

August 13, 2025

KEC Ref: 2557.01

By EMail

Attention: Lacey Kastikainen <laceyk@ontera.net>

Township of Macdonald, Meredith & Aberdeen Additional

208 Church Street, P.O. Box 10

Echo Bay, ON

POS 1C0

Dear Ms. Kastikainen,

Re: Echo Bay Waste Disposal Site – Liability Report

The purpose of this letter is to present an estimate of the Township's waste disposal site closure and post-closure liability in accordance with Section PS 3280 – Asset Retirement Obligations of the Public Sector Accounting Handbook.

PS 3280

PS 3280 applies to legal obligations associated with the retirement of a tangible capital asset controlled by a public sector entity resulting from its acquisition, construction, development, or normal use. This Section establishes standards on how to account for and report the liability for closure and post-closure care of waste disposal sites (or landfills). Only expenditures relating to activities required when a site stops accepting waste are considered, including (as identified in PS 3280):

Closure activities (all activities relating to site closure):

1. Final cover and vegetation; and,
2. Completing facilities for:
 - a. drainage control features;
 - b. leachate monitoring;
 - c. water quality monitoring; and,
 - d. monitoring and recovery of gas.

Post-closure care activities (all activities related to monitoring the closed site):

1. Land acquisition for buffer zones;
2. Treatment and monitoring of leachate;
3. Monitoring ground and surface water;
4. Gas monitoring and recovery; and,
5. Ongoing maintenance (eg. drainage, vegetation and cover systems).

It is also noted in PS 3280 that closure and post-closure care activities may change/differ depending on site characteristics and requirements. Site-specific considerations must also be included when determining liability. An evaluation of closure and post-closure liability under PS 3280 does not include allowances for establishing new and/or additional waste disposal sites/alternatives.

Reporting Requirements

Prior to closing the site (ie. at 90% capacity or 2 years prior to the anticipated closure date), a closure report must be prepared, including (but not limited to):

1. A plan showing site appearance and final contours;
2. A description of the site's end-use;
3. An updated estimate of the site's contaminating life span;
4. Descriptions of procedures for closing the site (eg. notification, site security, facilities for ongoing monitoring); and,
5. Descriptions of post-closure care requirements (eg. complaint tracking and response procedures, monitoring).

Following site closure, an annual report must be prepared and submitted to the Ministry of the Environment, Conservation and Parks (MECP) for the duration of the site's contaminating lifespan. Annual post-closure reports are similar to the annual operations reports currently being prepared and include, among other requirements:

1. Results from and interpretation of ground and surface water monitoring programs;
2. Assessment of the cover system and the need for repairs;
3. Summary of public complaints; and,
4. An updated estimate of the contaminating lifespan.

Site-Specific Considerations

The Site has been in service for roughly 54 years since 1970. It is assumed that post-closure monitoring would continue for a period of 30 years (to 2096).

Site Capacity

As noted in the Site's ECA, the approved capacity of the Site is 264,000m³. A topographic survey was completed on September 26, 2024 was subsequently compared to the site survey conducted in May of 2008 by Tulloch Engineering. The comparison indicates that over the 16.5-year period, approximately 44,379 m³ of waste and cover material were deposited at the Site. This equates to an annual fill rate of approximately 2,703 m³. The remaining capacity at the Site in September 2024 was estimated to be 115,275m³. This means the Site can continue to accept waste for approximately 42 additional years.

Cost Estimates

Estimated closure and post-closure costs are presented in Tables 1 and 2 respectively.

Table 1: Estimated Costs at Closure					
	Item	Unit	Unit Cost	No.	Cost
1)	Closure Plan	L.S.	\$40,000	1	\$40,000
2)	Final Cover:				
	- medium permeability	m ³	\$38	16,200	\$615,600
	- topsoil	m ³	\$50	4,050	\$202,500
	- seed	m ²	\$1.90	27,000	\$51,300
3)	Final Survey	L.S.	\$3,000	1	\$3,000.00
					\$912,400

Table 2: Estimated Annual Post-Closure Care Costs		
	Item	Cost (2024)
1)	Monitoring Well Maintenance*	\$730
2)	GW and SW Monitoring	\$8,400
3)	Annual Report	\$10,400
4)	General Site Maintenance*	\$1,300
		\$20,830

* Allowances only and may not be required every year.

Liability for Financial Statement

Calculations were completed with the Site closed during the 2066 calendar year. To calculate present value and liability we assumed post-closure care activities would carry-on for a period of 30 years (2067 to 2096, this is variable), an inflation rate of 2.25% and a rate of return/discount rate of 3%. With these assumptions, the present value of the closure and post-closure costs are \$1,833,153.49 which equates to the liability recognized. Landfill liability calculations are appended.

Closure

We believe that the contents of this letter provide the information requested to prepare the Township's Financial Statements. If you would like us to complete the computations using a different rate of return and/or inflation rate (or other change), please let me know.

Should you have any questions or require clarification in this regard, please contact the undersigned.

Thank you.

Yours Very Truly,
Kresin Engineering Corporation



Kristen Sherlock, B.E.Sc.
 2557 Echo Bay Landfill Liability Report 2024.docx

LANDFILL LIABILITY CALCULATIONS
IN ACCORDANCE WITH PS 3280 - ASSET RETIREMENT OBLIGATIONS
THIS SPREADSHEET CALCULATES LIABILITY AND EXPENSES CONSIDERING PSAB STANDARD 3280 (replaces PSAB 3270)

Assumes a landfill closure date of:	year 2066	
Number of Years to Closure:	42	
Inflation rate	2.25%	
Amortization (per year):	2.38%	(calculated as 100% divided by the number of years to closure)
Discount Rate:	3.00%	
Closure Cost:	\$912,400	(2024 Closure Cost)
Annual Monitoring Cost:	\$20,830	(monitoring may continue for at least 30 years following closure)

Closure Cost (inflated annually)	Year	Cash Flow Dec 31 (inflated annually)	Liability NPV*	Amt Cap 2024*	Accretion	Amortization	TCA Recognized	Expense
\$912,400	2024	\$20,830.00	\$1,833,153.49	\$1,799,983.97	\$33,169.52	\$42,856.76	\$1,757,127.21	\$76,026.28
\$932,929	2025	\$21,298.68	\$1,866,849.42		\$33,695.93	\$85,713.52	\$1,714,270.45	\$76,552.69
\$953,920	2026	\$21,777.90	\$1,901,077.01		\$34,227.59	\$128,570.28	\$1,671,413.69	\$77,084.35
\$975,383	2027	\$22,267.90	\$1,935,841.42		\$34,764.41	\$171,427.05	\$1,628,556.93	\$77,621.17
\$997,329	2028	\$22,768.93	\$1,971,147.74		\$35,306.32	\$214,283.81	\$1,585,700.17	\$78,163.08
\$1,019,769	2029	\$23,281.23	\$2,007,000.95		\$35,853.21	\$257,140.57	\$1,542,843.41	\$78,709.97
\$1,042,714	2030	\$23,805.05	\$2,043,405.92		\$36,404.97	\$299,997.33	\$1,499,986.65	\$79,261.74
\$1,066,175	2031	\$24,340.67	\$2,080,367.43		\$36,961.51	\$342,854.09	\$1,457,129.88	\$79,818.27
\$1,090,164	2032	\$24,888.33	\$2,117,890.12		\$37,522.69	\$385,710.85	\$1,414,273.12	\$80,379.45
\$1,114,693	2033	\$25,448.32	\$2,155,978.50		\$38,088.38	\$428,567.61	\$1,371,416.36	\$80,945.14
\$1,139,773	2034	\$26,020.91	\$2,194,636.95		\$38,658.45	\$471,424.37	\$1,328,559.60	\$81,515.21
\$1,165,418	2035	\$26,606.38	\$2,233,869.68		\$39,232.73	\$514,281.14	\$1,285,702.84	\$82,089.49
\$1,191,640	2036	\$27,205.02	\$2,273,680.75		\$39,811.07	\$557,137.90	\$1,242,846.08	\$82,667.83
\$1,218,452	2037	\$27,817.13	\$2,314,074.04		\$40,393.29	\$599,994.66	\$1,199,989.32	\$83,250.05
\$1,245,867	2038	\$28,443.02	\$2,355,053.24		\$40,979.20	\$642,851.42	\$1,157,132.55	\$83,835.96
\$1,273,899	2039	\$29,082.99	\$2,396,621.85		\$41,568.61	\$685,708.18	\$1,114,275.79	\$84,425.37
\$1,302,562	2040	\$29,737.35	\$2,438,783.15		\$42,161.30	\$728,564.94	\$1,071,419.03	\$85,018.06
\$1,331,869	2041	\$30,406.45	\$2,481,540.20		\$42,757.05	\$771,421.70	\$1,028,562.27	\$85,613.81
\$1,361,837	2042	\$31,090.59	\$2,524,895.82		\$43,355.62	\$814,278.46	\$985,705.51	\$86,212.38
\$1,392,478	2043	\$31,790.13	\$2,568,852.56		\$43,956.75	\$857,135.23	\$942,848.75	\$86,813.51
\$1,423,809	2044	\$32,505.41	\$2,613,412.73		\$44,560.17	\$899,991.99	\$899,991.99	\$87,416.93
\$1,455,844	2045	\$33,236.78	\$2,658,578.34		\$45,165.60	\$942,848.75	\$857,135.23	\$88,022.36
\$1,488,601	2046	\$33,984.61	\$2,704,351.08		\$45,772.74	\$985,705.51	\$814,278.46	\$88,629.51
\$1,522,094	2047	\$34,749.26	\$2,750,732.35		\$46,381.27	\$1,028,562.27	\$771,421.70	\$89,238.03
\$1,556,341	2048	\$35,531.12	\$2,797,723.21		\$46,990.85	\$1,071,419.03	\$728,564.94	\$89,847.61
\$1,591,359	2049	\$36,330.57	\$2,845,324.33		\$47,601.13	\$1,114,275.79	\$685,708.18	\$90,457.89
\$1,627,165	2050	\$37,148.01	\$2,893,536.06		\$48,211.72	\$1,157,132.55	\$642,851.42	\$91,068.49
\$1,663,776	2051	\$37,983.84	\$2,942,358.30		\$48,822.25	\$1,199,989.32	\$599,994.66	\$91,679.01
\$1,701,211	2052	\$38,838.47	\$2,991,790.58		\$49,432.28	\$1,242,846.08	\$557,137.90	\$92,289.04
\$1,739,488	2053	\$39,712.34	\$3,041,831.96		\$50,041.38	\$1,285,702.84	\$514,281.14	\$92,898.14
\$1,778,627	2054	\$40,605.87	\$3,092,481.06		\$50,649.09	\$1,328,559.60	\$471,424.37	\$93,505.85
\$1,818,646	2055	\$41,519.50	\$3,143,735.99		\$51,254.93	\$1,371,416.36	\$428,567.61	\$94,111.70
\$1,859,565	2056	\$42,453.69	\$3,195,594.38		\$51,858.39	\$1,414,273.12	\$385,710.85	\$94,715.15
\$1,901,405	2057	\$43,408.89	\$3,248,053.32		\$52,458.94	\$1,457,129.88	\$342,854.09	\$95,315.70
\$1,944,187	2058	\$44,385.59	\$3,301,109.33		\$53,056.01	\$1,499,986.65	\$299,997.33	\$95,912.77
\$1,987,931	2059	\$45,384.27	\$3,354,758.34		\$53,649.01	\$1,542,843.41	\$257,140.57	\$96,505.77
\$2,032,660	2060	\$46,405.42	\$3,408,995.67		\$54,237.33	\$1,585,700.17	\$214,283.81	\$97,094.10
\$2,078,395	2061	\$47,449.54	\$3,463,816.00		\$54,820.33	\$1,628,556.93	\$171,427.05	\$97,677.09
\$2,125,158	2062	\$48,517.15	\$3,519,213.33		\$55,397.33	\$1,671,413.69	\$128,570.28	\$98,254.09
\$2,172,974	2063	\$49,608.79	\$3,575,180.94		\$55,967.61	\$1,714,270.45	\$85,713.52	\$98,824.37
\$2,221,866	2064	\$50,724.99	\$3,631,711.38		\$56,530.44	\$1,757,127.21	\$42,856.76	\$99,387.20
\$2,271,858	2065	\$51,866.30	\$3,688,796.43		\$57,085.04	\$1,799,983.97	\$0.00	\$99,941.80
\$2,322,975	2066	\$2,376,008.51	\$1,423,451.81		(\$2,265,344.62)		\$110,663.89	CLOSURE YEAR
	2067	\$54,226.54	\$1,411,928.82		(\$11,522.98)			\$42,703.55
	2068	\$55,446.64	\$1,398,840.05		(\$13,088.77)			\$42,357.86
	2069	\$56,694.19	\$1,384,111.07		(\$14,728.98)			\$41,965.20
	2070	\$57,969.80	\$1,367,664.60		(\$16,446.47)			\$41,523.33
	2071	\$59,274.13	\$1,349,420.41		(\$18,244.19)			\$41,029.94
	2072	\$60,607.79	\$1,329,295.23		(\$20,125.18)			\$40,482.61
	2073	\$61,971.47	\$1,307,202.62		(\$22,092.61)			\$39,878.86
	2074	\$63,365.83	\$1,283,052.87		(\$24,149.75)			\$39,216.08
	2075	\$64,791.56	\$1,256,752.90		(\$26,299.97)			\$38,491.59
	2076	\$66,249.37	\$1,228,206.12		(\$28,546.78)			\$37,702.59
	2077	\$67,739.98	\$1,197,312.32		(\$30,893.79)			\$36,846.18
	2078	\$69,264.13	\$1,163,967.56		(\$33,344.76)			\$35,919.37
	2079	\$70,822.57	\$1,128,064.02		(\$35,903.54)			\$34,919.03
	2080	\$72,416.08	\$1,089,489.86		(\$38,574.16)			\$33,841.92
	2081	\$74,045.44	\$1,048,129.12		(\$41,360.74)			\$32,684.70
	2082	\$75,711.46	\$1,003,861.53		(\$44,267.59)			\$31,443.87
	2083	\$77,414.97	\$956,562.40		(\$47,299.12)			\$30,115.85
	2084	\$79,156.81	\$906,102.47		(\$50,459.94)			\$28,696.87
	2085	\$80,937.84	\$852,347.70		(\$53,754.76)			\$27,183.07
	2086	\$82,758.94	\$795,159.20		(\$57,188.51)			\$25,570.43
	2087	\$84,621.01	\$734,392.96		(\$60,766.24)			\$23,854.78
	2088	\$86,524.99	\$669,899.76		(\$64,493.20)			\$22,031.79
	2089	\$88,471.80	\$601,524.96		(\$68,374.81)			\$20,096.99
	2090	\$90,462.41	\$529,108.29		(\$72,416.66)			\$18,045.75
	2091	\$92,497.82	\$452,483.72		(\$76,624.57)			\$15,873.25
	2092	\$94,579.02	\$371,479.22		(\$81,004.51)			\$13,574.51
	2093	\$96,707.05	\$285,916.55		(\$85,562.67)			\$11,144.38
	2094	\$98,882.96	\$195,611.09		(\$90,305.46)			\$8,577.50
	2095	\$101,107.82	\$100,371.60		(\$95,239.49)			\$5,868.33
	2096	\$103,382.75	\$0.00		(\$100,371.60)			\$3,011.15

* Present Value of Closure and Monitoring Cost (this amount is the liability recognized)
^ Present Value of Closure and Monitoring Cost (amount capitalized on January 1, 2024)