



May 26, 2017

Dear All,

You are receiving this communication to keep you apprised of the status of the ongoing hydrogeological investigation associated with the closed Waste Management Landfill property.

Following the conclusion of the Environmental Review Tribunal (ERT) proceedings last summer, work has continued to address activities required by the ERT Orders, under technical oversight from Ministry of the Environment and Climate Change (MOECC). Specifically, additional field investigations have been conducted to further delineate a Contaminant Attenuation Zone (CAZ Investigation) for the site that, once approved, will allow the Environmental Monitoring Plan (EMP) to be finalized.

In the interim, the EMP was modified as ordered by the ERT to include new or modified conditions to the Environmental Compliance Approval (ECA) for the site, and implemented on an interim basis as of April 16, 2016.

Under the new ECA Conditions set forth in the revised EMP and ordered by the ERT, Waste Management has notified the MOECC District Manager of results from the most recent sampling event conducted as a part of scheduled spring 2017 semi-annual environmental monitoring event conducted between April 28 and May 4, 2017. We are providing, for your information, the notice supplied to MOECC on May 26, 2017. All results outlined in this notice are related to concentration exceedances at locations within the proposed CAZ, as well as one location on the property to the east of the southern part of the eastern landfill property boundary.

All results will be evaluated in the spring semi-annual report that will be issued by July 15, 2017.

Regards,

Timothy Haaf  
Manager, Richmond Landfill  
Waste Management of Canada Corporation

Encl.



## MEMORANDUM

**DATE:** May 26, 2017  
**TO:** James Mahoney, Acting District Manager, Ministry of the Environment and Climate Change (MOECC)  
**CC:** Shawn Trimper, Peter Taylor and Chris Raffael (MOECC)  
Tim Haaf, Jim Forney, Chris Prucha and Bill McDonough, (WM)  
**FROM:** François Richard (BluMetric)  
**PROJECT NO:** 170194-02  
**SUBJECT:** Notification of Off-site Exceedances, WM Richmond Landfill, Town of Greater Napanee

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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 site<sup>1</sup>, 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 MOECC District Manager within 48 hours of the determination of the exceedance (initial data screening) if they meet either of the following conditions, respectively:

- (1) any off-site exceedance of the applicable criteria for groundwater (Reasonable Use Limits (RUL)) or surface water (Provincial Water Quality Objectives (PWQO)), or
- (2) 1,4 dioxane concentrations at or above the detection limit of 1 µg/L at any groundwater well of domestic well at which 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 spring semi-annual monitoring event between May 1 and May 4, 2017, following the requirements outlined in the latest EMP for the site.

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



There were no off-site exceedances in groundwater observed from the shallow flow zone at monitoring location (M114-2), with the exception of total dissolved solids (TDS) with a concentration of 512 mg/L, above the RUL of 452 mg/L.

The analytical results for samples from off-site intermediate bedrock groundwater flow zone monitoring locations show the presence of parameters that exceeded their respective RUL, as summarized in **Table 1**. These 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, M185-2, M186 and M192; and
- Volatile Organic Compounds (VOCs) including 1,4 dioxane at monitoring wells located within the proposed Contaminant Attenuation Zone (CAZ): M64-2, M114-1, M121 (1,4 dioxane and benzene), M123, M167, M168, M178R-2, M178R-3, M178R-4, as well as toluene at monitoring well M185-1.

1,4 dioxane was detected at the detection limit of 0.001 mg/L at monitoring well M192, located on the property east of the southeast corner of the landfill property, where 1,4 dioxane has not been detected in the past.

Surface water monitoring analytical results at location S18 exhibited a concentration for total phosphorous slightly above the PWQO (0.031 mg/L vs. 0.03 mg/L).

## CLOSING

The results from the latest environmental monitoring event are consistent with those from previous sampling events, and will be reported as part of the spring semi-annual monitoring report by July 15, 2017 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.**



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

Encl.

Table 1. Summary of RUL Exceedances from Spring 2017 Groundwater Monitoring Results

Parameter	General and Inorganic Parameters							Volatile Organic Compounds (VOCs)		
	Alkalinity	Chloride	Dissolved Organic Carbon	Iron	Manganese	Sodium	Total Dissolved Solids	1,4-Dioxane	Benzene	Toluene
<b>Units</b>	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>RUL*</b>	<b>400</b>	<b>132</b>	<b>3.5</b>	<b>0.18</b>	<b>0.032</b>	<b>106</b>	<b>465</b>	<b>0.001</b>	<b>0.0014</b>	<b>0.0121</b>
<b>M64-2</b>							558	0.0029		
<b>M114-1</b>			4.1	6.1	0.32			0.0066		
<b>M121</b>	520		4.2				770	0.01	0.0025	
<b>M123</b>	430		3.6				556	0.0067		
<b>M167</b>		360				190	1060	0.0026		
<b>M168</b>		260	4.3			130	918	0.0051		
<b>M178R-2</b>			3.9	0.98	0.056		524	0.006		
<b>M178R-3</b>	430		4.0	0.81	0.053		556	0.0069		
<b>M178R-4</b>	450		4.3				608	0.0075		
<b>M179</b>				0.38						
<b>M185-1</b>			4.8							0.042
<b>M185-2</b>							482			
<b>M186</b>		1200		0.47	0.073	780	2400			
<b>M192</b>	430	580	3.7		0.042	360	1510	0.001		

\* RUL: Reasonable Use Limit