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### Preliminary Screening Determination and Reasons for Decision

Issued pursuant to section 121 of the *Mackenzie Valley Resource Management Act* (MVRMA)

Land Use Permit Application Preliminary Screening	
Preliminary Screener	MVLWB
Reference/File Number	MV2021X0004
Company	City of Yellowknife
Project	Yellowknife, NT
Date of Decision	June 10, 2021

These Reasons for Decision set out the Mackenzie Valley Land and Water Board's (the Board or MVLWB) decision on the preliminary screening of an Application made by the City of Yellowknife (City) to the Board on June 10, 2021 for Land Use Permit (Permit) MV2021X0004.

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#### 1.0 Project Summary

- February 17, 2021 – Application for Land Use Permit (Permit) MV2021X0004 received;
- February 25, 2021 – Application deemed complete and review commenced;
- March 18, 2021 – Comments and recommendations due and received;
- March 25, 2021 – Responses due and received; and
- April 22, 2021 – Issuance of Permit MV2021X0004;
- April 23, 2021 – Amendment request received
- April 29, 2021 – Amendment request deemed complete and review commenced;
- May 20, 2021 – Comments and recommendations due and received;
- May 27, 2021 – Responses due and received;
- **June 10, 2021 – Amendment request presented to the Board for decision, and end of the 42-day timeline.**

Updates to the Preliminary Screening as a result of the amendment are identified in blue text.

June 10, 2021 amendment update:

On April 23, 2021, the City submitted a request to amend the Permit. The request would extend the work area beyond what contemplated as part of the Preliminary Screening for the Permit. Considerations of underground utilities and anticipated permafrost conditions, particularly in the parking area, require drilling in locations that are different than originally anticipated, which forms the City's basis for expanding the work area. Additionally, the City anticipates drilling two additional holes. As part of the amendment request, the City provided an updated site boundary, which is displayed in Figure 1 below. The equipment and management practices remain the same as originally contemplated.



April 22, 2021 screening:

The City has applied for a Permit to conduct geotechnical drilling and a Phase II Environmental Site Assessment (ESA) in support of the design and construction of a new aquatic centre, located adjacent to the existing Ruth Inch Memorial Pool (RIMP) in Yellowknife. The program is anticipated to take 2-3 days in spring 2021.

The design and planning process for a new aquatic centre in Yellowknife has been ongoing for several years, and has involved extensive public outreach activities and media coverage.

The geotechnical drilling program includes the following activities:

- Drill approximately 10 probe-holes to delineate bedrock elevations within the potential building footprint, as identified by the yellow shape in Figure 1;

- Drill two boreholes to refusal on bedrock, collect soil samples and install ground temperature monitoring cables (termed thermistors);
- Drill three boreholes to enable sampling of bedrock to determine its strength;
- Collect samples to classify soils and determine engineering properties; and
- Assess the level of groundwater.

The Phase II ESA includes the following activities:

- Drill three additional boreholes in the parking lot along Franklin avenue (BH03 – 05);
- Complete the boreholes as groundwater monitoring wells; and
- Collect groundwater samples.

The site is currently comprised of a partly asphalted parking lot and a bedrock outcrop with few trees that previously hosted a mini-putt course. The City proposes to use two types of drilling equipment, a Tiger 700 drill rig and a Morooka mobile B47 drill. No camp or roads are required, and while the City stated in the Application that no brush or trees will require removal, they alluded to it potentially being necessary during the public review. The City also indicated that since the scope is limited there will not be a need to refuel equipment, so no fuel transferring will occur on site, nor will fuel storage will be necessary.

Waste generated will include a small daily amount of domestic garbage, which will be disposed of in the public garbage containers adjacent to the RIMP; domestic sewage, coming from workers who will use the RIMP washrooms; and residual auger cuttings, which the City proposes to use to backfill boreholes. The City indicated that any remaining cuttings will be disposed at the Solid Waste Disposal Facilities.

Although the City has an approved Spill Contingency Plan under Licence MV2009L3-0007, they developed a separate Spill Contingency Plan (attached) for this Project.

No restoration plan has been included; the City states in their Project Description that no further restoration than backfilling boreholes with drill cuttings is anticipated to be required.

## **2.0 Scope of Preliminary Screening**

### **2.1 Scope**

- a) Drilling;
- b) Use of vehicles, machines, and equipment;
- c) Vegetation clearing;
- d) Installation of monitoring wells; and
- e) Reclamation of associated activities.

### **2.2 Principal Activities**

- Drilling
- Installation
- Operation

### **2.3 Principal Development Components**

- Cutting of trees or removal of vegetation;
- Waste Management;
  - Waste generation;
  - Disposal of hazardous waste;
- Borehole core sampling;
- Site Restoration;
  - Recontouring;
- Groundwater well installation;
  - Groundwater sampling.

### **2.4 NTS topographic map sheet number**

085J

### **2.5 Latitude / longitude and UTM system**

June 10, 2021 amendment update:

Minimum latitude: 62.44585N

Maximum latitude: 62.44780N

Minimum longitude: 114.3898W

Maximum longitude: 114.3940W

April 22, 2021 screening:

Minimum latitude: 62.445952N

Maximum latitude: 62.447760N

Minimum longitude: 114.389543W

Maximum longitude: 114.392575W

### **2.6 Nearest community and water body**

Within Yellowknife; Frame Lake approximately 60 meters west

### **2.7 Land Status**

Municipal

### **2.8 Transboundary/Transregional Implications**

None

### **3.0 Land Use Eligibility – Section 18 Mackenzie Valley Land Use Regulation**

As per section 18 of the Mackenzie Valley Land Use Regulations (MVLUR), eligibility must be determined before the Board can issue a permit. As part of its Application, the City has identified that the proposed activities would be conducted on municipal lands, and that the project will also be applying for a City of

Yellowknife Application to Occupy and Perform Geotechnical Testing on Municipal Land. The City is eligible for a permit under subsection 18(b) of the MVLUR:

18) A person is eligible for a permit who

(b) in any other case, has a right to occupy the land and either contracts to have the land -use operation carried out or is the person who is to carry out the operation.

**4.0 Public Review**

Pursuant to Schedule 4.1 of the **Northwest Territory Métis Nation (NWTMN)** Interim Measures Agreement, the Board determined that written notice was given to the NWTMN and that a reasonable period of time was allowed for NWTMN to make representations with respect to the application.

Pursuant to subsection 1.6, paragraphs (a) and (b) of the **Akaiitcho 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.

**4.1 Preliminary Screener / Referring Body Information**

The Type A Land Use Permit Application was distributed to the Distribution List for public review on the Board’s Online Review System (ORS). As part of the public review, comments and recommendations to assist with the Board’s preliminary screening determination were requested. The organizations notified through the distribution list are included in Appendix A, Table 1.

**5.0 Potential Impacts and Mitigations Table**

<b>Potential Impacts</b> <i>Use an “X” to indicate which apply</i>	<b>Potential Project Impacts and Proposed Mitigations</b> <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
<b>ABIOTIC COMPONENTS</b>	
<b>Land</b>	
Soil contamination	x The City indicated that hydrocarbon spills, should they occur, would be mitigated by procedures in the Spill Contingency Plan, such as immediate containment and cleaning.  The Board is of the opinion that the primary risk of soil contamination is likely associated with the sandy soil neighboring the bedrock and the use of heavy equipment fueled by petroleum products. The Board noted that the Spill Contingency Plan also includes provisions for spill response resources to be located on site and spill response procedures. These requirements, combined with the vicinity of the work location to waste management service providers and heavy equipment contracting companies, are considered additional mitigation measures sufficient for the scope of work.

<b>Potential Impacts</b> <i>Use an "X" to indicate which apply</i>	<b>X</b>	<b>Potential Project Impacts and Proposed Mitigations</b> <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
Soil compaction		
Destabilization/erosion		
Change in soil structure		
Inability to support vegetation		
Other		
<b>Water</b>		
<b>Groundwater</b>		
Water table alteration		
Infiltration changes	x	<p>The City indicated that drill cuttings will be used to fill boreholes. It is anticipated this will eliminate routes of transportation to the sub surface and mitigate potential impacts to groundwater.</p>
Changes in water quality	x	<p>The City indicated that drill cuttings will be used to fill boreholes. The Board anticipates this will eliminate routes of transportation to the sub surface and mitigate potential impacts to groundwater present in subsurface bedrock fractures.</p> <p>The Board is of the opinion that the primary risk of groundwater contamination is likely associated with the use of heavy equipment fueled by petroleum products. The Board notes that the area is comprised of bedrock, or sandy soil overtop of bedrock, and that transport to groundwater would require surface fractures in bedrock. The Board is not certain if surface bedrock fractures are present, but feels it is reasonable it be assumed that some are; however, the Board notes that the amount of petroleum fuel on site will be limited to the capacity of the heavy equipment fuel tanks, and as such, a release of petroleum product would only result from the failure of the equipment fuel tanks, which seems unlikely. Of note, the Spill Contingency Plan also includes provisions for spill response resources to be located on site and spill response procedures. These requirements, combined with the vicinity of the work location to waste management service providers and heavy equipment contracting companies, are considered additional mitigation measures sufficient for the scope of work and risk posed to the environment.</p>
Temperature changes		
Other		
<b>Permafrost</b>		
Loss or change in extent	x	<p>The City indicated that drill cuttings will be used to fill boreholes. The Board anticipates this will re-establish a protective layer and work to mitigate impacts to potential permafrost.</p>
Changes in seasonal fluctuations	x	<p>The City indicated that drill cuttings will be used to fill boreholes. The Board anticipates this will re-establish a protective layer and work to mitigate impacts to potential permafrost.</p>

<b>Potential Impacts</b> <i>Use an "X" to indicate which apply</i>	<b>X</b>	<b>Potential Project Impacts and Proposed Mitigations</b> <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
Change in persistence	x	The City indicated that drill cuttings will be used to fill boreholes. The Board anticipates this will re-establish a protective layer and work to mitigate impacts to potential permafrost.
Other		
<b>Surface Water</b>		
Water flow or level changes (permanent, temporary, seasonal)		
Drainage pattern changes		
Temperature changes		
Changes in water quality	x	<p>The City indicated that hydrocarbon spills, should they occur, would be mitigated by the provisions, such as immediate containment and cleaning. Spill Contingency Plan</p> <p>The Board notes the Spill Contingency Plan also includes provisions for spill response resources to be located on site and spill response procedures. These requirements, combined with the vicinity of the work location to waste management service providers and heavy equipment contracting companies, are considered additional mitigation measures sufficient for the scope of work.</p> <p>The Board notes that the potential of transporting solids to Frame Lake is reduced by Permit conditions that restrict the area of work to what was described in the Application, and additional conditions that also reduce the potential for the generation and subsequent transportation of solids, such as the rutting and gouging conditions.</p> <p>The Board notes that the City plans to suppress dust with water and that this is anticipated to reduce the volume of airborne debris generated, which thereby reduces the amount of dust potentially transported to Frame Lake.</p>
Wetland impairment		
Changes to aquatic habitat (see Biotic section below)		
Other		
<b>Air</b>		
Changes in air quality	x	The City indicated that localized air emissions from the drilling equipment are temporary and that airborne dust will be managed by applying water, as necessary.
Harm to living things		
Increased greenhouse gases	x	The City indicated they are of the opinion that minimal increase in greenhouse gases do not warrant specific mitigation measures
Other		

<b>Potential Impacts</b> <i>Use an "X" to indicate which apply</i>	<b>X</b>	<b>Potential Project Impacts and Proposed Mitigations</b> <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
<b>BIOTIC COMPONENTS</b>		
<b>Vegetation</b>		
Direct loss of vegetation	x	The City indicated that the loss of vegetation is "not applicable" as the aquatic centre will be developed on the site. Board staff presume this to be the City's intention at some point, and note that some loss of vegetation could occur as part of drilling activities, though, the loss of vegetation is considered to be minimal and not require specific mitigation measures.
Loss of Species at Risk or may-be-at-risk plants		
Change in species composition		
Introduction of non-native (invasive) species	x	The City indicated that Yellowknife-based mobile equipment will be used to reduce the risk of introducing non-native (invasive) species.
Effects on plant health (dust, metals, toxins)		
Increased risk of fire		The City indicated the risk of fire is anticipated to be low due to the bedrock dominated nature of site and the nature of the geotechnical drilling program.
Compaction of vegetation		
Other		
<b>Terrestrial Wildlife Habitat</b>		
Direct loss or removal of habitat, dens, or nests	x	The City indicated that the loss of vegetation is "not applicable" as the aquatic centre will be developed on the site. The Board presumes this to be the City's intention at some point, and note that some loss of vegetation could occur as part of drilling activities, though, the loss of vegetation is considered to be minimal and not require specific mitigation measures.
Loss or removal of keystone species and/or Species at Risk habitat		
Fragmentation of wildlife corridor		
Direct injury or mortality		
Disturbances to key lifecycle stages: breeding, feeding, nesting, staging		
Effects on population abundance		
Change in species diversity		
Effects on wildlife health (toxins, metals, etc.)		
Changes to migratory movement patterns		
Changes to predator-prey relationships		
Human-wildlife conflicts		



<b>Potential Impacts</b> <i>Use an "X" to indicate which apply</i>	<b>X</b>	<b>Potential Project Impacts and Proposed Mitigations</b> <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
Other		
<b>Aquatic Habitat</b>		
Breeding disturbances		
Change in species diversity		
Effects on health (toxins, metals, sediment, etc.)		
Changes to migratory movement patterns		
Changes to predator-prey relationships		
Effects on population abundance		
Change in species diversity		
Other		
<b>CULTURAL COMPONENTS</b>		
<b>Wildlife Harvesting</b>		
Loss or reduction in game species populations		
Effects on traditional land use, subsistence, and harvesting rights		
Other		
<b>Cultural Integrity and Heritage Resources</b>		
Change to or loss of cultural integrity		
Change to or loss of traditional lifestyle		
Change to or loss of heritage resource		
Other		
<b>Social and Economic Well-being</b>		
Increased human health hazard and risk	x	<p>The revised area includes the use of heavy equipment in front of the Ruth Inch Memorial Pool which is utilized by the citizens of Yellowknife. The Board notes that the City's and its consultant's contractor pre-qualification requirements, along with the Occupational Health and Safety Regulations, are considered adequate measures to mitigate the potential health and safety risk posed to the public.</p>
Economic opportunities or losses (employment, training)		
Change in ecological, cultural, social, or economic values identified for protection in approved Land Use Plans		
Impairment of the recreational or traditional uses of the land or water		
Impairment of the aesthetic quality of the land or water		

<b>Potential Impacts</b> <i>Use an "X" to indicate which apply</i>	<b>X</b>	<b>Potential Project Impacts and Proposed Mitigations</b> <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
Changes to the use of the area by other non-Indigenous people (e.g. trappers, outfitters, residents, hunters, forest harvesters, other authorized projects)		
Other		

**6.0 Preliminary Screening Decision**

The Board is satisfied that the preliminary screening of the City’s Application for Type A Land Use Permit MV2021X0004 has been completed in accordance with section 125 of the *Mackenzie Valley Resource Management Act* (MVRMA).

The Board is satisfied that communities and First Nations affected by the Application have been notified and provided adequate time to provide comment on the Application as required by land claim and self government agreements, the MVRMA, policy directions relating to Interim Measures Agreements, and any other applicable legislation and agreements.

Having reviewed all relevant evidence on the Public Registry, including the submissions of the Applicant, the written comments received by the Board and any Staff Reports prepared for the Board, the Board has decided that in its opinion:

- The proposed development will not have a significant adverse impact on the environment; and
- The proposed development is not a cause of public concern.

The Board is also of the opinion that any impacts of the development on the environment can be mitigated through the imposition of the terms and conditions in the Land Use Permit approved by the Board.

**7.0 Conclusion**

Land Use Permit MV2021X0004 contains provisions that the Board deems necessary to ensure and monitor compliance with the MVRMA and the Regulations made thereunder, and to provide appropriate safeguards in respect of the City’s use of the land affected by the Permit.

SIGNATURE

Mackenzie Valley Land and Water Board

Mavis Cli-Michaud, Chair

June 10, 2021

Date

## Appendix A

**Table 1. Organizations included in the Distribution List for the Public Review of Type A Land Use Permit Application MV2021X0004 and Amendment Request**

Akaitcho IMA Implementation Office	GNWT - Lands - South Slave Region - Fort Smith
Bathurst Inlet Development Ltd.	GNWT - MACA (Municipal and Community Affairs)
Bathurst Inlet Lodge	GNWT - PPCA (Policy, Planning, Communications and Analysis (w/in ITI))
Canadian Northern Economic Development Agency – NWT Region	GNWT - PWNHC (Prince of Wales Northern Heritage Centre (w/in ECE))
CIRNAC - Inspector	Golder Associates
CIRNAC - Yellowknife	Hamlet of Fort Resolution
CIRNAC-CARD	Katlocheeche First Nation
City of Yellowknife	Lutsel K'e Dene First Nation - Chief or Wildlife, Lands and Environment
Dene Nation	Mackenzie Valley Environmental Impact Review Board
Deninu K'ue First Nation	Mountain Island Metis
Environment and Climate Change Canada	MVLWB
Fisheries and Oceans Canada	North Slave Metis Alliance
Fort Resolution Metis Government	Northwest Territory Metis Nation
Forward Mining	NWT & Nunavut Chamber of Mines
Ghotelnene K'odtineh Dene (Manitoba Denesuline)	NWT- OROGO
GNWT - ENR (Environment and Natural Resources)	Rover Metals Corp.
GNWT - ENR – EAM (Environmental Assessment and Monitoring)	Salt River First Nation
GNWT - ENR - North Slave Region	Snap Lake Environmental Monitoring Agency (SLEMA)
GNWT - ENR - South Slave Region - Fort Smith	Tlicho Government
GNWT - Executive and Indigenous Affairs	Tlicho Lands Protection Department
GNWT - HSS (Health and Social Services)	Town of Hay River
GNWT - INF (Infrastructure)	Wek' eezhii Renewable Resources Board
GNWT - ITI (Industry, Tourism and Investment)	West Point First Nation
GNWT - Lands	WLWB
GNWT - Lands - Hay River Region	Yellowknives Dene First Nation
GNWT - Lands - North Slave Region	