April 7, 2016

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 Order issued on July 21, 2015, 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 September 1, 2015.

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 recent sampling events conducted as a part of the ongoing CAZ Investigation. We are providing, for your information, the notice supplied to MOECC on April 7, 2016. All results outlined in this notice are related to concentration exceedances at one location within the proposed CAZ (monitoring well M168), as well as two new locations on the property to the east of the southern part of the eastern landfill property boundary, where recently drilled groundwater monitoring wells (M192 and M193) have been sampled. The results at these two new locations are indicative of naturally degraded groundwater, and do not show any evidence of impacts from landfill leachate.

All results will be evaluated in the report that will be issued on April 15, 2016.

Regards,

Timothy Haaf
Manager, Richmond Landfill
Waste Management of Canada Corporation

Encl.

MEMORANDUM

DATE:	April 7, 2016
TO:	Brian Kaye, District Manager, Ministry of the Environment and Climate Change (MOECC)
CC:	Kyle Stephenson, Peter Taylor and Chris Raffael (MOECC) Tim Haaf, Jim Forney, Chris Prucha and Bill McDonough, (WM)
FROM:	François Richard (BluMetric)
PROJECT NO:	160061-00-01
SUBJECT:	Notification of Off-site Exceedances, WM Richmond Landfill, Town of Greater Napanee

This memorandum is provided on behalf of Waste Management of Canada Corporation as required by Condition 8.7 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[1], implemented on September 1, 2015 on an interim basis as ordered by the Environmental Review Tribunal (ERT) Order dated July 21, 2015.

BACKGROUND

Condition 8.7 of ECA requires that any off-site exceedance of groundwater, surface water or odour be reported to the MOECC District Manager within 48 hours of determining the exceedance. The data evaluation procedures described in the EMP (Section 7) are triggered when new exceedances of the site-specific reasonable use limits (RULs) are identified from the initial screening of sampling results.

PRELIMINARY RESULTS

Two new groundwater monitoring wells (M192 and M193) were installed on February 22, 2016 on the property to the east of the southern part of the eastern landfill property boundary. Groundwater samples were collected on March 21, 2016 from the recently drilled monitoring wells as part of the ongoing hydrogeological investigation aimed at delineating an off-site

[1] *Environmental Monitoring Plan, WM Richmond Landfill, Town of Greater Napanee, Ontario, rev. No.04*, prepared by BluMetric Environmental Inc., dated August 2015

Tel. 613-531-2725
Fax. 613-531-1852
BluMetric Environmental Inc.
The Tower, The Woolen Mill, 4 Cataraqui Street, Kingston, Ontario, Canada K7K 1Z7
www.blumetric.ca

Contaminant Attenuation Zone (CAZ) Investigation to the south and southeast of the site boundary, as well as from monitoring well M168, located south from Beechwood Road within the proposed CAZ.

The wells were sampled for the first time on March 7 – 8, 2016 and the results showed the presence of non-health based parameters which exceeded their respective Reasonable Use Limits (RUL), as well as for benzene at M193, as reported on March 24, 2016[2]. The groundwater quality results from the latest sampling event are summarized in **Table 1**, with exceedances to RULs highlighted at groundwater monitoring wells M192 and M193, as well as M168. The results are consistent with those from the previous sampling event and indicate the presence of non-health based parameters which exceeded their respective RULs, as well as for benzene at M193 and 1,4-dioxane at M168.

CLOSING

All results will be evaluated as part of the ongoing hydrogeological investigation and formally reported by April 15, 2016 as required by the ERT Order dated December 24, 2015.

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

[2] *Notification of Off-site Exceedances, WM Richmond Landfill, Town of Greater Napanee*, Memorandum to Brian Kaye, MOECC, March 24, 2016

Table 1: Summary of RUL Exceedances at Off-Site Monitoring Wells

Reading Name	Units	RUL	M192 2016-03-21	M193 2016-03-21	M168 2016-03-21
General and Inorganic Parameters					
Alkalinity	mg/L	**400**	340	280	***410***
Ammonia	mg/L		2.22	1.46	1.35
Boron	mg/L		1.4	0.5	0.39
Calcium	mg/L		85	28	160
Chloride	mg/L	**132**	***580***	***320***	***300***
Conductivity	µS/cm		2600	1680	1770
Dissolved Organic Carbon	mg/L	**3.5**	2.2	***5.5***	***4.7***
Iron	mg/L	**0.18**	< 0.1	< 0.1	< 0.1
Magnesium	mg/L		60	21	57
Manganese	mg/L	**0.032**	***0.037***	***0.13***	0.0038
Nitrate	mg/L		< 0.1	< 0.1	< 0.1
Nitrite	mg/L		< 0.01	< 0.01	< 0.01
Nitrite + Nitrate	mg/L		< 0.1	< 0.1	< 0.1
Potassium	mg/L		20	15	15
Sodium	mg/L	**106**	***360***	***360***	***130***
Sulphate	mg/L		8	24	18
Total Dissolved Solids	mg/L	**465**	***1270***	***746***	***964***
Volatile Organic Compounds (VOCs)					
1,1,1,2-Tetrachloroethane	mg/L		< 0.0002	< 0.0002	< 0.0002
1,1,1-Trichloroethane	mg/L		< 0.0001	< 0.0001	< 0.0001
1,1,2,2-Tetrachloroethane	mg/L		< 0.0002	< 0.0002	< 0.0002
1,1,2-Trichloroethane	mg/L		< 0.0002	< 0.0002	< 0.0002
1,1-Dichloroethane	mg/L		< 0.0001	< 0.0001	< 0.0001
1,1-Dichloroethylene	mg/L	**0.0035**	< 0.0001	< 0.0001	< 0.0001
1,2-Dichlorobenzene (o)	mg/L		< 0.0002	< 0.0002	< 0.0002
1,2-Dichloroethane	mg/L		< 0.0002	< 0.0002	< 0.0002
1,3,5-Trimethylbenzene	mg/L		< 0.0002	< 0.0002	< 0.0002
1,3-Dichlorobenzene (m)	mg/L		< 0.0002	< 0.0002	< 0.0002
1,4-Dichlorobenzene (p)	mg/L		< 0.0002	< 0.0002	< 0.0002
1,4-Dioxane	mg/L	**0.001**	< 0.001	< 0.001	***0.0065***
Benzene	mg/L	**0.0014**	0.0003	***0.0033***	< 0.0001
Chlorobenzene	mg/L		< 0.0001	< 0.0001	< 0.0001
Chloroethane	mg/L		< 0.0002	< 0.0002	< 0.0002
Chloromethane	mg/L		< 0.0005	< 0.0005	< 0.0005
Cis-1,2-Dichloroethylene	mg/L		< 0.0001	< 0.0001	< 0.0001
Dichloromethane	mg/L		< 0.0005	< 0.0005	< 0.0005
Ethylbenzene	mg/L	**0.0013**	< 0.0001	0.00012	< 0.0001
m+p-Xylene	mg/L		0.00014	0.001	< 0.0001
o-Xylene	mg/L		< 0.0001	0.00038	< 0.0001
Styrene	mg/L		< 0.0002	< 0.0002	< 0.0002
Tetrachloroethylene	mg/L		< 0.0001	< 0.0001	< 0.0001
Toluene	mg/L	**0.0121**	0.002	0.007	< 0.0002
Total Xylenes	mg/L	**0.15**	0.00014	0.0014	< 0.0001
Trans-1,2-dichloroethylene	mg/L		< 0.0001	< 0.0001	< 0.0001
Trichloroethylene	mg/L		< 0.0001	< 0.0001	< 0.0001
Vinyl Chloride	mg/L		< 0.0002	< 0.0002	< 0.0002
Exceeds RUL					