



FINAL

Waste Capacity Assessment & Closure and Post-Closure Care Liability Estimates

Kagawong Waste Disposal Site
Kagawong, Ontario

Prepared for:

The Township of Billings
15 Old Mill Road, PO Box 34
Kagawong, Ontario P0P 1J0

October 2, 2025

Pinchin File: 229152.008



Waste Capacity Assessment & Closure and Post-Closure Care Liability Estimates

Kagawong Waste Disposal Site, Kagawong, Ontario
The Township of Billings

October 2, 2025
Pinchin File: 229152.008
FINAL

Issued to: The Township of Billings
Issued on: October 2, 2025
Pinchin file: 229152.008
Issuing Office: Sudbury, ON
Primary Pinchin Contact: Alana Valle, B.Eng., EIT
Project Manager
705.521.0560
avalle@pinchin.com

Author: _____
Greg Way, B.Sc.
Project Manager

Reviewer: _____
Alana Valle, B.Eng., EIT
Project Manager

Reviewer: _____
Tim McBride, B.Sc., P.Geo., QP_{ESA}
Practice Specialist – Hydrogeology
Director, Northern Ontario



TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	Scope of Work	1
1.1.1	Waste Capacity Assessment	1
1.1.2	Liability Assessment	2
1.2	Background.....	2
1.2.1	Site Location	2
1.2.2	Site Document Review.....	2
1.2.3	Geological Conditions	3
1.2.4	Operations and Development	3
2.0	WASTE CAPACITY ASSESSMENT.....	5
2.1	Previous Waste Capacity Assessments	5
2.2	Updated Waste Capacity Assessment	5
2.2.1	Scenario 1 - Current Approved Site Contours	6
2.2.2	Scenario 2 - Proposed Expansion Site Contours	6
2.3	Remaining Lifespan	7
3.0	COLLECTION AND REVIEW OF CURRENT INFORMATION	7
4.0	INFLATION AND DISCOUNT RATES	8
4.1	Inflation Rate	8
4.2	Discount Rate	8
5.0	CHANGE IN LIABILITY ANNUAL EXPENDITURES	9
6.0	ADDITIONAL INFORMATION	10
7.0	CONCLUSIONS	10
8.0	LIMITATIONS.....	11

APPENDICES

APPENDIX I	Figures
APPENDIX II	Consumer Price Index 2015 – 2024
APPENDIX III	Site Specific 2025 Closure and Post Closure Care Cost Estimate Tables

FIGURES

Figure 1	Key Map
Figure 2	Site Plan
Figure 3	2024 Topographic Survey
Figure 4	Current Approved Site Contours
Figure 5	Proposed Expansion Site Contours
Figure 6	2024 Volumetric Distribution and Cross-Section



1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by the Corporation of the Township of Billings (the Township) to complete a Waste Capacity Assessment (WCA) and an estimate of liabilities for the closure and post-closure care for the Kagawong Landfill (Site). The purpose of completing the WCA and liability estimate was for internal due diligence purposes to confirm the existing Site conditions, annual waste disposal volumes and the remaining capacity/ lifespan. This WCA is also intended to support an evaluation of lifespan associated with the proposed expansion for the Site.

Pinchin has assessed the annual liabilities for the Site in accordance with accounting standards set out by the Public Sector Accounting Board (PSAB) Section PS 3280 Solid Waste Landfill Closure and Post-Closure Liability. The reporting period is up to December 31, 2024, and the base year is 2025 (i.e., time zero for present value calculation is January 1, 2025).

1.1 Scope of Work

The scope of work completed for the waste capacity assessment and liability estimate is outlined in the revised Pinchin proposal entitled "*Proposal for Waste Capacity Assessment and Financial Assurance, Kagawong Landfill, Kagawong, Ontario*" dated February 14, 2025. The scope of work completed by Pinchin included the following:

1.1.1 Waste Capacity Assessment

An updated waste capacity assessment was prepared containing:

- A summary of results of previously completed topographic surveys;
- A summary of background and analysis of available information on the Site as it relates to capacity;
- A description of the methodologies used for the field investigation and a summary of the field work completed; and
- A summary of findings including the remaining Site life in years (theoretical lifespan), calculation of remaining available volume and a drawing/image that will depict the waste disposal limits, location of the historic/current waste, as well as the area available for future landfilling operations within the proposed expansion boundary.



1.1.2 *Liability Assessment*

The liability estimate included the following activities:

- The results of the updated waste capacity estimate was utilized to support the liability assessment;
- Obtain other updated and/or additional information required to estimate the closure and post-closure care liability;
- Estimate the closure, post-closure care and contingency expenditures; and
- Provide additional information required by the Township for its financial statements.

1.2 **Background**

1.2.1 *Site Location*

The Site property is located north of Highway 540, on Lot 4, Concession 9, approximately 2.7 kilometers (km) from the Town of Kagawong, Ontario. The Site is accessed via a gravel access road from Highway 540. There is a compacted gravel road inside the landfill to grant access to the active fill area and segregated waste areas.

The Site is located at Universal Transverse Mercator (UTM) coordinates Zone 17, 400,100 metres (m) Easting and 5,083,500 m Northing (North American Datum 1983). Landfill coordinates were obtained using a Global Positioning System and are accurate within approximately 10 m.

The Site location is indicated on Figure 1 (All Figures are provided in Appendix I).

1.2.2 *Site Document Review*

Pinchin reviewed the following reports for the Site and are referenced within this document:

- Report titled "*Design and Operations Plan, Township of Billings Kagawong Landfill*" completed by Pinchin, dated July 2013 (the Pinchin 2013 D&O Plan);
- Report entitled "*Sequential Waste Fill and Closure Plan, Township of Billings Kagawong Landfill, Kagawong, Ontario*" completed by Pinchin, dated October 17, 2019 (the 2019 Fill Plan);
- Report entitled "*Application for Amendment to ECA No. A550501, Township of Billings Kagawong Landfill, Kagawong, Ontario*" completed by Pinchin, dated August 29, 2022 (the 2022 ECA Application); and



- Report entitled “2022-2024 Water Quality Monitoring Assessment, Township of Billings Kagawong Landfill, Kagawong, Ontario” completed by Pinchin, dated March 10, 2025 (2022-2024 Triennial Monitoring Report).

1.2.3 Geological Conditions

The Site is located on top of the Niagara Escarpment approximately 15-20 m higher than the eastern topography and 10-20 m west of the crest of the cuesta. The surface of the landfill generally consists of weathered and fractured dolostone with little overburden. The Manitoulin Formation is a carbonate unit and consists of blue-gray to brown, thin-bedded, fine to medium-crystalline dolomitic limestone and dolostone which is locally chert-rich and where bedrock exposures of the Formation are extensive. Likewise, the dolostones occur only in cliff sections. The Site is underlain by fractured and weathered crystalline dolostone of the Manitoulin Formation. Below this layer are crystalline limestone and dolostone of the Georgian Bay Formation dating from the Ordovician Epoch. The fractured surface bedrock does not provide a confining layer for groundwater movement, and surface springs are evident to the east. Groundwater movement is inferred to flow in an easterly direction based on groundwater elevation contouring.

1.2.4 Operations and Development

The Site was developed during the 1960s and operated by a provincial ministry as a domestic landfill for solid, non-hazardous waste to be utilized by residences and seasonal users of the area. The Site has historically operated as an area fill (tipping face) style operation where waste is typically pushed over the edge of a deposition area and covered with granular fill material to help control wind-blown debris and provide vermin control.

The Site was initially approved for the use and operation of a 0.81 hectare (ha) waste disposal site within a 20.2 ha total site area eventually increasing to an approved disposal area of 1.0 ha within a 60.2 ha total site area. The current maximum capacity is 40,000 cubic metres (m³) based on the approved final waste contours; however, the Township had sought to increase the approved footprint from 1.0 ha to 1.25 ha allotting for an increased theoretical fill capacity of 33,061 m³.

In 2012, a Design and Operations Plan (D&O Plan) for the Site was submitted to the Township of Billings, as well as the Ministry of the Environment, Conservation and Parks (MECP) with revisions to the D&O Plan completed and resubmitted in 2013. A Sequential Waste Fill and Closure Plan (the 2019 Fill Plan) was completed for the Site in 2019 to support orderly placement and capacity management in order to maximize the remaining waste capacity. Waste placement was further refined in the 2019 fill plan whereby the approved fill area was divided into eight cells where waste disposal operations take place in a systematic, advancing pattern (i.e., discrete area fill) using the ramp method.



The compactor uses a gravel access road which transcends the Site in a north-south direction looping around the fill area. A burn pit is located on the central portion of the Site for clean wood debris. Clean wood is segregated in brush piles located along the southeast portion of the Site. Recycling bins and storage sheds are located south of the burn pit. A metal storage bin is located directly west of the burn pit. A tire pile is located along the west portion of the Site. Users of the Site are received by an attendant positioned near the south entrance of the Site and are directed to the appropriate disposal areas as needed. The Site plan is provided on Figure 2.

Waste disposal operations at the Site generally include the collection of tipping fee charges, placement and compaction of waste, application of daily cover and general maintenance. Recyclable materials are segregated at the Site such as paper, cardboard and a co-mingled stream (household cans, aluminum foil/trays, plastics #1 through 6, milk/juice cartons/boxes). Hazardous waste is not accepted at the Site, and residents use the annual Central Manitoulin Household Hazardous Waste event in Mindemoya.

The Site was formerly operated under Environmental Compliance Approval (ECA) No. **A550501** issued on March 20, 1980, and has been owned and operated by the Township since this time. Four known updates have been made to the Site ECA since 1980 as follows:

- On November 24, 1994, the ECA was revised to include up to 2,500 tonnes of non-hazardous fuel contaminated soil from UCO Bulk Fuel Facility on a one-time basis only;
- On February 13, 2002, the ECA was revised to include an in-vessel compost for the purpose of research;
- On April 21, 2015, the ECA amendment was issued to update the former CofA and provide the typical updates and requirements for operating landfill sites. A search completed by Pinchin on the MECP Access Environment website provided details pertaining to the 2002 Site CofA compost operations, as well as the 2015 ECA amendment; and
- On September 21, 2021, an application to amend the ECA was requested to attain approval to increase the total maximum capacity of 40,000 m³ by an additional 33,061 m³ to a total of 73,061 m³ (not including final cover and capping requirements), increase the area of the waste disposal footprint from 1.0 ha to 1.25 ha and approve 2,550 m³ of Fill Beyond Allowable Limits in the southeast corner to be capped and remain in-place.

The 2021 application to amend the ECA is currently being processed by the MECP.



2.0 WASTE CAPACITY ASSESSMENT

2.1 Previous Waste Capacity Assessments

Based on Pinchin's review of available information, the amount of waste received at the Site annually has historically been observed as being relatively low. According to the topographical survey from 2011, the Site had an estimated volume of solid, non-hazardous waste material and interim cover of 26,720 m³ within a 0.93 hectare area. The waste capacity assessment was detailed in the "*Comprehensive Waste Management Plan*" approved by the Township Council on May 5, 2014, and states that the estimated annual rate of waste received at the Site was estimated to be approximately 750 m³. Based on the maximum allowable limit of 40,000 m³, a remaining lifespan of 17 years was estimated for the Site.

Based on final contours in the Pinchin 2019 Fill Plan for the Site, the theoretical maximum volume available in the current approved Site area was approximately 51,329 m³ with an estimated 42,038 m³ of waste and interim cover in place at the Site at the time of submission of the revised application entitled "*Revised Application for Amendment to ECA No. A550501*" prepared by Pinchin, dated August 29, 2022. Based on topographic surveys included in previous investigations and a comparison to the 2017 drone survey by Talbot Surveys Inc., the estimated annual fill rate of the Site was estimated to be approximately 1,070 m³ per year.

To accommodate additional waste at the Site and increase the landfill's lifespan, the Township applied for the approval of an additional 33,061 m³ for a total allowable waste disposal volume of 73,061 m³ (excluding final cover and capping material). Included in this volume increase, the Township is seeking approval for a historical Fill Beyond Allowable Limits (FBAL) waste area of approximately 500 m², an estimated volume of approximately 2,550 m³ that has been identified on the southeast portion of the Site to remain in-place and be capped. The FBAL area and additional allowable waste volume will be accommodated at the Site by expanding the approved landfill footprint by 21 m along the western edge of the current approval area, in the upgradient groundwater flow direction, comprised of a sequence of eight cells which are to be filled to a predetermined elevation and graded to predetermined slopes as the additional waste is deposited. It should be noted that the cell sequencing plan as provided in the Pinchin 2019 Fill Plan will be tailored to incorporate this additional volume, and the 2022 Revised ECA Amendment Application provides adjusted final contours for the Site to account for the proposed Site expansion.

2.2 Updated Waste Capacity Assessment

Pinchin obtained services from Unmanned Aerial Services Inc. (UAS Inc.) and completed the topographic survey of the Site on May 2, 2024. Using a Transport Canada Compliant UAV/RPAS, the DJI Matrice M300 enterprise-grade Unmanned Aerial vehicle (UAV) consisting of a rotary wing platform equipped with



a DJI P1 high resolution RGB camera and an Emlid RS2 GNSS RTK base station, UAS Inc. surveyed the location of the waste deposits, access road, major landmarks and surficial topography. The results of the survey data were utilized to support the waste capacity calculations for the Site. Civil3D was utilized to process the UAV data and produce a 3D model. Global Mapper was then used to generate a Digital Terrain Model (DTM) and topographic contours. The current site topography is illustrated on Figure 3 based on the May 2, 2024, survey results.

The total volume of waste deposited between the June 2019 and May 2024 aerial UAV survey contours was approximately 7,952 m³. This volume is representative of a 59-month period. This volume would be prorated to a 12-month (i.e., one year) annual deposition rate of approximately 1,617 m³ (compacted waste and daily/interim cover material) per year. Given that an additional 7,952 m³ of waste is estimated to have been placed at the Site since the previous topographic survey in June 2019 (in-place waste volume estimate of approximately 42,038 m³), it is estimated that the current in-place waste volume at the Site is approximately 49,990 m³ as of May 2024.

2.2.1 Scenario 1 - Current Approved Site Contours

A comparison was then completed between the May 2024 survey and the final contours in the Pinchin 2019 Fill Plan for the Site, leaving a total remaining available capacity for waste deposition at the Site of 1,088 m³; based on this assessment, the theoretical volume available in the current approved Site area is estimated to be 51,078 m³ relative to the earlier estimated 51,329 m³ in the 2019 fill plan. The current approved Site contours are presented on Figure 4.

It should be noted, however, the current waste deposition activities may have resulted in a minor discrepancy on the northern side slope of the waste mound, as illustrated on Figure 6, where the side slope is observed to be steeper than the approved final design contours. This waste should be reshaped during the regular waste disposal operations to match the grades and elevations of the final design as provided on Figure 4.

2.2.2 Scenario 2 - Proposed Expansion Site Contours

As described in Section 2.1, the 2022 Revised ECA Amendment Application proposed a westward expansion of the approved fill area and adjusted final contours for the increased waste disposal footprint. A total remaining available capacity for waste deposition of approximately 19,882 m³ was estimated comparing the May 2024 aerial UAV survey contours to the proposed expansion contours. Thus, a revised total allowable volume within the proposed expansion is estimated to be approximately 69,872 m³ (not including the 2,550 m³ FBAL) based on the estimated remaining capacity and the in-place fill volume of 49,990 m³ within the designated fill area.



The proposed expansion Site contours are presented on Figure 5. A volumetric distribution, surface profile and cross-section of the waste cell as of May 2024 is illustrated on Figure 6.

2.3 Remaining Lifespan

The estimated annual fill rate based on the 7,952 m³ difference in volume over the approximately 59-month period is 1,617 m³ per year. It was calculated that the remaining fill volume to the approved final fill contours is 1,088 m³; thus, the Site would be expected to reach capacity in approximately 8 months from the time of the May 2024 survey by the end of January 2025. A total remaining available capacity of 19,882 m³ is estimated to the contours of the proposed fill area expansion which would result in a remaining lifespan of approximately 18 years from the time of the May 2024 survey.

3.0 COLLECTION AND REVIEW OF CURRENT INFORMATION

The following information was used to calculate the liability estimates:

1. The remaining Site capacities were estimated using the most recent data available from previous investigations for each of the Sites.
2. Monitoring/reporting costs are estimated using the unit prices provided in the active Pinchin contract.

The contingency amount was estimated using the following equation:

$$F = \$0.50 \times W \times I_2/I_1$$

Where:

F = the amount of financial assurance

W = the number of tonnes of waste that have been deposited in the landfilling site at the time the amount of financial assurance is calculated.

I₁ = the 2017 Annual Average Non-residential Building Construction Price Index for Ontario (based on Toronto and Ottawa-Gatineau (Ontario part) data) as published by Statistics Canada under the authority of the Statistics Act (Canada).

I₂ = the most recent Annual Average Non-residential Building Construction Price Index for Ontario (based on Toronto and Ottawa-Gatineau (Ontario part) data) available at the time the amount of financial assurance is calculated as published by Statistics Canada under the authority of the Statistics Act (Canada)

This is identical to the method of calculation Financial Assurance for contingency plans described in the MECP Landfill Standards Guideline with the exception of using average Ontario Non-Residential Building Construction Price indices instead of Toronto only indices.



The Non-residential Building Construction Price Index data for Ontario (based on the average of Toronto and Ottawa-Gatineau (Ontario part)) is summarized as follows:

	Average Non-residential Building Construction Price Index (NRBCPI) for Toronto, Ontario ¹	Average Non-residential Building Construction Price Index (NRBCPI) for Ottawa-Gatineau, Ontario ¹
First Quarter 2024	157.6	160.1
Second Quarter 2024	159.6	160.8
Third Quarter 2024	Not Available	Not Available
Fourth Quarter 2024	Not Available	Not Available
Annual Average	158.6	160.45
2017 Base Value	100	100
Ontario NRBCPI Average ¹	159.53	

Notes:

- The base year for the 2024 NRBCPI values published by Statistics Canada was 2017 (i.e., 2017 = 100).

4.0 INFLATION AND DISCOUNT RATES

4.1 Inflation Rate

The unit costs were updated to 2025 costs by applying an average inflation rate of 2.35% based on a ten year average (from 2015 to 2024) of the Core Consumer Price Index (CPI) change over 12-month periods (see Appendix II). The Core CPI is a Consumer Price Index of all-products considered in the calculation of the Total CPI excluding the eight most volatile components (fruit, vegetables, gasoline, fuel oil, natural gas, mortgage interest, inter-city transportation and tobacco products), as well as the effect of changes in indirect taxes on the remaining components.

The Consumer Price Index change from one year to the other is commonly used to determine the inflation rate; however, the ten-year average was assumed more appropriate than the one-year change.

4.2 Discount Rate

A real discount rate of 1.40% was used to complete the cost estimate calculations based on discount rates reported by other municipalities.



5.0 CHANGE IN LIABILITY ANNUAL EXPENDITURES

The change in liability was calculated using the equation presented below:

$$G = (A \times E) - F$$

Where:

G = Change in Liability

A = Estimated Total Expenditure

E = Capacity Factor

F = Expenditures Previously Recognized

For each waste management arrangement, the current approved Site contours and the proposed expansion Site contours, the change in liability associated with the Estimated Total Expenditure was determined by applying a capacity factor for the estimated fraction of the total landfill capacity used to date (i.e., for closed sites the factor is 1.0). For expenditures previously realized, Pinchin used the current landfill closure reserve.

Assumptions used to estimate the capacity factors are noted in the Tables 1 through 3B provided in Appendix III.

The estimated liability amounts for 2025 are summarized in the following table:

Final Contour Layout	Liability Estimate (F) (\$)	2025 Liability Estimate (A X E) (\$)	Change in Liability (G) (\$)
Scenario 1 – Current Approved Site Contours	\$73,500	\$936,105	\$862,605
Scenario 2 – Proposed Expansion Site Contours	\$73,500	\$636,512	\$563,012



6.0 ADDITIONAL INFORMATION

The notes to the financial statements require the information included in the following table:

Information Required	Comment
1. The nature and source of landfill closure and post-closure care requirements.	The information sources and assumptions are noted in the attached Tables in Appendix III.
2. The basis of recognition and measurement of the liability for closure and post-closure care.	The method used to determine the liability is presented in the attached Tables in Appendix III.
3. The remaining capacity of the Site and the estimated remaining Site life in years.	The remaining Site capacity and the estimated remaining Site life, including the basis for this estimation are noted in the attached Tables in Appendix III.
4. How any requirements for closure and post-closure care financial assurance are being met.	See item 5.
5. The amount of any assets designated for settling closure and post-closure care liabilities.	The Township has a landfill closure reserve of \$73,500.
6. The estimated length of time needed for post-closure care.	The minimum period for post-closure monitoring required by the MECP is 25 years. A 25-year period was assumed for post-closure care activities at all Sites.

7.0 CONCLUSIONS

The following is a summary of the findings of the WCA:

- The current approved fill area for the Site is 1.0 ha; however, an ECA amendment application is under review to increase the area to 1.25 ha;
- The Site is currently approved for 40,000 m³; however, the theoretical available capacity within the 1.0 ha area to approved final contours is 51,329 m³;



- The remaining capacity of the Site (as of May 2024) has been estimated as approximately 1,088 m³;
- Based on the results of the topographic surveys, Pinchin has assumed an average annual deposition rate of approximately 1,617 m³ of waste material (compacted waste and interim cover material) per year;
- Based on the estimated remaining capacity of 1,088 m³ to the current approved Site contours and the average annual estimated deposition rate of waste material of approximately 1,617 m³ per year, the estimated remaining life span of the Site was approximately 8 months as of May 2024; and
- Should the proposed expansion design be approved by the MECP, it is noted that an additional waste disposal volume of approximately 19,882 m³, as of May 2024, would be available for the Site. Based on the estimated annual waste depositions rate of approximately 1,617 m³ per year, this would result in approximately 18 years of additional Site life.

The following is a summary of the findings of the Liability Estimates:

- The estimated total liability amount for the current approved Site area is \$936,105; and
- The estimated total liability amount for the proposed expansion Site area is \$636,512.

8.0 LIMITATIONS

This Waste Capacity Assessment & Closure and Post-Closure Care Liability Estimates were performed for the Township of Billings (Client) in order to investigate the remaining capacity at the Kagawong Landfill (Site). The term recognized environmental condition means the presence or likely presence of any hazardous substance on a property under conditions that indicate an existing release, past release, or a material threat of a release of a hazardous substance into structures on the property or into the ground, groundwater, or surface water of the property. Conclusions derived are specific to the immediate area of study and cannot be extrapolated.

No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions on a property. Performance of this assessment to the standards established by Pinchin is intended to reduce but not eliminate uncertainty regarding the potential for recognized environmental conditions on the Site and recognizes reasonable limits on time and cost.

This report was prepared for the exclusive use of the Client subject to the terms, conditions and limitations contained within the duly authorized proposal for this project. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it is the sole responsibility of



such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted.

If additional parties require reliance on this report, written authorization from Pinchin will be required. Pinchin disclaims responsibility for consequential financial effects on transactions or property values, or requirements for follow-up actions and costs. No other warranties are implied or expressed. Furthermore, this report should not be construed as legal advice. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law.

Pinchin makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and these interpretations may change over time.

\\PIN-SUD-FS01\job\229000s\0229152.000 BILLINGS,KAGAWONGLANDFILL,EDR,MONITORING\0229152.008
TwpBillings,KagawondWDS,EDR,WCA&FAAssmts\Deliverables\Reports\229152.008 FINAL 2025 WCA Est Kagawong WDS TwpBillings.doc

Template: Master Report for ESR Assessment of Pas Uses Report, EDR, May 6, 2021

APPENDIX I
Figures



PROJECT NAME:		WASTE CAPACITY ASSESSMENT			
CLIENT NAME:		THE TOWNSHIP OF BILLINGS			
PROJECT LOCATION:		KAGAWONG WASTE DISPOSAL SITE, KAGAWONG, ONTARIO			
FIGURE NAME:		KEY MAP			FIGURE NUMBER
PROJECT NUMBER:	SCALE:	DRAWN BY:	REVIEWED BY:	DATE:	1
229152.008	1:25,000	KL	TM	AUGUST 2025	





LEGEND

- CURRENT LANDFILL SITE BOUNDARY
- PROPOSED LANDFILL SITE BOUNDARY
- SITE BOUNDARY
- CERTIFICATE OF APPROVAL BOUNDARY
- GROUNDWATER MONITORING WELL
- ACCESS ROAD
- BURN PIT
- EXISTING BUILDINGS
- TIRES
- METAL PILE
- RECYCLING BIN
- METAL BINS
- APPROXIMATE AREA OF HISTORIC WASTE BEYOND APPROVED FOOTPRINT TO BE CAPPED IN PLACE

LEGEND IS COLOUR DEPENDENT.
NON-COLOUR COPIES MAY ALTER INTERPRETATION.



PROJECT NAME:
WASTE CAPACITY ASSESSMENT
AND CLOSURE & POST-CLOSURE
CARE LIABILITY ESTIMATES

CLIENT NAME:
TOWNSHIP OF
BILLINGS

PROJECT LOCATION:
KAGAWONG WASTE
DISPOSAL SITE,
KAGAWONG, ONTARIO

FIGURE NAME:
SITE PLAN

PROJECT NUMBER: 229152.008	SCALE: AS SHOWN
DRAWN BY: DM	REVIEWED BY: AV
DATE: AUGUST 2025	FIGURE NUMBER: 2

399800.000

400000.000

400200.000

400400.000

5083800.000

5083600.000

5083400.000

399800.000

400000.000

400200.000

400400.000



LEGEND

- CURRENT LANDFILL SITE BOUNDARY
- PROPOSED LANDFILL SITE BOUNDARY
- SITE BOUNDARY
- CERTIFICATE OF APPROVAL BOUNDARY
- MAJOR CONTOURS (5m)
- MINOR CONTOURS (1m)
- ACCESS ROAD

LEGEND IS COLOUR DEPENDENT.
NON-COLOUR COPIES MAY ALTER
INTERPRETATION.



PROJECT NAME:
WASTE CAPACITY ASSESSMENT
AND CLOSURE & POST-CLOSURE
CARE LIABILITY ESTIMATES

CLIENT NAME:
TOWNSHIP OF
BILLINGS

PROJECT LOCATION:
KAGAWONG WASTE
DISPOSAL SITE,
KAGAWONG, ONTARIO

FIGURE NAME:
2024 TOPOGRAPHIC SURVEY

PROJECT NUMBER:
229152.008

SCALE:
AS SHOWN

DRAWN BY:
DM

REVIEWED BY:
AV

DATE:
AUGUST 2025

FIGURE NUMBER:
3



400000.000

400200.000

5083600.000

400000.000

400200.000





LEGEND

- CURRENT LANDFILL SITE BOUNDARY
- PROPOSED LANDFILL SITE BOUNDARY
- SITE BOUNDARY
- CERTIFICATE OF APPROVAL BOUNDARY
- MAJOR CONTOURS (2m)
- MINOR CONTOURS (0.5m)
- SLOPE
- ACCESS ROAD

LEGEND IS COLOUR DEPENDENT.
NON-COLOUR COPIES MAY ALTER
INTERPRETATION.



PROJECT NAME:
WASTE CAPACITY ASSESSMENT
AND CLOSURE & POST-CLOSURE
CARE LIABILITY ESTIMATES

CLIENT NAME:
TOWNSHIP OF
BILLINGS

PROJECT LOCATION:
KAGAWONG WASTE
DISPOSAL SITE,
KAGAWONG, ONTARIO

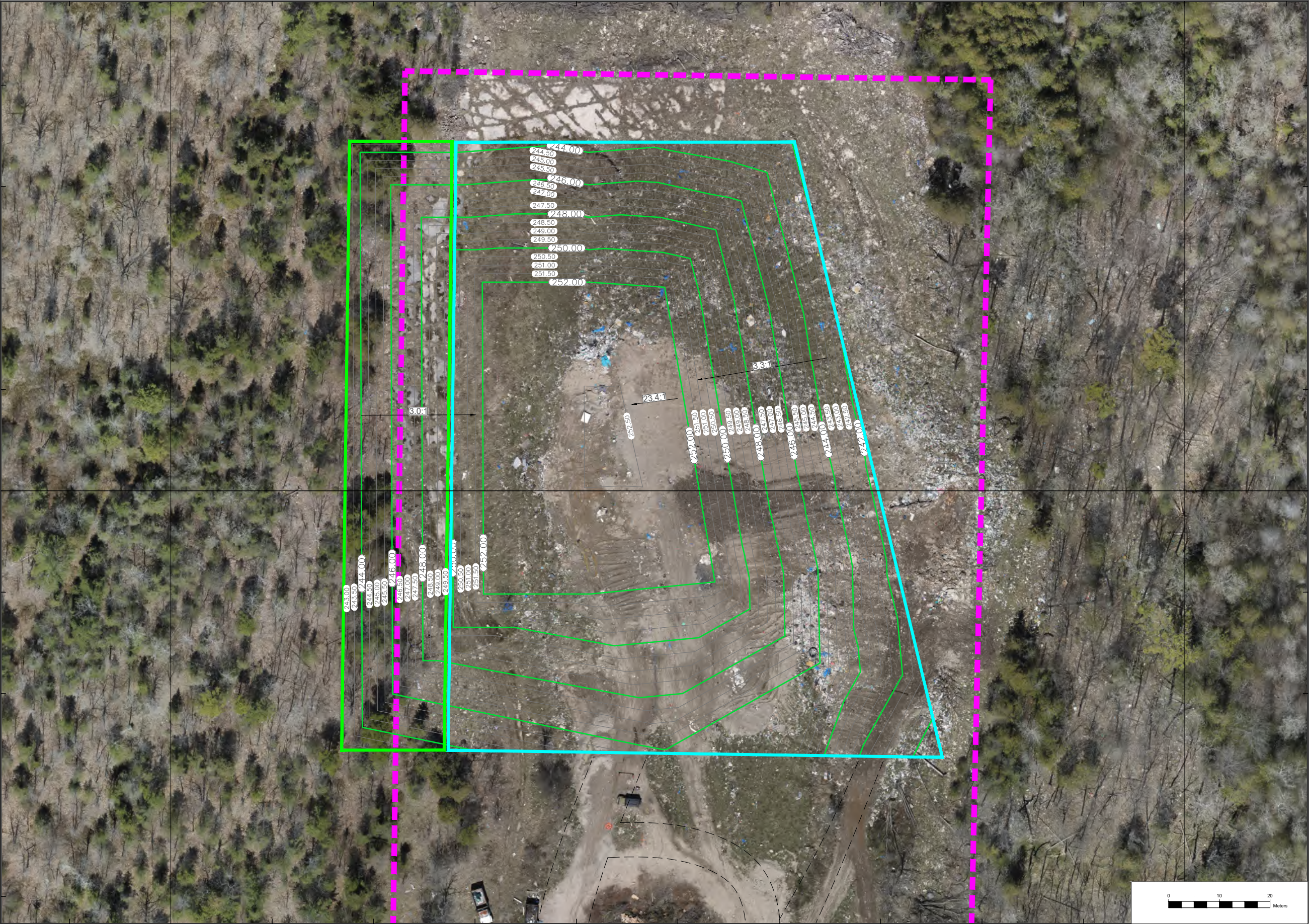
FIGURE NAME:
CURRENT APPROVED SITE
CONTOURS

PROJECT NUMBER: 229152.008	SCALE: AS SHOWN
DRAWN BY: DM	REVIEWED BY: AV
DATE: AUGUST 2025	FIGURE NUMBER: 4

400000.000

400200.000

5083600.000



400000.000

400200.000



- LEGEND
- CURRENT LANDFILL SITE BOUNDARY
 - PROPOSED LANDFILL SITE BOUNDARY
 - CERTIFICATE OF APPROVAL BOUNDARY
 - MAJOR CONTOURS (2m)
 - MINOR CONTOURS (0.5m)
 - SLOPE
 - ACCESS ROAD

LEGEND IS COLOUR DEPENDENT.
NON-COLOUR COPIES MAY ALTER
INTERPRETATION.



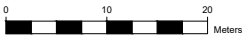
PROJECT NAME:
WASTE CAPACITY ASSESSMENT
AND CLOSURE & POST-CLOSURE
CARE LIABILITY ESTIMATES

CLIENT NAME:
TOWNSHIP OF
BILLINGS

PROJECT LOCATION:
KAGAWONG WASTE
DISPOSAL SITE,
KAGAWONG, ONTARIO

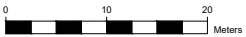
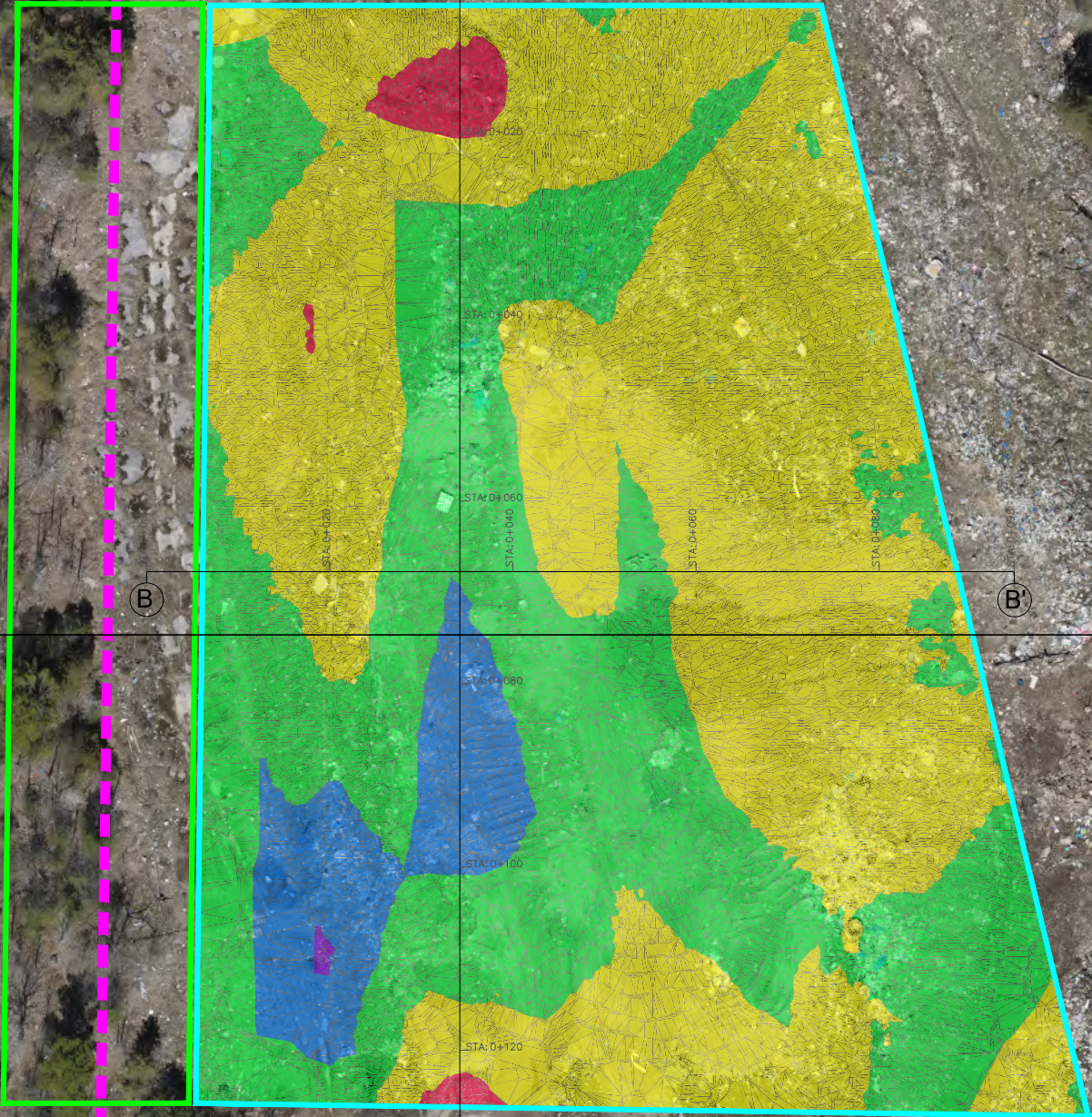
FIGURE NAME:
PROPOSED EXPANSION SITE
CONTOURS

PROJECT NUMBER: 229152.008	SCALE: AS SHOWN
DRAWN BY: DM	REVIEWED BY: AV
DATE: AUGUST 2025	FIGURE NUMBER: 5

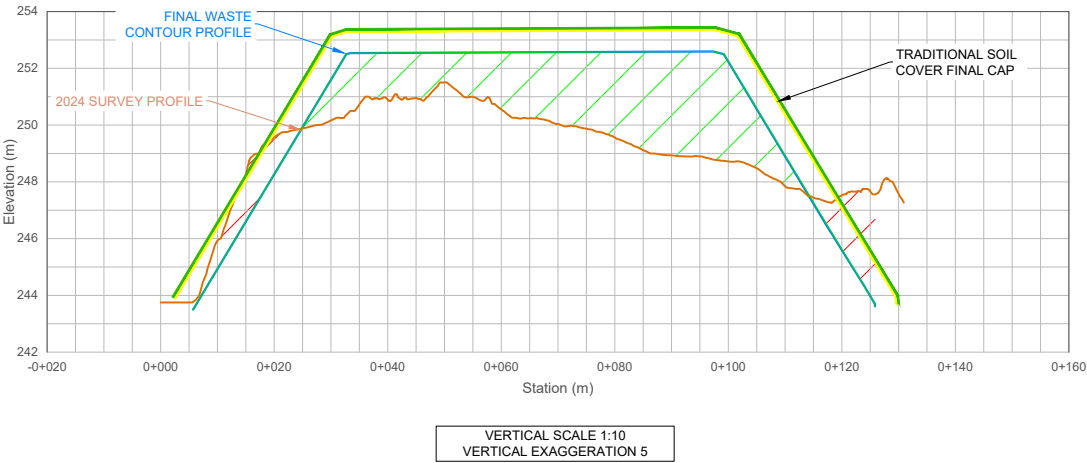


5083600.000

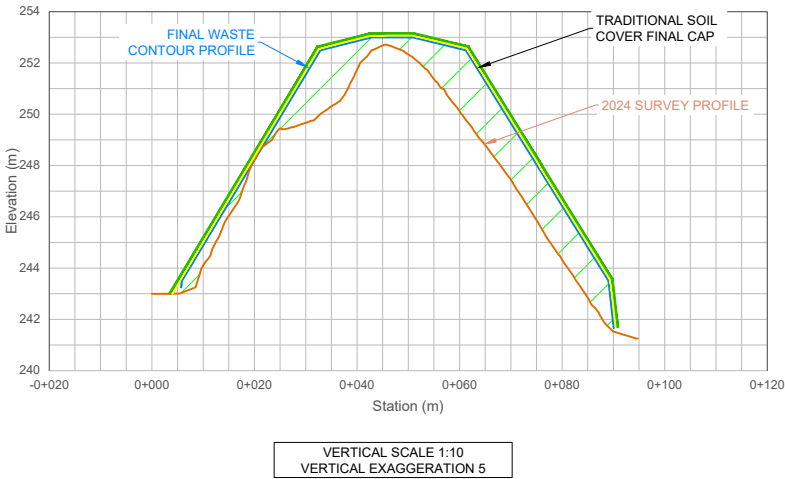
Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	-4.00	-2.00	145.28	Red
2	-2.00	0.00	5270.50	Yellow
3	0.00	2.00	3830.71	Green
4	2.00	4.00	651.95	Blue
5	4.00	6.00	8.24	Purple



A-A' PROFILE



B-B' PROFILE



- LEGEND
- CURRENT LANDFILL SITE BOUNDARY
 - PROPOSED LANDFILL SITE BOUNDARY
 - CERTIFICATE OF APPROVAL BOUNDARY
 - MAJOR CONTOURS (2m)
 - MINOR CONTOURS (0.5m)
 - SLOPE
 - FILL AREA
 - CUT AREA
 - ACCESS ROAD

LEGEND IS COLOUR DEPENDENT.
NON-COLOUR COPIES MAY ALTER
INTERPRETATION.



PROJECT NAME:
WASTE CAPACITY ASSESSMENT
AND CLOSURE & POST-CLOSURE
CARE LIABILITY ESTIMATES

CLIENT NAME:
TOWNSHIP OF
BILLINGS

PROJECT LOCATION:
KAGAWONG WASTE
DISPOSAL SITE,
KAGAWONG, ONTARIO

FIGURE NAME:
2024 VOLUMETRIC
DISTRIBUTION AND
CROSS-SECTION

PROJECT NUMBER: 229152.008	SCALE: AS SHOWN
DRAWN BY: DM	REVIEWED BY: AV
DATE: AUGUST 2025	FIGURE NUMBER: 6

APPENDIX II

Consumer Price Index 2015 – 2024

Consumer Price Index Data (2015-2024)

2025 WASTE CAPACITY ASSESSMENT AND CLOSURE & POST-CLOSURE CARE COST ESTIMATE

Date	Total CPI ¹		Percentage change over previous year	
	not Seasonally Adjusted	Seasonally Adjusted	(not seasonally adjusted)	
			Total CPI	Core CPI ²
Dec-24	161.2	162.3	1.8	1.8
Nov-24	161.8	162.0	1.9	1.6
Oct-24	161.8	161.7	2.0	1.7
Sep-24	161.1	161.3	1.6	1.6
Aug-24	161.8	161.3	2.0	1.5
Jul-24	162.1	161.2	2.5	1.7
Jun-24	161.4	160.7	2.7	1.9
May-24	161.5	160.6	2.9	1.8
Apr-24	160.6	160.2	2.7	1.6
Mar-24	159.8	159.9	2.9	2.0
Feb-24	158.8	159.6	2.8	2.1
Jan-24	158.3	159.4	2.9	2.4
Dec-23	158.3	159.4	3.4	2.6
Nov-23	158.8	159.0	3.1	2.8
Oct-23	158.6	158.5	3.1	2.7
Sep-23	158.5	158.6	3.8	2.8
Aug-23	158.7	158.2	4.0	3.3
Jul-23	158.1	157.2	3.3	3.2
Jun-23	157.2	156.5	2.8	3.2
May-23	157.0	156.1	3.4	3.7
Apr-23	156.4	156.0	4.4	4.1
Mar-23	155.3	155.4	4.3	4.3
Feb-23	154.5	155.2	5.2	4.7
Jan-23	153.9	154.9	5.9	5.0
Dec-22	153.1	154.3	6.3	5.4
Nov-22	154.0	154.4	6.8	5.8
Oct-22	153.8	153.9	6.9	5.8
Sep-22	152.7	153.0	6.9	6.0
Aug-22	152.6	152.4	7.0	5.8
Jul-22	153.1	152.3	7.6	6.1
Jun-22	152.9	152.1	8.1	6.2
May-22	151.9	151.3	7.7	6.1
Apr-22	149.8	149.7	6.8	5.7
Mar-22	148.9	148.4	6.7	5.5
Feb-22	146.8	146.9	5.7	4.8
Jan-22	145.3	145.8	5.1	4.3

Consumer Price Index Data (2015-2024)

2025 WASTE CAPACITY ASSESSMENT AND CLOSURE & POST-CLOSURE CARE COST ESTIMATE

Date	Total CPI ¹		Percentage change over previous year	
	not Seasonally Adjusted	Seasonally Adjusted	(not seasonally adjusted)	
			Total CPI	Core CPI ²
Dec-21	144.0	144.9	4.8	4.0
Nov-21	144.2	144.4	4.7	3.6
Oct-21	143.9	143.9	4.7	3.8
Sep-21	142.9	143.1	4.4	3.7
Aug-21	142.6	142.3	4.1	3.5
Jul-21	142.3	141.6	3.7	3.3
Jun-21	141.4	140.8	3.1	2.7
May-21	141.0	140.5	3.6	2.8
Apr-21	140.3	140.0	3.4	2.3
Mar-21	139.6	139.2	2.2	1.4
Feb-21	138.9	139.0	1.1	1.2
Jan-21	138.2	138.8	1.0	1.6
Dec-20	137.4	138.2	0.7	1.5
Nov-20	137.7	138.0	1.0	1.5
Oct-20	137.5	137.6	0.7	1.0
Sep-20	136.9	137.2	0.5	1.0
Aug-20	137.0	136.9	0.1	0.8
Jul-20	137.2	136.8	0.1	0.7
Jun-20	137.2	136.9	0.7	1.1
May-20	136.1	135.6	-0.4	0.7
Apr-20	135.7	135.4	-0.2	1.2
Mar-20	136.6	136.3	0.9	1.6
Feb-20	137.4	137.6	2.2	1.8
Jan-20	136.8	137.4	2.4	1.8
Dec-19	136.4	137.3	2.2	1.7
Nov-19	136.4	136.9	2.2	1.9
Oct-19	136.6	136.7	1.9	1.9
Sep-19	136.2	136.3	1.9	1.9
Aug-19	136.8	136.4	1.9	1.9
Jul-19	137.0	136.5	2.0	2.0
Jun-19	136.3	135.9	2.0	2.0
May-19	136.6	136.0	2.4	2.1
Apr-19	136.0	135.6	2.0	1.5
Mar-19	135.4	135.2	1.9	1.6
Feb-19	134.5	134.7	1.5	1.5
Jan-19	133.6	134.2	1.4	1.5

Consumer Price Index Data (2015-2024)

2025 WASTE CAPACITY ASSESSMENT AND CLOSURE & POST-CLOSURE CARE COST ESTIMATE

Date	Total CPI ¹		Percentage change over previous year	
	not Seasonally Adjusted	Seasonally Adjusted	(not seasonally adjusted)	
			Total CPI	Core CPI ²
Dec-18	133.4	134.3	2.0	1.7
Nov-18	133.5	133.9	1.7	1.5
Oct-18	134.1	134.2	2.4	1.6
Sep-18	133.7	133.8	2.2	1.5
Aug-18	134.2	133.9	2.8	1.7
Jul-18	134.3	133.7	3.0	1.6
Jun-18	133.6	133.1	2.5	1.3
May-18	133.4	132.9	2.2	1.3
Apr-18	133.3	132.8	2.2	1.5
Mar-18	132.9	132.7	2.3	1.4
Feb-18	132.5	132.6	2.2	1.5
Jan-18	131.7	132.4	1.7	1.2
Dec-17	130.8	131.7	1.9	1.2
Nov-17	131.3	131.5	2.1	1.3
Oct-17	130.9	130.8	1.4	0.9
Sep-17	130.8	130.6	1.6	0.8
Aug-17	130.5	130.4	1.4	0.9
Jul-17	130.4	130.1	1.2	0.9
Jun-17	130.4	129.9	1.0	0.9
May-17	130.5	129.9	1.3	0.9
Apr-17	130.4	130.1	1.6	1.1
Mar-17	129.9	129.6	1.6	1.3
Feb-17	129.7	129.9	2.0	1.7
Jan-17	129.5	130.3	2.1	1.7
Dec-16	128.4	129.4	1.5	1.6
Nov-16	128.6	128.8	1.2	1.5
Oct-16	129.1	129.0	1.5	1.7
Sep-16	128.8	128.7	1.3	1.8
Aug-16	128.7	128.5	1.1	1.8
Jul-16	128.9	128.6	1.3	2.1
Jun-16	129.1	128.6	1.5	2.1
May-16	128.8	128.3	1.5	2.1
Apr-16	128.3	128.0	1.7	2.2
Mar-16	127.9	127.7	1.3	2.1
Feb-16	127.1	127.4	1.4	1.9
Jan-16	126.8	127.6	2.0	2.0

Consumer Price Index Data (2015-2024)

2025 WASTE CAPACITY ASSESSMENT AND CLOSURE & POST-CLOSURE CARE COST ESTIMATE

Date	Total CPI ¹		Percentage change over previous year	
	not Seasonally Adjusted	Seasonally Adjusted	(not seasonally adjusted)	
			Total CPI	Core CPI ²
Dec-15	126.5	127.4	1.6	1.9
Nov-15	127.1	127.3	1.4	2.0
Oct-15	127.2	127.1	1.0	2.1
Sep-15	127.1	126.9	1.0	2.1
Aug-15	127.3	127.1	1.3	2.1
Jul-15	127.3	127.1	1.3	2.4
Jun-15	127.2	126.8	1.0	2.3
May-15	126.9	126.3	0.9	2.2
Apr-15	126.2	125.8	0.8	2.3
Mar-15	126.3	125.9	1.2	2.4
Feb-15	126.4	125.5	1.0	2.1
Jan-15	12.3	125.2	1.0	2.2

Notes:

¹ CPI: Consumer Price Index. Data source: <http://www.bankofcanada.ca/rates/price-indexes/cpi/>

² The CPI excluding the eight most volatile components (fruit, vegetables, gasoline, fuel oil, natural gas, mortgage inter-city interest, tobacco products), as well as the effect of changes in indirect taxes on the remaining components.

³ Not available at the time of submission of this report.

Average Core CPI percentage change (2015-present) **2.351**

APPENDIX III

Site Specific 2025 Closure and Post Closure Care Cost Estimate Tables

TABLE 1
Summary of Site Features
2025 WASTE CAPACITY ASSESSMENT AND CLOSURE & POST-CLOSURE CARE COST ESTIMATE

Final Contour Layout	Surface Area	Type of Cover	Leachate Management System Components	No. of Groundwater Monitoring Wells	Surface Water Controls	In-place Volume (m ³)	Final Contour Volume (m ³) ²
Scenario 1 - Current Approved Site Contours	1.0 hectare (ha) waste disposal area within 60.2 ha total property area	Low Permeable Soil	Monitored Natural Attenuation	12	Not required	49,990	51,078
Scenario 2 - Proposed Expansion Site Contours	1.25 ha disposal footprint within 60.2 ha total property area	Low Permeable Soil	Monitored Natural Attenuation	12	Not required	49,990	69,872

Notes:

¹ The basis for the permitted volumes are presented in Tables 2 through 3.

² Information from the *Application for Amendment to ECA No. A550501, Township of Billings Kagawong, Landfill, Kagawong, Ontario* completed by Pinchin, dated August 29, 2022

TABLE 2A
SCENARIO 1 - CURRENT APPROVED SITE CONTOURS
2025 Closure Cost Estimate

Item	Unit	Quantity	Unit Cost 2024 \$	Unit Cost 2025 \$	Cost 2025 \$	Expected Closure Year	Present Value Factor	Present Value Cost	Comment (source)
Final Cover and Vegetation:									
Grading of Waste Cell	m ²	10,070	\$8.87	\$9.08	\$91,455	2026	1.00	\$91,455	Approximate 1.0 ha area from D&O Plan
Levelling Layer	m ²	10,070	\$8.12	\$8.31	\$83,667	2026	1.00	\$83,667	1.0 ha area
Landfill Cap and Vegetation	m ³	7,553	\$38.94	\$39.85	\$300,984	2026	1.00	\$300,984	750 mm thick soil cap (600 mm low permeability soil, 150 mm topsoil)
Miscellaneous	m ²	10,070	\$10.28	\$10.52	\$105,919	2026	1.00	\$105,919	Dust control, silt fence, import topsoil
Leachate Monitoring Facilities Completion:									
Monitoring Wells	each	0	See comment					\$0	Monitoring well network established. Features assumed to already be in place at closure.
Water Quality Monitoring Facilities Completion:									
Monitoring Wells	each	0	See comment					\$0	Monitoring well network established. Features assumed to already be in place at closure.
Other:									
Roads	m	0	See comment					\$0	Maintenance costs associated with ongoing Site operation.
Fencing/Gate	m	0	See comment					\$0	Maintenance costs associated with ongoing Site operation.
Additional Buffer Land	m ²	0	See comment					\$0	Construction/maintenance costs associated with ongoing landfill operation.
Subtotal Closure Costs					\$582,025			\$582,025	
15 % Contingency					\$87,304			\$87,304	
Total Closure Costs (annual)					\$669,328			\$669,328	

TABLE 2B
SCENARIO 1 - CURRENT APPROVED SITE CONTOURS
2025 Post-Closure Care Cost Estimate

Item	Unit	Quantity	Unit Cost 2024 \$	Unit Cost 2025 \$	Cost (Annual) 2025\$	Year Starting	Year Ending	PV Factor Equal Payments	PV Factor Single Payment	Present Value Cost	Comment / Source¹
Final Cover and Vegetation Inspection/Maintenance	1	Allowance	\$3,210	\$3,285	\$3,285	2026	2051	20.97	1.00	\$68,908	Annual allowance based on assumed 1% of estimated capital cost for 1.07 ha soil cap at \$300,000/ha
Roads Inspection and Maintenance	1	Allowance	\$1,840	\$1,884	\$1,884	2026	2051	20.97	1.00	\$39,509	Assume 5% of estimated capital cost (assume 350 m @ \$105.17/m = \$36,809)
Fence/Gate Inspection/Maintenance	–	–	–	–	–	–	–	–	–	–	Included in roads inspection/maintenance.
Water Quality Monitoring Facilities Inspection/Maintenance	1	Allowance	\$280	\$287	\$287	2026	2051	20.97	1.00	\$6,011	Annual allowance based on assumed 1% of estimated capital cost for replacement of eight (8) wells at approximately \$28,000
Monitoring/Reporting Program	1	Allowance	\$6,945	\$7,108	\$7,108	2026	2051	20.97	1.00	\$149,078	Based on the projected cost for the 2025 program (as per Pinchin's contract); includes water quality monitoring facilities inspection and maintenance
Contingency (e.g. future impacts to surface water/groundwater, acquisition of additional buffer lands, etc.)	–	–	–	–	–	–	–	–	–	\$23,646	Calculated using Landfill Standards Guideline for Financial Assurance for Contingency Plans (49,990 m3x 0.5931t/m3x\$0.50/t*inflation adjustment of 159.53/100)
Total Post-Closure Costs					\$12,564					\$287,151	
ESTIMATED TOTAL EXPENDITURE										\$956,479	A - Sum of discounted future closure and post-closure costs
TOTAL ESTIMATED SITE CAPACITY (m³)										51,078	B - From Design and Operations Report
REMAINING CAPACITY (m³)										1,088	C - Remaining capacity of 1,088 m³ as of May 2024
CUMULATIVE CAPACITY USED (m³)										49,990	D = B - C
CAPACITY FACTOR										98%	E =(D / B) x 100%
FACTORED EXPENDITURES										\$936,105	A x E
EXPENDITURES PREVIOUSLY RECOGNIZED										\$73,500	F - Current landfill closure reserve²
CHANGE IN LIABILITY										\$862,605	G = A x E - F

Notes

Inflation Rate (%)	2.35
Discount Rate (%)	1.40
Base Year	2025
Expected Closure Year	2026
Remaining Landfill Life (years)	1
Period of Post-Closure Care (years)	25

References:

- 1 - Assumptions and allowance amounts are corrected annually and originally estimated based on 2024 costs at other waste disposal sites.
2 - Current landfill closure reserve per the Township of Billings 2025 Capital Budget

TABLE 3A
SCENARIO 2 - PROPOSED EXPANSION SITE CONTOURS
2025 Closure Cost Estimate

Item	Unit	Quantity	Unit Cost 2024 \$	Unit Cost 2025 \$	Cost 2025 \$	Expected Closure Year	Present Value Factor	Present Value Cost	Comment (source)
Final Cover and Vegetation:									
Grading of Waste Cell	m ²	12,535	\$8.87	\$9.08	\$113,842	2043	0.78	\$88,651	Approximate 1.25 ha area from D&O Plan
Levelling Layer	m ²	12,535	\$8.12	\$8.31	\$104,147	2043	0.78	\$81,102	1.25 ha area
Landfill Cap and Vegetation	m ³	9,401	\$38.94	\$39.85	\$374,661	2043	0.78	\$291,756	750 mm thick soil cap (600 mm low permeability soil, 150 mm topsoil)
Miscellaneous	m ²	12,535	\$10.28	\$10.52	\$131,846	2043	0.78	\$102,671	Dust control, silt fence, import topsoil
Drainage Control Facilities Completion:									
Ditches	m	0	See comment					\$0	Construction/maintenance costs associated with ongoing landfill operation.
Leachate Monitoring Facilities Completion:									
Monitoring Wells	each	0	See comment					\$0	Monitoring well network established. Features assumed to already be in place at closure.
Water Quality Monitoring Facilities Completion:									
Monitoring Wells	each	0	See comment					\$0	Monitoring well network established. Features assumed to already be in place at closure.
Other:									
Roads	m	0	See comment					\$0	Maintenance costs associated with ongoing Site operation.
Fencing/Gate	m	0	See comment					\$0	Maintenance costs associated with ongoing Site operation.
Additional Buffer Land	m ²	0	See comment					\$0	Construction/maintenance costs associated with ongoing landfill operation.
Subtotal Closure Costs					\$724,497			\$564,180	
15 % Contingency					\$108,674			\$84,627	
Total Closure Costs (annual)					\$833,171			\$648,807	

TABLE 3B
SCENARIO 2 - PROPOSED EXPANSION SITE CONTOURS
2025 Post-Closure Care Cost Estimate

Item	Unit	Quantity	Unit Cost 2024 ¹ \$	Unit Cost 2025 \$	Cost (Annual) 2025\$	Year Starting	Year Ending	PV Factor Equal Payments	PV Factor Single Payment	Present Value Cost	Comment / Source ¹
Final Cover and Vegetation Inspection/Maintenance	1	Allowance	\$3,759	\$3,847	\$3,847	2043	2068	20.97	0.78	\$62,837	Annual allowance based on assumed 1% of estimated capital cost for 1.25 ha soil cap at \$300,000/ha
Roads Inspection and Maintenance	1	Allowance	\$1,840	\$1,884	\$1,884	2043	2068	20.97	0.78	\$30,766	Assume 5% of estimated capital cost (assume 350 m @ \$105.17/m = \$36,809)
Fence/Gate Inspection/Maintenance	—	—	—	—	—	—	—	—	-	—	Included in roads inspection/maintenance.
Water Quality Monitoring Facilities Inspection/Maintenance	1	Allowance	\$280	\$287	\$293	2043	2068	20.97	0.78	\$4,791	Annual allowance based on assumed 1% of estimated capital cost for replacement of eight (8) wells at approximately \$28,000
Monitoring/Reporting Program	1	Allowance	\$6,945	\$7,108	\$7,275	2043	2068	20.97	0.78	\$118,819	Based on the projected cost for the 2025 program (as per Pinchin's contract); includes water quality monitoring facilities inspection and maintenance
Contingency (e.g. future impacts to surface water/groundwater, acquisition of additional buffer lands, etc.)	—	—	—	—	—	—	—	—	—	\$23,646	Calculated using Landfill Standards Guideline for Financial Assurance for Contingency Plans (49,990m3x 0.5931t/m3x\$0.50/t*inflation adjustment of 159.53/100)
Total Post-Closure Costs					\$13,299					\$240,858	
ESTIMATED TOTAL EXPENDITURE										\$889,665	A - Sum of discounted future closure and post-closure costs
TOTAL ESTIMATED SITE CAPACITY (m ³)										69,872	B -From Design and Operations Report
REMAINING CAPACITY (m ³)										19,882	C - Remaining capacity of 19,882 m ³ as of May 2024
CUMULATIVE CAPACITY USED (m ³)										49,990	D = B - C
CAPACITY FACTOR										72%	E =(D / B) x 100%
FACTORED EXPENDITURES										\$636,512	A x E
EXPENDITURES PREVIOUSLY RECOGNIZED										\$73,500	F - Current landfill closure reserve ²
CHANGE IN LIABILITY										\$563,012	G = A x E - F

Notes

Inflation Rate (%)	2.35
Discount Rate (%)	1.40
Base Year	2025
Expected Closure Year	2043
Remaining Landfill Life (years)	18
Period of Post-Closure Care (years)	25

References:

- 1 - Assumptions and allowance amounts are corrected annually and originally estimated based on 2024 costs at other waste disposal sites.
- 2 - Current landfill closure reserve per the Township of Billings 2025 Capital Budget