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October 14, 2022

File: MV2022S0011

Mark Cliffe-Phillips  
Mackenzie Valley Review Board  
200 Scotia Centre  
Box 938, 5102-50th Avenue  
Yellowknife NT X1A 2N7

Sent by email

Dear Mark Cliffe-Phillips,

**Re: City of Yellowknife – Notice of Preliminary Screening Determination – Application for Land Use Permit – Geotechnical Drilling – Yellowknife, NT**

The Mackenzie Valley Land and Water Board (Board) met on October 13, 2022 and considered the Application from the City of Yellowknife for Land Use Permit (Permit) MV2022S0011 for the Yellowknife Pumphouse Geotechnical Drilling Project (Project) in accordance with the Mackenzie Valley Resource Management Act (MVRMA).

The Board conducted a preliminary screening based on the public record for the proceeding. Based on the evidence provided, the Board is satisfied the screening has been completed according to section 125 of the MVRMA and has decided **not to refer** the Project to environmental assessment. The Board's Preliminary Screening Determination and Reasons for Decision, as required by section 121 of the MVRMA, is attached.

If the Board does not receive notice of referral to environmental assessment, it can proceed with issuance of Permit MV2022S0011 **on Tuesday, October 25, 2022.**

The Board and staff look forward to continued communications throughout the pause period. Please contact Shelagh Montgomery [via email](#) or at (867) 766-7457 with any questions or concerns regarding this letter.

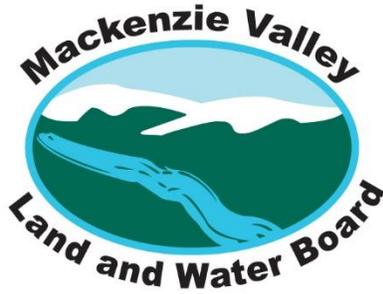
Yours sincerely,



Mavis Cli-Michaud  
Chair, Mackenzie Valley Land and Water Board

BCC'd to: Akaitcho Distribution List  
Morag McPherson, AECOM  
Wendy Newton, City of Yellowknife

Attached: Preliminary Screening Determination and Reasons for Decision



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## Preliminary Screening Determination and Reasons for Decision

Land Use Permit Application	
<b>File Number</b>	MV2022S0011
<b>Company</b>	City of Yellowknife
<b>Project</b>	Yellowknife Pumphouse Geotechnical Drilling
<b>Location</b>	Yellowknife, NT
<b>Activity</b>	Miscellaneous - Geotechnical Drilling
<b>Date of Decision</b>	October 13, 2022

### 1.0 Decision

In accordance with paragraph 125(2)(a) of the Mackenzie Valley Resource Management Act (MVRMA), the Mackenzie Valley Land and Water Board (MVLWB or Board) met on October 13, 2022 to make a preliminary screening determination on the Application from the City of Yellowknife (City of YK) (Applicant) for Land Use Permit MV2022S0011 (Permit)<sup>1</sup> for the Yellowknife Pumphouse Geotechnical Drilling (Project) required as part of the pre-design investigation work required for the City of Yellowknife proposed Submarine Waterline Replacement Project.<sup>2</sup>

The Board has decided not to refer the proposed Project to the Mackenzie Valley Environmental Impact Review Board (the Review Board) for Environmental Assessment because, based on the evidence, it is the

<sup>1</sup>See MVLWB Online Registry [www.mvlwb.com](http://www.mvlwb.com) for [City of YK – Type A Land Use Permit Application – Updated – Sept 7 22](#).

<sup>2</sup> The Project is the Yellowknife Pumphouse Geotechnical Drilling Project required as part of the pre-design investigation for the proposed Submarine Waterline Replacement Project, which is the proposed development, where “development” is defined in Part 5 of the MVRMA as:

“any undertaking, or any part or extension of an undertaking, that is carried out on land or water and includes an acquisition of lands pursuant to the *Historic Sites and Monuments Act* and measures carried out by a department or agency of government leading to the establishment of a park subject to the *Canada National Parks Act* or the establishment of a park under a territorial law.”

Board’s opinion that the proposed Project will not have a significant adverse impact on air, water, and/or renewable resources or be cause of public concern.

The Board’s determination, including reasons for its decision, are detailed in sections [3.0](#) and [4.0](#).

## 2.0 List of Defined Terms and Acronyms

Applicant	City of Yellowknife
Application	The complete application package submitted by the Applicant for Land Use Permit MV2022S0011.
Board	Mackenzie Valley Land and Water Board
CRP	Closure and Reclamation Plan
EA	Environmental Assessment
GNWT	Government of the Northwest Territories
GNWT-ENR	Government of the Northwest Territories – Environment and Natural Resources
GNWT-Lands	Government of the Northwest Territories – Lands
MVLWB	Mackenzie Valley Land and Water Board
MVRMA	<i>Mackenzie Valley Resource Management Act</i>
ORS	Online Review System ( <a href="http://www.new.onlinereviewssystem.ca">www.new.onlinereviewssystem.ca</a> )
Party	As per the MVLWB <a href="#">Rules of Procedures</a> , an applicant, a person, or an organization participating in the regulatory proceeding for the Application.
Project	Yellowknife Pumphouse Geotechnical Drilling Project required as part of the pre-design investigation for the proposed Submarine Waterline Replacement Project, which is the proposed development (as defined in Part 5 of the MVRMA). <sup>3</sup>
Review Board	Mackenzie Valley Environmental Impact Review Board
SCP	Spill Contingency Plan
Standard Permit Conditions	MVLWB <a href="#">Standard Land Use Permit Conditions Template</a>
TK	Traditional Knowledge
WMP	Waste Management Plan

## 3.0 Background and Scope of Screening

On July 18, 2022, AECOM submitted a Land Use Permit Application to carry out a geotechnical drilling program at several pumphouses withing the City of Yellowknife. On July 19, 2022, Board Staff issued an incomplete letter outlining outstanding information required for a complete application. On August 24, 2022, AECOM, on behalf of the City of Yellowknife, resubmitted an updated Land Use Permit Application. At that time, engagement on the Application was not considered complete. By September 7, 2022, AECOM, on behalf of the City of Yellowknife, provided and updated engagement log, completing the

<sup>3</sup> “development” is defined in Part 5 of the MVRMA as:

“any undertaking, or any part or extension of an undertaking, that is carried out on land or water and includes an acquisition of lands pursuant to the *Historic Sites and Monuments Act* and measures carried out by a department or agency of government leading to the establishment of a park subject to the *Canada National Parks Act* or the establishment of a park under a territorial law.”

application. That same day, the application was distributed for review through the Board's Online Review System (ORS).

On behalf of the City of Yellowknife, AECOM is planning to undertake a geotechnical drilling program as part of the pre-design geotechnical investigation work required for the City of Yellowknife proposed Submarine Waterline Replacement Project. The geotechnical investigation includes drilling boreholes at Pumphouse No.1 and No.2, along Pumphouse No. 2 Access Road and Highway 4, and at Lift Station No.1. The area required at each drill location to host the truck mounted drill, the pipe truck, and two support trucks is approximately 350 m<sup>2</sup>. The total combined work area for the locations is approximately 4,200 m<sup>2</sup> or 0.42 hectares total. The investigation also includes installation of two monitoring wells (one at each pumphouse location) to the full depth of the bedrock, complete with monitoring well protectors at the surface. Upon completion of the monitoring well installation, two in-situ pump tests will be completed to estimate groundwater in-flow rates and inform future contractors of site conditions. Boreholes without monitoring wells will be backfilled with bentonite chips. Clean, municipal water will be made available from the City of Yellowknife for use during drilling activities. Small volumes of water may be used during drilling to provide a pressure head within the well to mitigate sluffing, and/or as a lubricant, estimated to be less than 3 m<sup>3</sup> total. Any waste generated by the geotechnical drill project will be managed in accordance with the Project's Waste Management Plan (WMP). All drill cuttings resulting from the geotechnical investigation will be taken to the City's Solid Waste Facility.

Pre-Application engagement included written notification (emails, letters) and phone calls with potentially affected parties, including the Yellowknives Dene First Nation, Tłjchq Government, Akaitcho IMA Office, the North Slave Métis Alliance, the Yellowknife Ski Club, GNWT – Parks and Tourism, GNWT – Department of Transportation, the Yellowknife Community Garden Collective, and the Giant Mine Working Group, to share information about the geotechnical investigation program and to gather input and respond to concerns.

In accordance with paragraph 125(2)(a) of the MVRMA, the Board must conduct a preliminary screening of the proposed Project to determine and report to the Review Board whether, in its opinion, the proposed Project is likely to have a significant adverse impact on air, water, and/or renewable resources, or might be a cause of public concern. The details of the Board's analysis are set out in section [4.0](#) below.

### **3.1 Scope of Screening:**

The Project includes geotechnical drilling and monitoring within the City of Yellowknife at Pumphouse No.1 and No.2, along Pumphouse No. 2 Access Road and Highway 4, and at Lift Station No.1.

### **3.2 Public Record and Regulatory Proceeding**

To assist the Board in its preliminary screening determination for the Project, the Board distributed the Application and a draft Licence Permit for public review on September 7, 2022, inviting reviewers to provide comments and recommendations on the Applications and the preliminary screening (e.g., on impacts and mitigation measures) using the Online Review System (ORS). Comments were due September

27, 2022, with responses from the Applicant due October 3, 2022. The Board received comments and recommendations from the Government of the Northwest Territories – Department of Lands (GNWT-Lands), GNWT-Lands North Slave Region (Inspector), Board Staff, and GNWT – Department of Environment and Natural Resources (ENR) (attached).<sup>4</sup>

Since there were no requests to extend the reviewer comment deadline, the Board is satisfied that a reasonable period of notice was given to affected communities and First Nations, as required by subsection 63(2) of the MVRMA.

In accordance with the Northwest Territories Métis Nation Interim Measures Agreement, the Northwest Territories Métis Nation was notified of the Application through the ORS distribution. The Board did not receive any evidence from the Northwest Territories Métis Nation during the proceeding.

Pursuant to subsection 1.6, paragraphs (a) and (b) of the Akaitcho Territory Dene First Nations (ATDFN) Interim Measures Agreement, the Board determined that written notice was given to the ATDFN and that a reasonable period of time was allowed for ATDFN to make representations with respect to the Application.

#### **4.0 Potential Impacts and Proposed Mitigations**

Table 1 below summarizes:

- the potential impacts of the proposed Project;
- the concerns that were identified during the regulatory proceeding and how the Applicant addressed those concerns;
- the proposed and potential mitigations for the potential impacts; and
- the Board’s analysis of the potential impacts and proposed mitigations.

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<sup>4</sup> See MVLWB [Online Review System](#).

**Table 1: Potential Impacts and Proposed Mitigations for the Proposed Project**

Potential Impact	Activity	Proposed Mitigations <i>Description of measures to reduce potential impacts, including consideration of cumulative impacts and climate change.</i>	Board Analysis and Determination
Soil Contamination	Mobile equipment	<ul style="list-style-type: none"> <li>• In the event of a spill, protocols identified in the Spill Contingency Plan will be followed.</li> <li>• Secondary containment for standing equipment.</li> <li>• The Board has standard permit conditions that are typically used to mitigate the described impact. These standard conditions include:<sup>5</sup> <ul style="list-style-type: none"> <li>○ <b>DRILLING NEAR WATER OR ON ICE</b></li> <li>○ <b>DRILLING WASTE DISPOSAL</b></li> <li>○ <b>DRILLING WASTE CONTAINMENT</b></li> <li>○ <b>WASTE CHEMICAL DISPOSAL</b></li> <li>○ <b>WASTE PETROLEUM DISPOSAL</b></li> <li>○ <b>REPAIR LEAKS</b></li> <li>○ <b>FUEL CONTAINMENT</b></li> <li>○ <b>MAXIMUM FUEL ON SITE</b></li> <li>○ <b>SPILL CONTINGENCY PLAN</b></li> <li>○ <b>SPILL RESPONSE</b></li> <li>○ <b>DRIP TRAYS</b></li> <li>○ <b>CLEAN UP SPILLS</b></li> </ul> </li> </ul>	<p>Based on the described mitigations, it is the Board’s opinion that the proposed activities are not likely to have a significant adverse impact on air, water, or renewable resources, and/or will not be a cause of public concern.</p> <p>The proposed project involves a small footprint at limited locations on already disturbed lands for a short period of time. The proximity to the Yellowknife River could be a concern without appropriate mitigation measures to ensure Project impacts are minimal/negligible. The Project does not require any long-term infrastructure, no new technology, no hazardous chemicals or effluents, and no changes to use/access.</p>
Soil Compaction	Use of heavy equipment	<ul style="list-style-type: none"> <li>• Soil compaction is unlikely to occur as the geotechnical investigation will be completed on existing roadways and parking areas.</li> <li>• The Board has standard permit conditions that are typically used to mitigate the described impact. These standard conditions include: <ul style="list-style-type: none"> <li>○ <b>REPAIR EROSION</b></li> <li>○ <b>PREVENTION OF RUTTING</b></li> <li>○ <b>SUSPEND OVERLAND TRAVEL</b></li> <li>○ <b>NO CLEARING</b></li> </ul> </li> </ul>	<p>Based on the described risk, it is the Board’s opinion that the proposed activities are not likely to have a significant adverse impact on air, water, or renewable resources, and/or will not be a cause of public concern.</p> <p>The proposed project involves a small footprint at limited locations on already</p>

<sup>5</sup> See the MVLWB Policies and Resources webpage to access the MVLWB [Standard Land Use Permit Conditions Template](#).

			<p>disturbed lands for a short period of time. The proximity to the Yellowknife River could be a concern without appropriate mitigation measures to ensure Project impacts are minimal/negligible. The Project does not require any long-term infrastructure, no new technology, no hazardous chemicals or effluents, and no changes to use/access.</p>
Erosion and Sedimentation	Mobile equipment, drilling	<ul style="list-style-type: none"> <li>• Work near water.</li> <li>• The Board has standard permit conditions that are typically used to mitigate the described impact. These standard conditions include: <ul style="list-style-type: none"> <li>○ <b>PROGRESSIVE EROSION CONTROL</b></li> <li>○ <b>REPAIR EROSION</b></li> <li>○ <b>PREVENTION OF RUTTING</b></li> <li>○ <b>SUSPEND OVERLAND TRAVEL</b></li> <li>○ <b>EQUIPMENT: WATERCOURSE BUFFER</b></li> <li>○ <b>NO CLEARING</b></li> </ul> </li> </ul>	<p>Based on the described mitigations, it is the Board’s opinion that the proposed activities are not likely to have a significant adverse impact on air, water, or renewable resources, and/or will not be a cause of public concern.</p> <p>The proposed project involves a small footprint at limited locations on already disturbed lands for a short period of time. The proximity to the Yellowknife River could be a concern without appropriate mitigation measures to ensure Project impacts are minimal/negligible. The Project does not require any long-term infrastructure, no new technology, no hazardous chemicals or effluents, and no changes to use/access.</p>
Water Quality	Drilling	<ul style="list-style-type: none"> <li>• No change in water quality is anticipated to occur. It is uncertain if groundwater will be encountered during drilling; however, all boreholes will be plugged with bentonite.</li> <li>• In the event of a spill, protocols identified in the Spill Contingency Plan will be followed.</li> <li>• Secondary containment for standing equipment.</li> <li>• The Board has standard permit conditions that are typically used to</li> </ul>	<p>Based on the described mitigations, it is the Board’s opinion that the proposed activities are not likely to have a significant adverse impact on air, water, or renewable resources, and/or will not be a cause of public concern.</p> <p>The proposed project involves a small</p>

		<p>mitigate the described impact. These standard conditions include: `</p> <ul style="list-style-type: none"> <li>○ <b>FLOWING ARTESIAN WELL</b></li> <li>○ <b>DRILLING NEAR WATER OR ON ICE</b></li> <li>○ <b>DRILLING WASTE CONTAINMENT</b></li> <li>○ <b>WASTE CHEMICAL DISPOSAL</b></li> <li>○ <b>WASTE PETROLEUM DISPOSAL</b></li> <li>○ <b>REPAIR LEAKS</b></li> <li>○ <b>FUEL CONTAINMENT</b></li> <li>○ <b>MAXIMUM FUEL ON SITE</b></li> <li>○ <b>SPILL CONTINGENCY PLAN</b></li> <li>○ <b>SPILL RESPONSE</b></li> <li>○ <b>DRIP TRAYS</b></li> <li>○ <b>CLEAN UP SPILLS</b></li> </ul>	<p>footprint at limited locations on already disturbed lands for a short period of time. The proximity to the Yellowknife River could be a concern without appropriate mitigation measures to ensure Project impacts are minimal/negligible. The Project does not require any long-term infrastructure, no new technology, no hazardous chemicals or effluents, and no changes to use/access.</p>
Permafrost	Drilling	<ul style="list-style-type: none"> <li>• No change in permafrost is anticipated to occur. It is uncertain if groundwater will be encountered during drilling; however, all boreholes will be plugged with bentonite.</li> <li>• The Board has standard permit conditions that are typically used to mitigate the described impact. These standard conditions include: ` <ul style="list-style-type: none"> <li>○ <b>FLOWING ARTESIAN WELL</b></li> </ul> </li> </ul>	<p>Based on the described mitigations, it is the Board's opinion that the proposed activities are not likely to have a significant adverse impact on air, water, or renewable resources, and/or will not be a cause of public concern.</p> <p>The proposed project involves a small footprint at limited locations on already disturbed lands for a short period of time. The proximity to the Yellowknife River could be a concern without appropriate mitigation measures to ensure Project impacts are minimal/negligible. The Project does not require any long-term infrastructure, no new technology, no hazardous chemicals or effluents, and no changes to use/access.</p>

Air Quality, GHG	Mobile equipment	<ul style="list-style-type: none"> <li>• Temporary, localized air emissions from the drill rig equipment and pickup truck. No equipment will be left to idle during the investigation. Minimal dust may be generated during the investigation and will be watered down as needed. Greenhouse gases released during operation of the drill rig equipment and support trucks will lead to a minimal increase in greenhouse gases.</li> </ul>	<p>Based on the described risk, it is the Board’s opinion that the proposed activities are not likely to have a significant adverse impact on air, water, or renewable resources, and/or will not be a cause of public concern.</p> <p>The proposed project involves a small footprint at limited locations on already disturbed lands for a short period of time. The proximity to the Yellowknife River could be a concern without appropriate mitigation measures to ensure Project impacts are minimal/negligible. The Project does not require any long-term infrastructure, no new technology, no hazardous chemicals or effluents, and no changes to use/access.</p>
Invasive Species	Personal gear, equipment, vehicles, and machinery originating from outside of the NWT	<ul style="list-style-type: none"> <li>• Will be cleaned and dried at its place of origin prior to entering the NWT to mitigate the potential transport and introduction of non-native plant species (including noxious weeds) to the project areas during the drilling program.</li> </ul>	<p>Based on the described mitigations, it is the Board’s opinion that the proposed activities are not likely to have a significant adverse impact on air, water, or renewable resources, and/or will not be a cause of public concern.</p> <p>The proposed project involves a small footprint at limited locations on already disturbed lands for a short period of time. The proximity to the Yellowknife River could be a concern without appropriate mitigation measures to ensure Project impacts are minimal/negligible. The Project does not require any long-term infrastructure, no new technology, no hazardous chemicals or effluents, and no changes to use/access.</p>

Cultural Space	Working near the Yellowknife River	<ul style="list-style-type: none"> <li>• The Wiłłıdeh area (Yellowknife River), close to where Pumphouse #2 is located, is known to be a sacred spiritual, cultural, harvesting, and gathering area for the Yellowknives Dene First Nation, as well as a popular recreational area for the public. Geotechnical project activity is limited to the existing pumphouse lease area and access road rights-of-way that are actively used. No clearing or new disturbance of land will be required.</li> <li>• The Board has standard permit conditions that are typically used to mitigate the described impact. These standard conditions include: <ul style="list-style-type: none"> <li>○ <b>LOCATION OF ACTIVITIES</b></li> <li>○ <b>CLEAN WORK AREA</b></li> <li>○ <b>HABITAT DAMAGE</b></li> <li>○ <b>GARBAGE CONTAINER</b></li> <li>○ <b>ARCHAEOLOGICAL BUFFER</b></li> <li>○ <b>SITE DISTURBANCE</b></li> <li>○ <b>SITE DISCOVERY AND NOTIFICATION</b></li> <li>○ <b>ARCHAEOLOGICAL OVERVIEW</b></li> <li>○ <b>AIA – HIGH POTENTIAL</b></li> <li>○ <b>RESPONSIBILITY FOR REMEDIATION COSTS</b></li> <li>○ <b>CLEAN UP SPILLS</b></li> <li>○ <b>NO CLEARING</b></li> <li>○ <b>FINAL CLEANUP AND RESTORATION</b></li> <li>○ <b>ENGAGEMENT PLAN</b></li> </ul> </li> </ul>	<p>Based on the described mitigations, it is the Board’s opinion that the proposed activities are not likely to have a significant adverse impact on air, water, or renewable resources, and/or will not be a cause of public concern.</p> <p>The proposed project involves a small footprint at limited locations on already disturbed lands for a short period of time. The proximity to the Yellowknife River could be a concern without appropriate mitigation measures to ensure Project impacts are minimal/negligible. The Project does not require any long-term infrastructure, no new technology, no hazardous chemicals or effluents, and no changes to use/access.</p>

#### 4.1 Consideration of Potential Impacts

Based on the potential impacts and proposed mitigations identified above in Table 1, the Board considered whether the Project is likely to have a significant adverse impact on air, water, and/or renewable resources. In general, impacts of the Project on the air, water, and/or renewable resources can be mitigated through the use of standard permit conditions and/or project-specific conditions established by the Board as per the MVLWB [Standard Process for Creating New Conditions](#). These conditions may include requirements for management and monitoring plans that provide detailed information regarding the implementation of mitigation measures and the evaluation of their effectiveness.

A draft Permit was circulated for review during the regulatory proceeding, and all Parties were given the opportunity to provide comments and recommendations on the draft conditions. In finalizing the conditions, the Board will consider all of the evidence provided through the regulatory proceeding.

#### 4.2 Consideration of Public Concern

In addition to considering the potential impacts of the Project, the Board considered whether the Project might be a cause of public concern.

Based on the evidence provided during the regulatory proceeding, the Board did not identify any comments or issues that indicate that the Project is a cause of public concern.

#### 5.0 Conclusion

The Board has reviewed all the evidence received during the regulatory process with respect to the Preliminary Screening of the proposed Project. Based on the evidence, it is the Board's opinion that the proposed Project is not likely to have a significant adverse impact on air, water, and/or renewable resources, and will not be a cause of public concern], as set out in paragraph 125(2)(a) of the MVRMA. The Board has therefore decided not to refer the proposed Project to Environmental Assessment. If the Board does not receive a notice of referral to environmental assessment by October 24, 2022, the Board can issue the Permit on October 25, 2022.

SIGNATURE



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**Mavis Cli-Michaud, Chair**  
**Mackenzie Valley Land and Water Board**

October 14, 2022

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**Date**