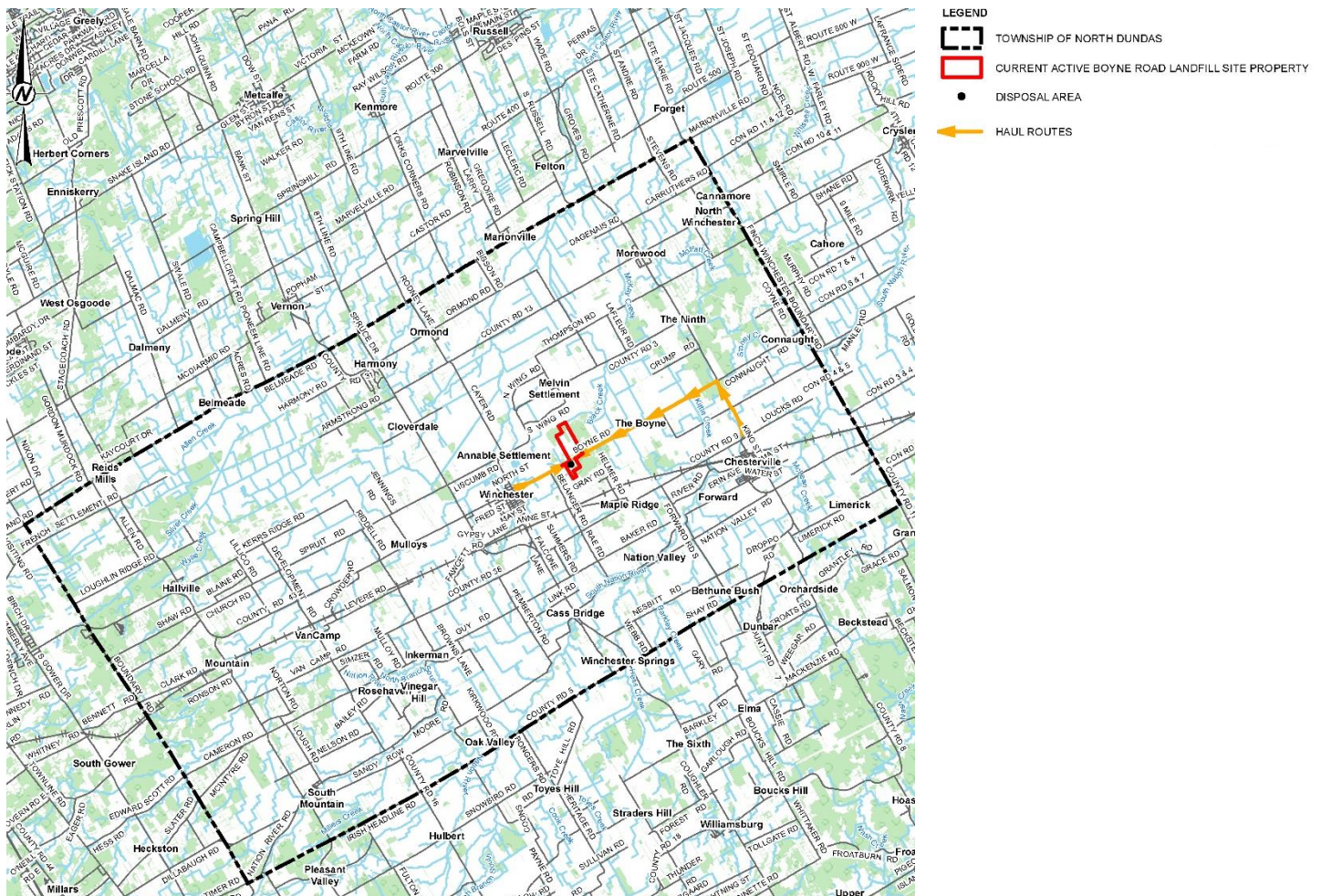
Appendix K2 Comments on the Draft EA from the Public, GRT and MECP

Appendix K1 Draft EA Notices and Advertisements

Environmental Assessment of the Township of North Dundas Waste Management Plan Notice of Draft Environmental Assessment Study Report

The Township of North Dundas (Township) has completed a draft Environmental Assessment (EA) of the Township of North Dundas Waste Management Plan.

The EA Study evaluated long-term solid waste management options for a 25-year planning period. The Township is seeking to accommodate disposal of waste corresponding to the consumption of approximately 417,700 m³ of waste landfill disposal from 2023 to 2048, as its existing Boyne Road Landfill is currently at capacity. The EA Study evaluated long-term solid waste management options to achieve this objective and has identified increased diversion and expansion of the existing Boyne Road Landfill as the preferred alternative.



As a requirement of commitment 15 in the approved Terms of References the draft EA Study Report will be available for public review and comment from May 27, 2022 to June 24, 2022 for a four-week review period. You may review the environmental assessment during normal business hours at the following locations:

Winchester Public Library

547 St. Lawrence Street
Winchester, ON
613-774-2612

Hours of operations

Monday 9:00am – 2:00pm
Tuesday 10:00am – 8:00pm
Wednesday 10:00am – 8:00pm
Thursday 10:00am – 8:00pm
Friday 12:00pm – 5:00pm
Saturday 10:00am – 2:00pm

Township Office

636 St. Lawrence Street
Winchester, ON
613-774-2105

Hours of operations

Monday to Friday
8:30am to 4:30pm

**Counties of Stormont,
Dundas and Glengarry Office**

26 Pitt Street
Cornwall, ON
613-932-1515

Hours of operations

Monday to Friday
8:30am to 4:00pm

**Ministry of the Environment,
Conservation and Parks**

Environmental Assessment and
Permissions Branch
135 St. Clair Avenue West, 1st Floor Toronto,
ON
416-314-8001/1-800-461-6290

Hours of operations

Monday to Friday 8:30am – 5:00pm

**Ministry of the Environment,
Conservation and Parks**

Cornwall Area Office
1st Flr, 113 Amelia St. Cornwall, ON
613-933-7402/1-800-860-2760

By appointment only

An electronic copy of the draft EA Study Report will also be available for review on the project website at <https://www.northdundas.com/municipal-services/environmental-assessments>

Following the above review period, the draft EA Study Report will be updated to address comments received and will be submitted to the Ontario Ministry of the Environment, Conservation and Parks (MECP) as part of the formal review process.

Interested persons are encouraged to review the draft EA Study Report and provide comments by June 24, 2022. Comments may be submitted by mail or e-mail to the individuals listed below

Doug Froats

Director of Waste Management
Township of North Dundas
636 St. Lawrence Street, P.O. Box 489
Winchester, ON K0C 2K0
Telephone: 613-774-2105 ext. 228
Fax: 613-774-5699
E-mail: dfroats@northdundas.com

Trish Edmond, P.Eng.

EA Project Manager
Golder Associates Ltd.
1931 Robertson Road
Ottawa, ON K2H 5B7
Telephone: 613-592-9600 ext. 3246
E-mail: trish_edmond@golder.com

If you require any accommodations for a disability to review the draft EA Study Report, contact Doug Froats at 613-774-2105 ext. 228 to make the appropriate arrangements.

Veillez noter qu'il vous est possible de nous communiquer vos commentaires ou vos questions sur le projet en français en les adressant à Yannick Marcerou au 613-592-9600 ext. 3318 ou par courriel à **yannick_marcerou@golder.com**.

All personal information included in a submission – such as name, address, telephone number and property location – is collected, maintained and disclosed by the MECP for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the MECP's Freedom of Information and Privacy Coordinator at 416-327-1434.

From: [Golder Secure Message Center](#) on behalf of [Yannick Marcerou](#)
Cc: [Marcerou, Yannick](#)
Subject: Draft Environmental Assessment for the Township of North Dundas Waste Management Plan
Date: May 26, 2022 5:24:47 PM



Tracking ID: 20220526-142115-y7Les8Eb

By clicking the links you agree to the [Terms of Use](#).

Sender Name **Yannick Marcerou**
Phone 6135929600
Email yannick_marcerou@golder.com

Download Files

Available until 25, Jun 2022

Reply

with Cryptshare

Password: No password required.

Hello,

The Township of North Dundas (Township) has completed a draft Environmental Assessment (EA) of the Township of North Dundas Waste Management Plan. The Township is seeking input on the draft EA. Please see the notification letter in the link provided outlining further information on the EA, the draft EA and how to submit comments on the draft EA. An electronic copy of the draft EA is also provided on the project website at <https://www.northdundas.com/municipal-services/environmental-assessments> and consists of all volumes (Volumes 1 to 4).

As a requirement of commitment 15 in the approved Terms of References, the draft EA Study Report will be available for public review and comment from May 27, 2022 to June 24, 2022 for a four-week review period.

Following the above review period, the draft EA Study Report will be updated to address comments received and will be submitted to the Ontario Ministry of the Environment, Conservation and Parks (MECP) as part of the formal review process.

Should you require a hard copy (or an electronic copy in a USB drive) of the draft EA Study Report, please email or call us and we will be happy to prepare it for you. If you wish to save a copy of the files provided in this email for future reference, please download and save them to your local computer drive as the download link will expire on June 25, 2022.

Please let us know if you have any issues accessing the notice letter or the draft EA Report from the link provided.

Sincerely,

Yannick Marcerou

Attachments in Link: Click on the link in the upper right corner of this email labelled "Download Files" to access the Notification Letter and the draft EA Study Report (Volumes 1, 2, 3 and 4).

Yannick Marcerou, *he/him*

Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318



1931 Robertson Road, Ottawa, Ontario, Canada, K2H 5B7

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WSP and Golder have joined together to form the premier environmental consultancy in the industry. Together we are 14,000 strong, future ready and delivering innovative solutions to our clients around the globe.

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yannick_marcerou@golder.com

Download Link: <https://smc.golder.com/download?id=T1v0djtDq1&password=FA8GUzVW>

Files in this Transfer

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NOTICE~1.PDF
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1648253 Boyne_EA-DRAFT-Volume 3.pdf

For further information please follow this link: [Cryptshare Documentation](#)

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Densham announces candidacy for NS deputy mayor

Carolyn Thompson Goddard
Record Staff

BERWICK – Long time resident and municipal councillor of North Stormont announced on Mon., May 2 that he was seeking to be the next deputy mayor of the municipality.

Densham commented when announcing his candidacy how he wished to build on the positive momentum created over the last term of council and carry it forward. He noted it had been a challenging term, with the Wind Turbines, the pandemic and other council issues, but he has learned a lot and intends to build on the knowledge gained to encourage growth in NS.

He took a few moments to thank Craig Calder for “building a strong staff” during this challenging time and mentioned the GFL agreement will be key “to opening new potential opportunities in NS to feed economic development.” He noted small businesses struggled with restrictions during the pandemic and need economic support during the recovery period.

Densham mentioned he



Steven Densham announced his candidacy for deputy mayor of North Stormont on Mon., May 2.

Thompson Goddard Photo

went out and spoke with local business owners, learning firsthand what was needed for them to not only survive but thrive during these difficult economic times. Including organizing Wellness Tours which involved MP Eric Duncan, MPP Jim McDonnell and Densham reaching out to local businesses during the pandemic as well as the creation of a NS Shop Local Facebook page. On the economic development front, he mentioned his successful advocacy to allocate a budget for the salary of an economic development officer.

He praised that the amalgamation of municipal recreation groups into an Amalgamated Recreation Committee under the leadership of Ellen McNaughton and Pierre Thibault. He feels the unification of the various committees has led to a better coordination of events, development of best practices and collaboration on budgeting.

Densham concluded how it is necessary for rural municipal governments to be proactive to ensure the continued survival of rural communities. He mentioned he enjoyed his term as councillor as it allowed him the chance to contribute to his community more substantially. He continued, in his role as councillor he was able to encourage people and committee members to work together for the benefit of the North Stormont community.

Densham currently serves on five community committees and boards including his most recent appointment to the Winchester District Memorial Hospital board.



And they're off on the Nation River

The St. Daniel Knights of Columbus 11725 celebrated their 25th year running their annual Duck Race on the Nation River. This year the race featured 800 ducks and four winners. Claire Larabie came in 1st, followed by Brenda Dillabough, Dave van Delst and Randy Rose in 4th. The winners received \$500, \$150, \$100 and a Country Kitchen gift certificate for \$50 respectively. In this photo, the ducks take the plunge off the Bridge in South Mountain on Sat., May 7. The funds raised through the race go to the House of Lazarus, the Winchester District Memorial Hospital, Dundas County Hospice, Community Food Share and Naomi House.

Morin Photo

François Landry announces candidacy for NS mayor

Carolyn Thompson Goddard
Record Staff

BERWICK – François Landry, currently deputy mayor of North Stormont, filed his nomination papers for the position of NS mayor on Mon., May 2. A life-long resident of North Stormont, Landry has served a term as a municipal councillor and is currently completing a four-year term as deputy mayor.

“My priority is to oversee the ongoing growth and development of North Stormont during the next four years,” commented François. “Even though the municipality faced some challenges during this term, such as the construction of the EDPR Nation Rise Wind Farm and the COVID-19 pandemic, I feel positive about the continuous progress in our communities now and into the future.”

François congratulated township staff for their work over the past term. He mentioned there has been remarkable progress in many areas, including the fire and recreation departments as well as returning our garbage collection in-house. He noted how construction of the new fire hall in Crysler as well as the Moose Creek Community Centre will begin soon and is confident that investing in new infrastructure is vital to economic growth. François also stated that



François Landry is seen providing North Stormont deputy clerk Mary McCuaig with his nomination papers for the position of North Stormont mayor.

Thompson Goddard Photo

staff played an important role in the negotiations leading to the 20-year agreements with GFL Environmental and the EDPR Community Fund.

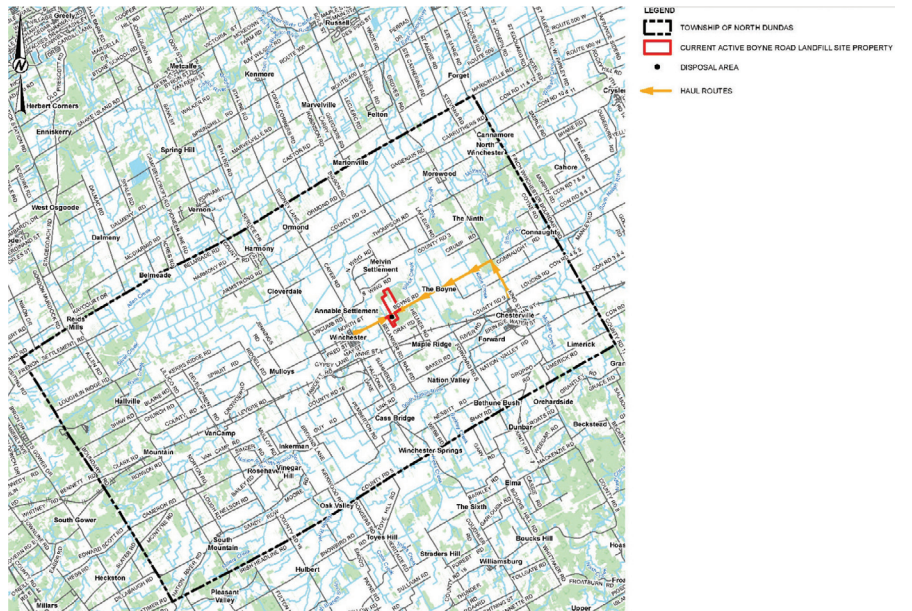
He expressed his appreciation for the volunteer base in North Stormont recognizing their valued contribution and engagement. “This municipality has so much to offer to residents and visitors, which makes it a great place to live” added François.



Environmental Assessment of the Township of North Dundas Waste Management Plan Notice of Draft Environmental Assessment Study Report

The Township of North Dundas (Township) has completed a draft Environmental Assessment (EA) of the Township of North Dundas Waste Management Plan.

The EA Study evaluated long-term solid waste management options for a 25-year planning period. The Township is seeking to accommodate disposal of waste corresponding to the consumption of approximately 417,700 m³ of waste landfill disposal from 2023 to 2048, as its existing Boyne Road Landfill is currently at capacity. The EA Study evaluated long-term solid waste management options to achieve this objective and has identified increased diversion and expansion of the existing Boyne Road Landfill as the preferred alternative.



As a requirement of commitment 15 in the approved Terms of References, the draft EA Study Report will be available for public review and comment from May 27, 2022 to June 24, 2022 for a four-week review period. You may review the environmental assessment during normal business hours at the following locations:

Winchester Public Library
547 St. Lawrence Street
Winchester, ON
613-774-2612

Hours of operations
Monday 9 a.m. - 2 p.m.
Tuesday 10 a.m. - 8 p.m.
Wednesday 10 a.m. - 8 p.m.
Thursday 10 a.m. - 8 p.m.
Friday 12 p.m. - 5 p.m.
Saturday 10 a.m. - 2 p.m.

**Ministry of the Environment,
Conservation and Parks**
Environmental Assessment and
Permissions Branch
135 St. Clair Avenue West, 1st Floor
Toronto, ON
416-314-8001/1-800-461-6290

Hours of operations
Monday to Friday 8:30 a.m. - 5 p.m.

Township Office
636 St. Lawrence Street
Winchester, ON
613-774-2105

Hours of operations
Monday to Friday
8:30 a.m. - 4:30 p.m.

**Ministry of the Environment,
Conservation and Parks**
Cornwall Area Office
1st Flr, 113 Amelia St. Cornwall, ON
613-933-7402/1-800-860-2760

By appointment only

**Counties of Stormont,
Dundas and Glengarry
Office**
26 Pitt Street
Cornwall, ON
613-932-1515

Hours of operations
Monday to Friday
8:30 a.m. - 4 p.m.

An electronic copy of the draft EA Study Report will also be available for review on the project website at <https://www.northdundas.com/municipal-services/environmental-assessments>

Following the above review period, the draft EA Study Report will be updated to address comments received and will be submitted to the Ontario Ministry of the Environment, Conservation and Parks (MECP) as part of the formal review process.

Interested persons are encouraged to review the draft EA Study Report and provide comments by June 24, 2022. Comments may be submitted by mail or e-mail to the individuals listed below.

Doug Froats
Director of Waste Management
Township of North Dundas
636 St. Lawrence Street, P.O. Box 489
Winchester, ON K0C 2K0
Telephone: 613-774-2105 ext. 228
Fax: 613-774-5699
E-mail: dfroats@northdundas.com

Trish Edmond, P.Eng.
EA Project Manager
Golder Associates Ltd.
1931 Robertson Road
Ottawa, ON K2H 5B7
Telephone: 613-592-9600 ext. 3246
E-mail: trish_edmond@golder.com

If you require any accommodations for a disability to review the draft EA Study Report, contact Doug Froats at 613-774-2105 ext. 228 to make the appropriate arrangements.

Veillez noter qu'il vous est possible de nous communiquer vos commentaires ou vos questions sur le projet en français en les adressant à Yannick Marcerou au 613-592-9600 ext. 3318 ou par courriel à yannick_marcerou@golder.com.

All personal information included in a submission – such as name, address, telephone number and property location – is collected, maintained and disclosed by the MECP for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the MECP's Freedom of Information and Privacy Coordinator at 416-327-1434.



Common Sense Health

W. Gifford-Jones, MD and Diana Gifford-Jones

Flashy marketing deceives new mothers

The global formula milk industry is huge and growing rapidly, at about US\$55 billion and projected to reach US\$110B by 2016. Aggressive and deceptive marketing by manufacturers is driving this growth. The World Health Organization (WHO) is ringing alarms. It charges the industry with using new digital marketing tactics to target pregnant women and new mothers with "personalized social media content that is often not recognizable as advertising."

The Internet and smart phones are wonderful tools. But they can also be dangerous. Women have breastfed babies since the beginning of time. Animals thrive without Big Pharma. Human babies do too.

The WHO says the digital onslaught by industry reaches 2.47 billion people. The attention is to plant concerns in the minds of new mothers that their natural breastmilk is insufficient. They set out to convince new mothers that they're nutritionally uneducated and irresponsible if they choose traditional breast milk.

Dr. Francisco Branca, Director of the WHO Nutrition and Food Safety Department, goes on the offence. He says, "The promotion of commercial milk formulas should have been terminated decades ago." He adds, "That formula milk companies are now employing even more powerful and insidious marketing techniques to drive up their sales is inexcusable and must be stopped."

What are the natural benefits that breast milk has always given babies? For one, mother's milk transfers antibodies to build immunity against infection.

Ames Walker, Professor of Biomedical Science at UC Riverside School of Medicine, explains that copies of these cells will provide immunity to the baby for life. Breastfeeding protects mothers as well by reducing risk of breast and ovarian cancer, type 2 diabetes, and high blood pressure.

Apart from conveying immunity, extensive research shows that breastmilk offers increased long-term protection from a host of diseases. Breast-fed babies have less chance of developing ear, respiratory, and urinary infections. They are more resilient against bacterial meningitis, a serious condition that can lead to death. Breastfeeding decreases the risk of obesity, type 1 and type 2 diabetes, Crohn's disease, ulcerative colitis, high blood pressure and heart disease.

While antibodies in breastmilk adjust to a growing baby's evolving needs, manufactured formula is unchanging and has no antibodies. Instead, manufacturers add ingredients designed to foster good gut bacteria. This may help protect babies from illness, but not to the same degree.

It has also been found that vitamins and minerals added to manufactured milk cause increased gas in babies and more constipation. Bottle feeding affects mother-child bonding. And formula-fed babies have an increased risk of sudden infant death syndrome.

Expectant mothers have reason for confidence, not trepidation, in their abilities to breastfeed babies. At best, it should be deemed unethical to market misleading information about baby formula. At worst, given the lifelong health consequences at stake, and the duty to care for society's youngest and most vulnerable members, such marketing should be criminal.

There are, of course, circumstances in which formula is the right choice. These mothers should be supported, not shamed. It's an obvious fact that many babies raised on formula have fared just fine. There are gynaecists, concert pianists, gold-medal athletes, doctors, lawyers and every other professional among them.

But the economics of the formula milk industry is the problem. This industry should not be allowed to profit at the expense of parental confidence and children's health – yet profit is precisely the boardroom mandate of these companies. Looked at another way, the total cost of formula feeding is estimated to be US\$900-\$3,000 per year. Those funds would be better spent other ways.

It's the WHO's boring reports versus deceptive digital marketing. Not a good match up.

Sign-up at www.docgiff.com to receive our weekly e-newsletter. For comments, contact-us@docgiff.com. Follow us on Instagram @docgiff and @diana_gifford-jones.

May 18, 2022



Environmental Assessment of the Township of North Dundas Waste Management Plan

Notice of Draft Environmental Assessment Study Report

The Township of North Dundas (Township) has completed a draft Environmental Assessment (EA) of the Township of North Dundas Waste Management Plan.

The EA Study evaluated long-term solid waste management options for a 25-year planning period. The Township is seeking to accommodate disposal of waste corresponding to the consumption of approximately 417,700 m³ of waste (landfill disposal) from 2023 to 2048, as its existing Boyle Road landfill is currently at capacity. The EA Study evaluated long-term solid waste management options to achieve this objective and has identified increased diversion and expansion of the existing Boyle Road Landfill as the preferred alternative.

As a requirement of commitment 15 in the approved Terms of Reference the draft EA Study Report will be available for public review and comment from May 27, 2022 to June 24, 2022 for a four-week review period. You may review the environmental assessment during normal business hours at the following locations:

Winchester Public Library
547 St. Lawrence Street
Winchester, ON
613-774-2612

Hours of operations
Monday: 9:00am – 2:00pm
Tuesday: 10:00am – 8:00pm
Wednesday: 10:00am – 3:00pm
Thursday: 10:00am – 8:00pm
Friday: 12:00pm – 5:00pm
Saturday: 10:00am – 2:00pm

Township Office
636 St. Lawrence Street
Winchester, ON
613-774-2105

Hours of operations
Monday to Friday: 9:30am to 4:30pm

An electronic copy of the draft EA Study Report will also be available for review on the project website at <https://www.northdundas.com/municipal-services/environmental-assessments>

Following the above review period, the draft EA Study Report will be updated to address comments received and will be submitted to the Ontario Ministry of the Environment, Conservation and Parks (MCECP) as part of the formal review process.

Interested persons are encouraged to review the draft EA Study Report and provide comments by June 24, 2022. Comments may be submitted by mail or e-mail to the individuals listed below:

Doug Frosts

Director of Waste Management
Township of North Dundas
636 St. Lawrence Street, P.O. Box 459
Winchester, ON K0C 2K0
Telephone: 613-774-2105 ext. 228
Fax: 613-774-6699
E-mail: dfrosts@northdundas.com

Trish Edmond, P.Eng.

EA Project Manager
Golder Associates Ltd.
1831 Robertson Road
Ottawa, ON K2H 5B7
Telephone: 613-892-9600 ext. 3246
E-mail: trish_edmond@golder.com

If you require any accommodations for a disability to review the draft EA Study Report, contact Doug Frosts at 613-774-2105 ext. 228 to make the appropriate arrangements.

Vous êtes invité(e) à consulter le rapport d'évaluation environnementale de votre projet et à poser vos questions sur le projet en français en les adressant à Yanick Marcenou au 613-892-9600 ext. 3316 ou par courriel à yanick.marcenou@golder.com.

All personal information included in a submission – such as name, address, telephone number and property location – is collected, maintained and disclosed by the MCECP for the purpose of transparency, and consultation. The information is collected under the authority of the Environmental Assessment Act or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the Freedom of Information and Protection of Privacy Act. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the MCECP's Freedom of Information and Privacy Coordinator at 416-327-1434.



Counties of Stormont, Dundas and Glengary Office
26 Pitt Street
Cornwall, ON
613-932-1515

Hours of operations
Monday to Friday: 9:30am to 4:00pm

Ministry of the Environment, Conservation and Parks
Environmental Assessment and Permitting Branch
135 St. Clair Avenue West, 1st Floor
Toronto, ON
416-314-4001 / 1-800-461-6290

Hours of operations
Monday to Friday: 9:30am to 5:00pm

Ministry of the Environment, Conservation and Parks
Cornwall Area Office
1st Fl., 113 Amelia St. Cornwall, ON
613-937-7402 / 1-800-860-2760
By appointment only

Send in your letters, stories, events to
editor@ndtimes.ca



North Dundas

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The Township of North Dundas has completed a draft Environmental Assessment of its Waste Management Plan and is seeking input from the public.

The draft EA report is available for public review and comment from May 27th to June 24th at the Township office, the SDG Library Winchester Branch, the SDG Counties office, and the Ontario Ministry of the Environment, Conservation and Parks (MECP) office in Cornwall.

You can also view it online at <https://www.northdundas.com/mun.../environmental-assessments>



Appendix K2 Comments on the Draft EA from the Public, GRT and MECP

From: [REDACTED]
To: [Marcerou, Yannick](#)
Cc: [Doug Froats](#); [Edmond, Trish](#)
Subject: Re: Draft Environmental Assessment for the Township of North Dundas Waste Management Plan
Date: June 8, 2022 9:12:02 PM
Attachments: [image002.jpg](#)
[image002.jpg](#)

EXTERNAL EMAIL

EXTERNAL EMAIL - We could not verify the authenticity of this message. Please be cautious when clicking on links or opening attachments.

Hi,

Thank you for letting me know. I will pick it up tomorrow.

Regards,

[REDACTED]

On Wed., Jun. 8, 2022, 4:28 p.m. Marcerou, Yannick, <Yannick_Marcerou@golder.com> wrote:

Hello,

We wanted to let you know that your copy of the draft EA is available to pick up at the Township's office reception. They are open to the public Monday to Friday from 8:30am to 4:30pm.

Please do not hesitate to contact us if you have any questions or feedback to share on this draft EA.

Have a good evening!

Sincerely,

Yannick Marcerou, *he/him*

Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318



From: [REDACTED]
Sent: June 2, 2022 2:33 PM
To: Marcerou, Yannick <yannick.marcerou@wsp.com>
Cc: Doug Froats <dfroats@northdundas.com>; Edmond, Trish <trish.edmond@wsp.com>
Subject: Re: Draft Environmental Assessment for the Township of North Dundas Waste Management Plan

EXTERNAL EMAIL

EXTERNAL EMAIL - We could not verify the authenticity of this message. Please be cautious when clicking on links or opening attachments.

Hi,

Thank you very much for the update.

I look forward to receiving the EA documents next week.

Regards,

[REDACTED]

On Thu., Jun. 2, 2022, 1:57 p.m. Marcerou, Yannick, <Yannick_Marcerou@golder.com> wrote:

[REDACTED],

We wanted to inform you that due to some confusion from our print shop, we do not expect to have all 4 volumes ready before early next week.

Please accept our apologies for the delay. We will contact you when the copies will be ready to be picked up at the Township's office.

Have a good day!

Yannick Marcerou, *he/him*

Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318



From: [REDACTED]
Sent: May 27, 2022 5:56 PM
To: Marcerou, Yannick <yannick.marcerou@wsp.com>
Cc: Doug Froats <dfroats@northdundas.com>; Edmond, Trish <trish.edmond@wsp.com>; Smolkin, Paul <paul.smolkin@wsp.com>
Subject: Re: Draft Environmental Assessment for the Township of North Dundas Waste Management Plan

EXTERNAL EMAIL

EXTERNAL EMAIL - We could not verify the authenticity of this message. Please be cautious when clicking on links or opening attachments.

Hi,

Thank you for getting back to me.

Yes, I would like to have a hard copy, as it would be impossible to review a 1,300 page document at the township office or

at the Winchester library.

I can come to pick it up at the Township office, once it's ready, to save on postage. My home number is [REDACTED], if someone can call me when it's ready.

I have seen the post today, on the Township of North Dundas Facebook page. Thank you for arranging this.

Best Regards,

[REDACTED]

On Fri., May 27, 2022, 3:20 p m. Marcerou, Yannick, <Yannick_Marcerou@golder.com> wrote:

Hello,

This is to confirm that we have received your request for a hardcopy of the draft EA. We limited the number of hardcopies circulated as part of our efforts to reduce our carbon footprint, but copies are available for review at public viewing locations: the Township office, the SD&G Library Winchester Branch, the SD&G Counties office, and the Ontario Ministry of the Environment, Conservation and Parks (MECP) office in Cornwall. If you still require your own copy for your review, we will have a copy prepared early next week and we will mail it to you as soon as we can. Please let us know what address we should send it to.

The Township advertised the upcoming circulation of the draft EA in the Chesterville Record on May 12, 2022 and in the North Dundas Times on May 18, 2022. A post on the Township's social media will be published soon.

Thank you for your email and we are looking forward to receiving your comments and feedback.

Have a good afternoon and a good weekend!

Sincerely,

Yannick Marcerou, *he/him*

Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318

From: [REDACTED]

Sent: May 27, 2022 12:24 PM

To: Marcerou, Yannick <yannick.marcerou@wsp.com>; Doug Froats <dfroats@northdundas.com>

Subject: Re: Draft Environmental Assessment for the Township of North Dundas Waste Management Plan

EXTERNAL EMAIL

EXTERNAL EMAIL - We could not verify the authenticity of this message. Please be cautious when clicking on links or opening attachments.

Hello,

Yes, I would like a printed copy please, even though I have downloaded all the files. Since this is a huge document (over 1,300 pages), I really can't print that very efficiently on my home printer.

Also, will this notice be shared to the Township's social media?

Thank you,



On Thu, May 26, 2022 at 5:11 PM Yannick Marcerou <yannick_marcerou@golder.com> wrote:

Tracking ID 20220526-140742-gywBmXTL

By clicking the links you agree to the [Terms of Use](#).

Sender Name	Yannick Marcerou	Download Files Available until 25 Jun 2022	Reply with Cryptshare
Phone	6135929600		
Email	yannick_marcerou@golder.com		

Password: No password required.

Hello,

The Township of North Dundas (Township) has completed a draft Environmental Assessment (EA) of the Township of North Dundas Waste Management Plan. The Township is seeking input on the draft EA. Please see the notification letter in the link provided outlining further information on the EA, the draft EA and how to submit comments on the draft EA. An electronic copy of the draft EA is also provided on the project website at <https://www.northdundas.com/municipal-services/environmental-assessments> and consists of all volumes (Volumes 1 to 4).

As a requirement of commitment 15 in the approved Terms of References, the draft EA Study Report will be available for public review and comment from May 27, 2022 to June 24, 2022 for a four-week review period.

Following the above review period, the draft EA Study Report will be updated to address comments received and will be submitted to the Ontario Ministry of the Environment, Conservation and Parks (MECP) as part of the formal review process.

Should you require a hard copy (or an electronic copy in a USB drive) of the draft EA Study Report, please email or call us and we will be happy to prepare it for you. If you wish to save a copy of the files provided in this email for future reference, please download and save them to your local computer drive as the download link will expire on June 25, 2022.

Please let us know if you have any issues accessing the notice letter or the draft EA Report from the link provided.

Sincerely,

Yannick Marcerou

Attachments in Link: Click on the link in the upper right corner of this email labelled "Download Files" to access the Notification Letter and the draft EA Study Report (Volumes 1, 2, 3 and 4).

Yannick Marcerou, *he/him*

Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318

1931 Robertson Road, Ottawa, Ontario, Canada, K2H 5B7

wsp.com | golder.com

WSP and Golder have joined together to form the premier environmental consultancy in the industry. Together we are 14,000 strong, future ready and delivering innovative solutions to our clients around the globe.

Transfer Details

CC:

yannick_marcerou@golder.com

dfroats@northdundas.com

trish_edmond@golder.com

jordan.hughes@ontario.ca

robert_mcdonald@golder.com

Download Link: <https://smc.golder.com/download?id=lorjNqI3Ss&password=tc2%3DHfR%40>

Files in this Transfer

1648253 Boyne_EA-DRAFT-Volume 2.pdf

NOTICE~1.PDF

1648253 Boyne_EA-DRAFT-2022-05-17.pdf

1648253 Boyne_EA-DRAFT-Volume 4.pdf

1648253 Boyne_EA-DRAFT-Volume 3.pdf

For further information please follow this link: [Cryptshare Documentation](#)

This message has been generated automatically.

From: [REDACTED]
To: [Marcerou Yannick](#)
Cc: [Doug Froats](#); [Edmond Trish](#)
Subject: Re: Draft Environmental Assessment for the Township of North Dundas Waste Management Plan
Date: June 24, 2022 5:13:15 PM

EXTERNAL EMAIL

EXTERNAL EMAIL - We could not verify the authenticity of this message. Please be cautious when clicking on links or opening attachments.

Hi,

While I have not read the entire document, I do have some questions and comments:

1. Regarding the 25 year planning period, I realize that this is a requirement of the province. However, it seems short sighted (in my opinion) to do that. Will the new landfill, as proposed by this EASR, really be full 25 years after it opens? I wonder if it would not be prudent to invest a bit more in the size of the new landfill to provide more capacity for later on. After all, the current landfill is already 57 years old. Also, if the new landfill is full after 25 years, what options will the township have at that point? Is there already land available near the current landfill / new landfill for another landfill in 25 or 30 years? i.e. do we only have one opportunity here to build a new landfill, and 25+ years later we're in big trouble? Also, the city of Ottawa is starting their process for a new landfill, and they are aiming for a landfill that will last 30 years. Shouldn't we do at least the same?
2. What happens to the old (current) landfill after the new landfill becomes operational? Does something need to be done to it? If so, what needs to be done and what are the costs?
3. Regarding the cost estimates (page E29), These are in 2021 dollars. Shouldn't they now be converted to be in 2022 dollars?
4. Regarding the phasing of the capital costs, what are the approximate timelines? i.e. Year 1 - do xxxx, Year 2 - do yyyy, Year 3 - do zzzz, etc. And how are each of the 3 groupings of capital costs phased? I believe that it was mentioned at the open house in April 2022 that it will take about 1 year for the province to approve this EASR. So, approximately when will the new landfill become operational? 2025? 2026?
5. Again, regarding costs, on page E29, it says "These cost components are not expected to adversely impact municipal finances." Is this still true, given the current economic pressures and rate of inflation in Canada?
6. In section 1.2, page 1-2, it gives the population of North Dundas as "2016 population of 11, 278". I realize that the 2021 census information is not yet available from Statistics Canada, but when it is, can this please be updated accordingly? This is especially important given the events of the last two years, with more and more people moving outside of Ottawa to rural areas, related to the pandemic and the ability for more people to work from home. The demands on water and sewage services within North Dundas Township due to high increased demand for new homes likely would also reflect an increase in demand for waste management services, would it not?.
7. In Section 1.3.2, it says "The Boyne Road Landfill is located ... which is approximately mid-way between the two main population centres within the Township - the villages of Winchester and Chesterville." The town of Winchester is 2 km from the landfill, whereas the town of Chesterville is 8 km (as the crow flies) from the landfill or 10 km (via Boyne Road and County Road 7) from the landfill. So, the landfill is not approximately mid-way between the two main population centres.
8. Somewhat outside of the scope of this is the whole recycling program in North Dundas Township. Is there any real data that shows the percentage of residents that recycle and/or compost their kitchen/garden waste? How do we know if we are doing enough recycling to divert waste from the landfill?

Thank you very much for the opportunity to comment on the EASR.
I look forward to future updates, as they become available.

Regards,
[REDACTED]

On Wed, Jun 8, 2022 at 9:11 PM [REDACTED] wrote:
Hi,

Thank you for letting me know. I will pick it up tomorrow.

Regards,
[REDACTED]

On Wed., Jun. 8, 2022, 4:28 p m. Marcerou, Yannick, <Yannick_Marcerou@golder.com> wrote:

Hello,

We wanted to let you know that your copy of the draft EA is available to pick up at the Township's office reception. They are open to the public Monday to Friday from 8:30am to 4:30pm.

Please do not hesitate to contact us if you have any questions or feedback to share on this draft EA.

Have a good evening!

Sincerely,

Yannick Marcerou, *he/him*

Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318



From: [REDACTED]
Sent: June 2, 2022 2:33 PM
To: Marcerou, Yannick <yannick.marcerou@wsp.com>
Cc: Doug Froats <dfroats@northdundas.com>; Edmond, Trish <trish.edmond@wsp.com>
Subject: Re: Draft Environmental Assessment for the Township of North Dundas Waste Management Plan

EXTERNAL EMAIL

EXTERNAL EMAIL - We could not verify the authenticity of this message. Please be cautious when clicking on links or opening attachments.

Hi,

Thank you very much for the update.

I look forward to receiving the EA documents next week.

Regards,

[REDACTED]

On Thu., Jun. 2, 2022, 1:57 p.m. Marcerou, Yannick, <Yannick_Marcerou@golder.com> wrote:

[REDACTED]

We wanted to inform you that due to some confusion from our print shop, we do not expect to have all 4 volumes ready before early next week.

Please accept our apologies for the delay. We will contact you when the copies will be ready to be picked up at the Township's office.

Have a good day!

Yannick Marcerou, *he/him*

Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318



From: [REDACTED]
Sent: May 27, 2022 5:56 PM
To: Marcerou, Yannick <yannick.marcerou@wsp.com>
Cc: Doug Froats <dfroats@northdundas.com>; Edmond, Trish <trish.edmond@wsp.com>; Smolkin, Paul <paul.smolkin@wsp.com>
Subject: Re: Draft Environmental Assessment for the Township of North Dundas Waste Management Plan

EXTERNAL EMAIL

EXTERNAL EMAIL - We could not verify the authenticity of this message. Please be cautious when clicking on links or opening attachments.

Hi,

Thank you for getting back to me.

Yes, I would like to have a hard copy, as it would be impossible to review a 1,300 page document at the township office or at the Winchester library.

I can come to pick it up at the Township office, once it's ready, to save on postage. My home number is [REDACTED], if someone can call me when it's ready.

I have seen the post today, on the Township of North Dundas Facebook page. Thank you for arranging this.

Best Regards,

[REDACTED]

On Fri., May 27, 2022, 3:20 p.m. Marcerou, Yannick, <Yannick_Marcerou@golder.com> wrote:

Hello,

This is to confirm that we have received your request for a hardcopy of the draft EA. We limited the number of hardcopies circulated as part of our efforts to reduce our carbon footprint, but copies are available for review at public viewing locations: the Township office, the SD&G Library Winchester Branch, the SD&G Counties office, and the Ontario Ministry of the Environment, Conservation and Parks (MECP) office in Cornwall. If you still require your own copy for your review, we will have a copy prepared early next week and we will mail it to you as soon as we can. Please let us know what address we should send it to.

The Township advertised the upcoming circulation of the draft EA in the Chesterville Record on May 12, 2022 and in the North Dundas Times on May 18, 2022. A post on the Township's social media will be published soon.

Thank you for your email and we are looking forward to receiving your comments and feedback.

Have a good afternoon and a good weekend!

Sincerely,

Yannick Marcerou, *he/him*

Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318

From: [REDACTED]
Sent: May 27, 2022 12:24 PM
To: Marcerou, Yannick <yannick_marcerou@wsp.com>; Doug Froats <dfroats@northdundas.com>
Subject: Re: Draft Environmental Assessment for the Township of North Dundas Waste Management Plan

EXTERNAL EMAIL

EXTERNAL EMAIL - We could not verify the authenticity of this message. Please be cautious when clicking on links or opening attachments.

Hello,

Yes, I would like a printed copy please, even though I have downloaded all the files. Since this is a huge document (over 1,300 pages), I really can't print that very efficiently on my home printer.

Also, will this notice be shared to the Township's social media?

Thank you,

[REDACTED]

On Thu, May 26, 2022 at 5:11 PM Yannick Marcerou <yannick_marcerou@golder.com> wrote:



By clicking the links you agree to the [Terms of Use](#).

Sender Name **Yannick Marcerou**
Phone [6135929600](tel:6135929600)
Email yannick_marcerou@golder.com

Download Files

Available until 25. Jun 2022

Password: No password required.

Hello,

The Township of North Dundas (Township) has completed a draft Environmental Assessment (EA) of the Township of North Dundas Waste Management Plan. The Township is seeking input on the draft EA. Please see the notification letter in the link provided outlining further information on the EA, the draft EA and how to submit comments on the draft EA. An electronic copy of the draft EA is also provided on the project website at <https://www.northdundas.com/municipal-services/environmental-assessments> and consists of all volumes (Volumes 1 to 4).

As a requirement of commitment 15 in the approved Terms of References, the draft EA Study Report will be available for public review and comment from May 27, 2022 to June 24, 2022 for a four-week review period.

Following the above review period, the draft EA Study Report will be updated to address comments received and will be submitted to the Ontario Ministry of the Environment, Conservation and Parks (MECP) as part of the formal review process.

Should you require a hard copy (or an electronic copy in a USB drive) of the draft EA Study Report, please email or call us and we will be happy to prepare it for you. If you wish to save a copy of the files provided in this email for future reference, please download and save them to your local computer drive as the download link will expire on June 25, 2022.

Please let us know if you have any issues accessing the notice letter or the draft EA Report from the link provided.

Sincerely,

Yannick Marcerou

Attachments in Link: Click on the link in the upper right corner of this email labelled "Download Files" to access the Notification Letter and the draft EA Study Report (Volumes 1, 2, 3 and 4).

Yannick Marcerou, *he/him*

Environmental/Waste Engineer, M.Eng., P.Eng.

T+ 1 613-592-9600 #3318

1931 Robertson Road, Ottawa, Ontario, Canada, K2H 5B7

wsp.com | golder.com

WSP and Golder have joined together to form the premier environmental consultancy in the industry. Together we are 14,000 strong, future ready and delivering innovative solutions to our clients around the globe.

Transfer Details

CC:

yannick_marcerou@golder.com

dfroats@northdundas.com

trish_edmond@golder.com

jordan.hughes@ontario.ca

robert_mcdonald@golder.com

Download Link: <https://smc.golder.com/download?id=lonNql3Ss&password=tc2%3DHfR%40>

Files in this Transfer

1648253 Boyne_EA-DRAFT-Volume 2.pdf

NOTICE~1.PDF

1648253 Boyne_EA-DRAFT-2022-05-17.pdf

1648253 Boyne_EA-DRAFT-Volume 4.pdf

1648253 Boyne_EA-DRAFT-Volume 3.pdf

For further information please follow this link: [Cryptshare Documentation](#)

This message has been generated automatically.

Public

#	Reference to EA	Comments & Rationale	Proposed Action / Solution	Changes to the EASR
Public		June 24, 2022		
1	Draft EA	<p>Regarding the 25 year planning period, I realize that this is a requirement of the province. However, it seems short sighted (in my opinion) to do that. Will the new landfill, as proposed by this EASR, really be full 25 years after it opens? I wonder if it would not be prudent to invest a bit more in the size of the new landfill to provide more capacity for later on. After all, the current landfill is already 57 years old. Also, if the new landfill is full after 25 years, what options will the township have at that point? Is there already land available near the current landfill / new landfill for another landfill in 25 or 30 years? i.e. do we only have one opportunity here to build a new landfill, and 25+ years later we're in big trouble? Also, the city of Ottawa is starting their process for a new landfill, and they are aiming for a landfill that will last 30 years. Shouldn't we do at least the same?</p>	--	<p>The 25-year capacity for the landfill expansion reflects current practices in the province and serves as the basis for waste generation estimates. Improved waste diversion practices over the next 25 years may extend the lifespan of the landfill past 25 years, noting that the landfill capacity is based on the approved landfill volume and not the 25-year period.</p> <p>Additional waste planning options will be explored by the Township before the expanded landfill reaches capacity (which is outside the scope of this EASR). The 'new' landfill currently being proposed is an expansion to the existing landfill. This expansion does not negate the potential for another expansion in 25 or 30 years.</p> <p>The requirements and needs for the City of Ottawa differ from those of the Township of North Dundas. A 25-year planning period for waste management is typical and considered appropriate for the Township.</p> <p>No change required.</p>

#	Reference to EA	Comments & Rationale	Proposed Action / Solution	Changes to the EASR
2	EA Draft	What happens to the old (current) landfill after the new landfill becomes operational? Does something need to be done to it? If so, what needs to be done and what are the costs?	--	The existing footprint of waste at the Boyne Landfill site will be extended and waste will be placed on top of a portion of and next to the existing landfill as shown in Section 12.0. The areas of the landfill, for both the existing landfill and the expansion area, that have reached their final design contours will progressively have a permeable final soil cover placed upon it. The costs for final closure of the whole landfill will be spread out over the life of the landfill and will be included in the Township's annual budgeting for site operations. The Township will be responsible for the maintenance and care of the whole landfill site. No changes required.

#	Reference to EA	Comments & Rationale	Proposed Action / Solution	Changes to the EASR
3	<p>Volume I, Executive Summary, Page E29, Design and Operations</p> <p>Volume I, Section 13.10.5, Impact Assessment of the Preferred Undertaking – Design and Operations – Capital and Operating Costs</p>	Regarding the cost estimates (page E29), These are in 2021 dollars. Shouldn't they now be converted to be in 2022 dollars?	--	These estimates were prepared in 2021 and properly reflect the time they were prepared. Updated cost estimates will be prepared as part of final design and can be updated to current year values when the work is to be done. No changes required.

#	Reference to EA	Comments & Rationale	Proposed Action / Solution	Changes to the EASR
4	<p>Volume I, Executive Summary, Page E29, Design and Operations</p> <p>Volume I, Section 13.10.5, Impact Assessment of the Preferred Undertaking – Design and Operations – Capital and Operating Costs</p>	<p>Regarding the phasing of the capital costs, what are the approximate timelines? i.e. Year 1 - do xxxx, Year 2 - do yyyy, Year 3 - do zzzz, etc. And how are each of the 3 groupings of capital costs phased? I believe that it was mentioned at the open house in April 2022 that it will take about 1 year for the province to approve this EASR. So, approximately when will the new landfill become operational? 2025? 2026?</p>	--	<p>As discussed in Section 13.10.5, the main capital costs will be phased with progressive construction and filling of the expansion. Initially the clearing and base for the first expansion cell will be constructed, along with the stormwater management wetland and ditch on the north side of the existing landfill. The mitigation measures in the Volks Drain could be constructed during the first few years of the expansion. The exact timing of the progressive construction (and therefore capital costs) will be dependent on the needs of the landfill based on the rate of waste being received on site.</p> <p>Because the selected waste management option is landfill expansion, the 'new' landfill's operation will be a continuation of the existing landfill's operation. The date of EA approval will designate the start of subsequent EPA approvals and then construction of the expansion. The currently approved site capacity is expected to be reached into 2024, so the intent is to be able to start to shift disposal into the expansion area at that time. No changes required.</p>

#	Reference to EA	Comments & Rationale	Proposed Action / Solution	Changes to the EASR
5	<p>Volume I, Executive Summary, Page E29, Design and Operations</p> <p>Volume I, Section 13.10.5, Impact Assessment of the Preferred Undertaking – Design and Operations – Capital and Operating Costs</p>	<p>Again, regarding costs, on page E29, it says "These cost components are not expected to adversely impact municipal finances." Is this still true, given the current economic pressures and rate of inflation in Canada?</p>	--	<p>As discussed on page E29 and in Section 13.10.5, the rationale provided was that the operating costs are expected to be comparable to current operating costs and that the capital costs will be phased with progressive construction and can be planned with the Township's annual capital expenditures budgeting process. This rationale remains true in the current economic situation. No changes required.</p>

#	Reference to EA	Comments & Rationale	Proposed Action / Solution	Changes to the EASR
6	Volume 1, Section 1.2 – Introduction – Identification of Proponent	In section 1.2, page 1-2, it gives the population of North Dundas as "2016 population of 11, 278". I realize that the 2021 census information is not yet available from Statistics Canada, but when it is, can this please be updated accordingly? This is especially important given the events of the last two years, with more and more people moving outside of Ottawa to rural areas, related to the pandemic and the ability for more people to work from home. The demands on water and sewage services within North Dundas Township due to high increased demand for new homes likely would also reflect an increase in demand for waste management services, would it not?	--	The data available at the time the report prepared was used and was properly referenced. No changes required.

#	Reference to EA	Comments & Rationale	Proposed Action / Solution	Changes to the EASR
7	Volume 1, Section 1.3.2 – Introduction – Current Waste Management System – Residual Waste Disposal (Boyne Road Landfill Site)	<p>In Section 1.3.2, it says “The Boyne Road Landfill is located ... which is approximately mid-way between the two main population centres within the Township - the villages of Winchester and Chesterville”.</p> <p>The town of Winchester is 2 km from the landfill, whereas the town of Chesterville is 8 km (as the crow flies) from the landfill or 10 km (via Boyne Road and County Road 7) from the landfill. So, the landfill is not approximately mid-way between the two main population centres.</p>	--	Acknowledged and agreed. Text in EASR Section 1.3.2 will be updated.
8	Draft EA	<p>Somewhat outside of the scope of this is the whole recycling program in North Dundas Township. Is there any real data that shows the percentage of residents that recycle and/or compost their kitchen/garden waste? How do we know if we are doing enough recycling to divert waste from the landfill?</p>	--	This topic is discussed in Volume III, Appendix J – Waste Diversion Study. No changes required.

Item No.	Part, Chapter, Sec, Subsec, page, DWG#	Review Comment
1	<p>6.0 Assessment of 'Alternatives To' the Undertaking</p> <p>6.4 Comparative Evaluation of 'Alternatives To'</p> <p>Table 6-7: Summary of Evaluation of Alternatives – Cultural Heritage Resources</p> <p>Page 6-16</p>	<p>Please remove references to provincial approvals for built heritage resources and cultural heritage landscapes. As this project does not contain provincially owned lands, or property with provincial heritage protections, there are no relevant provincial approvals.</p> <p>In Ontario, the vast majority of protected heritage properties (which would require approvals for alterations) are identified and protected by the municipality under the <i>Ontario Heritage Act</i>.</p> <p>We recommend the following alternative language is incorporated into each cell in this row:</p> <p>“...would have received the required provincial approvals regarding cultural heritage for protected heritage properties.”</p>
2	<p>8.0 Study Areas and Environmental Component Work Plans for Landfill Expansion</p> <p>8.2 Environmental Component Work Plans</p> <p>Table 8-1: Summary of Work Plans for the EA</p> <p>Page 8-15</p>	<p>For both Cultural Heritage Landscapes and Built Heritage Resources, please add the following to the Data Collection and Field Work Column, as a step that would take place before “complete a cultural heritage resources impact assessment”:</p> <ul style="list-style-type: none"> • Complete the MHSTCI Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes (2016) checklist
3	<p>9.0 Description of the Environment Potentially Affected for Landfill Expansion</p> <p>9.7.1 Archaeological Resources</p>	<p>The discussion of archaeology should conclude with a statement that the Stage 1 archaeological assessment determined that the study area has low potential to contain archaeological resources.</p>

June 23, 2022

	Page 8-89	
4	9.0 Description of the Environment Potentially Affected for Landfill Expansion 9.7.1 Archaeological Resources Page 8-89	Similar to the comment above, this section should provide a concluding statement to say there are no known or potential built heritage resources or cultural heritage landscapes in the study area.
5	Appendix G-2 Stage 1 Archaeological Assessment	<p>Please note that the Stage 1 Archaeological Assessment for this project has been submitted to MHSTCI (Archaeology Program Unit) but has not yet been reviewed and accepted onto the Ontario Public Register of Archaeological Reports. The Stage 1 AA is not considered complete until it has been accepted onto the Register.</p> <p>If there are concerns about finalizing the assessment within project timelines, you may wish to ask the licensed archaeologist who prepared the report to submit a request for expedited review the Ministry.</p>

July 2022

Government Review Team

Proposal: North Dundas Waste Environmental Management Plan Environmental Assessment

Proponent: Township of North Dundas

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) Laura Hatcher – Heritage Planner Heritage Planning Unit Programs and Services Branch Heritage, Tourism and Culture Division				
1.	Volume 1, Section 6.0, Assessment of 'Alternatives To' the Undertaking Volume 1, Section 6.4, Comparative Evaluation of 'Alternatives To' Table 6-7: Summary of Evaluation of Alternatives – Cultural Heritage Resources	<p>Please remove references to provincial approvals for built heritage resources and cultural heritage landscapes. As this project does not contain provincially owned lands, or property with provincial heritage protections, there are no relevant provincial approvals.</p> <p>In Ontario, the vast majority of protected heritage properties (which would require approvals for alterations) are identified and protected by the municipality under the Ontario Heritage Act.</p>	<p>We recommend the following alternative language is incorporated into each cell in this row:</p> <p>“...would have received the required provincial approvals regarding cultural heritage for protected heritage properties.”</p>	Requested changes to the EA sections have been made.
2.	Volume 1,	For both Cultural Heritage	Make the changes suggested.	Requested changes to the

July 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
	<p>Section 8.0, Study Areas and Environmental Component Work Plans for Landfill Expansion</p> <p>Volume 1, Section 8.2, Environmental Component Work Plans</p> <p>Table 8-2: Summary of Work Plans for the EA</p>	<p>Landscapes and Built Heritage Resources, please add the following to the Data Collection and Field Work Column, as a step that would take place before "complete a cultural heritage resources impact assessment":</p> <p>Complete the MHSTCI Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes (2016) checklist</p>		<p>EA sections have been made.</p>
3.	<p>Volume 1, Section 9.0, Description of the Environment Potentially Affected for Landfill Expansion</p>	<p>The discussion of archaeology should conclude with a statement that the Stage 1 archaeological assessment determined that the study area has low potential to contain archaeological resources.</p>	<p>Make the changes suggested.</p>	<p>The requested statement to be added to Section 9.7.1 is a conclusion after review of the background data and is more appropriate in Section 13.7.1 - the impact assessment where such information is already contained. Additional text</p>

July 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
	Volume 1, Section 9.7.1, Archaeological Resources			has been added to the beginning of Section 9.7.1 clarifying that this section of the EASR summarizes background information and Section 13.7.1 provides conclusions from the assessment of the background information.
4.	Volume 1, Section 9.0, Description of the Environment Potentially Affected for Landfill Expansion Volume 1, Section 9.7.2, Built Heritage Resources and Cultural Heritage Landscapes	Similar to the comment above, this section should provide a concluding statement to say there are no known or potential built heritage resources or cultural heritage landscapes in the study area.	Make the changes suggested.	Section 9.7.2.3.1 contains the summary that no known or potential built heritage resources or cultural heritage landscapes are present in the study area. No changes to the EASR are proposed.
5.	Volume 2, Appendix G-2	Please note that the Stage 1 Archaeological Assessment for	No changes to the EASR are proposed.	Acknowledged.

July 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
	Stage 1 Archaeological Assessment	<p>this project has been submitted to MHSTCI (Archaeology Program Unit) but has not yet been reviewed and accepted onto the Ontario Public Register of Archaeological Reports. The Stage 1 AA is not considered complete until it has been accepted onto the Register.</p> <p>If there are concerns about finalizing the assessment within project timelines, you may wish to ask the licensed archaeologist who prepared the report to submit a request for expedited review the Ministry.</p>		

July 2022

Government Review Team

Proposal: North Dundas Waste Environmental Management Plan Environmental Assessment

Proponent: Township of North Dundas

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
Ministry of Northern Development, Mines, Natural Resources and Forestry Sam Short – Regional Planner Land Use Planning and Strategic Issues Section				
1.	Draft EA	<u>Fish and Wildlife Conservation Act</u> Please note, that should the project require: <ul style="list-style-type: none">• The relocation of fish outside of the work area, a License to Collect Fish for Scientific Purposes under the <i>Fish and Wildlife Conservation Act</i> will be required.• The relocation of wildlife outside of the work area (including amphibians, reptiles, and small mammals), a Wildlife Collector's Authorization under the <i>Fish and Wildlife Conservation Act</i> will be required.	No changes to the EASR are proposed.	Acknowledged.

From: Short, Sam (NDMNRF) <Sam.Short@ontario.ca>

Sent: June 21, 2022 2:12 PM

To: Doug Froats <dfroats@northdundas.com>

Subject: RE: REQUEST FOR REVIEW - Draft EA for the Township of North Dundas Waste Management Plan

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Doug,

Thank you for circulating the attached notice to our office. NDMNRF's Land Use

Planning and Strategic Issues Section (LUPSI) has received and reviewed the Draft EA prepared for the Township of North Dundas Waste Management Plan/Boyne Road Landfill expansion. We provide the following comments for your consideration.

Fish and Wildlife Conservation Act

Please note, that should the project require:

- The relocation of fish outside of the work area, a Licence to Collect Fish for Scientific Purposes under the *Fish and Wildlife Conservation Act* will be required.
- The relocation of wildlife outside of the work area (including amphibians, reptiles, and small mammals), a Wildlife Collector's Authorization under the *Fish and Wildlife Conservation Act* will be required.

Thank you for the opportunity to provide comments. I look forward to hearing from you.

Sam Short (he/him)

Regional Planner

Ph: 705-772-9329

Land Use Planning and Strategic Issues Section – Southern Region

Ministry of Northern Development, Mines, Natural Resources and Forestry

September 2022

Government Review Team

Proposal: North Dundas Waste Environmental Management Plan Environmental Assessment

Proponent: Township of North Dundas

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
South Nation Conservation Michael Melaney – Hydrogeologist				
1.	Draft EA	The documents do not include any detailed geological cross-sections as recommended during South Nation Conservation's review of the groundwater workplan.		<p>A draft work plan was circulated to SNC, followed by a conference call with SNC and the MECP technical support reviewers to discuss any comments or questions; see Volume 4 Appendices G1 and G2, respectively. A summary of the conference call along with an updated work plan were circulated to all the same parties; see Volume 4 Appendices G2 and G3, respectively. No geological cross-sections were previously requested.</p> <p>A north-south cross section has been added to Section 9.2.1 of Volume 1 as Figure 9-5A.</p>

September 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
2.	Figure 9-6 and Figure 9-7	<p>Two potentiometric maps have been provided on Figures 9-6 and 9-7, and MW07-25, MW16, and MW17 have been interpreted as a potentiometric sink. This interpretation is likely in error as it means the water is leaving the system at that location. However the overall hydraulic conceptual interpretation appears satisfactory</p> <p>It is assumed that the MECP has completed a thorough review of the annual monitoring reports. In general they appear to show that impacted groundwater is moving away from municipal WHPA's.</p>	Leachate plume mapping should be included as it would clarify the overall longterm potential for impacts to water sources being utilized for human consumption.	It is acknowledged that the potentiometric maps shown on Figures 9-6 and 9-7 do make it appear that there could be a potentiometric sink, although the text very clearly indicates this is not interpreted to be the case as outlined in the first paragraph of Section 9.2.2.2.1: "Topography in the Site and Site-vicinity Study Areas is flat; as a result, hydraulic gradients, and groundwater flow directions may vary temporarily/seasonally and can be influenced by very slight variations in groundwater elevations."

September 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
				<p>As noted in Section 9.2.2.2.4 of Volume 1, based on the upper bound of the typical groundwater flow velocity it is estimated that the leachate plume could have travelled approximately 220 m from the waste fill area, which essentially indicates a plume within the landfill property or the contaminant attenuation zone. Section 9.2.2.2.5 indicated there was good agreement with analytical site data and this interpretation of plume location. Section 9.2.2.2.5 has been updated to outline what monitoring wells are interpreted as being impacted by landfill leachate; this serves to provide the extent of the leachate affected groundwater, and no plan illustrating plume location is required.</p>

September 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
3.	Draft EA	The approval authority should carefully consider the potential implications of the expansion of this activity within a delineated zone that contributes groundwater to a municipal drinking water supply.	As recommended by the MECP, additional work should be completed to fully comprehend the potential risk to the municipal wells even though the current risk may seem low. Due to the scarcity of regional aquifers having relatively good water quality across the South Nation watershed, it is critical that all possible due diligence steps be taken to protect these sources	The MECP made comments for further assessment, monitoring and contingency plans in September 2019 while reviewing the Terms of Reference and it was repeated in 2022. It is noted that additional assessment was provided in Section 9.2.2.3 of Volume 1 for the existing site and Section 13.2.4 of Volume 1 for the preferred landfill expansion alternative. The monitoring and contingency programs outlined in Sections 16.1.1 and 16.2.1 of Volume 1, respectively, although meant primarily to be protective of reasonable groundwater usage adjacent to the landfill, are also therefore monitoring and would trigger contingency that would also be protective of the distant municipal water supply wells. As noted in Section 16.1 of Volume 1, the existing groundwater trigger mechanism will be reviewed and modified as appropriate during the ECA amendment application for the landfill expansion. No changes to the EASR are proposed.

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
4.	Draft EA	There is uncertainty in all hydrogeological interpretation including those for this project. It should be understood that uncertainty in the hydrogeology and/or leachate plume conditions could result in significant financial and societal impacts.	Consequently, continual assessment and adjustment is necessary to protect the neighboring municipal water resources and regional aquifers.	Understood. The models used for assessment of this landfill expansion have used conservative assumptions and the proposed continual assessment and adjustment are described in Section 16.1 of Volume 1, noting there will be refinement during the ECA amendment application for the landfill expansion. No changes to the EASR are proposed.
5.	Draft EA	Additional monitoring wells and testing (other than slug tests) should be completed to clarify the hydrogeological setting and leachate plumes. This should be accompanied with specific contingency plans to ensure municipal water supplies and aquifers are not at risk.		As noted in Section 16.1, groundwater and surface water monitoring programs have been ongoing at the Boyne Road Landfill site for approximately 30 years. Several new monitoring wells were installed in advance of this landfill expansion project to provide coverage in areas that had not been previously investigated and/or monitored. These include MW 15-1 and 15-2 to the south of the existing landfill in the area of the proposed lateral expansion and MWs 16-1 A and B, 16-2 and 16-3 A, B and C on the north side of Boyne Road in the area of snow disposal and the CAZ. It is noted that all geological and hydrogeological borehole data collected, all slug tests, all potentiometric surfaces prepared and

September 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
				<p>estimates of groundwater flow velocity in Volume I and historical site monitoring reports all portray a consistent conceptual model of groundwater movement and behaviour in the area of the Boyne Road Landfill site. To assess landfill expansion potential groundwater impacts, 1-D transport calculations were prepared as outlined in Section 13.2.1 of Volume 1 and calibrated well to existing conditions, further substantiating the understanding of existing conditions. The MECP groundwater reviewer is supportive of the assessment of existing conditions and future potential impact associated with landfill expansion. As such, no further monitoring wells and testing is deemed necessary.</p> <p>Contingency plans for off-site groundwater users were described in Section 16.2.1 of Volume 1 and accepted by the MECP groundwater reviewer. These contingency plans would also be relevant and applicable to the more distant municipal water supply wells.</p>

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
6.	Draft EA	<p>The MECP has indicated that, if the ongoing groundwater monitoring program at any of the Compliance Evaluation Monitoring Wells defines the existence of, or potential for, unacceptable impacts on groundwater quality beyond the CAZ boundaries, the Township will prepare and present a mitigation plan for the approval of the MECP Director and/or the District Manager. Contingency actions to be taken by the Township to prevent or remediate the off-property impacts could consist of:</p> <ul style="list-style-type: none"> a. Delineation of the extent of the leachate impact on groundwater, and acquisition of additional CAZ land to bring the site into compliance with the RUG; b. Gaining control over the contaminated groundwater to bring the site into compliance; and, c. Developing and implementing groundwater control/treatment measures 	A full understanding of these contingency actions is necessary due to the presence of the municipal wells. These actions to prevent and or remediate can be very expensive and long lasting.	Acknowledged; however, it is not possible to provide a full understanding of these contingency actions at this time. The selected contingency action has to be evaluated at the time an issue is identified, as action requirements can change based on depth of leachate impact in the groundwater system, parameters and their concentration relative to the regulatory criteria, and direction of impact in relation to the landfill. The MECP is well aware of this and that is why they allow for contingency development details to be provided when an issue is identified. It should be noted, however, that trigger mechanisms that trigger contingency actions are not set at the regulatory limits, i.e., Reasonable Use for groundwater or PWQO for surface water, but instead often 75% of those limits when evaluated at property boundaries or in surface water courses to allow some time to implement contingencies before the site is actually out of compliance. Furthermore, for groundwater the Reasonable Use criteria are already lower than drinking water objectives and hence there is a considerable degree of

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
		(for example, a groundwater interceptor trench in overburden or purge wells in bedrock) to bring the site into compliance with the RUG.		conservatism as related to individual wells and the even more distant municipal wells because the evaluation is a comparison to criteria below the drinking water objectives. Also, as previously noted, there is a significant distance from the landfill to the municipal wells. No changes to the EASR are proposed.



Via E-mail (dfroats@northdundas.com)

July 20, 2022

Mr. Doug Froats
Director of Waste Management
Township of North Dundas
636 St. Lawrence Street, P.O. Box 489
Winchester, ON K0C 2K0

**Subject: Environmental Assessment Waste Management Plan
Hydrogeological Review
Boyne Road Landfill Expansion
Township of North Dundas
Lot 8, Concession 6 (Winchester)
Roll Number: 051101600616000**

Dear Mr. Froats,

South Nation Conservation (SNC) has received and reviewed the following documents:

- i. Volume 1 Environmental Assessment of the Township of North Dundas Waste Management. Prepared by Golder and the Township of North Dundas. Dated May 2022.
- ii. Volume 2 Environmental Assessment of the Township of North Dundas Waste Management. Prepared by Golder and the Township of North Dundas. Dated May 2022.
- iii. MECP Memorandum review of the Environmental Assessment, Dated June 20, 2022.

The reports provided for review seem to assume that SNC has significant knowledge of the site's geological and hydrogeological conditions. It is suspected that much more information through annual monitoring reports has been reviewed concurrently with these submittals by the MECP. Generally, during hydrogeological reviews SNC would expect to see the following:

- multiple interpreted geological cross-sections;
- hydrogeological analyses inclusive of longterm pumping tests to appropriately assess the bulk hydrogeological parameters;
- annual and seasonal potentiometric maps with a well defined and understood groundwater flow directions locally and regionally;
- leachate plume mapping in separate aquifers (if defined appropriately).



SNC offers the following comments on the documents provided:

1. The documents do not include any detailed geological cross-sections as recommended during South Nation Conservation's review of the groundwater workplan.
2. Two potentiometric maps have been provided on Figures 9-6 and 9-7, and MW07-25, MW16, and MW17 have been interpreted as a potentiometric sink. This interpretation is likely in error as it means the water is leaving the system at that location. However the overall hydraulic conceptual interpretation appears satisfactory. Leachate plume mapping should be included as it would clarify the overall longterm potential for impacts to water sources being utilized for human consumption. It is assumed that the MECP has completed a thorough review of the annual monitoring reports. In general they appear to show that impacted groundwater is moving away from municipal WHPA's.
3. The approval authority should carefully consider the potential implications of the expansion of this activity within a delineated zone that contributes groundwater to a municipal drinking water supply. As recommended by the MECP, additional work should be completed to fully comprehend the potential risk to the municipal wells even though the current risk may seem low. Due to the scarcity of regional aquifers having relatively good water quality across the South Nation watershed, it is critical that all possible due diligence steps be taken to protect these sources.
4. There is uncertainty in all hydrogeological interpretation including those for this project. It should be understood that uncertainty in the hydrogeology and/or leachate plume conditions could result in significant financial and societal impacts. Consequently, continual assessment and adjustment is necessary to protect the neighboring municipal water resources and regional aquifers.
5. Additional monitoring wells and testing (other than slug tests) should be completed to clarify the hydrogeological setting and leachate plumes. This should be accompanied with specific contingency plans to ensure municipal water supplies and aquifers are not at risk.
6. The MECP has indicated that, if the ongoing groundwater monitoring program at any of the Compliance Evaluation Monitoring Wells defines the existence of, or potential for, unacceptable impacts on groundwater quality beyond the CAZ boundaries, the Township will prepare and present a mitigation plan for the approval of the MECP Director and/or the District Manager. Contingency actions to be taken by the Township to prevent or remediate the off-property impacts could consist of:



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- a. Delineation of the extent of the leachate impact on groundwater, and acquisition of additional CAZ land to bring the site into compliance with the RUG;
- b. Gaining control over the contaminated groundwater to bring the site into compliance; and,
- c. Developing and implementing groundwater control/treatment measures (for example, a groundwater interceptor trench in overburden or purge wells in bedrock) to bring the site into compliance with the RUG.

A full understanding of these contingency actions is necessary due to the presence of the municipal wells. These actions to prevent and or remediate can be very expensive and longlasting.

I trust the above is to your satisfaction. If you have any questions, please feel free to ask.

Sincerely,

Michael Melaney, M.Sc., P.Eng.
Hydrogeologist
South Nation Conservation

Tel: 1-613-984-2948

July 2022

Government Review Team

Proposal: North Dundas Waste Environmental Management Plan Environmental Assessment

Proponent: Township of North Dundas

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
South Nation Conservation James Holland – Watershed Planner				
1.	Section 9.4.1.3.6	Fish community surveys were only conducted in the summer and fall. Additionally, in 2020 the watershed was in drought conditions which would impact the ability to complete fish surveys.	A spring survey should have been completed when water levels were higher to determine use of the watercourses by fish.	All watercourses were conservatively determined to be fish habitat, supported by observation of watercourse conditions during the spring (April 1 and May 13) headwater drainage features surveys. The fish community in these features is assumed to mirror the community known to be present in Black Creek (described in Section 5), to which they are directly connected. WSP/Golder suggests that additional surveys are not required and will confirm with DFO through the subsequent permitting process. No changes to the EASR are proposed.

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
2.	Section 9.4.2.1	A discussion on Reach 3 is missing.	--	<p>The text describing Reach 3 was inadvertently deleted from the draft but has been added to Section 9.4.2.1 as follows: Reach 3</p> <p>Reach 3 is an intermittent channelized stream/ditch that parallels the southern boundary of the existing landfill before meeting up with Reach 4. During the April 2020 survey, this reach had low to moderate flow, with a depth of 100 to 280 mm. Wetted width was 2.5 m and bankful width was 2.5 m. Substrate was silt, clay, and organics. During the May 2020 survey, there was low flow. Very little to no instream habitat features were observed, with the exception of some downed woody debris and vegetation such as grasses and forbs. This reach was dry during the July 2020 and September 2020 surveys. Refer to Table 9-14 for basic water quality parameters.</p>

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
3.	Section 9.4.2	In 2020 the watershed was in drought conditions for the entire summer.	A discussion on the implications of this in relation to the aquatic ecosystems findings should be added.	See response to Comment #1.
4.	Section 9.4.2.2	Quart Municipal Drain would be considered indirect fish habitat as it provides some flow, sediments, nutrients, allochthonous inputs to downstream fish habitat.	--	As noted in Section 9.4.2.1.5: <i>The Quart Municipal Drain has been historically observed as dry and does not connect to the perimeter ditch which services the landfill fill area. Although historically dry, the designed drainage of the ditch is towards the west and would also not permit flow into Reach 2.</i> Based on this, Quart Drain does not provide inputs to downstream habitats on the Site, though it may provide inputs to downstream habitats off-Site. WSP/Golder will discuss this with DFO through the subsequent permitting process. No changes to the EASR are proposed.
5.	Section 9.4.4.5.1	The second paragraph states that the boundaries of the unevaluated and evaluated non-significant wetlands were refined in the field.	Any refinements to boundaries should be reviewed and accepted by the MNRF.	Acknowledged. MNRF have reviewed the draft EA.

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
6.	Section 10.1	The piping of the Volks Municipal Drain along the North side of the landfill will require a permit and submission to DFO for review.	--	Acknowledged. A request for Project Review and permit will be sought at the appropriate time as noted in Section 17.2 and 17.6 of the EASR.
7.	Section 10.1	As part of the work on the Volks Municipal Drain, invasive Phragmites plants should be removed from the drain along Boyne Road. This plant can quickly fill the drain and impede flows, nutrients, fish, and other organisms from moving downstream.	--	Acknowledged. The proposed work along the section of Volks Municipal Drain opposite the landfill site, whether it be a culvert or a lined open ditch, will involve the removal of the existing vegetation and this has been noted in Section 12.5 of Volume 1. As such, the removal of Phragmites plants will be carried out as part of this work in this section of the drain along the north side of Boyne Road.
8.	Figure 13-9 and Figure 11-7 and Figure 9-11	Figure 13-9 (page 411) and Figure 11-7 (page 321) don't match Figure 9-11 (page 228) in terms of the significant wildlife habitat - interior forest.	--	Figure 9-11 shows the extent of interior forest under existing conditions. Figure 11-7 shows the extent of interior forest remaining after construction of Alternative 3 (including an assumed 30 m construction access off-set). Figure 13-9 shows the extent of interior forest remaining after construction of the

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
				Preferred Alternative (including an assumed 30 m construction access off-set). Alternative 3 differs slightly from the Preferred Alternative in that the location of the proposed new perimeter ditch was shifted to be on the lower portion of the landfill sideslope in the Preferred Alternative compared to Alternative 3, resulting in the minor difference in remaining interior forest mapped on Figure 13-9 when compared to Figure 11-7. No changes to the EASR proposed.
9.	Section 13.4.1.2.1	It is very important to note that no alterations to the site can occur prior to receiving approval from the MECP in regard to the Species at Risk identified on or adjacent to the site.	--	Acknowledged. MECP approval is discussed in Section 17.3 of the EASR.
10.	Table 13-27	The timing window dates are incorrect. In-water work is allowed from July 1st to March 14th.	--	EASR text in Table 13-27 has been revised.
11.	Draft EA	The new perimeter ditch should follow natural channel design principles and include an appropriate vegetated buffer.	--	The new perimeter ditch will collect runoff from the landfill cover and convey it to the proposed SWM pond. The new perimeter ditch will be

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
				elevated onto the lower portion of the landfill sideslope as part of the final cover design to remove the potential pathway of leachate-impacted water discharging to the ditch (as would be expected if the ditch was constructed to below grade just beyond the toe of the landfill). Because of its location, it cannot be designed following natural design principles (with meanders, etc.) and a vegetated buffer is not needed (noting that the areas adjacent to the ditch will be vegetated as part of the final cover). No changes to the EASR proposed.
12.	Draft EA	The removal of the existing perimeter ditch will require a permit and submission to DFO for review. Especially since it will not be accessible to fish with the installation of the SWM pond.	--	Acknowledged. A request for Project Review and permit will be sought at the appropriate time as noted in Section 17.2 and 17.6 of the EASR.
13.	Draft EA	Native seed mixes should be used for all re-vegetation activities.	--	The perimeter ditches will be vegetated, but it is typical to vegetate them similar to the final cover that will be like a typical seed mix.

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
				The stormwater pond will also be vegetated and it is common to use a typical seed mix. Above the wetted surface, native species will be considered. A commitment has been added in Section 18.0, Table 18-2..
14.	Draft EA	To limit the spread of invasive species, the Clean Equipment Protocol for Industry should be followed. It is available here: Clean-Equipment-Protocol_June2016_D3_WEB-1.pdf (ontarioinvasiveplants.ca)	--	Acknowledged. Reference to this protocol has been added to Sections 13.4.1.1.2, 13.4.1.2.2 and 13.4.2.1.1
15.	Section 13.4.3.3.2	Consider allowing the unforested portion of the Township of North Dundas property to be used to offset the loss of forest and wetlands resulting from the landfill expansion. Under "Compensation for Potential Impacts to SAR and Wildlife" states that no compensation for the loss of interior forest habitat and wetlands is warranted as the remaining natural areas will continue to function as wildlife habitat. While there is a large area of contiguous forest remaining, please note that a significant amount of this forest is on private	To minimize the loss of significant interior forest wildlife habitat and significant woodlands, it is recommended to re-establish forest cover on the southwest portion of the landfill property that is currently in agricultural production. This area is roughly 4.3 hectares in size and would reduce the overall loss of woodlands from 6.3 ha to 2 ha. If it is not possible to re-forest this area, other properties owned by the Township should be identified for re-planting. Forest cover in the Township was assessed in 2016 and found to be very low at 13.3%. This value was determined using 2014 aerial imagery, and forest cover has likely	As noted in Section 15.2.4 of the EASR cumulative impact assessment, the Township reviewed their records and applications and there are no known new future planned land uses in the Site-vicinity. In addition, as noted on Figure 9-11 of the EASR, the lands to the east of the landfill containing the forest are also noted as predominantly unevaluated wetland. Likewise, a review of the Ministry of Agriculture, Food and Rural Affairs Agricultural Maps show the

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
		<p>property to the east of the landfill site. The Township does not have a tree cutting by-law or site alteration by-law in place that would prevent the owner from clearing the woodlands on their property. There is a high risk of this occurring as agriculture is the dominant land use in the Township and the soils are considered suitable for agricultural production. Should these 30 hectares of woodlands be removed, the woodlands remaining on the landfill property will become much more important to retain, especially for interior forest significant wildlife habitat.</p>	<p>declined further since 2014. Effort should be made by the Township to increase forest cover, especially on public property.</p>	<p>lands to the east with the forest predominantly within a Muck soil area. Muck soil, as defined in the Soil Survey of Dundas County (Ontario Agricultural College, 1952), is soil having a 0 to 0.45 m thickness of organic layer consisting of semi-decomposed vegetative material, usually neutral to alkaline on the surface. Presently, this soil is generally not suitable for agriculture and has traditionally not been included in an Agricultural designation, as it requires a great deal of work to prepare for crops and the rate of return is low. Given the vast and long term agricultural land use in the area and the nature of the lands to east containing the forest, it is considered reasonable to conclude that if these lands were going to be used for agricultural purposes, they would have already been used in this capacity; however, their wetland and muck status makes them</p>

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response
				unsuitable. As such, the immediate need for forest compensation seems unwarranted and should only be considered in future if these areas are to be developed. No changes to the EASR proposed.



Via E-mail (dfroats@northdundas.com)

July 13, 2022

Mr. Doug Froats
Director of Waste Management
Township of North Dundas
636 St. Lawrence Street, P.O. Box 489
Winchester, ON K0C 2K0

**Subject: Environmental Assessment Waste Management Plan Review
Boyne Road Landfill Expansion
Township of North Dundas
Lot 8, Concession 6 (Winchester)
Roll Number: 051101600616000**

Dear Mr. Froats,

South Nation Conservation (SNC) was asked by the Township of North Dundas to complete a technical review of the Environmental Assessment circulated by the Ministry of the Environment, Conservation and Parks (MECP) for the above-noted landfill expansion. Our review examines the natural heritage survey methods, findings, conclusions and recommendations of the Environmental Assessment as described in the following documents.

- i. Volume 1 Environmental Assessment of the Township of North Dundas Waste Management. Prepared by Golder and the Township of North Dundas. Dated May 2022.
- ii. Volume 1 Environmental Assessment of the Township of North Dundas Waste Management. Prepared by Golder and the Township of North Dundas. Dated May 2022.

We offer the following comments on the documents for your consideration.

1. Section 9.4.1.3.6 (page 216) - Fish community surveys were only conducted in the summer and fall. Additionally, in 2020 the watershed was in drought conditions which would impact the ability to complete fish surveys. A spring survey should have been completed when water levels were higher to determine use of the watercourses by fish.
2. Section 9.4.2.1 (page 218) - A discussion on Reach 3 is missing.



3. Section 9.4.2 (page 218) - In 2020 the watershed was in drought conditions for the entire summer. A discussion on the implications of this in relation to the aquatic ecosystems findings should be added.
4. Section 9.4.2.2 (page 222) - Quart Municipal Drain would be considered indirect fish habitat as it provides some flow, sediments, nutrients, allochthonous inputs to downstream fish habitat.
5. Section 9.4.4.5.1 (page 227) - The second paragraph states that the boundaries of the unevaluated and evaluated non-significant wetlands were refined in the field. Any refinements to boundaries should be reviewed and accepted by the MNRF.
6. Section 10.1 (page 284) - The piping of the Volks Municipal Drain along the North side of the landfill will require a permit and submission to DFO for review.
7. As part of the work on the Volks Municipal Drain, invasive Phragmites plants should be removed from the drain along Boyne Road. This plant can quickly fill the drain and impede flows, nutrients, fish, and other organisms from moving downstream.
8. Figure 13-9 (page 411) and Figure 11-7 (page 321) don't match Figure 9-11 (page 228) in terms of the significant wildlife habitat - interior forest.
9. Section 13.4.1.2.1 (page 426) - It is very important to note that no alterations to the site can occur prior to receiving approval from the MECP in regard to the Species at Risk identified on or adjacent to the site.
10. Table 13-27 (page 430) -The timing window dates are incorrect. In-water work is allowed from July 1st to March 14th.
11. The new perimeter ditch should follow natural channel design principles and include an appropriate vegetated buffer.
12. The removal of the existing perimeter ditch will require a permit and submission to DFO for review. Especially since it will not be accessible to fish with the installation of the SWM pond.
13. Native seed mixes should be used for all re-vegetation activities.
14. To limit the spread of invasive species, the Clean Equipment Protocol for Industry should be followed. It is available here: [Clean-Equipment-Protocol June2016 D3 WEB-1.pdf \(ontarioinvasiveplants.ca\)](#)
15. Consider allowing the unforested portion of the Township of North Dundas property to be used to offset the loss of forest and wetlands resulting from the landfill expansion.



Section 13.4.3.3.2 (page 441) under "Compensation for Potential Impacts to SAR and Wildlife" states that no compensation for the loss of interior forest habitat and wetlands is warranted as the remaining natural areas will continue to function as wildlife habitat. While there is a large area of contiguous forest remaining, please note that a significant amount of this forest is on private property to the east of the landfill site. The Township does not have a tree cutting by-law or site alteration by-law in place that would prevent the owner from clearing the woodlands on their property. There is a high risk of this occurring as agriculture is the dominant land use in the Township and the soils are considered suitable for agricultural production. Should these 30 hectares of woodlands be removed, the woodlands remaining on the landfill property will become much more important to retain, especially for interior forest significant wildlife habitat.

To minimize the loss of significant interior forest wildlife habitat and significant woodlands, it is recommended to re-establish forest cover on the southwest portion of the landfill property that is currently in agricultural production. This area is roughly 4.3 hectares in size and would reduce the overall loss of woodlands from 6.3 ha to 2 ha. If it is not possible to re-forest this area, other properties owned by the Township should be identified for re-planting. Forest cover in the Township was assessed in 2016 and found to be very low at 13.3%. This value was determined using 2014 aerial imagery, and forest cover has likely declined further since 2014. Effort should be made by the Township to increase forest cover, especially on public property.

I trust this review is to your satisfaction. If there are any questions, please feel free to contact our office.

Kind regards,

James Holland, MSc RPP
Watershed Planner
South Nation Conservation

c.c. Angela Rutley, CAO Township of North Dundas
Trish Edmond, Golder Associates



Via E-mail (dfroats@northdundas.com)

July 20, 2022 (Revised)

Mr. Doug Froats
Director of Waste Management
Township of North Dundas
636 St. Lawrence Street, P.O. Box 489
Winchester, ON K0C 2K0

**Subject: Environmental Assessment Waste Management Plan
Natural Heritage Review
Boyne Road Landfill Expansion
Township of North Dundas
Lot 8, Concession 6 (Winchester)
Roll Number: 051101600616000**

Dear Mr. Froats,

South Nation Conservation (SNC) was asked by the Township of North Dundas to complete a technical review of the Environmental Assessment circulated by the Ministry of the Environment, Conservation and Parks (MECP) for the above-noted landfill expansion. Our review examines the natural heritage survey methods, findings, conclusions and recommendations of the Environmental Assessment as described in the following documents.

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We offer the following comments on the documents for your consideration.

1. Section 9.4.1.3.6 (page 216) - Fish community surveys were only conducted in the summer and fall. Additionally, in 2020 the watershed was in drought conditions which would impact the ability to complete fish surveys. A spring survey should have been completed when water levels were higher to determine use of the watercourses by fish.
2. Section 9.4.2.1 (page 218) - A discussion on Reach 3 is missing.



3. Section 9.4.2 (page 218) - In 2020 the watershed was in drought conditions for the entire summer. A discussion on the implications of this in relation to the aquatic ecosystems findings should be added.
4. Section 9.4.2.2 (page 222) - Quart Municipal Drain would be considered indirect fish habitat as it provides some flow, sediments, nutrients, allochthonous inputs to downstream fish habitat.
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6. Section 10.1 (page 284) - The piping of the Volks Municipal Drain along the North side of the landfill will require a permit and submission to DFO for review.
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12. The removal of the existing perimeter ditch will require a permit and submission to DFO for review. Especially since it will not be accessible to fish with the installation of the SWM pond.
13. Native seed mixes should be used for all re-vegetation activities.
14. To limit the spread of invasive species, the Clean Equipment Protocol for Industry should be followed. It is available here: [Clean-Equipment-Protocol June2016 D3 WEB-1.pdf \(ontarioinvasiveplants.ca\)](#)
15. Consider allowing the unforested portion of the Township of North Dundas property to be used to offset the loss of forest and wetlands resulting from the landfill expansion.



Section 13.4.3.3.2 (page 441) under "Compensation for Potential Impacts to SAR and Wildlife" states that no compensation for the loss of interior forest habitat and wetlands is warranted as the remaining natural areas will continue to function as wildlife habitat. While there is a large area of contiguous forest remaining, please note that a significant amount of this forest is on private property to the east of the landfill site. The Township does not have a tree cutting by-law or site alteration by-law in place that would prevent the owner from clearing the woodlands on their property. There is a high risk of this occurring as agriculture is the dominant land use in the Township and the soils are considered suitable for agricultural production. Should these 30 hectares of woodlands be removed, the woodlands remaining on the landfill property will become much more important to retain, especially for interior forest significant wildlife habitat.

To minimize the loss of significant interior forest wildlife habitat and significant woodlands, it is recommended to re-establish forest cover on the southwest portion of the landfill property that is currently in agricultural production. This area is roughly 4.3 hectares in size and would reduce the overall loss of woodlands from 6.3 ha to 2 ha. If it is not possible to re-forest this area, other properties owned by the Township should be identified for re-planting. Forest cover in the Township was assessed in 2016 and found to be very low at 13.3%. This value was determined using 2014 aerial imagery, and forest cover has likely declined further since 2014. Effort should be made by the Township to increase forest cover, especially on public property.

I trust this review is to your satisfaction. If there are any questions, please feel free to contact our office.

Kind regards,

James Holland, MSc RPP
Watershed Planner
South Nation Conservation

c.c. Angela Rutley, CAO Township of North Dundas
Trish Edmond, Golder Associates

North Dundas Waste Management Plan

#	Reference to North Dundas Waste Management Plan draft EASR	Preliminary Draft Review Comments & Rationale	Preliminary Draft Review Proposed Action/Solution	Preliminary Draft Response How Addressed in the EA	Draft Review Ministry Response	Draft Response How Addressed in the EA	Ministry response to outstanding comments
Environmental Assessment Branch, Jordan Hughes, Project Officer							
1	Executive Summary	In accordance with Section 4.3.1 of the Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario 2014 (Code of Practice) and Regulation 334, the Environmental Assessment Study Report (EASR) for the North Dundas Waste Management Plan should contain a brief summary of the environmental assessment generally organized in accordance with the relevant matters set out in subsection 6.1 (2) of the Act (e.g. such as).	As previously indicated to MECP, please ensure that an executive summary is completed for the draft EASR.	An Executive Summary has been prepared and included in the draft EASR, organized by the sections of the EASR to meet the requirements of the Act.	MECP comment has been adequately addressed.	--	--
2	Glossary of Terms	<u>Term - EA Study</u> The description of the term uses “as described in this ToR prior to the refinement of the definition of the proposed undertaking”. Needs to be updated to the current EASR, not the Terms of Reference (ToR). <u>Term - (the) Site</u> (the) Township of North Dundas is used to describe the term. Needs clarity in whether it means the landfill site or the Township as a whole. <u>Term - (the) Undertaking</u> The description of the term uses “as described in this Tor”. Needs to be updated to the current EASR, not the ToR.	Please make corrections accordingly.	Requested corrections to EA Study and Undertaking made in the Glossary of Terms. It is confirmed that the ‘Site” refers to the Township of North Dundas for the purpose of the ‘Alternatives To’ assessment. References to the Boyne Road landfill uses the word ‘site’ (not capitalized).	MECP comment has been adequately addressed.	--	--

North Dundas Waste Management Plan

#	Reference to North Dundas Waste Management Plan draft EASR	Preliminary Draft Review Comments & Rationale	Preliminary Draft Review Proposed Action/Solution	Preliminary Draft Response How Addressed in the EA	Draft Review Ministry Response	Draft Response How Addressed in the EA	Ministry response to outstanding comments
3	Description of EA Study 1.1	This section includes “the proposed Environmental Assessment (EA) Study is the EA of the Township’s waste management plan for a 25-year planning period. The description and rationale will evolve during the preparation of the EA. A description of the undertaking will be defined after a preferred undertaking has been identified during the EA. Therefore, the final description of the proposed undertaking and the rationale for it will be included in the EA once alternatives have been considered and evaluated.” This is the EASR document, and the tense of this description needs to be changed and updated.	Please make corrections accordingly.	Corrections made in Section 1.1 as requested.	MECP comment has been adequately addressed.	--	--
4	Current Waste Management System 1.3	The remaining capacity of the Boyne Road Landfill in cubic metres can be provided to give an indication of landfill space remaining relative to the approved capacity. This section does not include any mention or description of the haul route.	Provide the remaining landfill capacity in cubic metres and discuss the operation of the haul route.	Requested information added to Section 1.3.	MECP comment has been adequately addressed.	--	--
5	Current Waste Management System 1.3	Consider reorganizing this section to include “Site History and Background” that will include site history and details followed by “Current Site Waste Management System” that includes the current operations and capacity.	Reorganize information so that the site history and background is separated from current site information.	Section 1.3 has been reorganized into two subsections, 1.3.1 and 1.3.2, to improve clarity. This is an introductory section of the EASR, intended to generally describe the current waste management system as	MECP comment has been adequately addressed.	--	--

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				background for the reader. A greater level of detail is not considered to be appropriate, since the preferred 'Alternative To' has not yet been identified.			
6	Current Waste Management System 1.3 Noise 11.2.1.2	“The parcels are shown on Error! Reference source not found. ” Reference to source relating to the Townships acquisition of groundwater easements unavailable. “The indicator for Noise is: Error! Unknown document property name. Error! Unknown document property name. ” Reference to source relating to noise indicators not available.	Please make corrections accordingly.	Requested correction made in Section 1.3; we did not see what is referred to in Section 11.2.1.2.	MECP comment has been adequately addressed.	--	--
7	2.1 Rationale and Purpose of Proposed Undertaking	It is stated that “the purpose statement will be influenced by diversion studies proposed by the Township and made as a commitment in the ToR. It was proposed that the diversion studies be conducted during the EA, early in the process to provide input into post-diversion residual waste management requirements. Diversion is also an ‘Alternative To’ in this EA. The Waste Diversion Study is provided in Volume 3 Appendix J to the main EASR”. The Diversion study was conducted as part of the current EASR, and as such the influence of the results from the study should be indicated. The	Please revise to reflect the studies undertaken during the EASR.	Reference added in Section 2.1 to a summary of the diversion study results in Sections 6.3.5 and 7.0. Additional information from the findings and conclusions of the diversion study have also been added in Section 7.0.	MECP comment has been adequately addressed.	--	--

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		ministry will have more comments in this regard after the Resource Recovery Branch provides their technical review.					
8	Organization of the EA Study Report 2.3.2	<p>In accordance with section 2(1) of Regulation 334, the EASR should contain a list of studies and reports done in connection with the undertaking or matters related to the undertaking. The EASR should also include a list of additional studies and reports related to the undertaking but are not under the control of the proponent.</p> <p>The draft EA does not include a list of additional studies and reports related to the undertaking. The full names of reports in support of the EASR need to be included in the list of “Volume 2 Technical Appendices” for clarity.</p>	Revise the EASR report to include a list of the studies and reports completed, as well as a list of additional studies and reports related to the undertaking but are not under the control of the Township. Add the full titles done in connection with the EASR to the list of Volume 2 Technical Appendices list. Additionally, a table can be provided that lists and describes the technical studies completed.	The organization of this EASR is different when compared to others more recently completed for Individual EAs for waste management projects in that all of the studies/work completed for the EA are contained in the EASR with the exception of the Stage 1 Archaeological Assessment contained in Volume 2, Appendix G-2; and the supporting memo and report on Alternative 3 – New Landfill Site Selection Assessment, Application of Exclusionary Criteria and Mapping to Identify Potential Sites and the Waste Diversion Study, respectively, in Volume 3 . The other Appendices in Volume 2 for various environmental components contain supporting information, calculations, etc. for the studies within the EASR itself. For clarity, some additional annotation of Section 2.3.2 has been provided and, where appropriate, reports noted.	Outstanding. Please include the list of Appendices and titles in the Table of Contents, as well as indicating what contents are included in each of the volumes that comprise the EASR.	Understood. A listing of the other volumes and their contents has been added to the Table of Contents of Volume 1, the EASR.	MECP comment has been adequately addressed.

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				A complete list of reference documents (additional studies and reports) is provided in Section 19.0 of the EASR (as indicated in the listing of the Sections comprising Volume 1 in Section 2.3.2), and those documents are properly referenced wherever used/relied upon throughout the EASR.			
9	Indigenous Community Involvement 4.7	With regards to Indigenous consultation, the ministry notes that to date the Township has not received substantive comments from any interested communities. It will be important for the Township to demonstrate in the final EASR that they have obtained, or at least made meaningful attempts to obtain, input on the draft EASR from the communities that have expressed an interest in the project, at minimum. This should include follow-up with communities, including the final Open House.	Please ensure that meaningful attempts with indigenous communities is made and documented in the final EASR including the final Open House. Furthermore, please provide a copy of the record of consultation for ministry review when it is available.	A complete record of consultation, and attempted consultation with Indigenous Communities is provided in the Volume 4 Consultation Record (which is provided as part of the draft EA package) and summarized in Sections 4.4.2. 4.7 and 4.8.6 of Volume 1.	MECP concern ongoing. Proponent should continue to engage/notify the Indigenous communities at all remaining stages, and document in the final EASR. Any updates to the Record of Consultation should be shared with the ministry.	Acknowledged. The project team continues to reach out to Indigenous communities in multiple ways by phone and email and is documenting these efforts. Since the draft EA submittal, a meeting has been held with the Huron Wendat to review the project, including a high level review of the EA. Documentation of the summary of the meeting, as well as Huron Wendat comments on the summary have been added to Section 4.7.6 of Volume 1 and the Consultation Record.	MECP comment has been adequately addressed.

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						This summary will be shared with the MECP separately via email.	
10	<p>Noise 5.2.2</p> <p>6.3.2 Alternative 2 – Landfill Site Expansion</p> <p>Identification of the Preferred ‘Alternative To’ 6.5</p> <p>Archaeological Resources 9.7.1</p> <p>Landfill Gas (LFG) Management 12.4</p> <p>Emissions Estimate 13.1.1.1</p>	<p>Sufficient Level of Detail:</p> <p>The EA is the main document and as a result should be sufficiently detailed, so that it can stand on its own and provide a complete picture of the planning process and its conclusions. It should, in detail, provide sufficient information and understanding of the potential undertaking, the existing environment, and evaluation of the alternatives, environmental effects and impact management, as well as consultation undertaken throughout the EA process. Appendices serve to provide additional technical information for the interested reviewer or reader. The EA, including supporting appendices, must be logically organized to ensure that information is accessible.</p> <p>Throughout the draft EA, there are references to various reports in the appendices (more details below), where the reader is directed to as opposed to being provided a sufficient level of detail in the draft EA. Appendices serve to provide additional technical information and data for the interested reviewer or</p>	<p>Please ensure that the draft EA is revised to provide sufficient, detailed information that will enable readers to understand the proposed undertaking, the planning process followed by the Township and the conclusions reached.</p>	<p>This EASR has been prepared by providing the entire environmental component report content directly within the appropriate sections of the main EASR, such that there are no separate component reports within the Volume 2 Technical Appendices B through H. In this way, the main EASR contains all information and detail related to the studies completed for each component. The exception is Appendix G-2 for Cultural Heritage Resources, where a complete Stage 1 Archaeology Assessment Report was prepared for the proposed landfill expansion since the provincial requirements are they have to be submitted in that form to the MHSTCI for review and approval. The only information contained in the Technical Appendices is technical details that were not considered necessary to be within the main EASR in regard to the proposed landfill expansion,</p>	<p>MECP comment has been adequately addressed.</p>	--	--

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		reader and should be referenced in the main body of the EA where they contain critical information to support the understanding of the undertaking and its potential effects on the environment. For example:		i.e., source input parameters, modelling output sheets, traffic analysis summary sheets.			
		<u>Noise 5.2.2:</u> This section needs to be expanded with more detail. Provide a summary of existing source of noise at the landfill site and along the haul route. Summarize the key findings from the noise report/study undertaken and conclusions with further detailed technical information referenced to the Appendix report.		Section 5.0 provides a high level description of the existing conditions for the ‘Alternatives To’ Study Area, which is <u>the whole of the Township</u> , for each of the environmental components used to compare the ‘Alternatives To’. As such, it is not specific to the existing landfill site. It is considered that Section 5.2.2 provides an appropriate high level description of noise in the Township. Section 9.0 of the EASR provides a detailed description of the existing conditions for the Study Areas associated with the Boyne Road Landfill site for each of the components, including noise.	MECP comment has been adequately addressed. Noise review completed and satisfied.	--	--
		<u>6.3.2 Alternative 2 – Landfill Site Expansion:</u> This section refers to the alternative already being assessed in detail as part of the 2015 Waste Management Alternatives Evaluation. Provide a		Section 2.1 of the EASR refers to the 2015 evaluation, lists the four alternatives assessed, and the conclusion that expansion of the exiting landfill was preferred. Also, it states that “this previous assessment of	MECP comment has been adequately addressed.	--	--

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		summary of what was assessed and its conclusions from the 2015 Waste Management Alternatives Evaluation.		waste management alternatives was summarized in Section 4.0 of the approved ToR (Volume 2, Appendix A)”. Section 6.0 is the updated evaluation of ‘Alternatives To’; in our opinion, the description of Alternative 2 in Section 6.3.2 is not the appropriate place within Volume to 1 provide additional information on what was assessed and the conclusions of the 2015 study, since it was decided by MECP at the ToR stage that the results of the previous evaluation was not suitable for use in the EA (which is also described in Section 2.1). Instead, additional information on the 2015 evaluation has been added in Section 2.1, with a reference back to Section 2.1 added in Section 6.3.2.			
		<u>6.5 Identification of the Preferred ‘Alternative To’:</u> The landfill site screening assessment “Volume 3 Appendix I” is referenced as the basis for deeming Alternative 3 (Existing Landfill Site Closure and Establish a New Landfill Site) unreasonable. Include a summary of the screening		A summary of the Screening Assessment to establish a new landfill site in the Township is provided in Section 6.3.3; as per the comment, additional information on this assessment has been added to Section 6.3.3. A summary of the waste diversion study is provided in	MECP comment has been adequately addressed.	--	--

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		<p>assessment, and the results of the screening assessment that determined conclusions.</p> <p>The Waste Diversion Study “Volume 3 Appendix J” supports Alternative 5 (Enhanced Waste Diversion). Provide more details on the content provided in Volume 3 Appendix J as well as the final results for the reader.</p>		<p>Section 6.3.5. Therefore, it is not considered necessary or appropriate to repeat this information in Section 6.5, the purpose of which is to state what was identified by the comparative assessment provided in Section 6.4 as the preferred ‘Alternative To’. A reference back to Sections 6.3.3 and 6.3.5 has been added in Section 6.5.</p>			
		<p><u>Archaeological Resources 9.7.1:</u></p> <p>The Stage 1 Archeological Assessment is referenced to “Volume 2 Appendix G-2”. Expand on what was undertaken for the Stage 1 AA as well as the results. Was further work recommended in the Stage 1 AA?</p>		<p>Section 9.1.7 is intended to only describe the existing archeological conditions in the area of the Boyne Road Landfill site. The impact assessment is provided in Section 13.7.1, which states the results including that no further archaeological assessment is recommended. Additional information was added to Section 9.7.1 to describe the purpose of and what was undertaken for the Stage 1 assessment.</p>	<p>MECP comment has been adequately addressed.</p>	--	--
		<p><u>12.4 Landfill Gas (LFG) Management:</u></p> <p>Expand on the results of the air quality impact assessment and provide the Appendix/Volume reference in the EASR. What are the results of the detailed air quality</p>		<p>The purpose of Section 12.4 within the Description of the Preferred Undertaking is only to describe what is proposed in terms of landfill gas (LFG) management/control in advance of completing the</p>	<p>Outstanding: for clarity, include a statement that the Air quality assessment in Section 13.1.1 indicated that a collection system was not required.</p>	<p>Understood. Section 12.4 has been updated with a statement that the air quality assessment in Section 13.1.1 indicated that a LFG</p>	<p>MECP comment has been adequately addressed.</p>

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		impact assessment, did it recommend a landfill gas collection system?		impact assessment. The reference to the air quality assessment in Section 13.1.1 is only to indicate that depending on the results of that assessment it may be necessary to implement LFG controls, i.e., an additional mitigation measure, different than what is described in Section 12.4. Section 13.1.1 is considered to be the appropriate location for the air quality assessment, not Section 12.4. There are no additional impact results in a separate Appendix or Volume.		management system is not required.	
		<u>13.1.1.1 Emissions Estimate:</u> “Volume 2 Appendix B-2” is referenced for details of the specific emissions calculation methods and resulting emissions by source. Provide a summary of the process and results. “Volume 2 Appendix B-3” is referenced for dispersion modelling inputs and source characterization. Please expand and provide some details of what is included in the Appendix.		The process for calculating air emissions, which is a very technical process, is considered to be appropriately summarized in Section 13.1.1.1. The results are provided in Sections 13.1.1.2 and 13.1.1.3. The results of the air emissions modelling are provided in Section 13.1.1.4. These section numbers where the results are provided have been added to the bullets in Section 13.1.1 where reference is made to Appendices B-2 and B-3.	MECP comment has been adequately addressed.	--	--

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11	6.5 Identification of the Preferred ‘Alternative To’	<p>Section 4.2.4 of the Code of Practice states that the proponent will have to determine and clearly articulate the rationale for choosing the preferred alternative, taking into account the relative advantages and disadvantages. This section needs to be expanded with more detail how the preferred alternative was selected. The draft EASR states “based on the results presented in Table 6-12, and also with consideration of the advantages and disadvantages presented in Table 6-11 and the key factors that are most important to the Township, the preferred ‘Alternative To’ from the assessment is Alternative 2 – Landfill Site Expansion”.</p> <p>The assessment of the ‘Alternatives To’ should include sufficient detail to determine the benefits and disadvantages of each of alternative, based on effects. Explain the results from Table 6-12 that lead to the preferred alternative as well as specific points from the advantages and disadvantages Table 6-11. This will more clearly present the decision-making process of the preferred alternative from the advantages and disadvantages evaluation. Furthermore, provide a summary or explanation of how the preferred</p>	Please ensure that the draft EA is revised to provide sufficient, detailed information that will enable readers to understand how the evaluative components lead to selecting the preferred alternative.	Section 6.5 has been revised to provide additional rationale and explanation of the reasons for identification of Alternative 2 as the overall preferred ‘Alternative To’.	MECP comment has been adequately addressed.	--	--

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		alternative meets the ‘factors that are most important to the Township’.					
12	8.1 Study Areas	The draft EASR states that “Data for the assessment of the ‘Alternative Methods’ will be collected and analyzed for generic study areas that will be confirmed and refined during the EA”. This needs to be revised to reflect that it has been collected and refined as it is the EA document.	Please make corrections accordingly.	Requested corrections made.	MECP comment has been adequately addressed.	--	--
13	10.1 Design of Expansion Alternatives	<p>The draft EASR states “the capacity being pursued for the landfill expansion of 417,700 m3 to accommodate landfilling operations until the end of the planning period in 2048” and then “subsections below describe each of the landfill expansion alternatives, and each provides the required 450,000 m3 of airspace for waste and daily cover”. There needs to be consistency in the volumetric capacity expansion (either 417,700 m3 or 450,000 m3) throughout the EASR.</p> <p>Furthermore, there needs to be consistency with the volumetric capacity expansion metric used with regards to whether it includes the cover or not. The proposed volumetric capacity increase with and without cover should be disclosed.</p>	Please ensure that the volumetric capacity expansion is consistent throughout the EASR.	The EASR describes that the 417,700 m ³ beyond 2023 is for waste and daily cover. Because the ToR described the estimated additional airspace with reference to ‘beyond 2020’, it is necessary to initially refer to the required airspace confirmed in the EA in this regard. However, when referring to the expansion alternatives, all airspace numbers have been changed to only refer to 417,700 m ³ beyond 2023. A value for the additional airspace including the final cover has been added to Section 12.1 for the proposed expansion.	MECP comment has been adequately addressed.	--	--

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14	<p>Alternative 2 – Combined Horizontal and Vertical Expansion with Larger South Buffer 10.2.2</p> <p>Alternative 3 – Primarily Horizontal Expansion 10.2.3</p>	<p>The qualitative descriptions for Alternative Methods 2 and 3 need to be expanded with more details, similarly to what was provided in Alternative 1 for accuracy and consistency. This will avoid assumptions being made by the reader.</p> <p>Will the current disposal area be raised like in Alternative 1 for Alternatives 2 and 3?</p> <p>Will the slope angles meet the requirements of O.Reg. 232/98 for Alternatives 2 and 3?</p> <p>What is the height above typical ground level?</p> <ul style="list-style-type: none">“The height of all ‘Alternative Methods’ is about 15 m above typical ground level on the southern part of the property” – This is defined in Alternative 1. This should either be disclosed prior to the Alternative summaries under 10.2 or disclosed for each of the Alternatives for consistency. <p>Will the design include the construction of imported permeable fill material for Alternatives 2 and 3?</p> <ul style="list-style-type: none">Alternative 1 indicates that “south of the existing disposal area is at ground surface/high	<p>Please ensure that the draft EASR is revised to include more details for Alternative Methods 2 and 3.</p>	<p>Section 10.0 was prepared by first describing the factors that would be considered in the design of any ‘Alternative Method’ of landfill expansion in Sections 10.0 and 10.1, i.e., meet the geometrical requirements of O.Reg.232/98, natural attenuation design, fill pad, stormwater management system. Sections 10.2.1, 10.2.2 and 10.2.3 were then intended to provide a brief overview of the main differences between ‘Alternative Methods’, illustrated by the plan and section views and summarized in Table 10-1 in Section 10.2.4.</p> <p>As requested, additional information has been added to Alternatives 2 and 3 such that all three now have a similar level of information provided and cover the comments/questions provided.</p>	<p>MECP comment has been adequately addressed.</p>	--	--

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		groundwater table requiring separation”. Is this the same for Alternatives 2 and 3?					
15	Summary of Alternative Methods 10.2.4	The summary and comparison table of the alternative methods in the EASR uses mainly a quantitative depiction. Provide simplified visuals of the alternative methods for easier comparison for the reader.	Use the graphics included in the Technical Bulletin #3 for the same comparative table for visual understanding for the reader.	The graphics from Technical Bulletin #3 have been added to Section 10.2.4, Table 10-1 for added reader understanding.	MECP comment has been adequately addressed.	--	--
16	Comparison and Evaluation of Landfill Expansion Alternatives 11.0	<p>Do Nothing:</p> <p>Section 4.2.2 of the EA Codes of Practice states that the do nothing alternative should always be considered as it represents what is expected to happen if none of the alternatives being considered are carried out. It is always included for comparison and therefore cannot be screened out. The do nothing alternative has to be carried throughout the EA as a benchmark for the comparison of the advantages and disadvantages of the preferred undertaking and to determine the extent to which other alternatives address the problem or opportunity.</p> <p>The do nothing alternative is considered in the ‘alternatives to’ comparative assessments. However, the EASR must assess the advantages and disadvantages of each ‘alternative method’ using the do</p>	The EASR needs to be revised to consider the do nothing alternative as a benchmark for the comparison of the advantages and disadvantages of the alternative methods. The revised draft EA also needs to include a description of the do nothing alternative for each alternative method.	<p>The EASR has been revised to consider the Do-Nothing alternative as a benchmark for the comparison of the advantages and disadvantages of the ‘Alternative Methods’. An introduction of the Do-Nothing alternative has been added to Section 10.2.4 and then it has been used for comparison throughout Section 11.</p> <p>It is noted that the proposed expansion of the Boyne Road Landfill is a relatively small expansion as compared to other similar projects in the province. Additionally, there are constraints related to the possible design/layout of landfill expansion ‘Alternative Methods’ for this undertaking. As a result, the potential effects from the ‘Alternative Methods’ of landfill expansion</p>	MECP comment has been adequately addressed.	--	--

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		<p>nothing alternative as the reference benchmark or baseline.</p> <p>Sufficient Level of Detail:</p> <p>The assessment of the ‘Alternative Methods’ should include sufficient detail to determine the benefits and disadvantages of each alternative, based on effects. The EASR would benefit with more details provided in the advantages and disadvantages sections for each indicator/component as well as comparing to the ‘do nothing’ scenario. Some advantages and disadvantages sections provide only a table, and no summary explanation following it (example Table 11-7). Some components do not have an advantages and disadvantages comparison and require further explanation beyond that the results yielded similar results for all alternative methods. The ESAR needs to explain why each alternative method yielded similar results to affirm that an advantages and disadvantages comparison is not required.</p>		<p>are considered to be similar by many of the environmental components, resulting in an inability of these components to describe unique advantages or disadvantages when compared to each other. Relevant sections of Section 11 have been updated to explain this. As such it is unreasonable to expect that each description of advantages and disadvantages to be similar in length and/or content for each environmental component/sub-component.</p>			
17	Potential Indirect Impacts 13.4.1.2.2	<p>The draft EASR states that “these indirect impacts are not considered significant and are mitigatable with standard construction best management practices”. Where mitigation measures are mentioned,</p>	<p>Please include what the best management practices are with regards to mitigation in the final EASR.</p>	<p>Construction best management practices added to Section 13.4.1.2.2 as requested.</p>	<p>MECP comment has been adequately addressed.</p>	--	--

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		the measures should be identified. Although potential indirect impacts of the construction phase are considered not significant and mitigatable, the potential mitigation measures related to ‘best management practices’ should be disclosed for each construction related impact listed.					
18	Comparison to Do-Nothing 13.11	<p>The purpose of comparing the preferred undertaking/project to the do nothing alternative is to highlight the advantages and disadvantages of proceeding with the project, rather than to confirm a preferred alternative.</p> <p>Table 13-32: Comparison of Do-Nothing to the Preferred Undertaking, does not clearly identify the advantages/disadvantages (trade-offs) for carrying out the proposed expansion.</p>	Identify the advantages and disadvantages of expanding the Boyne Road Landfill by comparing the preferred undertaking to the do-nothing scenario which would be to closure of landfill when it reaches its approved capacity	Table 13-32 provided in Section 13.11 has been updated with additional details. It is noted that the comparison provided in Section 13.11 does not “confirm” the preferred alternative, it merely highlights the advantages and disadvantages of proceeding with the project.	MECP comment has been adequately addressed.	--	--

Ministry of the Environment,
Conservation and Parks

Ministère de l'Environnement, de
la Protection de la nature et des Parcs

Resource Recovery Policy Branch

Direction des politiques de récupération des ressources

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Date: June 10, 2022

MEMORANDUM

TO: Jordan Hughes, Project Officer,
Environmental Assessment Branch, Environmental Assessment and
Permissions Divisions

FROM: Dale Gable
Manager – Technology Projects
Resource Recovery Policy Branch

RE: **Environmental Assessment of the Township of North Dundas Waste
Management Plan**

I have reviewed the draft document entitled “Draft - May 2022 – Environmental Assessment of the Township of North Dundas Waste Management Plan” (Volumes 1 through 4) prepared for the Township of North Dundas (Township) by Golder Associates (Golder). The draft report is dated May 2022. The following comments are provided in response to your request to the Resource Recovery Policy Branch (RRPB) to provide comments as part of the Government Review Team for this draft report. In general, the focus of the review from RRPB will be from a waste diversion and resource recovery perspective.

The following is an overview of the key comments/assessment provided below:

1. It is noted that the Township appears to have overestimated their volumetric disposal need by over **100,000 cubic metres**. There are inconsistencies in the assumptions to determine historical annual amount of waste deposited and approach used to determine the anticipated volumetric disposal requirements for the Township. Based on the approach/assumptions made, the volume requirements estimated is significantly more those volumes stated in other sections of the report and available statistics for the average amount of waste generated per person 700 kg/yr) by a person in Ontario. Therefore, further information and discussion is required to justify the overall volume requirements identified in the report.
2. The proponent should consider the potential impacts that the Extended Producer Responsibility Regulations will have on diversion in the Township. There is no discussion on whether the requirements will change the diversion rate within the

Township or how those impacts may impact the anticipated long term disposal needs for the municipality.

3. The proponent should consider elaborating on why they have estimated only a minimal increase in waste diversion throughout the planning period. This approach contributes may lead to an overestimation of the long term waste disposal needs without adequate justification.
4. In summary, the Township should elaborate on some of the key assumptions on the anticipated annual volume of waste and address inconsistency data identified in the report that related to diversion and overall waste management disposal capacity needs. The justification should consider sound operational practices and adequately consider diversion opportunities.

Background

The Township is undertaking an Environmental Assessment (EA) study for their long term waste management plans (25 years). Currently, the primary waste disposal option for the Township is the Boyne Road Landfill Site operating under Environmental Compliance Approval (ECA) No. A482101. The landfill has currently reached its approved capacity and it is operating under an emergency provision in the ECA.

The EA study has identified six (6) alternatives for the long term waste management plan. These alternatives are:

- i. Existing landfill site closure and export waste for disposal;
- ii. Landfill site expansion;
- iii. Existing landfill site closure and establish a new landfill site in the Township;
- iv. Existing landfill site closure and alternative waste management technologies;
- v. Enhanced waste diversion; and
- vi. Do nothing

Based on the evaluation, the township determined that Alternative No. 2 was the preferred choice.

As a result, the Township is proposing expand the existing capacity to create a waste disposal airspace of 417,000 cubic metres. The overall disposal capacity of the site will be 1,060,750 cubic metres. There are no new waste diversion facilities planned as part of the expansion. The Township did describe potential waste diversion activities that may occur in the Township. These activities may occur at another location. If these activities occur at this site, the EA requirements will have to be assessed on those activities.

Summary of Key Comments on Diversion

1. In Volume 3, in the report entitled "Waste Diversion Study" prepared by Golder dated May 2020, in Section 3, the Township identifies the various materials that the EPR are intended to address. Batteries should be included in the list of materials.
2. In Volume 3, in the report entitled "Waste Diversion Study" prepared by Golder dated May 2020, the report provides an overview of the current diversion programs in Ontario.

This discussion in Section 4 of the report is mainly based on the older and now phased out programs. Therefore, the section and assessment may be considered outdated. The oversight for delivering these programs is now the responsibility of RPRA. Furthermore, in the discussion of waste diversion as it relates to the estimation of potential waste volumes in Section 8.3 (Option 3 – Enhanced Recycling) in the report and within Volume 1 of the EA report, the potential impacts to waste diversion due to the diversion program changes are not discussed. The Township should provide a discussion on the potential impacts that the regulations under the Resource Recovery Circular Economy may have on the Township's diversion rate, and thus the potential impact on volumetric waste capacity needs.

3. The Township has indicated due to the rural setting, a portion of the organics generated in residential settings are managed through backyard composters or own leaf and yard composting. It was mentioned in Section 3 that with regards to the Food and Organic Policy Statement that where the collection of food and organics is not provided by the municipality that other means such as home composting are to be provided by the municipality. The Township should provide a discussion on the amount of home composters that they have provided to the residents over the years to have an estimate on the amount of organics that may be diverted through the years.
4. The Township provided a discussion on the potential options for increasing diversion. The Township has indicated that the options that can be considered could increase diversion to approximately 56% of the waste generated which is an increase of 33%. In the estimations for waste volumes needed, the Township only increased potential diversion by only 10% by the year 2030 and maintains that diversion throughout the planning period. It is unclear why the diversion rate is maintained through the planning period and not increased. The approach is conservative and may result in overestimated the volumetric requirements. It is recommended that the Township provide an explanation on the approach.
5. Figure 1 in the Waste Diversion Study indicates that 32% of Ontario's waste composition is organics and Figure 2 indicates that organics makes up approximately 35% of the waste composition of the Townships waste. In Section 8.2, the report mentions that organics make up 40% of the waste stream in Canada. For the purposes of the EA, it is assumed that the Township is working with 35% composition number. In Section 8.2 minor comments, it indicated that “assuming 10% of the organic composition is leaf and yard waste....”, to confirm that this is meant to read 28.6 % (10/35) of the organic composition is leaf and yard or that 10% of the overall waste composition is leaf and yard with 25 percent as source separated organics.

Summary of Key Comments Waste Volume

1. There is a need to clarify the approach used to estimate the proposed volumetric disposal waste needs for the Township over the twenty-five (25) year planning period.
2. In Section 7-2 of the report (Volume 1), the Township estimated the long term waste disposal needs by reviewing the annual waste surveys and averaging estimated volumes over a short period of time. The estimated baseline for waste needs was estimated to be 16,200 cubic metres. No data was provided on those volumes within the Environmental Assessment Report. (This has resulted in an estimation of 417,000 cubic metre requirements). It is preferred is additional data points were provided to

demonstrate the annual capacity and there has been no historical fluctuation over the years. A data set of 10-15 years would be acceptable.

3. The Township has provided only selected population estimates within Volume 1. It is suggested that the Township provided all yearly population estimates for each year in the planning period ..
4. Within the main report (Volume 1), there was no discussion on the ratio of waste to daily cover in the estimated historical annual waste volumes. Ministry and industry accepted ratios for waste to daily cover for the purposes of estimated airspace is 4 (waste):1 (daily cover).

However, in Volume 2, in the emissions report, it is indicated that the Average Daily Waste Receipt is 26 Mg/day and the Average Daily Cover Throughput is 16 Mg/day. Based on these operational numbers, the waste to cover ratio is 1.625:1. Furthermore, in the expansion phase that ratio is further reduced to 1.57:1. As mentioned landfill waste to daily ratio typically is 4:1. These ratios are not consider optimum landfill operations conditions. As a result, a significant portion of the surveyed waste volumes appears to be daily cover and not waste. As a result, it clearly appears that the landfill volumetric needs from a waste to daily cover is significantly overestimated. Furthermore, other data provided in the report support the overestimation of waste and the operational ratio of 1.6:1. The Township needs to provide further discussion and rationale for utilizing those waste to daily cover ratios and deviating from generally accepted approached. In addition, it should provide a discussion on why it should be considered good operational practice.

5. In Volume 3, in the report entitled "Waste Diversion Study" prepared by Golder dated May 2020, it indicated that in 2018 the Township generated approximately 2715 tonnes of residential waste in which 628 tonnes were diverted. Therefore, approximately 2087 tonnes of residential waste were sent to landfill. The Township indicated that an ICI waste is approximately 20% of the residential volume (so approximately 543 tonnes). (Worst case scenario if the Township is implying that the 20% is on top of the residential volume). Therefore, it is estimated that the site received approximately 2630 tonnes of waste in 2018. Waste density in a compacted landfill is typically around 0.75T/m³. Assuming that a municipal site of this size is only using a dozer, the compacted density can be assumed to be less (approx. 0.6T/m³). Based on this density, it would equate to approximately 4,380 cubic metres. With the addition of daily cover (using 4:1), it is estimated that annual air space need for that year would be 5,475 cubic metres. the annual amount of airspace needed would be significantly below the annual volumes identify in Volume 1 of the EA report. This would result in an volumetric air difference of approximately 268,000 cubic metres. Further justification on the volumetric needs is required.
6. Notwithstanding the comments above, using the Township's volume and removing the daily cover component at 4:1 ratio, the Townships waste generation rate is considerably above 1 T/person for the Township. The Government of Canada has estimated that the average waste generated rate per person in Canada is 0.704 T/person (residential and non-residential waste volume total). From a provincial perspective per person, Ontario generated below 0.7T/person. This rate does not include diversion.

If we use 0.7T/pp and a population of 12,107 (2021 data), the amount of waste generated would be approximately 8,475 T. Assuming a diversion rate of 33% (conservative), that would be approximately 6525 T for disposal or approximately 9,460 cubic metres of waste. Applying the daily cover ratio, would result in a volumetric need of 11,830 cubic metres per year. This annual difference can result in volumetric airspace difference of over 100,000 cubic metres over the planning period.

As a result, it is recommended that the Township provide further information to justify their volumetric airspace requirements.

7. The difference in data further supports the need for additional information to explain the significant difference in waste generated in the Township compared to the rest of the province and difference in long term waste planning needs.
8. In summary, based on review of the report, available statistics and generally accepted waste management planning approaches, I have questions about the use of inconsistent assumptions and approaches that were used to estimate the volumetric waste disposal need for the Township which appears to result in a significant overestimation of the disposal needs. Therefore, the Township should explain these discrepancies or recalculate the volumes needed.

General Non-Diversion Comments

1. Section 10.2.5 of the EA report (Volume 1) provides a summary of the three (3) alternative footprints/geometry to the proposed landfill expansion. The decision to develop three (3) potential layouts was done at the prerogative of the Township. It does not appear to be a requirement of the MECP. Whereas the height and areas are similar, the Township should undertake a contaminant lifespan (CLS) assessment for each option and add that consideration into their evaluation table. CLS is an estimate of how long the site will produce contaminants at a level that may impact the natural environment. If there is significant difference in the CLS, it may be worthwhile to assess and discuss in the alternative evaluation.

If there are any questions regarding the assessment or references from the report or other statistics mentioned in the memorandum, please reach out to me

Dale Gable
Manager, Technology Projects
Resource Recovery Policy Branch

cc: Charles O'Hara, Director, RRPB
Kathleen O'Neill, Director, EAB
Solange Desautels, Supervisor, EAB

TECHNICAL MEMORANDUM

DATE December 6, 2022 1648253

TO Dale Gable, Manager
Resource Recovery Policy Branch, MECP

CC Jordan Hughes, MECP

FROM Trish Edmond **EMAIL** trish.edmond@wsp.com

UPDATED ESTIMATE OF RESIDUAL WASTE MANAGEMENT REQUIREMENTS FOR THE ENVIRONMENTAL ASSESSMENT OF THE TOWNSHIP OF NORTH DUNDAS WASTE MANAGEMENT PLAN

This memorandum has been prepared to respond to ongoing comments and questions from the Ministry of Environment, Conservation and Parks (MECP), Resource Recovery Policy Branch on the residual waste management requirements for the Environmental Assessment of the Township of North Dundas Waste Management Plan.

As described in the draft EASR, and as a result of the Township being a small rural municipality and without a scale at its existing landfill, the residual waste management requirements were estimated based on known historical annual airspace volumes for disposal of all their residential waste and a small amount of industrial, commercial and institutional (IC&I) waste and daily cover usage, calculated using regular volumetric surveys of the existing Boyne Road Landfill. As requested in the most recent comments from the Resource Recovery Policy Branch received on November 28, 2022, this memo employs a generation rate volumetric methodology, despite there being many assumptions in this method that may not be applicable to waste generation in the Township of North Dundas.

The required input parameters for the generation rate volumetric methodology are waste generation rate (either including or excluding diversion) for both residential and IC&I waste; waste density; population; and waste to cover material ratio, which are each further described below.

Waste Generation Rate

Waste generation rates for the province of Ontario can be obtained from the Government of Canada January 2022 Solid Waste Diversion and Disposal (<https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/solid-waste-diversion-disposal.html>) accessed November 2, 2022. This report includes 2018 data on total waste disposed and diverted for the residential and IC&I sectors in Ontario. A summary of the Ontario data is provided in the table below:

Table 1: Ontario StatsCan Waste Generation Rate Data

	Waste Disposed from Residential Sources	Waste Disposed from Non-residential Sources*	Waste Diverted from Residential Sources+	Waste Diverted from Non-residential Sources*+
Kilograms/person/year	278	426	138	78

Notes:

*In this instance Non-residential sources is assumed to be predominantly IC&I waste

+Additional diversion of 17 kilograms/person was identified but could not be clearly attributed to residential or non-residential.

The Resource Recovery Policy Branch has suggested to take the total waste generated of 278 and 426 kilograms per person per year that sums to 704 kilograms per person per year, and then apply a 33% diversion rate to arrive at a waste generation rate of 472 kilograms per person per year.

The project team provides an alternate waste generation rate by assuming in this EASR that the Boyne Road Landfill receives 100% of the Township of North Dundas residential waste and the split of waste received at the Boyne Road Landfill has been very roughly estimated as 80% residential and 20% IC&I waste. Furthermore, looking at the Ontario residential diversion rate from the table above, it is apparent that the residential diversion in Ontario in 2018 was 33%. This is in good agreement with the proposed long term residential diversion for the Boyne Road Landfill as described in the EASR, and hence further assessment will be conducted using the waste disposed rates provided by the Ontario-specific Government of Canada data.

As such the residential waste disposed (residual waste) would be 278 kilograms per person per year, which is estimated as 80% of the total at the Boyne Road Landfill and therefore implies the Boyne Road Landfill receives 348 kilograms per person per year including residential and IC&I waste.

Waste Density

In the absence of any other data and considering the receipt of IC&I waste is likely limited, this is a small rural landfill, and equipment is limited to a dozer, the density of waste placed at the Boyne Road Landfill has been assumed to be 0.6 tonnes/cubic metre.

Population

In the draft EASR the Official Plan population projections were used to project the required disposal airspace, as described in the ToR. The Township was aware that with the onset of COVID-19, and even somewhat before that, the increased demand for housing outside of but near major urban centres was becoming a reality in North Dundas and that there was significant increased interest and applications by residential developers in the Township. Therefore, for the purpose of using generic provincial waste generation and disposal rates per person to estimate the 25 year disposal volume for expansion of the Boyne Road Landfill, as suggested by the Resource Recovery Policy Branch, it is proposed to use the actual residential development between 2012 and 2021, the currently approved new residential development for 2022/2023 and the projected residential development through 2030 as the basis for estimating the required disposal volume for 2023 through 2048 planning period. This actual and proposed residential development growth is notably higher than the 0.6% per year described in the Official Plan projections. This updated population data, is supported by the attached memo. The table below summarizes the updated population data provided by the Township through 2030, and then projected through 2048.

Table 2: North Dundas Population Data

Year	Updated Population Data (2022)
2021	12672
2022	13217
2023	14304
2024	14928
2025	15381
2026	15836
2027	16294
2028	16755
2029	17219
2030	17685
2031	18039
2032	18400
2033	18768
2034	19143
2035	19526
2036	19917
2037	20315
2038	20721
2039	21136
2040	21558
2041	21990
2042	22429
2043	22878
2044	23336
2045	23802
2046	24278
2047	24764
2048	25259

Cover Material Ratio

In the absence of any other data, and to be conservative, a waste to cover volumetric ratio of 4:1 has been assumed, although it is expected that the Township of North Dundas may use slightly more cover material as a result of having a low daily rate of waste deposition in the existing landfill.

Analysis of Residual Waste Disposal Requirements

Utilizing the updated population data and the waste generation rate suggested by the Resource Recovery Policy Branch and all other assumptions within this memo, the estimated 25 year airspace required by the Township of North Dundas is 506,200 cubic metres (which is about 20% higher than proposed in the EASR).

However, using the updated population data and the waste generation rate suggested by the consultant and all other assumptions within this memo, the 25 year airspace required by the Township of North Dundas is 373,100 cubic metres (which is only about 45,000 cubic metres (10%) less than proposed in the EASR).

The two tables used to estimate the residual waste generation are provided at the end of this memo. As can be seen, one scenario requires more capacity than originally requested in the draft EASR and one scenario requires less capacity than originally requested in the draft EASR, highlighting that this methodology for predicting residual waste needs is strongly influenced by the assumptions made to make the estimate. The use of the actual annual airspace consumed as the basis for projecting the expanded landfill volume requirements requires no such assumptions and is considered to represent the most appropriate approach for this landfill site. As such, the Township is not proposing to request an increase or decrease in the airspace, but to stay with the volume requested in the draft EASR.

Golder Associates Ltd.

PLE/RM/PAS/sg

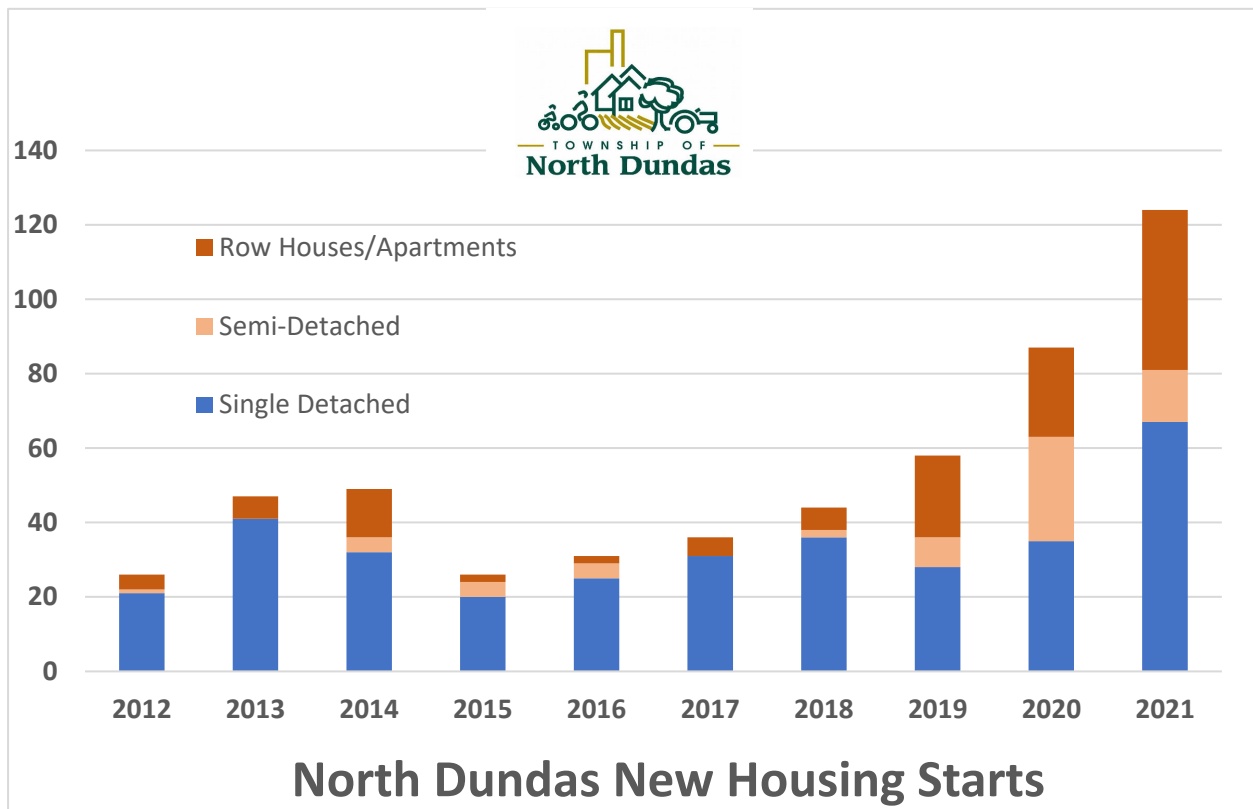
Distribution: Angela Rutley, Township of North Dundas

Attachments: Memo Township of North Dundas Building Stats
Two tables of residual waste estimates

[https://golderassociates.sharepoint.com/sites/117046/project files/6 deliverables/volume 1 easr/3 final/comment responses/00_split up response tables \(sent to jordan\)/north dundas waste volume memo.docx](https://golderassociates.sharepoint.com/sites/117046/project%20files/6%20deliverables/volume%201%20easr/3%20final/comment%20responses/00_split%20up%20response%20tables%20(sent%20to%20jordan)/north%20dundas%20waste%20volume%20memo.docx)

Township of North Dundas Building Stats

- Year 2021 Building Permits: 276; Total dwelling units 124; Declared Value of construction: \$62.8 million.
- 528 new homes built in the past ten years.



Current Approved Projects (2022-2023):

- 63 units Wellings of Winchester (Phase 1) Just completing 90% occupied
- 69 units Wellings of Winchester (Phase 2) Under construction Fall 2022
- 80 units Wellings of Winchester (Phase 3) Under construction Fall 2023
- 72 units in existing subdivisions (vacant lots being built on) 2022-2023
- 10 units Infill and conversions, intensification
- 28 units Wylie Creek Estates Subdivision (2021-2023)
- 6 units Industrial Drive Chesterville (Rental Units)
- 5 units Country Lane Subdivision (Harmony) (2021-2023)
- 28 units Winchester Meadows stacked townhomes (Spring 2023)

361 Units

Approved projects awaiting water capacity or on-going (2023-2024)

104 units Dream Haven Subdivision (Townhouse development)
174 units Woods Subdivision Development (mixed residential use development)
38 units in existing subdivisions (vacant lots being built on) 2023-2024
15 units Dundas Manor (30 additional beds) 2024 occupancy
36 units Falcon Homes (Chesterville – Queen Street) 2023-2024
35 units Silver Creek Estates Subdivision (Hallville) 2023-2024
12 units Infill and conversions, intensification

414 Units

Future Subdivision Projects being proposed (2025-2030)

30 units Ian Drew (2 new) Subdivisions (Single detached units)
10 units Harmony Road (Single detached units)
52 units Ormond North (44-60 single detached units)
13 units Morewood East (Single detached units)
17 units Morewood West (Single Detached Units)
170 units Herkins Subdivision Chesterville (Multiple Towns and Semis)
135 units Winchester Moderna Homes (Multiple Towns and Semis)
150 units Winchester – Rental Apartments
211 units Wellings of Winchester Seniors Oriented Dwelling units
50 units Infill and conversions, intensification

838 Units

Scenario 1

Year	Population	Waste (Tonnes)	Waste (m ³)	Waste with Daily Cover (m ³)	
2021	12,672	4,410	7,350	9,200	
2022	13,217	4,600	7,666	9,600	
2023	14,304	4,978	8,296	10,400	
2024	14,928	5,195	8,658	10,800	
2025	15,381	5,353	8,921	11,200	
2026	15,836	5,511	9,185	11,500	
2027	16,294	5,670	9,451	11,800	
2028	16,755	5,831	9,718	12,100	
2029	17,219	5,992	9,987	12,500	
2030	17,685	6,155	10,258	12,800	
2031	18,039	6,278	10,463	13,100	
2032	18,400	6,403	10,672	13,300	
2033	18,768	6,531	10,885	13,600	
2034	19,143	6,662	11,103	13,900	
2035	19,526	6,795	11,325	14,200	
2036	19,917	6,931	11,552	14,400	
2037	20,315	7,070	11,783	14,700	
2038	20,721	7,211	12,018	15,000	
2039	21,136	7,355	12,259	15,300	
2040	21,558	7,502	12,504	15,600	
2041	21,990	7,652	12,754	15,900	
2042	22,429	7,805	13,009	16,300	
2043	22,878	7,962	13,269	16,600	
2044	23,336	8,121	13,535	16,900	
2045	23,802	8,283	13,805	17,300	
2046	24,278	8,449	14,081	17,600	
2047	24,764	8,618	14,363	18,000	
2048	25,259	8,790	14,650	18,300	
TOTAL				391,900	Original Estimate
TOTAL POST 2023				373,100	417,700

Residual Waste Generation
Scenario 2

Year	Population	Waste (Tonnes)	Waste (m ³)	Waste with Daily Cover (m ³)	
2021	12,672	5,981	9,969	12,500	
2022	13,217	6,239	10,398	13,000	
2023	14,304	6,752	11,253	14,100	
2024	14,928	7,046	11,743	14,700	
2025	15,381	7,260	12,100	15,100	
2026	15,836	7,475	12,458	15,600	
2027	16,294	7,691	12,818	16,000	
2028	16,755	7,909	13,181	16,500	
2029	17,219	8,127	13,546	16,900	
2030	17,685	8,348	13,913	17,400	
2031	18,039	8,514	14,191	17,700	
2032	18,400	8,685	14,475	18,100	
2033	18,768	8,858	14,764	18,500	
2034	19,143	9,036	15,059	18,800	
2035	19,526	9,216	15,361	19,200	
2036	19,917	9,401	15,668	19,600	
2037	20,315	9,589	15,981	20,000	
2038	20,721	9,780	16,301	20,400	
2039	21,136	9,976	16,627	20,800	
2040	21,558	10,176	16,959	21,200	
2041	21,990	10,379	17,299	21,600	
2042	22,429	10,587	17,644	22,100	
2043	22,878	10,798	17,997	22,500	
2044	23,336	11,014	18,357	22,900	
2045	23,802	11,235	18,724	23,400	
2046	24,278	11,459	19,099	23,900	
2047	24,764	11,689	19,481	24,400	
2048	25,259	11,922	19,871	24,800	
TOTAL				531,700	Original Estimate
TOTAL POST 2023				506,200	417,700

Ministry of the Environment, Conservation and Parks

Proposal: North Dundas Waste Environmental Management Plan Environmental Assessment
Proponent: Township of North Dundas

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent’s Response	MECP’s Response (November 2022)	MECP’s Response (December 2022)
Ministry of the Environment, Conservation and Parks Dale Gable, Manager – Technology Projects Resource Recovery Policy Branch						
1.	Volume 3, Appendix J - Waste Diversion Study	In Volume 3, in the report entitled “Waste Diversion Study” prepared by Golder dated May 2020, in Section 3, the Township identifies the various materials that the EPR are intended to address.	Batteries should be included in the list of materials.	Acknowledged. Batteries will be included in the list of materials addressed by EPR and Section 3.0 of Appendix J, Volume 3 has been updated.	Acknowledged	I have reviewed the additional supporting documentation provided by the Township and Golder (dated December 6, 2022) in response to my review comments, the following comments are provided for your consideration.
2.	Volume 3, Appendix J - Waste Diversion Study	In Volume 3, in the report entitled “Waste Diversion Study” prepared by Golder dated May 2020, the report provides an overview of the current diversion programs in Ontario. This discussion in Section 4 of the report is mainly based on the older and now phased out programs. Therefore, the section and assessment may be considered outdated. The oversight for delivering these programs is now the responsibility of RPRA. Furthermore, in the discussion of waste diversion as it relates to the estimation of potential waste volumes in Section 8.3 (Option 3 – Enhanced Recycling) in the report and within Volume 1 of the EA report, the potential impacts to waste diversion due to the diversion program changes are not discussed.	The Township should provide a discussion on the potential impacts that the regulations under the Resource Recovery Circular Economy may have on the Township’s diversion rate, and thus the potential impact on volumetric waste capacity needs.	As described in the approved ToR, a diversion study was to be carried out early in the EA process to both assess one of the Alternatives To and to determine the quantity of residual waste to be managed during the planning period. The ToR was initiated in 2016 and for various reasons the submission of the proposed ToR could not occur until August 2019. Approval of the ToR was not issued until July 2020. In view of the limited remaining approved landfill capacity, the Township decided to proceed with the diversion study prior to the approval of the ToR, such that the diversion study report is dated May 2020, and forms the basis for the preparation of the draft EASR. The changes in responsibility for the provincial diversion programs was only starting when the diversion study was completed, and the implementation of its various components has been phased in over the past couple years and is ongoing. In view of this timing and the status of this EA, it is not proposed to update the diversion	Acknowledged that some wording has changed to reflect RPRA and new programs. Further comments on understanding needs and volume requirements will be provided below in absence of commentary on impacts to diversion to this section.	The primary concern raised was the difference between the volumetric capacity needs proposed by the in-place survey approach and the statistical approach using data from waste generated per person. Whereas there was different approaches to determine capacity needs, there was a significant difference that warranted further information to be provided. In response to the comments, Golder reviewed their supporting documentation for waste generation but also reviewed and updated information on population growth. As a comparison to their original estimate, Golder completed an assessment using statistical data, assumed density and daily cover ratios over a 25-year period. Based on this data and the updated population growth estimates during the planning period, Golder estimated that volumetric needs using this method was approximately 380K cubic metres. This is slightly less than the survey method. However, factoring in the severe weather events that the area has experience which has resulted in additional waste (weather events could potentially align with increase

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	MECP's Response (November 2022)	MECP's Response (December 2022)
				study based on the current responsibilities for diversion. Generally insufficient time has passed for the municipality to know what changes/improvements in diversion have actually occurred with the exception of a small notable increase in electronics diversion with an increase in one container shipped every 6 months to every 4 months. However, the provincial changes in diversion programs have been added to Section 7.0 of the EASR.		fluctuation in survey volumes provided), the slight differences in approaches could be justified. As a result, I am satisfied that the Township and Golder have addressed my technical comments on the assessment related to waste volumetric needs for the Township. The Township estimate which uses survey data is acceptable. However, this statement is based on the assumption that the additional information used in the comparison assessment on population growth is acceptable.
3.	Volume 3, Appendix J - Waste Diversion Study	The Township has indicated due to the rural setting, a portion of the organics generated in residential settings are managed through backyard composters or own leaf and yard composting. It was mentioned in Section 3 that with regards to the Food and Organic Policy Statement that where the collection of food and organics is not provided by the municipality that other means such as home composting are to be provided by the municipality.	The Township should provide a discussion on the amount of home composters that they have provided to the residents over the years to have an estimate on the amount of organics that may be diverted through the years.	Historically, the Township has not provided backyard composters nor coupons for composters but when they receive requests for such equipment, they direct individuals to one of two stores in the Township to purchase equipment. As such there is no database on how many home composters exist in the Township. In the future if the Township or County subsidize home composters, which is likely, a mechanism to track numbers provided will be contemplated in the program. No changes to the EASR or Volume 3 have been made.	The responses provides an acceptable response. No further comment.	
4.	Volume 3, Appendix J - Waste Diversion Study	The Township provided a discussion on the potential options for increasing diversion. The Township has indicated that the options that can be considered could increase diversion to approximately 56% of the waste generated which is an increase of 33%. In the estimations for waste volumes needed, the Township only increased potential diversion by only 10% by the year 2030 and maintains that diversion throughout the planning period.	It is unclear why the diversion rate is maintained through the planning period and not increased. The approach is conservative and may result in overestimated the volumetric requirements. It is recommended that the Township provide an explanation on the approach.	On review of the Diversion Study report, it was noticed that there were typos in the numbers stated in Section 11.0 at the top of page 26. It should have read (changes shown in bold) "between 10 to 15 percentage points, corresponding to an increased residential diversion rate of 33 to 38 ". For the reasons described in Section 11.0, it was considered	No further comments	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	MECP's Response (November 2022)	MECP's Response (December 2022)
				appropriate for planning purposes to assume that a 10% increase could be achieved in this largely rural municipality, and that this would take several years (until 2030) to achieve. Because it is currently not known what other diversion activities might be practical to implement or what additional diversion may be achieved, the diversion rate was assumed to remain at 33% for the remaining portion of the planning period. It is considered that this is a responsible approach for a small rural municipality to take in long term residual waste management planning. Updates to Volume 3 Appendix J to correct any typos have been made.		
5.	Volume 3, Appendix J - Waste Diversion Study	Figure 1 in the Waste Diversion Study indicates that 32% of Ontario's waste composition is organics and Figure 2 indicates that organics makes up approximately 35% of the waste composition of the Townships waste. In Section 8.2, the report mentions that organics make up 40% of the waste stream in Canada. For the purposes of the EA, it is assumed that the Township is working with 35% composition number. In Section 8.2 minor comments, it indicated that "assuming 10% of the organic composition is leaf and yard waste...", to confirm that this is meant to read 28.6 % (10/35) of the organic composition is leaf and yard or that 10% of the overall waste composition is leaf and yard with 25 percent as source separated organics.	Confirm that this is meant to read 28.6 % (10/35) of the organic composition is leaf and yard or that 10% of the overall waste composition is leaf and yard with 25 percent as source separated organics.	This is meant to convey that 10% of the overall waste composition is leaf and yard waste and 25% of the overall waste composition is source separated organics in the Township. Section 8.2 of Volume 3, Appendix J has been updated to more accurately reflect the wording presented.	No further comments.	
6.	Volume 1, Section 7.0 – Updated Diversion and	There is a need to clarify the approach used to estimate the proposed volumetric disposal waste needs for the Township	Clarify the approach used to estimate the proposed volumetric disposal waste needs for the	To assist in understanding the volumetric disposal waste needs for the Township Table 7-2 in Volume 1 has been updated to	No further comment	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	MECP's Response (November 2022)	MECP's Response (December 2022)
	Residual Waste Disposal Requirements	over the twenty-five (25) year planning period.	Township over the twenty-five (25) year planning period.	provide additional details such as total residential waste generated and total ICI waste generated.		
7.	Volume 1, Section 7.0 – Updated Diversion and Residual Waste Disposal Requirements, page 7-2	In page 7-2 of the report (Volume 1), the Township estimated the long term waste disposal needs by reviewing the annual waste surveys and averaging estimated volumes over a short period of time. The estimated baseline for waste needs was estimated to be 16,200 cubic metres. No data was provided on those volumes within the Environmental Assessment Report. (This has resulted in an estimation of 417,000 cubic metre requirements).	It is preferred if additional data points were provided to demonstrate the annual capacity and there has been no historical fluctuation over the years. A data set of 10-15 years would be acceptable.	Surveys of the landfill that allow the annual airspace consumption to be calculated are only available since 2008. Although the annual values are not provided, they are described in Section 7.0 of the EASR, "surveys of the active portion of the landfill completed since 2008 indicate that the annual fill rate ranges from approximately 10,400 to 18,900 m ³ per year (with one higher fill rate in 2017)". This shows that there has been considerable variation between 2008 and 2020. Section 7.0 has been updated to include the actual annual fill rates. In view of these annual variations, to determine an annual average landfilling rate that could be considered representative of overall waste management in the Township over recent years (rather than using a survey from earlier than 2015), an average annual airspace consumption was calculated over the 2015 through 2020 period using the actual surveys in those years; this average was then increased through the planning period based on the projected population increase, which is the approach typically taken in waste planning studies. It is noted that where there are weigh scales, the projected annual residual waste disposal is usually estimated on a tonnage basis and then converted to volume based on annual tonnage disposed and	<p>Based on comments provided and text in the EASR, the proposed responds still does not address the concern. In determining waste needs and estimated the volume of waste generated, it appears that Table 7-3 generally works backwards. Stating the waste volume needs and then calculated the estimated Residential waste needs. In the absence of other data, perhaps this may be an acceptable method. However, there is known data on the average amount of waste a person generates in Ontario that can be used to validate the proposed approach. When comparing the approaches, the difference in volumetric needs are significant. Whereas, different approaches can be used, further data provided within the report indicates an over usage of daily cover material. This over usage was not addressed in the Table or the report adequately.</p> <p>The over usage of daily cover is not considered "good operational" practices and it not addressed in the report. Good operational practices should be considered when assessing potential waste needs for the undertaking.</p> <p>In general, the approach is providing an overestimate on the actual waste disposal needs for the planning period.</p>	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	MECP's Response (November 2022)	MECP's Response (December 2022)
				corresponding airspace consumed based on annual surveys. However, there is no weigh scale at the Boyne Road Landfill site. The approach taken is considered appropriate for planning purposes.		
8.	Volume 1, Section 7.0 – Updated Diversion and Residual Waste Disposal Requirements, Table 7-1	The Township has provided only selected population estimates within Volume 1.	It is suggested that the Township provide all yearly population estimates for each year in the planning period.	The requested yearly population estimates have been added to Section 7.0 of Volume 1.	No further comments.	
9.	Volume 1, Section 7.0 – Updated Diversion and Residual Waste Disposal Requirements And Volume 2, Appendix B-2, Emissions Calculations	<p>Within the main report (Volume 1), there was no discussion on the ratio of waste to daily cover in the estimated historical annual waste volumes. Ministry and industry accepted ratios for waste to daily cover for the purposes of estimated airspace is 4 (waste):1 (daily cover).</p> <p>However, in Volume 2, in the emissions report, it is indicated that the Average Daily Waste Receipt is 26 Mg/day and the Average Daily Cover Throughput is 16 Mg/day. Based on these operational numbers, the waste to cover ratio is 1.625:1. Furthermore, in the expansion phase that ratio is further reduced to 1.57:1. As mentioned landfill waste to daily ratio typically is 4:1 These ratios are not consider optimum landfill operations conditions. As a result, a significant portion of the surveyed waste volumes appears to be daily cover and not waste. As a result, it clearly appears that the landfill volumetric needs from a waste to daily cover is significantly overestimated. Furthermore, other data provided in the report support the overestimation of waste and the operational ratio of 1.6:1.</p>	The Township needs to provide further discussion and rationale for utilizing those waste to daily cover ratios and deviating from generally accepted approached. In addition, it should provide a discussion on why it should be considered good operational practice.	It is noted that waste:cover ratios are based on volume and not weight. Because the site does not have a weigh scale, there are not records of the tonnage of waste disposed and the tonnage of cover material used. If there were, then approximate densities of each could be assumed to convert the tonnages to volume and an estimate of the actual waste:cover ratio then made. At the Boyne Road Landfill, the annual surveys allow the annual airspace consumption to be determined, which accounts for the waste, the daily cover materials used and their degree of compaction. The Township recognizes the value of their approved airspace and makes efforts to minimize the amount of cover material used while still satisfying the ECA requirements for daily cover application. It must be recognized that the landfill receives a relatively small amount of waste each day that is required to receive daily cover; as such, the waste:cover	<p>The concerns remain for the comment. Reasonable estimates on daily cover densities can be used to determine the volumetric airspace that will be consumed based on the EASR estimate of the amount (weight) of daily cover used. Using the typical number of days the site is operating, an overall annual volumetric estimate can be achieved and deducted from the annual waste generated estimates. Furthermore, the consultants response of the data provided on daily cover should not be used in estimates does not address the comment on daily cover volumes.</p> <p>The reference section in the original comments and the response are not consistent.</p> <p>The consultant should clearly explain/clarify the inconsistency and/or provide information on the estimate on the amount of daily cover.</p>	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	MECP's Response (November 2022)	MECP's Response (December 2022)
				<p>ratio has the potential to be lower than can be achieved at sites that receive larger daily waste volumes.</p> <p>Because landfill capacity is based on volume, it is the total volume of airspace required over the planning period that is the basis for the design, while recognizing that operationally it is desirable to minimize the consumption of that airspace by daily cover. The estimate of 417,700 cubic metres of expanded landfill airspace is based on the actual airspace consumed at this site (and accounting for increased diversion) and is considered the most accurate way of determining the required airspace given the constraints of the data available. The proposed airspace is not overestimated, and is appropriate for this EA.</p> <p>As related to Volume 2, Appendix B-2, these are weights for waste and daily cover assumed, as best possible, to reflect site operations. These weights should not be used to try to derive waste:cover ratios, since the ratio is based on volume.</p>	<p>As discussed above, there is reasonable concern that due to the method approach, and difference in available data on waste generate rates that a significant amount of waste in the estimate is related to daily cover above a 4:1 ratio.</p> <p>Concerns still remain on the method to estimate the volumetric needs for the undertaking.</p> <p>If the estimated annual waste volume are used, the consultant should provide a rationale on why the Township generated significantly more waste per person than any other Township, municipality in Ontario and why that data on waste per person is not considered in their estimate.</p>	
10.	Volume 3, Appendix J - Waste Diversion Study and Volume 1, Section 7.0 – Updated Diversion and	In Volume 3, in the report entitled “Waste Diversion Study” prepared by Golder dated May 2020, it indicated that in 2018 the Township generated approximately 2715 tonnes of residential waste in which 628 tonnes were diverted. Therefore, approximately 2087 tonnes of residential waste were sent to landfill. The Township indicated that an ICI waste is approximately 20% of the residential	Further justification on the volumetric needs is required.	Section 5.0 of the Volume 3 Appendix J Waste Diversion Study is in regard to waste composition and the tonnage quoted was from the data call and used together with broader provincial information to try and estimate the Township's waste composition. This tonnage was not used to estimate the volume of airspace needed for the	<p>To clarify, collected data exist but did not use it in the estimate in the EASR. Can it be explained why the data was not used in the estimate.</p> <p>The responses to this item and those above do not address the concern.</p>	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	MECP's Response (November 2022)	MECP's Response (December 2022)
	Residual Waste Disposal Requirements	volume (so approximately 543 tonnes). (Worst case scenario if the Township is implying that the 20% is on top of the residential volume). Therefore, it is estimated that the site received approximately 2630 tonnes of waste in 2018. Waste density in a compacted landfill is typically around 0.75T/m ³ . Assuming that a municipal site of this size is only using a dozer, the compacted density can be assumed to be less (approx. 0.6T/m ³). Based on this density, it would equate to approximately 4,380 cubic metres. With the addition of daily cover (using 4:1), it is estimated that annual air space need for that year would be 5,475 cubic metres. The annual amount of airspace needed would be significantly below the annual volumes identify in Volume 1 of the EA report. This would result in an volumetric air difference of approximately 268,000 cubic metres.		landfill expansion, which as described in the EASR Section 7.0 and in the response to comments 7 and 9 above was appropriately based on actual airspace consumption and is not considered to be overestimated.	Furthermore, compaction density is not addressed either. In short, the concerns still around estimated volumes still exist. Available data provided in the report, through national data and through good operations indicated that the estimated volumetric needs are overestimated	
11.	Volume 1, Section 7.0 – Updated Diversion and Residual Waste Disposal Requirements	Notwithstanding the comments above, using the Township's volume and removing the daily cover component at 4:1 ratio, the Townships waste generation rate is considerably above 1 T/person for the Township. The Government of Canada has estimated that the average waste generated rate per person in Canada is 0.704 T/person (residential and non-residential waste volume total). From a provincial perspective per person, Ontario generated below 0.7T/person. This rate does not include diversion. If we use 0.7T/pp and a population of 12,107 (2021 data), the amount of waste generated would be approximately 8,475 T. Assuming a diversion rate of 33% (conservative), that would be approximately 6525 T for disposal or	As a result, it is recommended that the Township provide further information to justify their volumetric airspace requirements.	The Ministry's comment is acknowledged and there are many approaches that can be taken to try to estimate waste generation and residual waste disposal requirements. In the absence of municipality-specific information based on waste composition studies, waste audits, tonnage information, etc., these approaches have to rely on typical national or provincial information. In the case of North Dundas, where only limited information is available, as described in the EASR Section 7.0 and in the response to Comment 7, 9 and 10 above, the expanded landfill airspace required over the 25 year planning period was appropriately	See comments above.	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	MECP's Response (November 2022)	MECP's Response (December 2022)
		approximately 9,460 cubic metres of waste. Applying the daily cover ratio, would result in a volumetric need of 11,830 cubic metres per year. This annual difference can result in volumetric airspace difference of over 100,000 cubic metres over the planning period.		based on actual airspace consumption at the Boyne Road Landfill and is not considered to be overestimated.		
12.	Volume 1, Section 7.0 – Updated Diversion and Residual Waste Disposal Requirements	The difference in data further supports the need for additional information to explain the significant difference in waste generated in the Township compared to the rest of the province and difference in long term waste planning needs.	Additional information requested to explain the difference in waste generated in the Township compared to the rest of the province.	Please see previous response to Comments 7, 9 and 10.	See comments above	
13.	Volume 1, Section 7.0 – Updated Diversion and Residual Waste Disposal Requirements	In summary, based on review of the report, available statistics and generally accepted waste management planning approaches, I have questions about the use of inconsistent assumptions and approaches that were used to estimate the volumetric waste disposal need for the Township which appears to result in a significant overestimation of the disposal needs.	Therefore, the Township should explain these discrepancies or recalculate the volumes needed.	Please see previous response to Comments 7, 9 and 10.	See comments above.	
14.	Volume 1, Section 10.2.5 – Summary of Alternative Methods	Section 10.2.5 of the EA report (Volume 1) provides a summary of the three (3) alternative footprints/geometry to the proposed landfill expansion. The decision to develop three (3) potential layouts was done at the prerogative of the Township. It does not appear to be a requirement of the MECP. Whereas the height and areas are similar, the Township should undertake a contaminant lifespan (CLS) assessment for each option and add that consideration into their evaluation table. CLS is an estimate of how long the site will produce contaminants at a level that may impact the natural environment. If there is significant difference in the CLS, it may be worthwhile to assess and discuss in the alternative evaluation.	The Township should undertake a contaminant lifespan (CLS) assessment for each option and add that consideration into their evaluation table. If there is significant difference in the CLS, it may be worthwhile to assess and discuss in the alternative evaluation	The contaminating lifespan (CLS) of the selected Alternative Method (Alternative Method 3) was calculated (see Volume 1, Section 13.2.5 and Volume 2, Appendix D-3). The assessment in Volume 1, Section 11.2.2 considered the differences in groundwater quality at the landfill site boundary based on 1) the position of the landfill footprint, 2) the waste footprint area configuration relative to groundwater flow direction, and 3) the maximum thickness of waste. These three factors were equally preferred across all three Alternative Methods. These three factors would contribute to CLS	No further comments.	

December 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	MECP's Response (November 2022)	MECP's Response (December 2022)
				calculations; however, as they are not significantly different, there would be no significant difference in CLS calculations. No changes to the EASR have been made.		

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MEMORANDUM

June 20, 2022

TO: Erin League
Sr. Environmental Officer
Cornwall Area Office
Eastern Region

FROM: Thomas Guo
Hydrogeologist
Technical Support Section
Eastern Region

RE: Environmental Assessment (EA)
The Township of North Dundas Waste Management Plan
United Counties of Stormont, Dundas and Glengarry, ON

I have reviewed the following documents:

- “Environmental Assessment of the Township of North Dundas Waste Management Plan, Notice of Draft Environmental Assessment Study Report”, jointly issued by the Township of North Dundas and Golder, and dated May 27, 2022;
- “Volume 1 – Environmental Assessment of the Township of North Dundas Waste Management Plan”, prepared by Golder and dated May 2022, which contains EA Study Report;
- “Volume 2 – Appendices, Environmental Assessment of the Township of North Dundas Waste Management Plan”, prepared by Golder and dated May 2022, which includes following appendices:
 - Appendix A – Approved Terms of Reference
 - Appendix B – Air Quality and Odour
 - Appendix C – Noise
 - Appendix D – Geology, Hydrogeology, and Geotechnical
 - Appendix E – Surface Water
 - Appendix F – Biology
 - Appendix G – Cultural Heritage
 - Appendix H – Traffic;
- “Volume 3 – Supporting Documents, Environmental Assessment of the Township of North Dundas Waste Management Plan”, prepared by Golder and dated May 2022, which contains:
 - Appendix I – New Landfill Site Selection Assessment
 - Appendix J – Waste Diversion Study

- “Volume 4 – Record of Consultation, Environmental Assessment of the Township of North Dundas Waste Management Plan”, prepared by Golder and dated May 2022

With reference to the comments on the Terms of Reference provided by Shawn Trimper and dated September 5, 2019, I provide the following comments for your consideration from groundwater perspective.

Background

The Township is seeking to accommodate disposal of waste corresponding to the consumption of approximately 417,700 m³ of waste landfill disposal from 2023 to 2048, as its existing Boyne Road Landfill is currently at capacity. The EA Study evaluated long-term solid waste management options to achieve this objective and has identified increased diversion and expansion of the existing Boyne Road Landfill as the preferred alternative.

The Boyne Road Waste Disposal Site (WDS) has been in operation since 1965 and is the only operational WDS in the Township of North Dundas. The site receives all residential and some of the industrial, commercial and institutional waste generated in the Township. The site is approved for the operation of an 8.1 hectare fill area within a total site area of approximately 97.13 hectares by Environmental Compliance Approval (ECA) No. A482101 and has an approved volumetric capacity of 395,000 m³. During 2014, it was recognised that the site was in an overfill situation and at the end of 2014 the volume of waste in place was estimated to be approximately 533,780 m³, representing an overfill of approximately 139,000 m³. Since this time annual extensions have been approved through the ECA which are intended to allow the site to continue to operate until a suitable waste management strategy can be determined and implemented.

In addition to the landfill property, the Township has acquired groundwater easements, referred to as Contamination Attenuation Zones (CAZs). The existing landfill site is a natural attenuation landfill, without an engineered bottom liner and leachate collection system.

Approved Terms of Reference (TOR)

The approved TOR provides the framework for the completion of EA, which evaluates the waste management alternatives and determines a preferred option for the management of waste generated within the township over the next 25 years. Those waste management alternatives to be considered are:

- site closure and exportation of waste;
- expansion of the existing site;
- develop a new waste disposal site at an other location;
- alternative waste management technologies (i.e. energy from waste);
- enhanced waste diversion; and,
- do nothing (a required benchmark of the EA process)

Once a preferred waste management alternative is identified alternative methods (i.e. alternative methods and configurations with respect to the selected alternative) are to be identified and assessed. The TOR provides high-level commitments to be completed and provided in the EA Report. The workplans related to the commitments will be provided to relevant agencies and parties throughout the process of planning and completing the commitments.

Site Settings of Boyne Road WDS

The Boyne Road Landfill is located on Lot 8, Concession VI in the former Township of Winchester, along the south side of Boyne Road about 2 km east of the Village of Winchester, which is approximately mid-way between the two main population centres within the Township – the Villages of Winchester and Chesterville.

The surface water Site-vicinity Study Area is located in a rural agricultural area of flat to undulating farmland. Drainage in this area is via a network of constructed municipal drains, primarily the Volks Municipal Drain and the Quart Municipal Drain (historically known as the Irving-Quart Drain or Irving Drain). The area directly east and south of the existing landfill mound is forested with a shallow groundwater level.

Geology

The geology at Boyne Road WDS is determined to be:

- A topsoil/peat unit (between 0 and 2 m in thickness);
- A silt/clay unit at surface or underlying topsoil/peat where present (generally between 0 and 3 m in thickness);
- A silty sand/sandy silt till (between 0.9 and 6.0 m in thickness); and
- Bedrock, consisting of limestone (interbedded with shale), has been encountered at between 1.4 and 11.6 mbgs.

Hydrogeology

The physical hydrogeology is determined to be:

- Overburden aquifer
 - The glacial till has a higher hydraulic conductivity than the marine clays; it is perhaps only capable of providing adequate well yields for an individual water supply in very localized areas;
 - The groundwater flow direction is expected to be north, toward the East Castor River;
 - The geometric mean of hydraulic conductivity is 3×10^{-4} cm/s;
 - The horizontal hydraulic gradient is typically measured at approximately 0.005 m/m; and
 - The average linear groundwater velocity in the vicinity of the waste mound is estimated to be about 1 m/yr. and has ranged between 0.9 and 45 m/yr. (as measured between 2007 and 2020) but is typically within the range of 1 – 4 m/yr.

- Bedrock aquifer
 - Bedrock aquifers occurs along and through fractures and bedding plane features (secondary porosity). The contact zone between the upper weathered bedrock surface and the overburden materials (basal till) has an enhanced permeability and thus has a higher hydraulic conductivity than the lower, more massive bedrock;
 - The bedrock aquifers are considered mostly to be confined/semi-confined;
 - Groundwater flow directions in the bedrock have been observed to vary historically - to the south in the area immediately south of the landfill site; and to the north, further south of the landfill site;
 - Horizontal gradients in the bedrock have historically been weak and variable in direction; and
 - The hydraulic conductivity in bedrock aquifer ranges from $1 - 3 \times 10^{-5}$ cm/s.

Groundwater Quality and Leachate Indicators

Monitoring wells MW13 and BR07-26 in Boyne Road WDS have been established as representative of background water quality in the overburden and the bedrock, respectively. Monitoring well MW06-22 and the replacement well MW06-22R are screened in the silty sand unit immediately below the waste mound and have been used as indicators of leachate strength at the landfill site.

Based on a comparison of background groundwater quality, leachate quality and mobility of the leachate parameters, leachate indicator parameters (LIPs) for the landfill site are alkalinity, aluminum, ammonia, barium, biological oxygen demand (BOD), boron, chloride, cobalt, conductivity, dissolved organic carbon (DOC), hardness, iron, manganese, phenols, potassium, sodium, and total dissolved solids (TDS).

The 2020 Monitoring Results

Sampling of groundwater quality at the Boyne Road Landfill site is conducted twice annually and reported annually and includes the analysis of general chemistry, metals, and volatile organic compounds.

The summary of the 2020 groundwater assessment is as follows:

- To the west of the landfill site, landfill leachate impacts have been delineated, with monitoring well MW07-23 interpreted to be potentially impacted leachate;
- To the south of the landfill site, landfill leachate impacts have been delineated with MW06-20 interpreted to be potentially impacted and BRW15-3 interpreted to be not impacted by landfill leachate;
- To the north of the landfill site, landfill leachate impacts have been delineated. Monitoring wells at the northern extent of the monitoring network have been interpreted to not be impacted by landfill leachate (MW07-24, MW16-1A, MW16-1B, MW16-3A, MW16-3B and MW16-3C);
- Concentrations of leachate indicator parameters at each monitoring location have been generally consistent for the last several years with the exception of increasing trends in the concentrations of several parameters at MW1, MW5, MW16, BRW1-B, and BRW2, all of which are located on the landfill Site Study Area or within the buffer/CAZ in areas relatively close to the waste footprint; and,

- Within locations monitored in the bedrock there is limited leachate impact except at BRW2 and BRW3, which are located within 100 m of the waste footprint and are interpreted to be impacted by landfill leachate.

Golder states that the existing landfill is in compliance with the Reasonable Use Guideline B-7 (RUG) based on current assessment of the groundwater program.

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Sampling Results

As requested by Mr. Trimper, Groundwater samples were collected for the analysis of PFAS compounds in August 2021. Groundwater samples were obtained at five locations: MW06-22R, MW07-23, MW06-20, MW07-25, and MW4. These locations were selected to characterize PFAS quality in the source leachate (MW06-22R), in the vicinity of the snow storage facility (MW4), and to check for the presence of downgradient PFAS in the north, west, and south directions from the waste footprint (MW07-25, MW07-23 and MW06-20, respectively).

Multiple PFAS compounds were detected in leachate quality well MW06-22R. The sum of the select PFAS compound concentrations in this sample is 1423.8 ng/L. No PFAS compounds were detected in the samples collected at MW4 and MW06-20. Trace PFAS compounds were detected at MW07-23 and MW07-25; the groundwater samples from these locations had a summation of select PFAS compound concentrations of 0.45 ng/L and 20.62 ng/L, respectively.

With the exception of the leachate quality well, all locations reported sums of select PFAS compound concentrations below the MECP suggested drinking water value of 70 ng/L. This indicates that, where present, PFAS compounds are in the groundwater in the immediate vicinity of the waste mound and not migrating in downgradient directions on-site or off-site at concentrations of potential concern to off-site groundwater users.

Groundwater Supply and Source Water Protection

The North Dundas Drinking Water System (System) supplies treated water to Winchester and Chesterville. The System derives its water supply from three communal wells completed in bedrock within and to the west of Winchester (Winchester Wells No. 1, 5 and 6), and two well fields completed in overburden sediments, comprised of three communal wells (Winchester Wells No. 7a, 7b, and 7c) and two communal wells (Chesterville Wells No. 5 and 6).

The Boyne Road Landfill exists within the existing WHPA-D of the Chesterville wellfield with a vulnerability score of 4. The current Source Protection Plan (SNC and RRC, 2016a) for the Chesterville wellfield indicates that the provincial policies concerning waste only apply to WHPAs A and B and portions of WHPA-C for which the vulnerability score is 8 or higher.

Golder concludes that the Boyne Road WDS is not interpreted to be having an impact on the Winchester, Chesterville, or nearby residential wells due to its location within the geological setting, the local hydrogeology and its remote location from residents.

Impact Assessment of the Preferred Undertaking – Boyne Road WDS Expansion

In order to assess the impacts to groundwater, Golder chose chloride and boron as the conservative and mobile leachate indicators.

One-dimensional contaminant transport calculations were completed to provide an assessment of contaminant transport based on the available data for the existing landfill.

Based on the calculation, chloride and boron concentrations are expected to meet RUG limits at 700 m downgradient from the fill area (for the northward and southward groundwater flow pathways) for the proposed landfill expansion. As such, to achieve compliance with the RUG limits in future, it will be necessary for the Township in future to obtain control over an additional 400 m of groundwater travel distance towards the south as CAZ through either property acquisition or groundwater easement below this land area.

It is anticipated that chloride concentrations in the leachate beneath the landfill expansion will be below the RUG limits at approximately year of 2070 or 22 years post closure.

Groundwater Monitoring Program

For the proposed landfill expansion, the continued objectives of the groundwater monitoring program are to monitor the quality of leachate and groundwater to determine the extent and degree of leachate effects on groundwater quality and assess site compliance with the RUG.

Golder proposed the following groundwater monitoring:

- Existing monitoring wells MW7, MW12, BRW3, MW15-1 and 15-2 are within or immediately adjacent to the proposed expansion. These monitoring wells will need to be decommissioned.
- Monitoring Locations: MW1, MW4, MW5, MW9, MW13, MW14, MW16, MW17, MW18, MW19, BRW1-A, BRW1-B, BRW1-C, BRW2, MW06-20, MW06-21, MW06-22R, MW07-23, MW07-24, MW07-25, BRW07-26, BRW15-3, BRW16-1A, MW16-1B, MW16-2, BRW16-3A, MW16-3B, MW16-3C, BRW22-A, MW22-B
- Monitoring Frequency: Spring, Late Summer
- Field Measured Parameters: groundwater levels at all accessible monitoring wells, temperature, conductivity, pH
- Analytical Parameters: potassium, boron, iron, manganese, barium, aluminum, cadmium, chromium, cobalt, lead, zinc, TDS, alkalinity, sulphate, sodium, nitrate, chloride, BOD, DOC, ammonia, dissolved reactive phosphorous (DRP), phenols, hardness (calculated from laboratory calcium and magnesium analysis), copper, nickel; VOCs (at MW06-22R, MW1, MW4, MW5, and MW16 only)

Groundwater Contingency Measures

Should the ongoing groundwater monitoring program at any of the Compliance Evaluation Monitoring Wells define the existence of, or potential for, unacceptable impacts on groundwater quality beyond the CAZ boundaries, the Township will prepare and present a mitigation plan for the approval of the MECP Director and/or the District Manager. Contingency actions to be taken by the Township to prevent or remediate the off-property impacts could consist of:

- Delineation of the extent of the leachate impact on groundwater, and acquisition of additional CAZ land to bring the site into compliance with the RUG;
- Gaining control over the contaminated groundwater to bring the site into compliance; and,

- Developing and implementing groundwater control/treatment measures (for example, a groundwater interceptor trench in overburden or purge wells in bedrock) to bring the site into compliance with the RUG.

Conclusions and Recommendations

- The EA was completed as per the approved TOR;
- I have no objections to the Preferred Undertaking – Boyne Road WDS Expansion;
- The impact assessment on Boyne Road WDS Expansion is acceptable;
- The site specific data indicate that leachate is not migrating toward the municipal wells, the risk posed to the municipal wells appears to be low; however, as mentioned by Mr. Trimper, further assessment and appropriate monitoring and contingency plans are required to ensure that municipal water supplies and regionally significant aquifers are not at risk;
- The groundwater monitoring program is acceptable. However, this program may be adjusted based on the annual monitoring results and the requirements to protect regionally significant aquifers. Additional monitoring wells are required if the new CAZ is established;
- As recommended by Mr. Trimper, the RUG assessments of relevant emerging contaminants associated with landfill leachate should be considered as part of the assessment. One such group of compounds is per- and poly-fluoroalkyl substances (PFAS). PFAS are environmentally persistent compounds that are routinely identified in municipal landfill leachates and pose a potential risk to the environment and human health and are also ideal tracers of landfill leachate;
- The groundwater contingency measures are acceptable. However, the corresponding trigger mechanism should be developed in the following annual report; and
- Reasonable Use Guideline B-7 (RUG) applies to Boyne Road WDS. An annual monitoring report should be prepared by a qualified person (P. Eng or P. Geo) to assess the compliance with the RUG. The report should be submitted to MECP for review.



Thomas Guo, M. Eng, P. Geo.
TG/

cc: Beth Gilbert, Surface Water Specialist
Jordan Hughes, Project Officer, Environment Assessment Branch
Jon Orpana, Regional Environmental Planner, Environment Assessment Branch
File No.: GW ST ND 03 06 C4 (Boyne Road WDS - ECA No. A482101)
TG/ECHO# 1-98117790

ec: Victor Castro, Water Resources Supervisor
Christina Klein, Technical Support Section Manager

November 2022

Ministry of the Environment, Conservation and Parks

Proposal: North Dundas Waste Environmental Management Plan Environmental Assessment

Proponent: Township of North Dundas

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
Ministry of the Environment, Conservation and Parks Thomas Guo, Hydrogeologist – Technical Support Section					
1.	Draft EA	The EA was completed as per the approved TOR;	--	Acknowledged.	Comment has been addressed.
2.	Draft EA	I have no objections to the Preferred Undertaking – Boyne Road WDS Expansion;	--	Acknowledged	Comment has been addressed.
3.	Volume 1, Section 13.2, Impact Assessment of the Preferred Undertaking – Geology and Hydrogeology	The impact assessment on Boyne Road WDS Expansion is acceptable;	--	Acknowledged.	Comment has been addressed.
4.	Volume 1, Section 13.2, Impact Assessment of the Preferred Undertaking –	The site specific data indicate that leachate is not migrating toward the municipal wells, the risk posed to the municipal wells appears to be low; however, as mentioned	Further assessment and appropriate monitoring and contingency plans are required to ensure that municipal water supplies and regionally significant aquifers are not at risk.	Mr. Trimper made his comments for further assessment, monitoring and contingency plans in September 2019 while reviewing the Terms of Reference. It is noted that additional assessment was provided in Section 9.2.2.3 of	Comment has been addressed.

November 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
	Geology and Hydrogeology	by Mr. Trimper, further assessment and appropriate monitoring and contingency plans are required to ensure that municipal water supplies and regionally significant aquifers are not at risk;		Volume 1 for the existing site and Section 13.2.4 of Volume 1 for the preferred landfill expansion alternative. The monitoring and contingency programs outlined in Sections 16.1.1 and 16.2.1 of Volume 1, respectively, although meant primarily to be protective of reasonable groundwater usage adjacent to the landfill, are also therefore monitoring and would trigger contingency that would also be protective of the distant municipal water supply wells. As noted in Section 16.1 of Volume 1, the existing groundwater trigger mechanism will be reviewed and modified as appropriate during the ECA amendment application for the landfill expansion. No changes to the EASR proposed.	

November 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
5.	Volume 1, Section 16.1.1, Monitoring and Contingency – Monitoring – Groundwater Monitoring	The groundwater monitoring program is acceptable. However, this program may be adjusted based on the annual monitoring results and the requirements to protect regionally significant aquifers. Additional monitoring wells are required if the new CAZ is established;	--	Acknowledged and agreed that the monitoring program may be adjusted based on the annual monitoring results. It is also acknowledged that additional monitoring wells may be required in the future when the new CAZ is established, noting that the need for installation of those additional monitoring wells will be determined through monitoring and will be triggered at a time when the trigger mechanism is exceeded along the existing south boundary of the landfill site property. As noted in Section 16.1 of Volume 1, the proposed groundwater monitoring program will be finalized and confirmed during the ECA amendment application for the landfill expansion. No changes to the EASR proposed.	Comment has been addressed.

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
6.	Draft EA And Volume 1, Section 16.1.1, Monitoring and Contingency – Monitoring – Groundwater Monitoring	As recommended by Mr. Trimper, the RUG assessments of relevant emerging contaminants associated with landfill leachate should be considered as part of the assessment. One such group of compounds is per- and poly-fluoroalkyl substances (PFAS). PFAS are environmentally persistent compounds that are routinely identified in municipal landfill leachates and pose a potential risk to the environment and human health and are also ideal tracers of landfill leachate;	RUG assessments of relevant emerging contaminants (PFAS) associated with landfill leachate should be considered as part of the assessment.	A PFAS assessment was completed for groundwater at the existing landfill as described in Section 9.2.2.2.6 of Volume 1. With the exception of the leachate quality well, all locations evaluated reported sums of select PFAS compound concentrations below the MECP suggested drinking water value of 70 ng/L. This indicates that, where present, PFAS compounds are in the groundwater in the immediate vicinity of the waste mound and not migrating in downgradient directions on the site or off-site at concentrations of potential concern to off-site groundwater users. With this new information, it was determined that monitoring PFAS in groundwater at this landfill did not provide additional clarity or assistance in evaluating site compliance and hence PFAS were not included in the proposed monitoring program identified in Section 16.1.1 of Volume 1. No changes to the EASR proposed.	Having discussed with Shawn Trimper, I concur with the proposal that PFAS would not be included in the proposed monitoring program. However, I will add a condition in the upcoming ECA saying: <ul style="list-style-type: none"> Should increasing trends or RUG (Reasonable Use Guideline B-7) limit exceedances occur in the future and the source of such trends/exceedances are uncertain or in dispute, additional PFAS sampling should be used as a tool to differentiate landfill from non-landfill related impacts.

November 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
7.	Volume 1, Section 16.2.1, Monitoring and Contingency – Contingency Measures – Groundwater	The groundwater contingency measures are acceptable. However, the corresponding trigger mechanism should be developed in the following annual report;	The corresponding trigger mechanism should be developed in the following annual report.	There is an existing groundwater trigger mechanism that is described and for which an assessment of triggering is carried out in the annual monitoring report . As noted, the trigger mechanism will be reviewed and updated if required during the ECA application process for the landfill expansion. No changes to the EASR proposed.	Comment has been addressed.
8.	Draft EA And Volume 1, Section 16.2.1, Monitoring and Contingency – Contingency Measures – Groundwater	Reasonable Use Guideline B-7 (RUG) applies to Boyne Road WDS.	An annual monitoring report should be prepared by a qualified person (P. Eng or P. Geo) to assess the compliance with the RUG. The report should be submitted to MECP for review.	Acknowledged. Annual monitoring reports are prepared for the Boyne Road landfill including an assessment of the RUG and are provided to the MECP. These annual reports will continue with landfill expansion if approved. No changes to the EASR proposed.	Comment has been addressed.

**Ministry of the
Environment,
Conservation and Parks**

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Kingston ON K7P 3J6
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**Ministère de l'Environnement,
de la Protection de la nature
et des Parcs**

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M E M O R A N D U M

July 4, 2022

TO: E. Legue, Senior Environmental Officer, Cornwall Area Office

FROM: B. Gilbert, Surface Water Specialist, Technical Support Section, Eastern Region

RE: Draft Environmental Assessment Township of North Dundas Waste Management Plan
Township of North Dundas, United Counties of Stormont, Dundas and Glengarry

As requested, I have reviewed the surface water aspects of the Draft Environmental Assessment of the Township of North Dundas Waste Management Plan, dated May 2022 prepared by Golder Associates Limited and The Township of North Dundas. The Draft Environmental Assessment consists of several Volumes and Appendices outlined below:

- “Volume 1 - Environmental Assessment of the Township of North Dundas Waste Management Plan, Draft May 2022” prepared by Golder Associates Limited and The Township of North Dundas.
- “Volume 2 – Appendices - Environmental Assessment of the Township of North Dundas Waste Management Plan, Draft May 2022” prepared by Golder Associates Limited and The Township of North Dundas, containing:
 - Appendix A – Approved Terms of Reference [containing: Volume 1 (Proposed Terms of Reference), Volume 2 (Supporting Documents, “Waste Management Alternatives Evaluation”), Volume 3 (Record of Consultation and associated Appendices A through G)]
 - Appendix B – Air Quality and Odour
 - Appendix C – Noise
 - Appendix D – Geology, Hydrogeology, and Geotechnical
 - Appendix E – Surface Water
 - Appendix F – Biology

- Appendix G – Cultural Heritage
- Appendix H – Traffic
- “Volume 3 – Supporting Documents – Environmental Assessment of the Township of North Dundas Waste Management Plan, Draft May 2022” prepared by Golder Associates Limited and The Township of North Dundas, containing:
 - Appendix I – New Landfill Site Selection Assessment (note: Draft dated June 2020, not signed by Golder’s QPs)
 - Appendix J – Waste Diversion Study
- “Volume 4 – Environmental Assessment of the Township of North Dundas Waste Management Plan, Draft May 2022” prepared by Golder Associates Limited and the Township of North Dundas, containing:
 - Appendix A – Draft Engagement Plan
 - Appendix B – Government Review Team
 - Appendix C – Indigenous Community Consultation
 - Appendix D – Environmental Assessment Notice of Commencement
 - Appendix E – Technical Bulletin #1 – Diversion Study results
 - Appendix F – Technical Bulletin #2 – ‘Alternative To’ Assessment
 - Appendix G – Technical Work Plans
 - Appendix H – Technical Bulletin #3 – ‘Alternative Method’ Assessment
 - Appendix I – Open House #3 (In-person and Virtual)
 - Appendix J – Comments Received on the Draft EA

Background

The Boyne Road Waste Disposal Site (WDS) has been in operation since 1965 and is the only operational WDS in the Township of North Dundas. The site receives all residential and some of the industrial, commercial, and institutional waste generated in the Township. The site is approved for the operation of an 8.1 hectare fill area within a total site area of approximately 97.13 hectares by Environmental Compliance Approval (ECA) No. A482101 and has an approved volumetric capacity of 395,000 m³. The existing landfill site is a natural attenuation landfill, without an engineered bottom liner and leachate collection system.

During 2014, it was recognised that the site was in an overfill situation and at the end of 2014 the volume of waste in place was estimated to be approximately 533,780 m³, representing an overfill of approximately 139,000 m³. Since this time annual extensions have been approved through the ECA which are intended to allow the site to continue to operate until a suitable waste management strategy can be determined and implemented.

The Township is seeking to accommodate disposal of waste corresponding to the consumption of approximately 417,700 m³ of waste landfill disposal from 2023 to 2048 corresponding to a 25-year planning period.

Terms of Reference

The Terms of Reference (ToR) were approved in 2019 and provided the framework for completion of an Environmental Assessment (EA) to evaluate waste management alternatives. Within the Proposed ToR, there was a sample design for a possible expansion of the existing Boyne Road Landfill.

Although the ToR outlined the process for selection of an appropriate remedial strategy, it is understood that a preliminary assessment of waste management options was conducted in 2015 (provided with the ToR as Volume 2) and identified the expansion of the existing naturally attenuating Boyne Road WDS as the preferred waste management alternative. In the 2015 assessment, continued operation of the Boyne Road WDS as a naturally attenuating site was deemed to be the only financially viable alternative for expansion. As such, technical feasibility studies, including surface water studies, only considered proceeding with a landfill expansion on the basis of a continued natural attenuation landfill design approach. The preliminary landfill design was for expansion to the south of the existing disposal area, contiguous to the existing mound.

It is understood that additional alternative assessment would be conducted through the EA process to confirm the preferred option.

Alternatives Considered

The waste management alternatives considered were: site closure and exportation of waste; expansion of the existing Boyne Road Landfill site; develop a new waste disposal site at another location; alternative waste management technologies (i.e. energy from waste); enhanced waste diversion; and, do nothing (a required benchmark of the EA process).

Preferred Option

The draft EA identified increased diversion and expansion of the existing Boyne Road Landfill as the preferred alternative.

Alternative Methods of Landfill Expansion

The draft EA evaluated three landfill expansion methods and selected one of these based on identified/anticipated impacts to known environmental receptors/components. The landfill expansion methods evaluated included: Alternative 1 – Combined horizontal

and vertical expansion with larger east and west buffers; Alternative 2 – Combined horizontal and vertical expansion with larger south buffer; Alternative 3 – Primarily horizontal expansion.

The draft EA identified a preferred method of primarily horizontal expansion after evaluating the anticipated impacts of each method of landfill expansion on various environmental receptors/components.

The draft EA presented a site plan (Figure ES-1) of the preferred expansion design, including the proposed limit of waste, proposed limit of landfill property boundary, controls to be in place such as the relocated perimeter ditch, the proposed location of the stormwater pond, and the portion of Volks Municipal Drain which would have to be isolated from groundwater (via a culvert or a liner). Being that the Volks Municipal Drain is reportedly classified as fish habitat, input (and possibly a permit) from the Department of Fisheries and Oceans has been identified in order to place a culvert or line a portion of the municipal drain. The draft EA also presented a proposed surface water monitoring program, contingency plan, and trigger mechanism.

Proposed Landfill Expansion Design

It is understood that expansion of the existing waste mound would require the purchase of additional land to the southeast and east of the site and deposition of imported permeable fill to provide minimum separation distance between the groundwater table and the waste.

The proposed stormwater design involves directing effluent from the existing and proposed perimeter drains to a newly constructed wetland type stormwater management pond (SWMP) within an existing wet/pooled water area in the northeast corner of the site, without excavation below existing grades.

The existing perimeter ditch is proposed to be moved and it is proposed to raise it above ground surface to avoid impacted groundwater discharging into it. Discharge from the site's stormwater perimeter drains and SWMP would continue to be via the existing culvert to the roadside ditch on the north side of Boyne Road where it would continue to discharge to Volks Municipal Drain and eventually Black Creek.

The SWMP is described as being designed in accordance with the MECP Stormwater Management Planning and Design Manual (2003), providing water quality and quantity control to provide enhanced level treatment (80% total suspended solids removal) and pre- and post-development water quantity control.

Surface Water Regime

The drainage area in question is primarily made up of agricultural drains. Surface water within the existing landfill area drains into a perimeter drain, located along the west, south and east boundaries of the fill area. The perimeter ditch outlets through a culvert at the northeast corner of the site (between SW2 and SW3) to a roadside ditch (Volks Municipal Drain) which runs along the north side of Boyne Road. This roadside ditch flows eastward, then north to the Black Creek municipal drain (2.3 km downstream). Black Creek flows to the East Castor River approximately 12 km downstream from the site, which eventually outlets to the South Nation River.

Groundwater Flow Directions

In section 12.2 (Leachate Management and Groundwater Protection), the seasonally high groundwater table has been described as essentially at ground surface. Section 9.2.2.2.1 (Groundwater Elevations and Groundwater Flow Directions) indicates that groundwater flow direction is both to the north and south of the site and it can be variable with flow occurring to the northeast and to the southwest or southeast. It is also understood that mounding has caused groundwater to flow radially away from the mound in the immediate vicinity of the mound.

Impact Assessment of the Preferred Undertaking – Boyne Road WDS Expansion

Surface water monitoring data collected as part of the Boyne Road WDS surface water monitoring program indicates intermittent landfill leachate effects to the roadside ditch (Volks Municipal Drain). In their 2015 assessment, Golder indicated that implementation of approved contingency measures to mitigate leachate impacts to the roadside ditch would likely be required as a condition of any proposed expansion of the Boyne Road WDS (i.e. installation of a culvert with seepage collars to convey surface water past the site).

Reviewer's Comments:

With reference to the comments on the Terms of Reference provided by Shawn Trimper dated September 5, 2019, and Lauren Forrester dated September 5, 2019, I provide the following comments on the draft EA for your consideration from a surface water impact perspective. Comments pertaining to specific sections of the draft EA are provided for clarity where possible. Comments on the draft EA pertaining to hydrogeological aspects are provided by the Regional Hydrogeologist.

1. The draft EA did not specify what changes occurred to the preliminary design for possible expansion to address/consider previous comments from Regional Hydrogeologist Shawn Trimper dated September 5, 2019 on the ToR The comment was: "A permeable fill layer has been proposed to ensure adequate separation between the groundwater table and the waste. I am concerned that

the proposed permeable layer will result in the seepage of leachate to ground surface and the proposed perimeter ditch. An appropriate design should prevent the seepage/discharge of leachate to surface/surface water”.

Comment: Please provide details on how this design concern has been considered and addressed.

2. Prior comments dated September 5, 2019 from Surface Water Specialist Lauren Forrester on the ToR for the North Dundas Waste Management Plan included: “Expansion of the existing waste mound as described above will require the purchase of additional land to the southeast and east of the site and deposition of imported permeable fill to provide minimum separation between the groundwater table and waste. Measures to prevent leachate impacted groundwater from discharging to surface water (including to the roadside ditch along Boyne Road and stormwater works) are also likely necessary and should be evaluated through the EA process. Specific conceptual site design considerations must be in accordance with O. Reg. 232/98 under the Environmental Protection Act.”

Comment: It is recognized that the draft EA presents proposed measures to prevent leachate impacted groundwater from interacting with the surface water in Volks Municipal Drain. Please describe what measures were evaluated through the EA process to prevent leachate impacted groundwater from discharging to other site-specific surface water features, particularly the proposed perimeter ditches and stormwater water management pond.

3. Prior comments from surface water specialist Lauren Forrester (dated September 5, 2019) on the ToR indicate that “If landfill expansion is selected as the preferred alternative, the EA must demonstrate that landfill leachate will be adequately controlled relative to current and potential impacts to surface water (including to any proposed stormwater works)”.

Comment: Please describe how these concerns were addressed and identify how leachate will be adequately controlled relative to impacts to surface water receptors and to the proposed stormwater works.

4. Section 9 (Description of the Environment Potentially Affected for Landfill Expansion).

General Comment: Please consider describing in more detail the surface water quality management goals for the downstream receiver, Volks Municipal Drain. For example, consider specifying which surface water quality parameters are Policy 1 and which parameters are Policy 2 at the background location through examination of the entire dataset. Based on independent review of the historical

data set of SW1, total phosphorus, nitrate, and iron have 75th percentile values that exceed Provincial Water Quality Objectives (PWQO) or Canadian Water Quality Guidelines (in the case of nitrate) so would be considered Policy 2 parameters. Phenols has a 75th percentile equal to the PWQO so could be considered either Policy 1 or Policy 2. Please consider also stating/describing the overall surface water quality management goal(s) of the Province of Ontario which is “to ensure that the surface waters of the province of Ontario are of a quality which is satisfactory for aquatic life and recreation”. In addition to identifying Policy 2 parameters, please consider identifying Policy 1 parameters also since Policy 1 requires surface water quality to be maintained at or above the objective during the undertaking.

Comment: In Section 9.3.3 (Surface Water Quality) the results of the 2020 monitoring sessions are described in relation to downstream concentrations in excess of the UTL (Upper Tolerance Limit). The annual reports also make comparisons relative to the 75th percentiles at the background location. Please consider including both evaluations in the EA.

5. In Section 9.3.2 (Surface Water Quantity) of the draft EA, it is reported that the area directly south of the mound, which is the location of the proposed expansion, is part of a deciduous swamp where water is close to surface for the majority of the year. It is reported that due to flat low-lying topography and lack of detailed topographic survey information in the area south of the existing landfill, it is difficult to determine the surface flow direction in this area and how much of the area directly drains to the perimeter ditch around the landfill and/or how much flows in other directions. Section 9.4.2.1 (Surface Water Features) describes a small piece of degraded swamp along the western edge of landfill site (SWD 3-2, Silver Maple Mineral Deciduous Swamp). This area is described as an area of moist soils and it is indicated that this area may have undergone flooding historically; however, anthropogenic drainage features in the area appear to have diverted spring runoff, at least in part. Section 9.4.2.1.2 (Reach 2) indicates that south of the proposed expansion area there is an agricultural field owned by the Township that is tile drained and which discharges to an intermittent channelized stream/ditch that flows north towards the existing landfill through a culvert under an access road and into the existing perimeter drain of the landfill. Section 13.3.4 (Surface Water Conveyance) indicates that existing tile drainage piping will be removed as required for the expansion and drainage will be directed to the existing natural wetland area.

Comment: Topographic survey information south of the proposed expansion area could help determine the drainage directions in this area and how much of the area directly drains to the perimeter ditch around the landfill and/or how much

flows in other directions. Ultimately, the EA should provide commitment and confirmation that off site flows which flow onto the proposed expansion area will be directed around (not towards or through) the proposed expansion area/waste mound.

6. The draft EA commits to providing separation distance between the waste and the high groundwater table by importing fill to form the base of the expansion area.

Comment: It appears as though anthropogenic drainage features in the vicinity of the proposed expansion area had the effect of preventing flooding ('in part') historically. It remains unclear in reading the draft EA a) which area of land contributed to the possible historical flooding and b) if removal of the tile drains from the field to the south of the proposed expansion area would affect determination of the high groundwater table and/or depth of surface water in the natural wetland area where the expansion is proposed. Could additional information be provided on how these uncertainties can be addressed.

7. Section 13.4.1.1.2 (Potential Indirect Impacts, Impact Assessment of the Preferred Undertaking) Page 13-50 indicates potential indirect impacts to aquatic ecosystems during the construction phase of the undertaking including "changes in water quality including a change in: contaminant concentrations, water temperature, nutrient concentrations, dissolved oxygen concentrations, change in baseflow, and change in sediment concentration.

Comment: Consider describing in more detail the impacts that the preferred undertaking will have on the chemistry of surface water receptors as it relates to the existing Policy Status for that parameter (e.g. is the preferred undertaking expected to meet surface water quality management goals following expansion).

8. Section 13.3.1 (Stormwater Management System Design) indicates that surface drainage from potentially contaminated areas, i.e., originating from active landfilling areas, will be contained locally within berms and will discharge into the waste. Surface drainage from non-contaminated areas such as road areas and areas with interim or final landfill cover will be conveyed to the SWM pond via the internal drainage ditches.

Comment: Further detail is needed on how the surface drainage from potentially contaminated areas could be contained locally within the berms and discharge into the waste given the concerns raised by Mr. Trimper regarding the proposed permeable layer resulting in the seepage/discharge of leachate to surface/surface water and the proposed perimeter ditch.

9. Volume 1, page E10 states: “Due to high capital and operating costs associated with an engineered leachate collection and treatment system; constraints on the available capacity of Winchester and Chesterville communal sewage treatment systems in the Township; and in the absence of a receiving watercourse for treated effluent from an on-site leachate treatment facility that has year round flow, the only economically viable approach for the Township is to continue operating an expanded Boyne Road Landfill as a natural attenuation site.”

Comment: This statement implies that a year-round watercourse is needed for an on-site leachate treatment facility. If contingencies are required in the future because of adverse impact, a leachate collection and treatment system may be required, and it is possible to discharge treated landfill leachate effluent from an on-site treatment facility to a receiving watercourse that does not have year-round flow. Dry ditch discharge criteria are conservative and can be considered in consultation with Regional Technical Support staff in scenarios where there is no permanently flowing water course for wastewater assimilation.

10. Section 17.0 (Other Approvals): The snow storage facility is located on lands to the north of the existing landfill footprint. There is little information provided regarding the snow storage facility, it's drainage patterns to surface water receivers, and interaction with off-site flows from the existing landfill to the Volks Municipal Drain.

Comment: To the best of my knowledge, the MECP issues Section 53 Ontario Water Resources Act Approval for stormwater associated with snow dumps.

11. Section 16.1.2 (Surface Water Monitoring):

Section 16.1.2.1: Page 16-1 notes that the proposed surface water monitoring programs for the landfill expansion are summarized in the draft EA and will be finalized and confirmed during the ECA amendment application for the expansion. The EA also notes that the surface water trigger mechanisms will also be reviewed and modified as appropriate at that time. The proposed surface water monitoring program is to maintain the existing stations (SW1, SW4, SW3) and parameters and frequency, but remove SW2 (adjacent to the site) and is proposing to add a sampling location at the outfall of the SWMP. The SMWP outfall is proposed to be sampled four times per year (once in spring and fall and two other times per year after significant rainfall events) and analyzed for the same set of parameters as other surface water monitoring locations. Although the pre-submission consultation for the ECA will focus on detailed review of the surface water monitoring programs and trigger mechanism, at this time the following preliminary concerns are noted:

Comment: When a contingency measure is implemented (e.g., installing a culvert or lined open ditch to ensure surface water drainage along Boyne Road does not interact with leachate impacted groundwater), monitoring programs are adjusted accordingly to monitor the success and effectiveness of the implemented measure. While the surface water monitoring location adjacent to the site (SW2) may need to be adjusted to accommodate the contingency measure, there will be a need to monitor the effectiveness of this contingency action to ensure it works as intended to prevent leachate impacted groundwater from interacting with surface water drainage along Boyne Road.

Comment: Currently, any runoff drainage pathways from the snow storage facility in relation to the existing landfill surface water monitoring stations in Volks Municipal Drain are unknown. This information is needed to undertake a review of the surface water monitoring program locations associated with the existing landfill.

Comment: Since at least 2017, the annual reports have been comparing the trigger concentrations based on both a 75th percentile and an Upper Tolerance Limit statistic. The Upper Tolerance Limit trigger concentration appears to be less conservative in comparison to a 75th percentile approach.

Comment: In Section 9.3.3 (Surface Water Quality) it is indicated that an UTL calculation using background surface water quality data at SW1 is used to evaluate if Policy 2 conditions exist. This should also indicate that annual monitoring reports also use a 75th percentile statistic to characterize background surface water quality data and evaluate impacts. It would be useful at the ECA pre-submission consultation stage to identify whether the two statistical methods result in differing Policy Status and/or increased risk to the environment.

Comment: The parameter list for surface water impact assessment requires some additional laboratory parameters (arsenic, conductivity, mercury and pH) to meet the full list of Schedule 5, Column 3 parameters in Landfill Standards: A Guideline on the Regulatory and Approval Requirements for New or Expanding Landfilling Sites, 2012.

Comment: The draft EA acknowledged that the use of chloride as a leachate indicator is complicated by road salting activities and the snow dump on the north side of Boyne Road adjacent to the site. Monitoring of perfluoroalkyl and polyfluoroalkyl substances (PFAS) in surface water may be useful for distinguishing leachate impacts from that of other sources considering the concentration of PFAS detected in the leachate well.

12. Section 16.2.2 identifies proposed contingency measures to address potential surface water impacts. The draft EA indicates contingency measures will be finalized and confirmed during the ECA amendment application for the expansion. The proposed contingency plan for surface water impacts is described as follows: In the event of a trigger concentration being exceeded at the outfall of the stormwater management pond, the result would be confirmed through re-sampling. If the second result is confirmed the pond would be operated in batch discharge mode with the gate valve closed. During batch discharge mode, surface water sampling would occur prior to discharge. Discharge would occur when the concentration for each trigger parameter is less than the corresponding trigger concentration. If impounded water does not meet the trigger concentration it could be slowly infiltrated back into the landfill or possibly pumped into a tanker and hauled to the municipality's sewage lagoons.

Comment: Re-circulating leachate impacted stormwater back through the waste mound is not an acceptable contingency practice to the best of my knowledge.

Comment: A contingency measure which is not provided is early site closure and is one that is usually presented in a contingency plan.

Thank you for the opportunity to comment on the draft EA. Should there be any questions or clarification you require regarding these comments, please do not hesitate to contact me.

“Original Signed by”

Beth Gilbert, M.Sc.

BG/bg

ec: C. Klein, Technical Support Section Manager
V. Castro, Water Resources Unit Supervisor, Acting
R. Orwin, Air, Pesticides, Environmental Planning Supervisor
J. Hughes, Project Officer, Environmental Assessment Branch

c: T. Guo, Regional Hydrogeologist
File SW ST ND 03 06 C4 (Boyne Road WDS)
File SW 13 06 07 02 BL (Black Creek, South Nation River Basin)
BG ECHO# 1-98063716

November 2022

Ministry of the Environment, Conservation and Parks

Proposal: North Dundas Waste Environmental Management Plan Environmental Assessment

Proponent: Township of North Dundas

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
Ministry of the Environment, Conservation and Parks Beth Gilbert, Surface Water Specialist – Technical Support Section					
1.	Draft EA	The draft EA did not specify what changes occurred to the preliminary design for possible expansion to address/consider previous comments from Regional Hydrogeologist Shawn Trimper dated September 5, 2019 on the ToR The comment was: "A permeable fill layer has been proposed to ensure adequate separation between the groundwater table and the waste. I am concerned that the proposed permeable layer will result in the seepage of leachate to ground surface and the proposed perimeter ditch. An appropriate design should prevent the	Please provide details on how this design concern has been considered and addressed.	As outlined in Section 12.2 of Volume 1, the current design continues to use a permeable fill material above the existing ground surface to allow leachate to infiltrate into the groundwater system while minimizing the potential for both the development of a leachate mound within the waste and lateral seeps at the perimeter of the expanded disposal area footprint. As noted in Section 12.5 of Volume 1, the perimeter ditch is proposed to be reconfigured and extended around the perimeter of the expansion footprint. The proposed location of this ditch is near the toe area	General: Many of the comments I provided on the draft EA were technical in nature and the subsequent responses would be appropriate for further technical and engineering review during the ECA application stage.

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
		seepage/discharge of leachate to surface/surface water".		of the landfill sideslope but elevated in relation to adjacent grades around the expansion such that collected runoff is from the landfill cover only and does not intercept adjacent stormwater or potentially leachate-impacted groundwater. As such, this design concern has been considered and incorporated into the proposed expansion design. No changes to the EASR proposed.	
2.	Draft EA	Prior comments dated September 5, 2019 from Surface Water Specialist Lauren Forrester on the ToR for the North Dundas Waste Management Plan included: "Expansion of the existing waste mound as described above will require the purchase of additional land to the southeast and east of the site and deposition of imported permeable fill to provide minimum	It is recognized that the draft EA presents proposed measures to prevent leachate impacted groundwater from interacting with the surface water in Volks Municipal Drain. Please describe what measures were evaluated through the EA process to prevent leachate impacted groundwater from discharging to other site-specific	See Comment 1 above for how leachate-impacted groundwater will be prevented from discharging to the proposed perimeter ditch. As noted in Section 13.3.4 of Volume 1, stormwater runoff from the landfill cover will be directed to a stormwater management wetland located within an existing partially filled, partially low area adjacent to the	The EA contains the main surface water components that would be expected to comprise aspects of an ECA including a surface water monitoring program, contingency plan, and trigger mechanism. I note that a groundwater monitoring program is also in place. Details of the surface water monitoring program (parameters, locations, monitoring frequency),

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
		separation between the groundwater table and waste. Measures to prevent leachate impacted groundwater from discharging to surface water (including to the roadside ditch along Boyne Road and stormwater works) are also likely necessary and should be evaluated through the EA process. Specific conceptual site design considerations must be in accordance with O. Reg. 232/98 under the Environmental Protection Act."	surface water features, particularly the proposed perimeter ditches and stormwater water management pond.	landfill. The depth of excavation will be limited to the existing grades of the existing ditch in the area, to limit the possibility of interception of groundwater potentially impacted by leachate. No changes proposed to the EASR.	contingency plan, and trigger mechanism will be reviewed in detail at the ECA stage and will require support and concurrence from the Regional Surface Water Specialist. The reviewer does not support the contingency plan to re-circulate stormwater through the waste mound on a temporary basis. There is a high groundwater table in the area requiring imported fill to achieve minimum separation between the expansion area and the groundwater table. The site is a naturally attenuating unlined site with no leachate treatment or collection system. Re-circulating stormwater into the mound would be expected to produce additional leachate and subsequently additional impact on surface water quality. Additionally, the waste mound is not to be regarded as a treatment zone.

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
3.	Draft EA	Prior comments from surface water specialist Lauren Forrester (dated September 5, 2019) on the ToR indicate that "If landfill expansion is selected as the preferred alternative, the EA must demonstrate that landfill leachate will be adequately controlled relative to current and potential impacts to surface water (including to any proposed stormwater works)".	Please describe how these concerns were addressed and identify how leachate will be adequately controlled relative to impacts to surface water receptors and to the proposed stormwater works.	See responses to Comments 1 and 2 above. Control of potential discharge of leachate-impacted groundwater to surface water in Volks Municipal Drain is also described in Section 12.5 of Volume 1 and further elaborated in 13.4.1.1.1 with two options provided. No changes proposed to the EASR.	Comment has been satisfied. Refer to item 1 response.
4.	Volume 1, Section 9.3, Description of the Environment Potentially Affected for Landfill Expansion – Surface Water	Please consider describing in more detail the surface water quality management goals for the downstream receiver, Volks Municipal Drain. For example, consider specifying which surface water quality parameters are Policy 1 and which parameters are Policy 2 at the background location through examination of the entire dataset. Based on independent review of the historical data set of SW1, total phosphorus, nitrate,	Please consider describing in more detail the surface water quality management goals for the downstream receiver, Volks Municipal Drain. In addition to identifying Policy 2 parameters, please consider identifying Policy 1 parameters also since Policy 1 requires surface water quality to be maintained at or above the objective during the undertaking	Section 9.3 of Volume 1 provides a clear description of the surface water quality management goals of the Province of Ontario and stated which parameters in 2020 were considered Policy 2 parameters. Text has been added to this section to highlight those parameters for the entire dataset at sampling location SW1 that are typically Policy 2, and that the remaining parameters are Policy 1.	Comment has been satisfied. Refer to item 1 response.

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
		<p>and iron have 75th percentile values that exceed Provincial Water Quality Objectives (PWQO) or Canadian Water Quality Guidelines (in the case of nitrate) so would be considered Policy 2 parameters. Phenols has a 75th percentile equal to the PWQO so could be considered either Policy 1 or Policy 2. Please consider also stating/describing the overall surface water quality management goal(s) of the Province of Ontario which is "to ensure that the surface waters of the province of Ontario are of a quality which is satisfactory for aquatic life and recreation". In addition to identifying Policy 2 parameters, please consider identifying Policy 1 parameters also since Policy 1 requires surface water quality to be</p>			

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
		maintained at or above the objective during the undertaking.			
5.	Volume 1, Section 9.3.3, Description of the Environment Potentially Affected for Landfill Expansion – Surface Water – Surface Water Quality	In Section 9.3.3 (Surface Water Quality) the results of the 2020 monitoring sessions are described in relation to downstream concentrations in excess of the UTL (Upper Tolerance Limit). The annual reports also make comparisons relative to the 75th percentiles at the background location.	Please consider including both evaluations in the EA.	Section 9.3.3 has been updated to include the requested information.	Comment has been satisfied. Refer to item 1 response.
6.	Volume 1, Section 9.3.2, Description of the Environment Potentially Affected for Landfill Expansion – Surface Water – Surface Water Quantity	In Section 9.3.2 (Surface Water Quantity) of the draft EA, it is reported that the area directly south of the mound, which is the location of the proposed expansion, is part of a deciduous swamp where water is close to surface for the majority of the year. It is reported that due to flat low-lying topography and lack of detailed topographic survey information in the area south of the existing landfill, it is difficult to	Topographic survey information south of the proposed expansion area could help determine the drainage directions in this area and how much of the area directly drains to the perimeter ditch and/or how much flows in other directions. Ultimately, the EA should provide commitment and confirmation that off site flows which flow onto	Given the overarching flat nature of the area, any off-site flows that drain towards the proposed expansion area are expected to be limited to negligible. Presently the perimeter ditch can collect these flows and yet these ditches are regularly dry or have limited water. As such, no specific mechanism was presented to manage these flows, but instead the situation can be monitored and	The response addressed the concern about routing stormwater runoff from off-site sources that flow onto the property around (not through) the waste mound by providing a commitment in Section 18 of the EA while noting this will be further assessed in the ECA-level and final design steps.

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
		<p>determine the surface flow direction in this area and how much of the area directly drains to the perimeter ditch around the landfill and/or how much flows in other directions. Section 9.4.2.1 (Surface Water Features) describes a small piece of degraded swamp along the western edge of landfill site (SWD 3-2, Silver Maple Mineral Deciduous Swamp). This area is described as an area of moist soils and it is indicated that this area may have undergone flooding historically; however, anthropogenic drainage features in the area appear to have diverted spring runoff, at least in part. Section 9.4.2.1.2 (Reach 2) indicates that south of the proposed expansion area there is an agricultural field owned by the Township that is tile drained and which discharges to an intermittent channelized</p>	<p>the proposed expansion area will be directed around (not towards or through) the proposed expansion area/waste mound.</p>	<p>construction of conveyance features can occur if necessary to direct these expected minor flows away from the expansion area. This will be further assessed in the ECA-level and final design steps. A commitment has been added in Section 18.0, Table 18-2 of Volume 1.</p>	

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		stream/ditch that flows north towards the existing landfill through a culvert under an access road and into the existing perimeter drain of the landfill. Section 13.3.4 (Surface Water Conveyance) indicates that existing tile drainage piping will be removed as required for the expansion and drainage will be directed to the existing natural wetland area.			
7.	Volume 1, Section 10.1, Description of and Rationale for the 'Alternative Methods' of Landfill Expansion – Design of Expansion Alternatives	The draft EA commits to providing separation distance between the waste and the high groundwater table by importing fill to form the base of the expansion area.	It appears as though anthropogenic drainage features in the vicinity of the proposed expansion area had the effect of preventing flooding ('in part') historically. It remains unclear in reading the draft EA a) which area of land contributed to the possible historical flooding and b) if removal of the tile drains from the field to the south of the proposed expansion area would	As described above in the response to Comment 6, the requirements for control of drainage in the area adjacent to the proposed landfill expansion will be further assessed in the ECA-level and final design steps.	Comment has been satisfied. Refer to item 1 response.

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
			affect determination of the high groundwater table and/or depth of surface water in the natural wetland area where the expansion is proposed. Could additional information be provided on how these uncertainties can be addressed.		
8.	Volume 1, Section 13.4.1.1.2, Impact Assessment of the Preferred Undertaking – Biology – Construction Stage – Aquatic Ecosystems - Potential Indirect Impacts	Section 13.4.1.1.2 (Potential Indirect Impacts, Impact Assessment of the Preferred Undertaking) Page 13-50 indicates potential indirect impacts to aquatic ecosystems during the construction phase of the undertaking including “changes in water quality including a change in: contaminant concentrations, water temperature, nutrient concentrations, dissolved oxygen concentrations, change in baseflow, and change in sediment concentration.	Consider describing in more detail the impacts that the preferred undertaking will have on the chemistry of surface water receptors as it relates to the existing Policy Status for that parameter (e.g., is the preferred undertaking expected to meet surface water quality management goals following expansion).	Section 13.4.1.1.2 and Page 13-50 of Volume 1 include potential indirect impacts; all relate to potential for change during the construction stage. During the construction stage, any potential changes in water quality (contaminant concentrations, water temperature, nutrient concentrations and dissolved oxygen concentrations) are directly related to sediment concentrations, if they happen at all. Within Section 13.4.1.1.2 is a detailed description	Comment has been satisfied. Refer to item 1 response.

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
				<p>of all necessary mitigation measures to control sediment concentrations and hence. if properly controlled, there should be no associated changes in surface water quality. This section has nothing to do with surface water quality management goals following expansion. Section 13.3.2 of Volume 1 has been updated to describe how leachate-impacted groundwater discharge to surface water and / or direct runoff from waste management areas to surface water have been removed during the design process and, therefore, no adverse changes to surface water quality associated with landfill leachate are anticipated.</p>	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
9.	Volume 1, Section 13.3.1, Impact Assessment of the Preferred Undertaking – Surface Water – Stormwater Management System Design	Section 13.3.1 (Stormwater Management System Design) indicates that surface drainage from potentially contaminated areas, i.e., originating from active landfilling areas, will be contained locally within berms and will discharge into the waste. Surface drainage from non-contaminated areas such as road areas and areas with interim or final landfill cover will be conveyed to the SWM pond via the internal drainage ditches.	Further detail is needed on how the surface drainage from potentially contaminated areas could be contained locally within the berms and discharge into the waste given the concerns raised by Mr. Trimper regarding the proposed permeable layer resulting in the seepage/discharge of leachate to surface/surface water and the proposed perimeter ditch.	See response to Comment 1.	Comment has been satisfied. Refer to item 1 response.
10.	Volume 1, Executive Summary, Page E10. And Volume 1, Section 10.1, Description of and Rationale for the 'Alternative Methods' of Landfill Expansion –	Volume 1, page E10 states: "Due to high capital and operating costs associated with an engineered leachate collection and treatment system; constraints on the available capacity of Winchester and Chesterville communal sewage treatment systems in the Township; and in the absence of a receiving watercourse for treated	This statement implies that a year-round watercourse is needed for an on-site leachate treatment facility. If contingencies are required in the future because of adverse impact, a leachate collection and treatment system may be required, and it is possible to discharge treated landfill leachate	Acknowledged, noting that it is our experience that demonstrating compliance with dry ditch discharge criteria from a treatment facility is difficult and costly and not at all an easy approval to navigate or attain from the MECP. Minor updates to the sections noted have been made to reflect that year round flow is not	Comment has been satisfied. Refer to item 1 response.

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
	Design of Expansion Alternatives	effluent from an on-site leachate treatment facility that has year round flow, the only economically viable approach for the Township is to continue operating an expanded Boyne Road Landfill as a natural attenuation site."	effluent from an on-site treatment facility to a receiving watercourse that does not have year round flow. Dry ditch discharge criteria are conservative and can be considered in consultation with Regional Technical Support staff in scenarios where there is no permanently flowing water course for wastewater assimilation.	necessary for discharge of treated leachate.	
11.	Volume 1, Section 17.0, Other Approvals	Section 17.0 (Other Approvals): The snow storage facility is located on lands to the north of the existing landfill footprint. There is little information provided regarding the snow storage facility, it's drainage patterns to surface water receivers, and interaction with off-site flows from the existing landfill to the Volks Municipal Drain.	To the best of my knowledge, the MECP issues Section 53 Ontario Water Resources Act Approval for stormwater associated with snow dumps.	Acknowledged. It has been clearly described in Section 12.5 of Volume 1 how leachate-impacted water will be prevented from discharging to the Volks Municipal Drain associated with this landfill expansion and this EA. The snow storage facility is not a component of this project or EA, is not on lands associated with the proposed landfill expansion and hence should not be discussed	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
				in Section 17.0. No change proposed to the EASR.	
12.	Volume 1, Section 16.1.2, Monitoring and Contingency – Surface Water Monitoring Program	Section 16.1.2.1: Page 16-1 notes that the proposed surface water monitoring programs for the landfill expansion are summarized in the draft EA and will be finalized and confirmed during the ECA amendment application for the expansion. The EA also notes that the surface water trigger mechanisms will also be reviewed and modified as appropriate at that time. The proposed surface water monitoring program is to maintain the existing stations (SW1, SW4, SW3) and parameters and frequency, but remove SW2 (adjacent to the site) and is proposing to add a sampling location at the outfall of the SWMP. The SMWP outfall is proposed to be sampled four times per year (once in spring	When a contingency measure is implemented (e.g., installing a culvert or lined open ditch to ensure surface water drainage along Boyne Road does not interact with leachate impacted groundwater), monitoring programs are adjusted accordingly to monitor the success and effectiveness of the implemented measure. While the surface water monitoring location adjacent to the site (SW2) may need to be adjusted to accommodate the contingency measure, there will be a need to monitor the effectiveness of this contingency action to ensure it works as intended to prevent leachate impacted groundwater from	It is acknowledged and agreed that monitoring should be carried out to assess the effectiveness of engineered controls, noting that in this case the measures being proposed within a section of the Volks Drain are part of the expansion design and no longer a contingency measure. If the culvert option is selected, it is not possible to have a sampling location within the culvert. If the lined ditch option is selected, it is considered that continued monitoring at SW3 located just downstream of the design feature will assess its effectiveness. However to appease the MECP an additional monitoring location has been added at the downstream end of the culvert or lined ditch. This location will be	Several design details have been provided at the EA stage in relation to base elevations of proposed perimeter ditches, the proposed stormwater management pond (SWMP), and SWMP outlet elevation along with proposed perimeter ditch fill material. These design details will undergo technical and engineering review at the ECA stage to ensure potentially leachate impacted groundwater will not interact with the proposed stormwater management features for the site (proposed perimeter ditches and SMWP).

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
		and fall and two other times per year after significant rainfall events) and analyzed for the same set of parameters as other surface water monitoring locations.	interacting with surface water drainage along Boyne Road.	called SW5 and is shown in an approximate location of Figure 16.1 in Volume 1. The exact location can be determined during EPA application.	
13.	Volume 1, Section 16.1.2, Monitoring and Contingency – Surface Water Monitoring Program	Comment: Currently, any runoff drainage pathways from the snow storage facility in relation to the existing landfill surface water monitoring stations in Volks Municipal Drain are unknown. This information is needed to undertake a review of the surface water monitoring program locations associated with the existing landfill.	--	As described in the annual monitoring reports, there has been visual surveys done during snow melt to check for the presence of drainage from the snow disposal area to the Volks Municipal Drain; none have been observed. This has been considered in the location of the surface water monitoring locations. No changes proposed to the EASR.	
14.	Volume 1, Section 16.1.2, Monitoring and Contingency – Surface Water Monitoring Program	Comment: Since at least 2017, the annual reports have been comparing the trigger concentrations based on both a 75th percentile and an Upper Tolerance Limit statistic. The Upper Tolerance Limit trigger concentration appears to be less	--	Acknowledged, while the Upper Tolerance Limit trigger concentration can be less conservative in comparison to a 75 th percentile approach the Upper Tolerance Limit trigger concentration is a more statistically representative method of	

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
		conservative in comparison to a 75th percentile approach.		background concentration calculation. As noted in Section 16.1 of Volume 1 the trigger mechanism will be reviewed and updated if required during the ECA application process for the landfill expansion. No changes to the EASR proposed.	
15.	Volume 1, Section 16.1.2, Monitoring and Contingency – Surface Water Monitoring Program And Volume 1, Section 9.3.3, Description of the Environment Potentially Affected for Landfill Expansion – Surface Water – Surface Water Quality	Comment: In Section 9.3.3 (Surface Water Quality) it is indicated that an UTL calculation using background surface water quality data at SW1 is used to evaluate if Policy 2 conditions exist. This should also indicate that annual monitoring reports also use a 75th percentile statistic to characterize background surface water quality data and evaluate impacts.	It would be useful at the ECA pre-submission consultation stage to identify whether the two statistical methods result in differing Policy Status and/or increased risk to the environment	See response to Comment 5. It is agreed that these two methods can be discussed at the ECA pre-submission consultation stage.	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
16.	Volume 1, Section 16.1.2, Monitoring and Contingency – Surface Water Monitoring Program	Comment: The parameter list for surface water impact assessment requires some additional laboratory parameters (arsenic, conductivity, mercury and pH) to meet the full list of Schedule 5, Column 3 parameters in Landfill Standards: A Guideline on the Regulatory and Approval Requirements for New or Expanding Landfilling Sites, 2012.	The parameter list for surface water impact assessment requires some additional laboratory parameters (arsenic, conductivity, mercury and pH) to meet the full list of Schedule 5, Column 3 parameters in Landfill Standards	Within Section 16.1 an explanation was provided as to why the generic monitoring programs set out in O.Reg. 232/98 were not being suggested for this site. Namely, this is because of the long, 30 year continuous history of monitoring data available at this site. On other sites proposed for expansion that similarly have a long history of monitoring data, compliance with the full list of parameters set out in O.Reg. 232/98 has not been a requirement. The additional parameters suggested are not expected to provide any additional relevant information for such a small, rural landfill. No changes to the EASR proposed.	The EA acknowledges that a detailed report will be required to demonstrate the proposed design will comply with O.Reg 232/98 during the ECA application process. Furthermore, at the ECA stage there will be a requirement to document that the proposed design will be able to meet surface water quality management goals in the receiver under the expansion scenario.
17.	Volume 1, Section 16.1.2, Monitoring and Contingency – Surface Water	Comment: The draft EA acknowledged that the use of chloride as a leachate indicator is complicated by road salting activities and	Monitoring of perfluoroalkyl and polyfluoroalkyl substances (PFAS) in surface water may be	The analysis of PFAS in groundwater was described in Section 9.2.2.2.6 of Volume 1. Multiple PFAS	The lack of PFAS monitoring in the existing surface water monitoring program is a concern. PFAS compounds are commonly found in

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	Monitoring Program	the snow dump on the north side of Boyne Road adjacent to the site.	useful for distinguishing leachate impacts from that of other sources considering the concentration of PFAS detected in the leachate well.	compounds were detected in the leachate quality well but only two of the four downgradient wells sampled and at these locations the concentrations were relatively low. PFAS was considered for the future landfill expansion surface water monitoring program, but it was decided that current results were not significant enough at this time to warrant their inclusion. Should the planned improvements to the Volks Municipal Drain not demonstrate the expected improvement in surface water quality within the drain, PFAS could be added to the monitoring program at a later date. No changes proposed to the EASR.	landfill leachates and are a good tool to distinguish between landfill leachate impacts and non-landfill sources. There are nearby sources of common leachate indicator parameters (e.g., road salting, snow storage facility, and agricultural operations). The reviewer does not support deferring PFAS monitoring in the surface water receiver until after the planned improvements in Volks Municipal Drain have taken place and have not demonstrated the expected improvement in surface water quality within the drain. Baseline concentrations of PFAS compounds in Volks Municipal Drain on the north side of Boyne Road will be needed to evaluate existing impacts on surface water quality and will also be useful to track any expected improvements in surface water quality in future because of planned improvements to Volks

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					Municipal Drain. Without baseline PFAS concentrations in Volks Municipal Drain, it is unlikely that improvements could be detected in surface water quality and/or attributed to the landfill and/or distinguished from other sources. This can be addressed during the next annual report review and/or during a future ECA application.
18.	Volume 1, Section 16.2.2, Monitoring and Contingency – Contingency Measures – Surface Water	Section 16.2.2 identifies proposed contingency measures to address potential surface water impacts. The draft EA indicates contingency measures will be finalized and confirmed during the ECA amendment application for the expansion. The proposed contingency plan for surface water impacts is described as follows: In the event of a trigger concentration being exceeded at the outfall of the stormwater	<p>Re-circulating leachate impacted stormwater back through the waste mound is not an acceptable contingency practice to the best of my knowledge.</p> <p>A contingency measure which is not provided is early site closure and is one that is usually presented in a contingency plan.</p>	This would not be re-circulating leachate-impacted water but infiltrating stormwater that for whatever reason does not meet the discharge criteria. It is WSP/Golder's recent experience that short term re-circulation of stormwater is an accepted contingency, noting that this has never been accepted on a long term basis. Section 16.2.2 has been updated to reflect this is a proposed short term	

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		management pond, the result would be confirmed through re-sampling. If the second result is confirmed the pond would be operated in batch discharge mode with the gate valve closed. During batch discharge mode, surface water sampling would occur prior to discharge. Discharge would occur when the concentration for each trigger parameter is less than the corresponding trigger concentration. If impounded water does not meet the trigger concentration it could be slowly infiltrated back into the landfill or possibly pumped into a tanker and hauled to the municipality's sewage lagoons.		contingency. Since this section describes contingency for the stormwater management pond only, early closure of the landfill has little to no relevance to improving surface water quality that is most likely associated with elevated TSS.	

**Ministry of the Environment,
Conservation and Parks**

Conservation and Source
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June 22, 2022

MEMORANDUM

To: Jordan Hughes, Project Officer
Environmental Assessment Branch

From: Vesna Alimpic, Program Analyst
Conservation and Source Protection Branch

Re: CSPB Comments - Environmental Assessment of the Township of
North Dundas Waste Management Plan

In response to your request for review of the Environmental Assessment (EA) of the Township of North Dundas Waste Management Plan by Conservation and Source Protection Branch (CSPB), the following comments are provided.

Drinking Water Source Protection Requirements

The *Clean Water Act, 2006* (CWA) aims to protect existing and future sources of drinking water. To achieve this, several types of vulnerable areas are delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located in a source protection area. These vulnerable areas are known as a Wellhead Protection Areas (WHPAs), and surface water Intake Protection Zones (IPZs). Other vulnerable areas that can be delineated under the CWA for municipal drinking water systems include Significant Groundwater Recharge Areas (SGRAs) and Highly Vulnerable Aquifers (HVAs). In addition, event-based modelling areas (EBAs) and Issues Contributing Areas (ICAs) may also occur, overlapping with one of the four above-named vulnerable areas.

The source protection information atlas (SPIA) is publicly available and can be used to locate delineated vulnerable areas in Ontario.

<https://www.lioapplications.lrc.gov.on.ca/SourceWaterProtection/index.html?viewer=SourceWaterProtection.SWPViewer&locale=en-CA>
<https://www.gisapplication.lrc.gov.on.ca/SourceWaterProtection/Index.html?site=SourceWaterProtection&viewer=SWPViewer&locale=en-US>

Projects that are subject to the *Environmental Assessment Act* that fall under a Class EA, or one of the Regulations, have the potential to impact sources of

drinking water if they occur in designated vulnerable areas or in the vicinity of other at-risk drinking water systems (i.e. systems that are not municipal residential systems), and source protection plan policies could apply.

Specifically, projects that result from individual environmental assessments may include activities that, if located in a vulnerable area, may be considered a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and could be subject to policies in a source protection plan. Where an activity poses a risk to drinking water, policies in the local source protection plan may impact how or where that activity is undertaken. Policies may prohibit certain activities, or they may require risk management measures for these activities. Municipal Official Plans, planning decisions, Waste Management Plans (where a plan includes a drinking water risk) and prescribed instruments must conform with policies that address significant risks to drinking water and must have regard for policies that address moderate or low risks.

Please note that where it has been determined that the project is within a vulnerable area, consideration of source protection must be clearly documented within the project file or environmental study report, as applicable. Specifically the report should discuss whether or not the project is located in a vulnerable area and provide applicable details about the area. If located in a vulnerable area, proponents should document whether any project activities are prescribed drinking water threats and thus pose a risk to sources of drinking water (this should be consulted on with the appropriate source protection authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the project file or environmental study report how the project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/ negative effects of alternatives, mitigation measures, evaluation of alternatives etc.

The local source protection authority can provide proponents with assistance in determining whether an activity associated with the construction or operation of the project may be considered to be a drinking water threat as per the CWA and will be able to help determine whether there are policies in the source protection plan that may apply. Please note, even if the project activities in a vulnerable area are deemed not to pose a risk to drinking water, there may be other policies that apply and so consultation with the local source protection authority is important.

Project Specific Comments and Considerations

The Environmental Assessment Study Area, Boyne Road Landfill, is located in the **South Nation Source Protection Area** and is therefore subject to the approved **Raisin-South Nation Source Protection Region Source Protection Plan**.

The Township currently uses the Boyne Road Landfill which has been operating as an approved landfill for the disposal of solid, non-hazardous waste since 1965. The purpose to this EA is to provide environmentally safe and cost-effective long-term waste management for the Township of North Dundas for a 25 year planning period. The proposed alternatives for long-term waste management are: existing landfill site closure and export of waste for disposal; landfill site expansion and existing landfill site closure and alternative waste management technologies. The EA states that the preferred alternative is landfill site expansion.

Boyne Road Landfill is located at Lot 8, Concession VI in the former Township of Winchester. As shown in Figure 1 in Appendix A, the study area falls within Wellhead Protection Area (WHPA) D with vulnerability score 4, Intake Protection Zone (IPZ) 3 with vulnerability score 7, Highly Vulnerable Aquifer (HVA) scoring 6 and a Significant Groundwater Recharge Area (SGRA).

Given that the preferred alternative is not located in groundwater protection zones WHPA A-C with vulnerability score 8 or higher, and is not in surface water protection zones IPZ 1-3 and WHPA-E with vulnerability score 9 or higher, **the expansion of the Boyne Road Landfill is not a significant drinking water threat.** This means threats can be moderate/low and select policies may still apply. In addition, within Highly Vulnerable Aquifers there may be other kinds of drinking water systems present that are not explicitly addressed by the source protection plan and the proponent should take these into consideration. EA projects should protect sensitive hydrologic features including current or future sources of drinking water not explicitly addressed in source protection plans, such as private systems – individual or clusters, and designated facilities within the meaning of O. Reg. 170/03 under the *Safe Drinking Water Act* – i.e., camps, schools, health care facilities, seasonal users, etc.

In the EA of the Township of North Dundas Waste Management Plan, the proponent has discussed source water protection thoroughly as part of section 13.2.4 Source Water Protection. The proponent correctly identifies the location of the site area in WHPA-D with a vulnerability score of 4 and notes that the current Source Protection Plan does not have applicable policies for waste management in WHPA-D. The proponent is reminded that the site is also located in vulnerable areas IPZ-3, HVA scoring 6 and an SGRA and encouraged to include this information in the EA.

The proponent should consult with the local source protection authority if they have not already done so.

Thank you for considering the Conservation and Source Protection Branch's comments on the EA of the Township of North Dundas Waste Management Plan. If you have any questions or concerns about the above information, please do

not hesitate to contact myself or Jennifer Moulton, Manager, Conservation and Source Protection Branch.

Vesna Alimpic
Program Analyst, Conservation and Source Protection Branch
705-491-2781
sourceprotectionscreening@ontario.ca

Cc: Jennifer Moulton, Manager, Source Protection Section, CSPB
Mary Wooding, Liaison Officer, CSPB

Appendix A – SPIA Map of EA

Appendix A – SPIA Map of EA site area

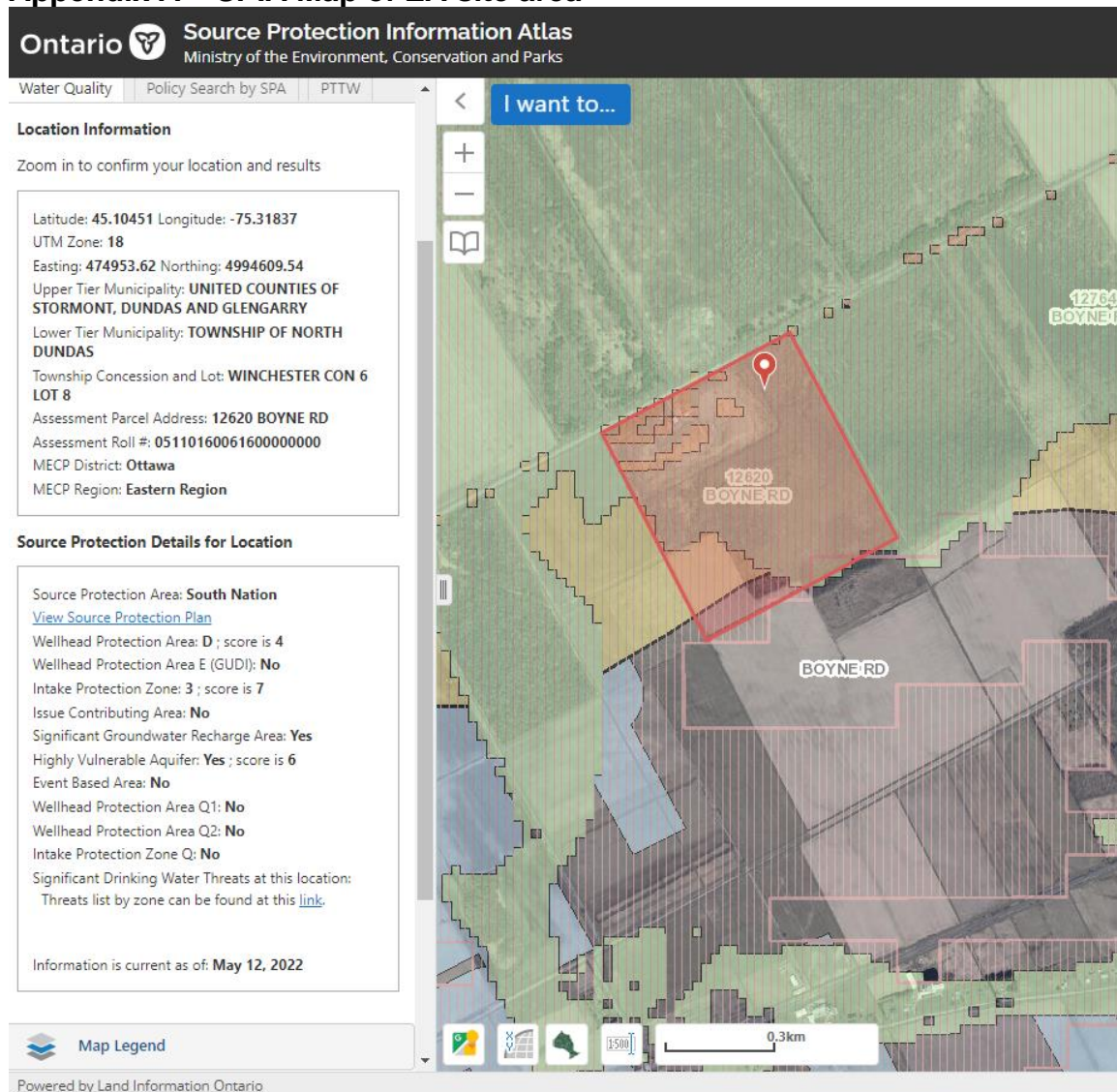


Figure 1 SPIA map showing location of Boyne Road Landfill. Proposed project area (shown in red polygon) is located in WHPA D with vulnerability score 4 (yellow shade), IPZ 3 with vulnerability score 7 (light blue shade), HVA scoring 6 (pink hatching) and a SGRA (green shade).

November 2022

Ministry of the Environment, Conservation and Parks

Proposal: North Dundas Waste Environmental Management Plan Environmental Assessment

Proponent: Township of North Dundas

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
Ministry of the Environment, Conservation and Parks Conor Gamelin, Programs and Services Delivery Intern, Conservation and Source Protection Branch (for) Vesna Alimpic					
1.	Draft EA	Given that the preferred alternative is not located in groundwater protection zones WHPA A-C with vulnerability score 8 or higher, and is not in surface water protection zones IPZ 1-3 and WHPA-E with vulnerability score 9 or higher, the expansion of the Boyne Road Landfill is not a significant drinking water threat. This means threats can be moderate/low and select policies may still apply.	--	Acknowledged.	CSPB has reviewed the Environmental Assessment (EA) of the Township of North Dundas Waste Management Plan sections related to water resources and source protection. We note that all previous comments have been addressed in the October 2022 Final Draft.

November 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
2.	Draft EA	In addition, within Highly Vulnerable Aquifers there may be other kinds of drinking water systems present that are not explicitly addressed by the source protection plan and the proponent should take these into consideration. EA projects should protect sensitive hydrologic features including current or future sources of drinking water not explicitly addressed in source protection plans, such as private systems – individual or clusters, and designated facilities within the meaning of O. Reg. 170/03 under the Safe Drinking Water Act – i.e., camps, schools, health care facilities, seasonal users, etc.	There may be other kinds of drinking water systems present that are not explicitly addressed by the source protection plan and the proponent should take these into consideration.	Acknowledged. The proponent has considered the MECP Reasonable Use Guideline B-7 as is required for all existing and expanding landfills for the protection of groundwater at the property boundary to take account of other kinds of drinking water systems that may be present now or in the future.	

November 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
3.	Volume 1, Section 13.2.4, Impact Assessment of the Preferred Undertaking – Geology and Hydrogeology – Source Water Protection	In the EA of the Township of North Dundas Waste Management Plan, the proponent has discussed source water protection thoroughly as part of section 13.2.4 Source Water Protection. The proponent correctly identifies the location of the site area in WHPA-D with a vulnerability score of 4 and notes that the current Source Protection Plan does not have applicable policies for waste management in WHPA-D.	The proponent is reminded that the site is also located in vulnerable areas IPZ-3, HVA scoring 6 and an SGRA and encouraged to include this information in the EA.	Acknowledged. Instead of putting this information in Section 13.2.4. which is the impact assessment of the preferred expansion alternative, this information has been added to Section 9.2.2.3 of Volume 1, which is the geology and hydrogeology background section.	
4.	Draft EA	--	The proponent should consult with the local source protection authority if they have not already done so.	Acknowledged and consultation has been undertaken.	

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Conservation and Parks**
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**Ministère de l'Environnement, de la
Protection de la nature et des Parcs**
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MEMORANDUM

Date: June 1, 2022

To: Jordan Hughes
Project Officer, Environmental Assessment Branch

From: Abdul Quyum
Senior Review Engineer (A), Environmental Permissions Branch

RE: Draft EA Review – Boyne Road Landfill Expansion
The Township of North Dundas, ON

As requested, I have reviewed the following:

- *Draft Environmental Assessment of the Township of North Dundas Waste Management Plan, Volume 1, May 2022.*

The focus of the review was to provide comments on portions the report which deal with components of landfill design and operations. A detailed evaluation of the landfill design, development and operations will be undertaken at the time of amendment to the existing environmental compliance approval (Part V, Environmental Protection Act (EPA)).

Site Description/background:

The Boyne Road Landfill (ECA#A482101) has been operating since 1965 and is located on Lot 8, Concession VI, in the Township of North Dundas, Ontario. The Township currently operates a transfer and recycling facility (the household hazardous waste (HHW), Waste Electrical and Electronic Equipment) and solid, non-hazardous waste from residential and some industrial, commercial and institution (IC&I) sectors. The service area is the Township of North Dundas. The HHW facility also serves the Township of South Dundas. As of 2020, the in-place volume of waste is 560,000.0 cubic meter.

The landfill is a naturally attenuating site without any engineered barrier or leachate collection system. At present, the site has an approved disposal area of 8.1 ha within a total land area of 97.13 ha. In addition, the Township has acquired the groundwater easement rights in contamination attenuation zone (CAZ).

This individual EA is to assess waste management options for a 25 year period (2023-2048) for the Township of North Dundas. The expansion scenario considered three options which included lateral and vertical expansion of the waste footprint (Option 1, 2 and 3). In all three options considered, the site will meet the minimum 30 m buffer zone requirements.

Comments:

1. Section 1.3.2, Residual Waste Disposal (Boyne Road Landfill Site):

It is indicated that the site has been performing in compliance of the Guideline B-7 for groundwater impact and there has been a discontinuous marginal impact above the Provincial Water Quality Objectives (PWQO) in the surface water related to landfill leachate. This is to be confirmed by regional technical support.

2. Section 9.8.3, Visual:

The site does not appear to be fully screened as it is visible at a number of points along the site. For landfill sites located in rural areas, the site screening is usually done via natural vegetative (tree/shrubs) cover. As indicated, the site screening will be done via natural vegetative growth, i.e., tree growth. This is an acceptable waste screening practice and will be addressed during Part V, EPA, approval stage.

3. Section 12, Description of the Preferred Undertaking:

The currently approved capacity is 643,050 cubic meter. Under the preferred expansion option, the landfill lateral footprint area will increase by 3.8 ha, i.e., a total landfill area of 11.9 ha capable of providing additional capacity including a daily cover of 417,700 cubic meters beyond 2023 and 450,000 cubic meters beyond 2020, with a peak elevation of 15 m above the existing grade, which is 2.5 m higher than the currently approved finished elevation. The total site capacity after expansion will be 1,060,750 cubic meters. It is not clear if the capacity increase includes final cover. This should be clarified. The site total approved area of 97.13 ha will be increased to 113.3 ha by adding municipality owned lands to the east and southeast of the site. The vertical and lateral expansion will occur on the southside of the existing waste footprint area. A perimeter ditch will be constructed to collect and re-direct the stormwater to a proposed stormwater management facility to be constructed on the northeast of the site. Under preferred expansion option, the buffer zone to the west will be 30 m, 257 m to the southeast, and 313 m to the southwest. This cannot be confirmed as a buffer zone has not been shown on Figure 12-1. The buffer zone under expansion scenario should be shown on Figure 12-1. The landfill configuration under expansion will comply with the side and top area slope requirements of 25% (1V:4H) and 5% (1V:20H), respectively

4. Section 12.2, Leachate Management and Groundwater Protection

Since this is a naturally attenuating landfill site and will continue to be operated as is, the leachate collection and treatment control are not required apart from continued assessment of the extent of the CAZ based on the evaluation of the existing data for groundwater impact and its delineation. It is

indicated that an additional 400 m of CAZ lands to the south of the existing delineated CAZ of about 300 m will be required to comply with the Guideline B-7 requirement. The timing of the CAZ expansion or groundwater easement rights will be assessed based on the routine collection and evaluation of the groundwater quality data and its assessment. This approach at this stage is deemed reasonable.

With respect to the groundwater protection, the design includes a 1 m impermeable pad on top of the existing ground surface to provide an adequate vertical separation distance between the base of the waste and seasonally highest recorded water level. The consultant should provide seasonal water elevation data on Figure 12-3 to confirm whether a 1 m impermeable pad would provide adequate vertical separation between the seasonal highest groundwater elevation and the base of the waste. For leachate impacted groundwater discharging into a ditch along the northern portion of the waste fill area, a culvert will be installed along east-west drainage ditch which will cut-off shallow groundwater discharge to surface water in the ditch. This will likely help to reduce groundwater leachate induced impact on surface water receiver along the northern part of the waste fill area that is associated with a radial outward flow.

5. Section 12.4, Landfill Gas (LFG) Management:

With respect to landfill gas migration, the lateral migration via vadose zone is not expected to occur because groundwater conditions (water level) are not favorable for lateral gas migration through vadose zones and hence, gas venting into the atmosphere is likely. The adverse impact associated with lateral landfill gas migration via subsurface to the neighboring properties is not likely. A gas monitoring program will be included in the EPA approval to ensure compliance with landfill methane gas migration at the property boundary as well as in on-site structures. This will be done at the ECA amendment approval stage.

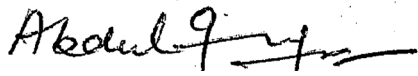
6. Section 12.7, Maintenance and Monitoring and Section 16, Monitoring and Contingency:

A site-specific groundwater and surface water monitoring program is being implemented as part of the current waste disposal and management operations at the site. It is indicated that the adequacy of the current monitoring program or any modifications to it will be reevaluated, after review of the available monitoring data, at the EPA approval stage. In addition, groundwater and surface water trigger mechanism and contingency plan will be reviewed and modified at that time. The suggested monitoring approach is deemed reasonable. I agree that the generic monitoring program outlined in O. Regulation 232/98, as amended, is not needed because the leachate, groundwater and surface quality appear to have been adequately characterized and well understood. The adequacy of the groundwater and surface water monitoring program outlined in sections 16.1.1. and 16.1.2.1 is expected to be reviewed by regional technical support staff.

7. Section 13.3.1, Stormwater Management System Design:

The stormwater management will be done by collecting storm water in a pond to be located on the northeast corner of the site and discharging to a roadside ditch. A detailed design of the wetland

type pond will be required at the EPA approval stage to ensure it is of an adequate capacity and will provided adequate treatment before discharging to the natural environment. Whether the proposed stormwater management pond will provide an effective control and containment, is to be assessed by the regional surface water reviewer. The stormwater management pond will require s. 53, OWRA, approval and the proponent has acknowledged this under other approvals required for this site for capacity expansion.

A handwritten signature in black ink, appearing to read 'Abdul Quyum', with a stylized flourish at the end.

Abdul Quyum, P. Eng., P. Geo. (AB)
Senior Review Engineer (A)

Revised November 2022

Ministry of the Environment, Conservation and Parks

Proposal: North Dundas Waste Environmental Management Plan Environmental Assessment

Proponent: Township of North Dundas

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Review Response
Ministry of the Environment, Conservation and Parks Abdul Quyum, Senior Review Engineer (A) – Environmental Permissions Branch					
1.	Volume 1, Section 1.3.2, Introduction – Current Waste Management System – Residual Waste Disposal (Boyne Road Landfill Site)	It is indicated that the site has been performing in compliance of the Guideline B-7 for groundwater impact and there has been a discontinuous marginal impact above the Provincial Water Quality Objectives (PWQO) in the surface water related to landfill leachate. This is to be confirmed by regional technical support.	--	Acknowledged. Regional Technical Support has commented on this draft EA.	MECP Waste review is satisfied, and comments have been adequately addressed.
2.	Volume 1, Section 9.8.3, Description of the Environment Potentially Affected for Landfill Expansion – Socio-economic – Visual	The site does not appear to be fully screened as it is visible at a number of points along the site. For landfill sites located in rural areas, the site screening is usually done via natural vegetative (tree/shrubs) cover.	As indicated, the site screening will be done via natural vegetative growth, i.e., tree growth. This is an acceptable waste screening practice and will be addressed during Part V, EPA, approval stage.	Acknowledged.	
3.	Volume 1, Section 12,	The currently approved capacity is 643,050 cubic metres. Under	It is not clear if the capacity increase includes final	The capacity increase does not include final	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Review Response
	Description of the Preferred Undertaking	the preferred expansion option, the landfill lateral footprint area will increase by 3.8 ha, i.e., a total landfill area of 11.9 ha capable of providing additional capacity including a daily cover of 417,700 cubic metres beyond 2023 and 450,000 cubic metres beyond 2020, with a peak elevation of 15 m above the existing grade, which is 2.5 m higher than the currently approved finished elevation. The total site capacity after expansion will be 1,060,750 cubic metres. The site total approved area of 97.13 ha will be increased to 113.3 ha by adding municipality owned lands to the east and southeast of the site. The vertical and lateral expansion will occur on the southside of the existing waste footprint area. A perimeter ditch will be constructed to collect and re-direct the stormwater to a proposed stormwater management facility to be constructed on the northeast of the site. Under preferred expansion option, the buffer zone to the west will be 30 m, 257 m to the southeast, and 313 m to the	cover. This should be clarified. The buffer zone under expansion scenario should be shown on Figure 12-1.	cover, as is stated in Sections 10.2 and 12.1. This has been further clarified in Section 12. A note has been added to Figure 12-1 to clearly identify the buffer zone.	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Review Response
		southwest. This cannot be confirmed as a buffer zone has not been shown on Figure 12-1. The landfill configuration under expansion will comply with the side and top area slope requirements of 25% (1V:4H) and 5% (1V:20H), respectively.			
4.	Volume 1, Section 12.2, Description of the Preferred Undertaking – Leachate Management and Groundwater Protection	Since this is a naturally attenuating landfill site and will continue to be operated as is, the leachate collection and treatment control are not required apart from continued assessment of the extent of the CAZ based on the evaluation of the existing data for groundwater impact and its delineation. It is indicated that an additional 400 m of CAZ lands to the south of the existing delineated CAZ of about 300 m will be required to comply with the Guideline B-7 requirement. The timing of the CAZ expansion or groundwater easement rights will be assessed based on the routine collection and evaluation of the groundwater quality data and its assessment. This approach at this stage is deemed reasonable.	The consultant should provide seasonal water elevation data on Figure 12-3 to confirm whether a 1 m impermeable pad would provide adequate vertical separation between the seasonal highest groundwater elevation and the base of the waste.	The requested information has been added to Figure 12-3. For clarification, the pad below the expanded landfill area is proposed to be composed of permeable (not impermeable) material.	

Revised November 2022

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Review Response
		With respect to the groundwater protection, the design includes a 1 m impermeable pad on top of the existing ground surface to provide an adequate vertical separation distance between the base of the waste and seasonally highest recorded water level. For leachate impacted groundwater discharging into a ditch along the northern portion of the waste fill area, a culvert will be installed along east-west drainage ditch which will cut-off shallow groundwater discharge to surface water in the ditch. This will likely help to reduce groundwater leachate induced impact on surface water receiver along the northern part of the waste fill area that is associated with a radial outward flow.			

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Review Response
5.	Volume 1, Section 12.4, Description of the Preferred Undertaking – Landfill Gas (LFG) Management	With respect to landfill gas migration, the lateral migration via vadose zone is not expected to occur because groundwater conditions (water level) are not favorable for lateral gas migration through vadose zones and hence, gas venting into the atmosphere is likely. The adverse impact associated with lateral landfill gas migration via subsurface to the neighboring properties is not likely. A gas monitoring program will be included in the EPA approval to ensure compliance with landfill methane gas migration at the property boundary as well as in on-site structures. This will be done at the ECA amendment approval stage.	--	Acknowledged, noting it may not be possible to install gas monitoring probes screening the vadose zone at this site because of the very high water table, and hence landfill gas monitoring at the property boundary may not be possible.	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Review Response
6.	Volume 1, Section 12.7, Description of the Preferred Undertaking – Maintenance and Monitoring and Volume 1, Section 16, Monitoring and Contingency	A site-specific groundwater and surface water monitoring program is being implemented as part of the current waste disposal and management operations at the site. It is indicated that the adequacy of the current monitoring program or any modifications to it will be reevaluated, after review of the available monitoring data, at the EPA approval stage. In addition, groundwater and surface water trigger mechanism and contingency plan will be reviewed and modified at that time. The suggested monitoring approach is deemed reasonable. I agree that the generic monitoring program outlined in O. Regulation 232/98, as amended, is not needed because the leachate, groundwater and surface quality appear to have been adequately characterized and well understood. The adequacy of the groundwater and surface water monitoring program outlined in sections 16.1.1. and 16.1.2.1 is expected to be reviewed by regional technical support staff.	--	Acknowledged and Technical Support Staff have reviewed the draft EA.	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Review Response
7.	Volume 1, Section 13.3.1, Impact Assessment of the Preferred Undertaking – Surface Water – Stormwater Management System Design	The stormwater management will be done by collecting stormwater in a pond to be located on the northeast corner of the site and discharging to a roadside ditch. A detailed design of the wetland type pond will be required at the EPA approval stage to ensure it is of an adequate capacity and will provided adequate treatment before discharging to the natural environment. Whether the proposed stormwater management pond will provide an effective control and containment, is to be assessed by the regional surface water reviewer. The stormwater management pond will require s. 53, OWRA, approval and the proponent has acknowledged this under other approvals required for this site for capacity expansion.	--	Acknowledged.	

**Ministry of the
Environment,
Conservation and Parks**

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M E M O R A N D U M

July 6, 2022

TO: Candice McKay
Sr Environmental Officer
Cornwall Area Office
Eastern Region

FROM: Ross Kircher
Air Quality Analyst
Technical Support Section
Eastern Region

RE: North Dundas Waste Management Plan
Draft EA Study Report (EASR), Boyne Rd Expansion
The Corporation of the Township of North Dundas
636 St. Lawrence St, Winchester, Ontario
ECHO Ref #: 1-99238030

I have reviewed the draft *Environmental Assessment of the Township of North Dundas Waste Management Plan*. The Draft EA Study Report (EASR) is dated May 17, 2020, and includes the following supporting documents relevant to the air quality component of the EASR:

- *Background Air Quality*, prepared by Golder Associates (Golder), dated May 2022. This report is included as Appendix B-1 of Volume 2 of the Draft EA;
- *Emissions Calculations*, prepared by Golder, dated May 2022. This report is included as Appendix B-2 of Volume 2 of the Draft EA;
- *Dispersion Modelling*, prepared by Golder, dated May 2022. This report is included as Appendix B-3 of Volume 2 of the Draft EA;
- *Estimation of Landfill Gas Generation (LandGEM)*, prepared by Golder, dated May 2022. This report is included as Appendix B-4 of Volume 2 of the Draft EA;

Comments from an air quality perspective on the above documents are included below.

Background

- The Township of North Dundas (the Township) operates several waste diversion programs, including curbside pickup of residential and institutional, commercial, & industrial (IC&I) businesses. The Township operates the Boyne Road Landfill, which also serves the neighboring township of South Dundas.

- The Boyne Road Landfill is located approximately 2km east of the Village of Winchester. It has been operating since 1965 as a disposal site for solid, non-hazardous waste. The Boyne Road Landfill has an approved disposal area of 8.1 ha, and a total site area of 97.13 ha. The Township has also acquired groundwater easements, referred to as Contamination Attenuation Zones. The site operates under environmental compliance approval (ECA) #A482101. The existing landfill operates without an engineered bottom liner, and without a leachate and/or landfill gas (LFG) collection system.
- The original (1971) approved site capacity was approximately 395,000 cubic metres (m³) of waste. As of December 2018, the volume of waste currently in place was 533,780m³, which corresponds to an overfill of approximately 139,000m³. It is this overfill situation which triggered the EA process.
- Nearby land use is predominantly rural/agricultural, but includes some nearby residential areas.
- The Draft EASR was completed according to the approved Terms of Reference (ToR).
- Included in the ToR as Volume 2 is *Waste Management Alternatives Evaluation*, prepared by Golder Associates (Golder) and dated November 2015. A preliminary study was carried out which identified nearby potential receptors within the vicinity of the site. A description of the atmospheric assessment to be carried out in the EA was also included, which identified potential emission sources associated with landfill expansion. Golder suggested that potential air and odour emissions would be evaluated using an area of coverage described in Section 14 of O. Reg. 419/05 and compared against applicable Ontario Air Quality Standards.
- In addition to the approved ToR, work plans were developed for each environmental component, including air quality, in collaboration with the MECP and other stakeholders.

Overview

- The EA Study Report (EASR) assesses the Township's waste management plan for disposal of post-diversion waste for a 25-year planning period, from 2023 to 2048. The Township is seeking to accommodate disposal of approximately 417,700m³ of waste from 2023 to 2048.
- The study areas where existing conditions and potential effects of the expansion are assessed are identified as:
 - Site Study Area: A portion of the existing Boyne Road Landfill site where the landfill could be expanded, consisting of the existing waste footprint and an area 300m south;
 - Site-vicinity study area: The lands in the area immediately adjacent (within 500m) to the site study area that may be directly affected by the landfill expansion and activities.
 - Wider study area: An area that comprises the broader community beyond the site vicinity and may include the entirety of the Township of North Dundas, depending on environmental component.
- The Township advanced several alternatives in the EASR, including:

1. Landfill site closure and exporting of waste for disposal;
 2. Landfill site expansion;
 3. Establish a new landfill site in the Township;
 4. Alternative management technologies (thermal treatment);
 5. Enhanced at-source waste diversion, and;
 6. Do nothing.
- Landfill site expansion was identified as the preferred alternative. Golder identified several alternative methods to achieve the expansion, and selected primarily horizontal expansion as the preferred method.
 - The horizontal expansion design consists of vertical expansion above the southern half of the current waste contours, joining with a horizontal expansion to the south. The crest of the waste mound in the primarily horizontal expansion is reached approximately 220m south of Boyne Rd.
 - The required footprint for this alternative is approximately 3.8ha, for a total landfill footprint of 11.9ha. The total landfill capacity for waste and daily cover, including the additional 417,700 m³ beyond 2023 provided by the expansion is 1,060,750 m³.
 - The landfill site property is currently 97.13 ha. It is proposed to add an additional 16.21ha of Township-owned property to the east and southeast to the landfill property, resulting in a proposed total landfill property area of 113.3 ha. This alternative provides a 30m buffer to the west (followed by the CAZ), a 257m buffer to the east, and a 313m buffer to the south.
 - It is proposed that the expanded landfill continue to operate as a natural attenuation site. Golder notes that additional property and/or CAZ easements may be necessary. The design of the expansion includes a 1m thick pad of imported fill material above the existing ground surface to provide a base for waste disposal.
 - O.Reg. 232/98 requires a landfill gas (LFG) collection system for new or expanding landfills with a total waste disposal capacity greater than 1.5 million cubic metres. The Boyne Road Landfill does not meet this threshold; therefore, LFG collection is not required as part of this undertaking. Golder notes that there is a high-water table almost at ground surface on and in the area of the landfill site, and therefore off-site lateral migration of landfill gas through the subsurface is not expected.
 - The expanded landfill will continue to operate during the same hours as the existing landfill. The existing waste diversion facilities will continue to operate in the central portion of the landfill area.
 - The landfill will be progressively closed in phases after the final waste contours have been reached. Final cover will consist of 0.6m of soil and topped with 0.15m of soil capable of sustaining vegetation.
 - Predicted effects of the proposed expansion on each of the components were assessed in accordance with the requirements set out in the approved ToR the work plans for specific environmental components. The atmosphere component is comprised of two sub-components: air quality (including dust, odour, greenhouse gas (GHG)), and noise.

- The effects of the proposed landfill expansion on air quality were identified through comparing the existing landfill and the proposed expansion, using the following three steps:
 1. Calculating representative emissions rates for each of the significant sources;
 2. Carrying out atmospheric dispersion modelling to predict off-Site concentrations of the indicator compounds, and;
 3. Comparison of predicted concentrations to existing conditions and the Applicable Guidelines
- All potential sources of emissions from the proposed landfill expansion were considered, however, sources with emissions that are expected to be either negligible or infrequent were omitted from the air quality assessment. Emissions during existing operations and after expansion are expected to be greater than during the post-operation phase (i.e., closure). Therefore, the air emissions and associated effects during the operational phase represent the greatest potential impacts.
- Predicted off-site concentrations of indicator compounds were compared to applicable guidelines, including Ontario Ambient Air Quality Criteria (AAQC), and the Canadian Ambient Air Quality Standards (CAAQCs) to assess potential effects of the proposed expansion.
- Climate change effects were considered by assessing activities associated with the proposed expansion that produce GHGs, including: landfill gas generation and release, fuel combustion for on-site transportation, fuel combustion for comfort heating in on-site buildings, and land clearing as part of landfill expansion.

Appendix B-1 Background Air Quality (Golder, May 2022)

Summary

- Background air quality was characterised using observations from the Environment and Climate Change Canada (ECCC) National Air Pollution Surveillance Network (NAPS) air quality monitoring stations. The closest air quality monitoring station to the Boyne Rd Landfill is located at 960 Carling Avenue in Ottawa, Ontario (Ottawa Central Station). Two other NAPS stations were selected for inclusion in the determination of background air quality: Bedford and Third Street in Cornwall, Ontario (Memorial Park Cornwall Station); and 1128 de la Guerre in Saint-Anicet, Quebec (Saint-Anicet Station). These monitoring stations are located approximately 45km north-northwest, 47km east-southeast, and 76km to the east, respectively.
- The available air monitoring data represents the combined effect of emissions from sources near to each of the monitoring stations, as well as the effect of the emissions transported into the region.
- Golder has derived a wind rose for the site using 2016-2020 data from the ECCC meteorological monitoring station in Kemptville, ON. Predominant wind direction is from the southwest.

- Golder notes that the Ottawa Central and Memorial Park Cornwall NAPS stations are closest to the Boyne Rd site and are therefore likely to be representative of impacts from regional-scale transport of indicator compounds. However, Golder also notes that these monitoring stations are located in areas with significantly different surrounding land uses and activities and are therefore more likely to be influenced by nearby sources of emissions like commercial/industrial activity and vehicular traffic. As such, Golder has concluded that the Saint-Anicet station provides the most representative data for the Background Air Quality assessment, with the exception of particulate species, which were assessed using data from the Ottawa Central station.
- Indicator compounds chosen for the Air Quality assessment are broadly descriptive of the major emissions from the facility, including dust, LFG, and combustion byproducts, and include:
 1. Suspended Particulate Matter (SPM);
 2. Particulate matter <10 micrometers (PM10);
 3. Fine particulate matter <2.5 micrometers (PM2.5);
 4. Nitrogen dioxide (NO₂);
 5. Sulphur dioxide (SO₂);
 6. Carbon monoxide (CO);
 7. Ozone (O₃);
 8. Hydrogen sulphide (H₂S);
 9. Vinyl chloride (C₂H₃Cl)
- The background stations above do not monitor SPM, PM10, or H₂S. Golder estimated background concentrations of PM10 and SPM using ratios of these species to PM2.5, as described in *Lall et al.* (2004)- namely, that PM2.5 typically comprises 30% of the mean ambient SPM concentration and 54% of the mean ambient PM10 concentration in Canadian locations. Background H₂S concentrations have been derived using ECCC's *draft screening assessment for H₂S* (2017) and converted to relevant averaging periods using MECP methodologies in the *Air Dispersion Modelling Guideline for Ontario* (2017).
- Where required, Golder converted monitoring data reported in parts-per-million and parts-per-billion to micrograms per cubic meter (ug/m³) using the molecular weight of each compound and assuming standard atmospheric conditions (1atm of pressure and 25C).
- Golder computed the 90th percentile of the 1-hour, 8-hour, and 24-hour measurements over approximately 5 year periods to represent the typical background air quality concentrations for indicator compounds, as this value is exceeded only 10% of the time. Annual average concentrations were used for annual background levels (Alberta Environment, 2013) based on the limited measurement data.
- Monitoring data from the Saint-Anicet station for the years 2014 through 2018 (where available) were used to calculate 90th percentile background concentrations for most indicator compounds. However, CO and C₂H₃Cl background concentrations were derived using data from the Saint-Anicet station from 2011-2015, and 2009-2013, respectively. PM2.5, PM10, and SPM background concentrations were derived using data from the Ottawa Central station from 2013-2017.

- 1-hr SO₂ concentrations were converted to 10-minute concentrations using MECP methodologies in the *Air Dispersion Modelling Guideline for Ontario* (2017).
- Golder provides a summary of background air quality concentrations in Table B1-18 of Appendix B1.

Comments & Recommendations

- Overall, the *Background Air Quality* study is robust, and I am confident that it adequately summarizes the ambient conditions that may be present at the Boyne Rd site for a reasonable suite of indicator compounds. I do, however, note the following:
 1. The 1hr and 8hr 90th percentile concentrations for CO are identical. This should be confirmed, as all other averaging periods reported different concentrations.
 2. The 24hr 90th percentile concentration for SO₂ is higher than the 1hr 90th percentile concentration. This should be confirmed, as this pattern is very atypical of monitoring data.

Appendix B-2 Emission Calculations (Golder, May 2022)

Summary

- The calculated emission rates were used as inputs for dispersion modelling to predict the indicator compound concentrations resulting from the existing and proposed expanded landfill. Emissions were assessed for activities, processes and equipment/vehicle specifications provided by the Township of North Dundas and the Golder design team. Accepted emission factors from U.S. AP-42 (U.S. EPA 1995), were used where appropriate.
- All potential sources of emissions for the proposed expansion were considered; however, only significant sources were included in the dispersion modelling assessment. Sources with emissions rates that are expected to be either negligible or infrequent were not included.
- Significant sources included the landfill cap, landfill working area, paved & unpaved roads, storage piles, and comfort heating. Sources not included in the assessment included on-site vehicles, construction and post-closure phases, and emissions from the public drop off area.
- Tables B2-3 and B2-4 describes the data sources and rationale for emission rate development for the existing and expanded landfill, respectively. Emissions were derived using data from site plans, the US EPA LandGEM model, MECP Guidance, US EPA AP-42 emission factors, historical data, and information provided by the Township of North Dundas.
- Emissions from the landfill cap include fugitive release of LFG. Emission rates from the landfill cap were based on LFG generation rates of 1,526,524m³/yr and 2,025,457m³/yr for the existing and expanded landfill, respectively. These values were calculated using LandGEM. LandGEM details are described separately in Appendix B-4. Golder applied the default concentrations of LFG constituents from US EPA AP-42 Chapter 2.4 (Table 2.4-2) to the LFG generation rates above to determine emission rates of each indicator

compound. Golder assumed odour concentrations in LFG were approximately 10,000OU/m³, based on MECP guidance.

- Landfill working face emissions include odour and particulate, generated from material transfer activities and exposed waste. Golder used US EPA AP-42 methodology to calculate emission rates of SPM, PM₁₀, and PM_{2.5} for waste deposition and material movement activities. Golder used a maximum wind speed of 9.07m/s for the waste deposition EF calculation, based on the pre-processed meteorological data used in the modelling assessment. Moisture and silt content of cover material was assumed to be 12% and 9%, respectively. Golder assumed working face odour emissions of 0.898OU/m²/s, based on emission factors for other representative landfills in Ontario (WMCC, 2012). Golder assumed an active working face area of 200m².
- Combustion emissions are generated from tailpipes of vehicles travelling on-site. Emission rates from non-road equipment (i.e., compactor and loader) were calculated using emission factors from US EPA. Golder assumed one 284 horsepower (hp) compactor, and one 80hp front end loader. Golder applied generalized particle size distribution factors for stationary internal combustion engines (US EPA AP-42 Table B.2-2) to calculate PM₁₀ emissions.
- Combustion emissions are also generated from on-road vehicles travelling on site access roads. Golder used traffic volumes provided by the Township of North Dundas, based on the Traffic Study completed as part of the EA. Vehicle weights for each class of vehicle were estimated. Table B2-8 describes the weights, and peak trips for the existing and expansion scenario, respectively. Emission factors were calculated for each vehicle class using US EPA MOVES3 model. Road segment length was also provided by the Township- 610m for the existing landfill and 864m for the expansion scenario.
- Fugitive emissions are generated from movement of vehicles on unpaved roads. Golder used US EPA AP-42 Chapter 13.2.2 methodologies to calculate emission factors for unpaved road segments. Unpaved road source height was assumed to be 3m, and lane width was assumed to be 7.3m, both provided by the Township of North Dundas. Silt content for unpaved roads was assumed to be 6.4%. Golder assumed a dust suppressant control efficiency of 40% for unpaved roads for the existing landfill scenario, and 0% in the expanded landfill scenario.

Comments & Recommendations

- Overall, the *Emission Calculations* study is robust, and I am confident that it adequately summarizes the emissions generated from significant sources at the Boyne Rd site for existing and expansion scenarios. I do, however, note the following:
 1. LFG generation rates are calculated using LandGEM. No other detail was provided in *Emissions Calculations*, however, Golder has included a LandGEM study as Appendix B4.
 2. It is unclear why control efficiency of 40% was applied to the existing scenario and 0% applied to the expansion scenario.
 3. Assumptions of odour flux from the working face and waste density are based on the West Carleton Environmental Centre EA (WMCC, 2012). I note that these assumptions are valid only if the waste composition is similar to that of the WCEC.

4. Emission rate calculations for comfort heating were not included in *Emissions Calculations*. An explanation for how emissions were estimated for this source should be provided.

Appendix B-3 Dispersion Modeling (Golder, May 2022)

Summary

- The modelling approach follows generally accepted practices for conducting EAs and, where appropriate, follows *Air Dispersion Modeling Guideline for Ontario (ADMGO, MECP, 2017)*. Electronic dispersion modelling files were provided for each indicator compound for the expansion scenario.
- Predicted offsite concentrations of indicator compounds were assessed using AERMOD version 19191, and AERMAP version 18081. A 5-year pre-processed meteorological dataset (2016-2020), provided by MECP, was used. This data set was processed with AERMET v19191. Digital terrain data for the site was obtained from the MECP (file CDEM_DEM_040I).
- Discrete receptors representing off-site residences (sensitive receptors) were included in the dispersion model. The closest receptor A nested grid of receptors, sized and spaced as per *ADMGO*, was also included to assess compliance with O.Reg.419/05.
- Hourly emission rates estimated in *Appendix B2* were applied to relevant sources in the dispersion modelling assessment.
- The existing landfill cap and operations were modelled as area sources with release heights of 9.13m and 10.88m above grade, respectively. The expansion landfill cap and operations were modelled as area sources with release heights of at 11.14m and 12.89m, respectively.
- Storage piles and propane space heating have been modelled as volume sources with release heights of 3m, and 5m above grade, respectively.
- The roads at Boyne Road Landfill have been modelled following the line volume source approach, where the roads are represented as a series of individual volume sources creating a line that follows the road. The roads were divided into volume sources with a release height of 2.53m, which was calculated by multiplying the assumed height of the vehicles (2.98 m) by 1.7 and dividing by 2 as per the MECP and USEPA Guidance. The roads are assumed to be 7.3 m wide (for 2 lanes). The emission rate for each entire road segment was divided between the volume sources.
- Road and the landfill operations sources were modelled with an hourly emissions profile. These sources were assumed to only be generating emissions between 8:00-17:00. At other hours of the day, emissions from these sources were assumed to be zero.
- Where applicable, Golder has converted 1-hr predicted concentrations to 10-minute averages using the conversion approach described in the *ADMGO*.

- Predicted concentrations of nitrogen dioxide (NO₂) were calculated from modelled nitrogen oxides (NO_x) concentrations using the Ozone Limiting Method (OLM). Background ozone concentrations from *Appendix B1* were used.
- Golder modelled three scenarios- the existing landfill with all significant sources, the expansion landfill with all significant sources, and the expansion landfill with only sources required to be assessed for compliance under O.Reg.419/05 (omitting on-site mobile and roadway sources).

Comments & Recommendations

- Results from dispersion modelling were not included in *Dispersion Modelling* study. Rather, a summary of results is included in section 13.1 of the main EASR (Volume 1).
- Overall, the *Dispersion Modelling* study is robust, and I am confident that it adequately summarizes the predicted impacts from the Boyne Rd site for existing and expansion scenarios. I do, however, note the following:
 1. Additional rationale should be provided regarding the selection of release heights of the landfill cap and working face area sources in both existing and expansion scenarios.
 2. No details regarding meteorological anomaly removal or other post-processing of AERMOD output data were included.
 3. Only modelling results from the expansion scenario and O.Reg.419/05 scenario were included, therefore I am unable verify the modelling approach described was undertaken to assess the impacts of the existing scenario.

Appendix B-4 Estimation of Landfill Gas Generation (LandGEM) (Golder, May 2022)

Summary

- Golder estimated the potential landfill gas (LFG) generation rates at the Boyne Road Landfill site in the Township of North Dundas using LandGEM v.3.03 (June 2020) developed by the US EPA.
- The key input parameters for the model are the historical and projected annual tonnages of waste disposed of in the landfill footprint, the LFG production potential and the LFG generation rate factor. The waste inputs for the LandGEM model have been provided in Table B4-2. Golder used Ministry accepted values of 125 m³ of methane per tonne of waste and 0.040 years⁻¹ for the LFG production potential and generation rate, respectively.
- LFG generation rates were estimated for the Boyne Road Landfill based on the estimated historical and projected waste tonnages landfilled, assuming an operational lifespan of 84 years (i.e., 1964 to 2048).
- To estimate the landfilled tonnage, Golder used the following methodology:
 1. The calculated total volume of landfilled airspace used for waste and daily cover between 1965 and 2020 is 555,700m³.
 2. The volume of airspace used in each of 2009 to 2020 was calculated based on annual topographic surveys, with the calculated airspace consumed at the end of 2008 of 375,077m³.

3. Prior to 2009, there are only vehicle counts available to indicate waste received at the site.
 4. The estimation of annual fill rate from 1996 to 2008 was based on the average annual fill rate for 2009 – 2011 and corrected for population growth in five-year increments. During this period, approximately 12,500 m³ of airspace was consumed annually.
 5. For 1966 to 1995, it was assumed that there were progressive step changes to the annual fill rate, starting at 5000m³/year for 1966 to 1985, 6,500m³/year for 1976 to 1985 and 9,500m³/year for 1986 to 1995.
 6. There have been annual surveys of airspace consumed for a number of years; using a compacted waste density of 0.7 tonnes/cubic metre and a 4:1 waste-to-cover ratio, these volumes were converted to tonnage to estimate the projected tonnage of waste during the expansion period from 2023 through 2048.
- LFG generated at the landfill site was assumed to be comprised of approximately 50% methane (CH₄) by volume, based on the published data on typical LFG composition.
 - The LandGEM calculated LFG generation rate for 2021 (1.52 million m³/yr) was used as the LFG emission rate in the emission rate calculation study. The LandGEM calculated LFG generation rate for 2049 (2.02 million m³/yr, the peak annual generation rate over the expanded landfill's lifetime) was used as the LFG emission rate in the emission rate calculation study.

Comments & Recommendations

- Overall, the *Estimation of Landfill Gas Generation* study is robust, and I am confident that it adequately estimates the predicted LFG generation rates and quantities over the historical and proposed expansion phases of the landfill, and are correctly translated into the other air quality components of the EASR. I do, however, note the following:
 1. The pattern of annual waste fill rates in the expansion phase is unclear. Namely, the estimated waste fill rate is 12960m³/yr in 2020, decreases by 80m³/yr each year until 2030, then increases by 80m³/yr each year again until closure in 2048. Additional rationale is needed.

Section 13.1- EASR Volume 1

Summary

- Results from dispersion modelling were not included in *Dispersion Modelling* study. Rather, a summary of results is included in section 13.1 of the main EASR (Volume 1).
- Golder included a summary of predicted effects at sensitive receptors for both existing and expansion scenarios, as well as an assessment of compliance under O.Reg.419/05. The results from these modelling scenarios are included in *Volume 1* of the EASR as tables 13-3, 13-4, and 13-6, respectively.
- In tables 13-3 and 13-4, predicted offsite concentrations were added to background concentrations, as calculated in Appendix B-2, to determine the cumulative concentrations expected at nearby sensitive receptors in each scenario. These cumulative impacts were compared against relevant air quality criteria (AAQC and CAAQS) for each indicator compound.

- Table 13-6, cumulative impacts were not assessed, as background concentrations are not a component of compliance assessment under O.Reg.419/05.
- For existing and expansion scenarios, the maximum cumulative concentrations of all indicator compounds were below relevant guidelines. As such, Golder concludes that predicted concentrations associated with the landfill expansion are expected to meet air quality criteria at sensitive receptors.
- Predicted maximum concentrations for all indicator compounds at sensitive receptors occurred at the closest residence west of the Boyne Road Landfill along Boyne Road.
- For the existing scenario, maximum predicted cumulative concentrations of SPM were the highest proportion of relevant criteria. A cumulative SPM 24-hr concentration of $82.5\mu\text{g}/\text{m}^3$ (68.7% of criteria) was predicted for the existing scenario. For the expansion scenario, maximum predicted cumulative concentrations of SPM were also the highest proportion of relevant criteria. A cumulative SPM 24-hr concentration of $117.24\mu\text{g}/\text{m}^3$ (97.7% of criteria) was predicted for the expansion scenario.
- The O.Reg.41905 assessment reported predicted offsite concentrations (beyond the property line, rather than at just sensitive receptors) for all indicator compounds at below criteria. Golder concludes that the proposed landfill expansion is expected to operate in compliance with Schedule 3 of O.Reg.419/05.
- Golder proposes a number of mitigation measures, consistent with best practices, as outlined in table 13-7 of *Volume 1* of the EASR. These mitigation measures were incorporated into the emissions estimates and therefore are included in the effects assessment(s) as well.

Comments & Recommendations

- Modelling files were not provided for the existing landfill scenario; therefore I am not able to comment on the accuracy and adequacy of the existing scenario results.
- Dispersion modelling files for the expansion scenario were provided, however, no output files detailing the predicted concentrations of indicator compounds at sensitive receptors was provided. Therefore, I am unable to comment on the accuracy of the results reported.
- 24-hr NO₂ concentrations reported in Table 13-4 appear to have been incorrectly reported as the annual concentration instead ($0.12\mu\text{g}/\text{m}^3$). As such, 24-hr concentrations of NO₂ should be provided.
- It is clear from dispersion modelling that the proposed landfill expansion is likely to emit particulate in significant quantities, although background sources are also significant contributors.
- Provided a BMPP and dust control activities can be provided which support the mitigation measures, it is likely that the proposed expansion as currently modelled would meet criteria at discrete receptors. However, it is possible that a confluence of all nearby sources will lead to an increase in dust experienced by nearby receptors, possibly to levels above relevant AAQCs and CAAQs, as the currently modelled results are

extremely close the criteria for SPM (97.7%). Ambient dust monitoring may be considered if the proposed expansion is constructed and seeks approval to operate.

- Overall, the proposed expansion shows a marked increase to predicted cumulative concentrations of 24-hr SPM (42% increase relative to the existing scenario), 24-hr PM10 (28% increase), 1-hr NO2 (10% increase), 24-hr H2S (11% increase), and 24-hr and annual vinyl chloride (25% and 233% increase). Of these, SPM and PM10 are most significant, as Golder reported these compounds at 97.7% and 84.9% of relevant criteria.

Overall, I am generally supportive of the air quality studies which are included in the Boyne Rd landfill expansion EASR, with the above noted comments and recommendations. I conclude that it is likely that the proposed landfill, if constructed, will be a significant contributor to dust and odour in the local area. Dust, odour, and emissions control documents & instruments such as best management practices and Environmental Compliance Approval conditions will be key in preventing and mitigating air quality impacts.

If you have any questions concerning these comments, I would be pleased to discuss them with you.

Ross Kircher
Air Quality Analyst
Technical Support Section
Eastern Region

RJK/

ec: C. Klein
R. Orwin
T. Guo
T. Deweerd
B. Gilbert

c: File AQ ST NS 03 02 (Draft EA Study Report (EASR), Boyne Rd Expansion – May 2022)
ECHO Ref # 1-99238030

November 2022

Ministry of the Environment, Conservation and Parks

Proposal: North Dundas Waste Environmental Management Plan Environmental Assessment

Proponent: Township of North Dundas

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
Ministry of the Environment, Conservation and Parks Ross Kircher, Air Quality Analyst – Technical Support Section					
1.	Volume 2, Appendix B-1, Background Air Quality	Overall, the <i>Background Air Quality</i> study is robust, and I am confident that it adequately summarizes the ambient conditions that may be present at the Boyne Rd site for a reasonable suite of indicator compounds.	No change required.	Agreed and acknowledged.	Confirmed modelling results presented in EPR accurately reflect modelling work undertaken. MECP is satisfied and comments have been adequately addressed.
2.	Volume 2, Appendix B-1, Background Air Quality	The 1hr and 8hr 90th percentile concentrations for CO are identical.	This should be confirmed, as all other averaging periods reported different concentrations.	The data was reviewed and the CO concentrations for 1hr and 8hr are the same and data is correct. The reason that they end up being the same value is a result of resolution of the data (i.e. 1 decimal place for ppb) and many values that are zero or no entry. No changes to Volume 2 proposed.	
3.	Volume 2, Appendix B-1, Background Air Quality	The 24hr 90 th percentile concentration for SO ₂ is higher than the 1hr 90 th percentile concentration.	This should be confirmed, as this pattern is very atypical of monitoring data.	The Emissions workbook was reviewed and the 24 hr 90 th percentile SO ₂ background concentration is higher than 90 th percentile 1 hr SO ₂ concentration and the data is	

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
				correct. The reason this is happening is similar to CO and the resolution on the data.	
4.	Volume 2, Appendix B-2, Emission Calculations	Overall, the <i>Emission Calculations</i> study is robust, and I am confident that it adequately summarizes the emissions generated from significant sources at the Boyne Rd site for existing and expansion scenarios.	No change required.	Agreed and acknowledged.	
5.	Volume 2, Appendix B-2, Emission Calculations	LFG generation rates are calculated using LandGEM. No other detail was provided in <i>Emissions Calculations</i> , however, Golder has included a LandGEM study as Appendix B4.	--	Acknowledged.	
6.	Volume 2, Appendix B-2, Emission Calculations	It is unclear why control efficiency of 40% was applied to the existing scenario and 0% applied to the expansion scenario.	--	This was a typo in Volume 2 Appendix B-2; 40% was applied to both scenarios. The text in Appendix B-2 has been updated and the reference indicated.	
7.	Volume 2, Appendix B-2, Emission Calculations	Assumptions of odour flux from the working face and waste density are based on the West Carleton Environmental Centre EA (WMCC, 2012). I note that these assumptions are valid only if the waste composition is similar to that of the WCEC.	--	The waste composition for North Dundas is municipal solid waste which is similar to West Carleton Environmental Centre and the odour flux from the working face and density are considered comparable.	

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
8.	Volume 2, Appendix B-2, Emission Calculations	Emission rate calculations for comfort heating were not included in <i>Emissions Calculations</i> .	--	Volume 2, Appendix B-2 has been updated to include information about comfort heating emission rate calculations. Office buildings have electric comfort heating and no emissions. Vehicle and equipment storage buildings use propane heating sources. Note that the propane sources were included in the assessment provided.	
9.	Volume 2, Appendix B-3, Dispersion Modeling	Results from dispersion modelling were not included in <i>Dispersion Modelling</i> study. Rather, a summary of results is included in section 13.1 of the main EASR (Volume 1).	--	Acknowledged. Volume, Appendix B-3 is not a stand alone document and should be read in conjunction with the main EASR Volume 1. No changes proposed.	
10.	Volume 2, Appendix B-3, Dispersion Modeling	Overall, the <i>Dispersion Modelling</i> study is robust, and I am confident that it adequately summarizes the predicted impacts from the Boyne Rd site for existing and expansion scenarios.	--	Agreed and acknowledged.	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
11.	Volume 2, Appendix B-3, Dispersion Modeling	--	Additional rationale should be provided regarding the selection of release heights of the landfill cap and working face area sources in both existing and expansion scenarios.	Text was added to Section 2.2.1, Volume 2, Appendix B-3 to explain the rationale of the selected release heights. The final target elevations for the Existing Landfill were estimated using the 2020 Boyne Landfill Surface Contours figure. An average Active Fill Waste Height was estimated using six cross sections of the landfill (3 east-west and 3 north-south). For the Expansion Landfill scenario, the same methodology (average of 6 cross-sections) was used to estimate the final target heights of the Fill Waste. Cross-sections of Proposed Expansion figure was used.	
12.	Volume 2, Appendix B-3, Dispersion Modeling	No details regarding meteorological anomaly removal or other post-processing of AERMOD output data were included.	--	Meteorological anomalies were not removed and no post processing was carried out. No changes proposed.	
13.	Volume 2, Appendix B-3, Dispersion Modeling	Only modelling results from the expansion scenario and O.Reg.419/05 scenario were included, therefore I am unable verify the modelling approach	--	O.Reg. 419/05 modelling was not considered for the existing scenario. The existing modelling will be provided to the MECP via email.	

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
		described was undertaken to assess the impacts of the existing scenario.			
14.	Volume 2, Appendix B-4, Estimation of Landfill Gas Generation (LanGEM)	Overall, the <i>Estimation of Landfill Gas Generation</i> study is robust, and I am confident that it adequately estimates the predicted LFG generation rates and quantities over the historical and proposed expansion phases of the landfill, and are correctly translated into the other air quality components of the EASR.	--	Agreed and acknowledged.	
15.	Volume 2, Appendix B-4, Estimation of Landfill Gas Generation (LanGEM)	The pattern of annual waste fill rates in the expansion phase is unclear. Namely, the estimated waste fill rate is 12960m ³ /yr in 2020, decreases by 80m ³ /yr each year until 2030, then increases by 80m ³ /yr each year again until closure in 2048.	--	A clearer representation of waste fill rate versus year can be found in Section 7 of Volume 1. It is noted that from 2021 up to 2030 the diversion rate is increasing from 23% of the municipal waste to 33% of the municipal waste. During this time period the increasing diversion rate is outpacing or greater than the projected increase in waste generation as a result of population growth. As such, in net terms it appears like waste fill rates are decreasing. In 2030 there is no further increase in diversion rate anticipated and at this point the increase in annual	

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
				waste fill rates is directly related to population increase. No changes to Volume 2, Appendix B-4 proposed.	
16.	Volume 1, Section 13.1, Impact Assessment of the Preferred Undertaking – Atmosphere	Modelling files were not provided for the existing landfill scenario; therefore I am not able to comment on the accuracy and adequacy of the existing scenario results.	--	The modelling files for the existing landfill scenario will be provided in an email.	
17.	Volume 1, Section 13.1, Impact Assessment of the Preferred Undertaking – Atmosphere	Dispersion modelling files for the expansion scenario were provided, however, no output files detailing the predicted concentrations of indicator compounds at sensitive receptors was provided. Therefore, I am unable to comment on the accuracy of the results reported.	--	This information is available in the modeling files and Instructions on how to retrieve this information will be provided in an email.	
18.	Volume 1, Section 13.1, Impact Assessment of the Preferred Undertaking – Atmosphere	24-hr NO ₂ concentrations reported in Table 13-4 appear to have been incorrectly reported as the annual concentration instead (0.12µg/m ³).	--	Volume 1, Section 13.1 Table 13-4 did contain a typo and the correct 24-hr NO ₂ value is 3.54 ug/m ³ and has been updated accordingly.	

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
19.	Volume 1, Section 13.1, Impact Assessment of the Preferred Undertaking – Atmosphere	It is clear from dispersion modelling that the proposed landfill expansion is likely to emit particulate in significant quantities, although background sources are also significant contributors.	--	Agree and acknowledged.	
20.	Volume 1, Section 13.1, Impact Assessment of the Preferred Undertaking – Atmosphere	Provided a BMPP and dust control activities can be provided which support the mitigation measures, it is likely that the proposed expansion as currently modelled would meet criteria at discrete receptors. However, it is possible that a confluence of all nearby sources will lead to an increase in dust experienced by nearby receptors, possibly to levels above relevant AAQCs and CAAQs, as the currently modelled results are extremely close the criteria for SPM (97.7%).	Ambient dust monitoring may be considered if the proposed expansion is constructed and seeks approval to operate.	Understood.	

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Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
21.	Volume 1, Section 13.1, Impact Assessment of the Preferred Undertaking – Atmosphere	Overall, the proposed expansion shows a marked increase to predicted cumulative concentrations of 24-hr SPM (42% increase relative to the existing scenario), 24-hr PM10 (28% increase), 1-hr NO2 (10% increase), 24-hr H2S (11% increase), and 24-hr and annual vinyl chloride (25% and 233% increase). Of these, SPM and PM10 are most significant, as Golder reported these compounds at 97.7% and 84.9% of relevant criteria.	--	Agreed and acknowledged.	

Hughes, Jordan (MECP)

Subject: Draft EA for the North Dundas Waste Technical Review

From: Hann, Carolyn (MECP) <Carolyn.Hann@ontario.ca>

Sent: July-18-22 11:54 AM

To: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>

Subject: RE: Draft EA for the North Dundas Waste Technical Review

Hi Jordan,

I have had a chance to review the Draft EA for the North Dundas Waste Technical Review from the perspective of the Species at Risk Branch reviewing information related to species at risk and the *Endangered Species Act, 2007* (ESA) and have the following comments:

- What were the outcomes of the Eastern Whip-poor-will surveys carried out in 2018 on May 30, June 3 and June 26?
- It is noted that no Butternut or American Ginseng were found during Plant Community Surveys carried out in 2018 on May 30, June 8 and June 21 and in 2019 on September 19 however in section 9.4.4.5.6 of the *Environmental Assessment of the Township of North Dundas Waste Management Plan* it is noted that both species could be present in the site-vicinity. Please clarify. Will either of these species be impacted by the landfill expansion project? If there are concerns that the species may be in the site-vicinity and could be impacted additional surveys should be carried to determine if there will be impacts to the species or their habitat and to assist in guidance with respect to requirements for authorization under the ESA.
- Little Brown Myotis has been detected on site and maternity roost habitat has been identified on site. As the habitat is not limiting for this species in the greater area and if the proponent can avoid impacts to individuals by the removal of habitat outside of the active bat season (April 1 to September 30) it is possible that an authorization would not be required under the ESA.
- Eastern Small-footed Myotis has been detected on site. Please provide more information about available habitat features that may be present on site that support the species. Habitat for this species may be limiting in the area and more information is required to provide guidance with respect to authorization requirements under the ESA.
- If the proposed project will impact individual species at risk or species at risk habitat an authorization may be required under the ESA. Please ensure that if an authorization is required under the ESA that sufficient time to obtain an authorization is factored into the project timeline. To start the process an Information Gathering Form should be submitted to SAROntario@ontario.ca.

If you have further questions or concerns or would like to discuss these comments further please let me know.

Best,

Carolyn Hann

A/ Species at Risk Specialist | Permissions and Compliance Section | Ontario Ministry of Environment, Conservation and Parks | 10-1 Campus Drive, Kemptville, Ontario, K0G 1J0 | PH: 613.355.7312 | Email: carolyn.hann@ontario.ca

January 2023

Ministry of the Environment, Conservation and Parks

Proposal: North Dundas Waste Environmental Management Plan Environmental Assessment

Proponent: Township of North Dundas

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
Ministry of the Environment, Conservation and Parks Carolyn Hahn, Species at Risk Specialist – Species at Risk Branch (Comments) Brandan Norman, Management Biologist – Species at Risk Branch (Response)					
1.	Volume 1, Section 9.4.1.3, Description of the Environment Potentially affected for Landfill Expansion – Biology – Methodology – Field Surveys	What were the outcomes of the Eastern Whip-poor-will surveys carried out in 2018 on May 30, June 3 and June 26?	--	<p>No Eastern Whip-poor-wills were heard during the targeted surveys. Volume 2 Appendix F-4 indicates this.</p> <p>Section 9.4.4.3 of the draft EA has been updated to include the following text: No other SAR bird species were observed during the surveys.</p>	As identified in the comments table, I would continue to support both Carolyn's recommendation and the proponents conclusions that an Information Gathering Form (IGF) be completed for the site in order to determine whether the project will require an ESA permit or not. For the proponents awareness the IGF may be found here . Once completed, it can be submitted directly to myself or to SAROntario@Ontario.ca for review.
2.	Volume 1, Section 9.4.4.5.6, Description of the Environment Potentially affected for Landfill Expansion – Biology –	It is noted that no Butternut or American Ginseng were found during Plant Community Surveys carried out in 2018 on May 30, June 8 and June 21 and in 2019 on September 19 however in section 9.4.4.5.6 of the Environmental	Please clarify. Will either of these species be impacted by the landfill expansion project? If there are concerns that the species may be in the site-vicinity and could be impacted additional surveys should be carried to determine if there will be impacts to the species or their habitat and	Volume 1, Section 9.4.4.5.6 noted no Butternut or American Ginseng were found in the various noted study dates in the Site Study Area but noted as possibly present in the Site-vicinity Study Area . The expansion footprint and almost all of the ancillary features fall within the Site	At this time I do not have any further comments for the Township.

January 2023

Comment #	Reference to EA	Comments & Rationale	Proposed Action/Solution	Proponent's Response	Technical Reviewer's Response
	Wildlife – Significant Terrestrial Natural Features – Terrestrial Endangered and Threatened Species	Assessment of the Township of North Dundas Waste Management Plan it is noted that both species could be present in the site-vicinity.	to assist in guidance with respect to requirements for authorization under the ESA.	<p>Study Area as shown on Volume 1, Figure 13-9. The only area outside the Site Study Area is on the eastern side where the eastern perimeter ditch will be re-routed and the new stormwater pond will go.</p> <p>To evaluate if Ginseng or Butternut exist in this part of the Site-vicinity Study Area to the east of the stormwater management pond, a field survey is proposed at the time of and as part of confirming permit requirements for the project under the ESA. Section 13.4.1.2.1 of Volume 1 has been updated to include the field survey for Ginseng and Butternut at the time of confirming permit requirements for the project under the ESA.</p>	
3.	Draft EA	Little Brown Myotis has been detected on site and maternity roost habitat has been identified on site.	As the habitat is not limiting for this species in the greater area and if the proponent can avoid impacts to individuals by the removal of habitat outside of	Noted. Text in Sections 17.3 and 18.0 of Volume 1 has been revised to note that permitting needs, if any, will need to be determined through consultation with	

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			the active bat season (April 1 to September 30) it is possible that an authorization would not be required under the ESA.	MECP through submission of an Information Gathering Form.	
4.	Draft EA	Eastern Small-footed Myotis has been detected on site.	Please provide more information about available habitat features that may be present on site that support the species. Habitat for this species may be limiting in the area and more information is required to provide guidance with respect to authorization requirements under the ESA.	As noted in Section 9.4.4.5.6 of the draft EA, although this species was detected on the Site, it was determined that the species is not using the Site for maternity roosting and is simply foraging in the airspace above it. Foraging habitat is not a limiting factor for this species and therefore it is Golder's opinion that no authorization under the ESA is required for this species. No changes to the EASR proposed.	
5.	Draft EA	If the proposed project will impact individual species at risk or species at risk habitat an authorization may be required under the ESA.	Please ensure that if an authorization is required under the ESA that sufficient time to obtain an authorization is factored into the project timeline. To start the process an Information Gathering Form should be submitted to SAROntario@ontario.ca.	Noted.	