

September 30, 2020

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Colliers Project Leaders
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Our Reference
60609125 (470)

Regarding: Water License Amendment

Dear Alan:

The Nunavut Water Board (NWB) Technical Review of the Application to Amend Water Licence No. 3AM-IQA1626 identified Issue 18 raised by CIRNAC regarding the closure of the West 40 Landfill. The specific CIRNAC comment was "CIRNAC recommends the City provide an update on plans for reclaiming the West 40 landfill including: An estimated schedule for reclamation work; and details on site drainage, including where all the ditches would be on the decommissioned site, their drainage directions and how they connect with the offsite retention pond".

AECOM provided the following response: The date of closure of the West 40 Landfill is dependent on the schedule for the new landfill. The West 40 Landfill will not be closed until the new landfill and transfer Station are commissioned and fully operational. The landfill is currently filling to a proposed final design elevation that has been developed to provide the City with disposal capacity until the new facilities are operational. As of the 2019 projections it appears that the landfill has capacity until sometime in 2022/23. The landfill has just completed a 2020 survey and is in the process of evaluating the remaining airspace, and therefore determining site life. As is the normal practice, a final closure design and closure report will not be developed until the landfill is in fact closed. A final design cannot be developed until the final fill elevations and contours are realized. The final closure report and design will address final landform shape, final slopes, final cover design, surface water drainage and controls, and long term monitoring and maintenance requirements.

At the Technical Meeting on September 17, 2020, CIRNAC considered the issue Resolved with the following recommendation, "CIRNAC recommends that an amended licence include a condition for the applicant to provide the final closure design report one year prior to reclamation work being undertaken. Additionally, we suggest the plan be provided within one year of closure of the West 40 landfill".

To resolve this issue, it is our understanding that the NWB desires additional information regarding the closure of the West 40 Landfill. With this understanding AECOM provides the following information.

It is AECOM's understanding that the present schedule for the Waste Management Facility and the new landfill anticipates a completion and start-up in 2024. Based on this assumption the following additional detail is provided with respect to landfill closure.

Schedule

An airspace survey of the West 40 Landfill was completed on August 7, 2020. Based on the proposed West 40 maximum capacity landform it is estimated that the landfill has capacity into the first quarter of 2025. Therefore, based on the assumed completion date of 2024 for the new landfill a Closure Report and Design for the West 40 will be submitted to the NWB in 2023.

Final Cap Considerations

With the lack of clay material in Iqaluit, consideration will be given to constructing the cap at the West 40 Landfill with synthetic materials. Two options will likely be considered; a cap constructed using a geosynthetic clay liner (GCL) material and HDPE. Which ever synthetic materials is used, the cap material will be protected with a granular layer. The final capped surface will have final grades of a minimum of 5% and a maximum of 3:1.

Site Drainage and Run-Off

As stated above the final surface of the landfill will have grades at a minimum of 5% and a maximum of 3:1. The granular surface will be designed to minimize any potential erosion issues. With a final cap in place there will be no surface water run-off that will be in contact with waste. The run-off will likely meet surface water discharge criteria therefore there should be no need to retain this run-off water and test prior to discharge. The final grading of the landfill and the surface water ditches will therefore be designed to collect the run-off and discharge to the appropriate drainage location.

Yours sincerely,



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