November 23, 2022

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 new Environmental Compliance Approval conditions, 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 November 1 and 3, 2022, as a part of scheduled fall 2022 semi-annual environmental monitoring event.

We are providing, for your information, the notice supplied to MECP on November 23, 2022. All results outlined in this notice are related to concentration exceedances at locations within the proposed Contaminant Attenuation Zone, as well as one location on the property to the east of the southern part of the eastern landfill property boundary. These results are generally similar to the historical exceedances observed at these locations for the parameters listed.

These results will be evaluated in the spring semi-annual report that will be issued by January 15, 2023.

Regards,

Noah Wayt
Manager, Richmond Landfill
Waste Management of Canada Corporation

Encl.

MEMORANDUM

DATE:	November 23, 2022
TO:	Trevor Dagilis, District Manager, Ministry of the Environment, Conservation and Parks (MECP)
CC:	David Arnott, Kyle Stephenson, Shawn Trimper and Peter Taylor (MECP) Chris Prucha, Noah Wayt and Chad Moose (WM)
FROM:	François Richard and Madeleine Corriveau (BluMetric)
PROJECT NO:	220196-03
SUBJECT:	Notification of Exceedances, WM Richmond Landfill Town of Greater Napanee

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This memorandum is provided on behalf of Waste Management of Canada Corporation (WM) as required by Conditions 8.11 and 8.12 of Environmental Compliance Approval (ECA) No. A371203 for the Richmond Landfill, Town of Greater Napanee, Ontario, dated March 19, 2021. Conditions 8.11 and 8.12 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

The groundwater and surface water sampling was completed as part of the fall semi-annual monitoring event between November 1 – 3, 2022, 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 470 mg/L, above the RUL of 452 mg/L.

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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, M179, 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, ethylbenzene, toluene, and total xylenes), 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, with the exception of unionized ammonia at sampling locations S18, S19 and S20, with concentrations of 0.027, 0.024 and 0.031 mg/L, respectively, above the PWQO of 0.02 mg/L, and total phosphorous at sampling location S18, with a concentration of 0.057 mg/L, above the PWQO of 0.03 mg/L (**Table 2**).

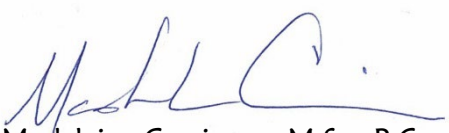
CLOSING

The results from the latest environmental monitoring event will be reported as part of the spring semi-annual monitoring report by January 15, 2023, 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.

François Richard, Ph.D., P.Geo.
Senior Hydrogeologist



Madeleine Corriveau, M.Sc., P.Geo.
Senior Geoscientist

Table 1: Summary of Off-Site RUL Exceedances from Fall 2022 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	Toluene	Total Xylenes
Units	mg/L	mg/L	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**	**0.0121**	**0.15**
M64-2								0.0029				
M114-1			4.7	6.7	0.32			0.0049				
M121	610	1300				860	2380	0.0022	0.3	0.014	0.014	0.16
M123			4.1					0.0039				
M167	500	310	3.6			190	860	0.0057				
M168	520	230	4.1			170	740	0.0082				
M178R-2			4.2	1	0.065			0.004				
M178R-3	420		4.1	1.9	0.09			0.0047				
M178R-4	410		4.6		0.035			0.0052				
M179				0.31								
M185-1		530				430	1110					
M186		1200		0.19	0.049	750	2010					
M190			3.7									
M192	640	460	3.8			380	1260	0.0087				

** RUL: Reasonable Use Limit*

Table 2: Summary of Off-Site PWQO Exceedances from Fall 2022 Surface Water Monitoring Results

Parameter	Ammonia (unionized)	Phosphorous (total)
Units	mg/L	mg/L
PWQO*	**0.02**	**0.03**
S18	0.027	0.057
S19	0.024	
S20	0.031	

** PWQO: Provincial Water Quality Objectives*