



November 18, 2021

Dear All:

You are receiving this communication to keep you apprised of the status of the ongoing environmental monitoring activities associated with the closed Waste Management (WM) Richmond Landfill property.

Under the Environmental Compliance Approval conditions set forth in the revised Environmental Monitoring Plan and ordered by the Environmental Review Tribunal, WM has notified the Ministry of Environment, Conservation and Parks (MECP) District Manager of results from the most recent sampling event. This work was conducted between October 27 and 29, 2021, as a part of the scheduled fall 2021 environmental monitoring event.

We are providing, for your information, the notice supplied to MECP on November 18, 2021. All results outlined in this notice are related to concentration exceedances at locations within the proposed Contaminant Attenuation Zone. These results are generally similar to the historical exceedances observed at these locations for the parameters listed.

These results will be evaluated in the fall semi-annual report that will be issued by January 15, 2022.

Regards,

Bill McDonough
Manager, Richmond Landfill
Waste Management of Canada Corporation

Encl.



MEMORANDUM

DATE: November 18, 2021
TO: Trevor Dagilis, District Manager, Ministry of the Environment, Conservation and Parks (MECP)
CC: David Arnott, Kyle Stephenson and Peter Taylor (MECP)
Chris Prucha, Bill McDonough and Jim Forney (WM)
FROM: François Richard and Madeleine Corriveau (BluMetric)
PROJECT NO: 210166-03
SUBJECT: Notification of Exceedances, WM Richmond Landfill
Town of Greater Napanee

This memorandum is provided on behalf of Waste Management of Canada Corporation as required by Conditions 8.7 and 8.8 of Environmental Compliance Approval (ECA) No. A371203 for the Richmond Landfill, Town of Greater Napanee, Ontario. This requirement is outlined in the Environmental Monitoring Plan (EMP) for the site¹, implemented on April 16, 2016 on an interim basis as ordered by the Environmental Review Tribunal (ERT) Order dated December 24, 2015. Conditions 8.7 and 8.8 of the ECA stipulate that monitoring results shall be reported to the MECP District Manager within 48 hours of the determination of the exceedance (initial data screening) if they meet one of the following conditions:

- *any off-site exceedance of the applicable criteria for groundwater (Reasonable Use Limits (RUL)) or surface water (Provincial Water Quality Objectives (PWQO)); and/or,*
- *1,4-dioxane is detected above 1 µg/L at any groundwater or domestic well where 1,4-dioxane has not been detected in the past or at any surface water monitoring location.*

RESULTS

Groundwater and surface water sampling was completed as part of the fall semi-annual monitoring event between October 27 and 29, 2021, following the requirements outlined in the latest EMP for the site.

There were no exceedances in groundwater observed from the shallow flow zone off-site monitoring location M114-2, except for total dissolved solids (TDS) with a concentration of 540 mg/L, above the RUL of 452 mg/L.

¹ *Environmental Monitoring Plan, WM Richmond Landfill, Town of Greater Napanee, Ontario, rev. No.05, prepared by BluMetric Environmental Inc., dated April 2016*



The analytical results for samples from off-site intermediate bedrock groundwater flow zone monitoring locations showed the presence of parameters that exceeded their respective RUL, as summarized in **Table 1**. These results are generally similar to the historical exceedances observed at these locations for the parameters listed, and include:

- One or several non-health-based parameters (alkalinity, chloride, dissolved organic carbon, iron, manganese, sodium and/or total dissolved solids) at locations M64-2, M114-1, M121, M123, M167, M168, M178R-2, M178R-3, M178R-4, M185-1, M186, M190 and M192; and,
- Volatile Organic Compounds (VOCs) including 1,4-dioxane at monitoring wells M64-2, M114-1, M121 (as well as benzene and ethylbenzene), M123, M167, M168, M178R-2, M178R-3, M178R-4 and M192.

Surface water analytical results at off-site sampling locations were below their respective PWQO, except for total phosphorous at sampling locations S18, S19 and S20, with concentrations ranging from 0.036 to 0.34 mg/L, above the PWQO of 0.03 mg/L (**Table 2**).

CLOSING

The results from the latest environmental monitoring event will be reported as part of the fall semi-annual monitoring report by January 15, 2022, as required by ECA Condition 14.1.

We trust the above information is satisfactory. If you have any questions or need further information regarding the completed work please do not hesitate to contact the undersigned.

Respectfully submitted,
BluMetric Environmental Inc.



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Senior Geoscientist

Encl.

Table 1: Summary of Off-Site RUL Exceedances from Fall 2021 Groundwater Monitoring Results

General and Inorganic Parameters								Volatile Organic Compounds (VOCs)		
Parameter	Alkalinity	Chloride	Dissolved Organic Carbon	Iron	Manganese	Sodium	Total Dissolved Solids	1,4-Dioxane	Benzene	Ethylbenzene
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RUL*	400	132	3.5	0.18	0.032	106	465	0.001	0.0014	0.0013
M64-2							490	0.0028		
M114-1	440		5.3	7.2	0.35		570	0.0063		
M121	500		4.4			120	685	0.0072	0.022	0.0021
M123			3.8				470	0.0052		
M167	510	150	4.6			110	735	0.0079		
M168	490	270	4			170	910	0.0084		
M178R-2			4.3	1	0.068		495	0.0048		
M178R-3	420		4.3	1.7	0.097		505	0.0052		
M178R-4	420		4.2		0.034		570	0.0053		
M185-1		490				370	1150			
M186		1200		0.19	0.052	690	2230			
M190			3.6							
M192	610	450	4.0			350	1320	0.0075		

** RUL: Reasonable Use Limit*

Table 2: Summary of Off-Site PWQO Exceedances from Fall 2021 Surface Water Monitoring Results

Parameter	Phosphorus (total)
Units	mg/L
PWQO*	0.03
S18	0.34
S19	0.036
S20	0.04

** PWQO: Provincial Water Quality Objectives*