



Water Resources Division
Resource Management Directorate
Nunavut Regional Office
918 Nunavut Drive
Iqaluit, NU, X0A 3H0

Your file - Votre référence
3AM-IQA1626
Our file - Notre référence
GCDOCS# 143381529

February 6, 2026

Richard Dwyer
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0B 1J0
sent via e-mail: licensing@nwb-oen.ca

Re: Water Licence No: 3AM-IQA1626 Type A, City of Iqaluit; Renewal and Amendment Application by the City of Iqaluit – Completeness Assessment

Dear Mr. Dwyer,

Thank you for the January 8, 2026, invitation to review the above-referenced Type A Water Licence Renewal and Amendment Application and supporting documentation by the City of Iqaluit for Water Licence No: 3AM-IQA1626.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) assessed the application pursuant to its mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Crown-Indigenous Relations and Northern Affairs Act*. Please find CIRNAC's Information Requests for the Nunavut Water Board's consideration in the attached memorandum.

If there are any questions or concerns, please contact me at jordan.beer@rcaanc-cirnac.gc.ca or Joyce Demers at joyce.demers@rcaanc-cirnac.gc.ca.

Sincerely,

Jordan Beer,
Water Management Coordinator



Completeness Assessment Memorandum

Date: February 6, 2026

To: Richard Dwyer, Manager of Licensing, Nunavut Water Board

From: Jordan Beer, Water Management Coordinator, CIRNAC

Subject: **Crown-Indigenous Relations and Northern Affairs Canada's review of the City of Iqaluit Water Licence No: 3AM-IQA1626 Type A, City of Iqaluit; Renewal and Amendment Application**

Region: Kitikmeot Kivalliq Qikiqtani

A. BACKGROUND

The City of Iqaluit (City) was issued Water Licence No. 3AM-IQA1626 on June 17, 2016, for a 10-year period that expires June 16, 2026. 3AM-IQA1626 authorizes the following activities, works, and undertakings:

- Use, management, and protection of the Lake Geraldine drainage basin.
- Management and protection of waters surrounding the West 40 Landfill site.
- Management, collection, and monitoring of leachate from the West 40 Landfill site and adjacent Sludge Management Facility.
- Management of improved drainage works at the West 40 Landfill site.
- Management, operation, and eventual closure and reclamation of the current West 40 Landfill site and associated solid waste disposal facilities.
- Upgrades, operation, maintenance, monitoring, and eventual closure and reclamation of a Wastewater Treatment Plant (WWTP).
- Operation, maintenance, monitoring, and eventual closure and reclamation of a Sludge Management Facility.
- Operation, maintenance, monitoring and eventual closure and reclamation of a Sewage Lagoon Facility.
- Implementation of contingency measures for the Wastewater and Landfill management facilities.
- Implementation of changes to the monitoring requirements including frequency, parameters, and stations being monitored.

Since the Licence was issued in 2016, the City has applied for and received a series of amendments to the Licence up to amendment number 7.

Through the amendments, the quantity of water withdrawal permitted has increased from 1,100,000 m³ extracted annually from the Lake Geraldine Reservoir, authorized under Water Licence No. 3AM-IQA1626 issued in 2016, to the current annual withdrawal limits:



- 2,000,000 m³ from the Lake Geraldine Reservoir (Amendment 4, 2020)
- 500,000 m³ from Niaqunguk River (Apex River) for transfer to Lake Geraldine Reservoir (Amendment 5, 2021)
- 2,500 m³ from Imiqtarviviniq Lake (Dead Dog Lake) (Amendment 5, 2021)

The City submitted their Application on December 31, 2025, seeking both a 20-year license renewal and an amendment allowing the City to commence the Long Term Water Program. The Long Term Water Project is the City of Iqaluit’s plan to accommodate increased water usage for the next 100 years, and is undergoing concurrent review by the Nunavut Impact Review Board (NIRB). The amendment proposal will include the following new infrastructure:

- New water intakes at Niaqunngut (Apex) River and Lake Qikiqtalik.
- A new reservoir immediately east of Lake Geraldine Reservoir.
- Pipelines to convey raw water between each water source and the new reservoir.
- A pipeline and outfall allowing for water transfer from the new reservoir to Lake Geraldine.
- All weather access roads between the new facilities.

Constructing these new facilities will require the development of several quarries, the use of heavy equipment and explosives, and the dewatering of multiple small unnamed lakes. The Application notes that the City plans to construct new facilities over the period of mid-2026 to October 2029.

A summary of the subjects of CIRNAC’s Information Requests regarding the renewal and amendment application is provided in Table 1. Documents reviewed as part of this submission are listed in Table 2 of Section B. Detailed Information Requests are provided in Section C.

Table 1: Summary of CIRNAC’s information Requests

Recommendation Number / Information Request Number	Subject
2026-02-06-IR#01	Plans/Procedures/Reports for Existing Infrastructure under Licence
2026-02-06-IR#02	Potential Effect of Water Use and Waste Disposal on Groundwater and Surface Water Quality
2026-02-06-IR#03	Potential Effect of Water Use on Groundwater and Surface Water Quantity
2026-02-06-IR#04	Potential Effect of Water Use and Waste Disposal on Soil Contamination
2026-02-06-IR#05	Studies and Designs: Site Specific Data and Analysis to Support the Design and Management Decisions - Geotechnical
2026-02-06-IR#06	Studies and Designs: Site Specific Data and Analysis to Support the Design and Management Decisions - Geotechnical Missing Appendices



Recommendation Number / Information Request Number	Subject
2026-02-06-IR#07	Studies and Designs: Site Specific Data and Analysis to Support the Design and Management Decisions - Dam Safety Review
2026-02-06-IR#08	Studies and Designs: Site Specific Data and Analysis to Support the Design and Management Decisions - Water Balance
2026-02-06-IR#09	Annual Reporting
2026-02-06-IR#10	Compliance Assessment
2026-02-06-IR#11	Existing Water Intake
2026-02-06-IR#12	Existing Water Intake Condition
2026-02-06-IR#13	Water Storage
2026-02-06-IR#14	Waste Disposal
2026-02-06-IR#15	Waste Disposal: Quality and Quantity
2026-02-06-IR#16	Wastewater Including Sewage and Grey Water
2026-02-06-IR#17	Wastewater System Capacity
2026-02-06-IR#18	Wastewater Treatment System
2026-02-06-IR#19	Solid Waste Facilities
2026-02-06-IR#20	Fuel and Chemical Storage
2026-02-06-IR#21	Hazardous Waste Disposal
2026-02-06-IR#22	Studies
2026-02-06-IR#23	Monitoring Plan and Quality Assurance/Quality Control Plan
2026-02-06-IR#24	Monitoring
2026-02-06-IR#25	Inspection Plan
2026-02-06-IR#26	LTWP Surveillance Network Program
2026-02-06-IR#27	Explosives Management Plan and a Refueling Plan
2026-02-06-IR#28	Safety Data Sheets (SDS)
2026-02-06-IR#29	Verify Supplemental Information Guideline (SIG) Table



Recommendation Number / Information Request Number	Subject
2026-02-06-IR#30	Ongoing Unaddressed Recommendations

B. DOCUMENTS REVIEWED

The following table (Table 2) provides a summary of the documents reviewed under the submission.

Table 2: Documents Reviewed

Document Title	Author, File No., Rev., Date
160617 3AM-IQA1626 Water Licence ONME	Nunavut Water Board, File 3AM-IQA1626, June 2016
250423 3AM-IQA1626 2025-04-23 NPC File No. 150798 [Long Term Water Project (LTWP)]-IMLE	Nunavut Planning Commission, File No. 150798, April 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Applic-Main-Doc-IMLE	City of Iqaluit, December 23, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-01-NWB-Application-Form-IMLE	City of Iqaluit, December 23, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-02-NPC-Determination-IMLE	Nunavut Planning Commission, NPC File No. 150798, April 23, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-03-DFO-Advice-IMLE	Fisheries and Oceans Canada, 23-HCAA-02636, March 25, 2024
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-04-SIG-Concordance-IMLE	City of Iqaluit, December 31, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-07-Compliance-Assessment-IMLE	City of Iqaluit; May 2, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-08-LTWP-Site-Plans-IMLE	Arcadis Canada Inc.; December 31, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-09-LTWP-Prelim-Design-Rpt-IMLE	Arcadis Canada Inc., File no. 30192375., Draft, September 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-10-LTWP-Prelim-Design-Rpt-Append-A-DWGs-IMLE	Arcadis Canada Inc., File no. 30288139, September 26, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-11-LTWP-Prelim-Design-Rpt-Append-B-Survey-Rpt-IMLE	Arcadis Canada Inc., File No. 30192375, January 2024
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-12-LTWP-Prelim-Design-Rpt-Append-C-Geotech-Workplan-IMLE	Arcadis Canada Inc., File No. 30192375, February 2024.



Document Title	Author, File No., Rev., Date
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-13-LTWP-Prelim-Design-Rpt-Append-D-Draft-Spec-IMLE	City of Iqaluit; December 31, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-14-LTWP-Prelim-Design-Rpt-Append-E-Pump-Calcs-IMLE	Arcadis Canada Inc., File No. 144081, August 28, 2024
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-15-LTWP-Prelim-Design-Rpt-Append-F-Pump-Curves-IMLE	Xylem, File No. NP 3231/706 3~ 480, December 31, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-16-LTWP-Prelim-Design-Rpt-Append-G-Hydrology-IMLE	Arcadis Canada Inc., File: No. 30192375, March 25, 2024.
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-17-LTWP-Prelim-Design-Rpt-Append-H-Liner-Memo-IMLE	Arcadis Canada Inc., File: No. 30192375, October 20, 2023.
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-18-LTWP-Prelim-Design-Rpt-Append-I-Slope-Stability-IMLE	Arcadis Canada Inc., File: No. 301192375, February 29, 2024.
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-19-LTWP-Prelim-Design-Rpt-Append-J-Blasting-Assessment-IMLE	Explotech Engineering Limited, December 15, 2023.
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-20-LTWP-Prelim-Design-Rpt-Append-K-Facility-Manual-IMLE	Arcadis Canada Inc., File: No. 30192375, March 22, 2024
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-22-LTWP-Prelim-Design-Rpt-Append-M-EMP-IMLE	Arcadis Canada Inc., File: No. 30192375, September 2024.
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-23-LTWP-Prelim-Design-Rpt-Append-M-EPP-IMLE	Arcadis Canada Inc., File: No. 30192375, September 2024
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-24-LTWP-Prelim-Design-Rpt-Append-M-ERP-IMLE	Arcadis Canada Inc., File: No. 30192375, September 2024
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-25-LTWP-Prelim-Design-Rpt-Append-M-ESCP-IMLE	Arcadis Canada Inc., File: No. 30192375, September 2024
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-26-LTWP-Prelim-Design-Rpt-Append-M-Climate-Lens-IMLE	Arcadis Canada Inc., File: No. 30192375, April 2024
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-27-Geotech-Report-Reservoir&Pipeline-Crossing-IMLE	Arcadis Canada Inc., File: No. 30192375, August 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-28-Aggregate-Sources-Assessment-Rpt-IMLE	Arcadis Canada Inc., File: No. 30192375, May 16, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-29-Env-Screening-Rpt-IMLE	Arcadis Canada Inc., File: No. 30192375, September 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-32-Lake-Qikiqtaalik-Water-Withdrawal-Study-IMLE	Tetra Tech Canada Inc. File No: 704-ENG.WTRIO3087-01, July 24, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-33-Apex-River-Water-Withdrawal-Study-IMLE	Tetra Tech Canada Inc. File No: 704-ENG.WTRIO3087-01, Memo 1, July 24, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-34-Historical-Streamflow-Statistics-Apex-River-IMLE	Stantec Consulting Ltd., File No: 144903621, August 20, 2025



Document Title	Author, File No., Rev., Date
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-35-Phase-I-ESA-IMLE	Arcadis Canada Inc., File: No. 30192375, April 2024
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-36-North 40 Landfill CSR-IMLE	City of Iqaluit, December 19, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-37-Waste-Transfer-Station-CSR-IMLE	City of Iqaluit, December 19, 2025
251231 3AM-IQA1626 251223-3AM-IQA---- Attach-38-North40-Landfill-Closure-Plan-IMLE	Dillon Consulting Limited, File No. 19-9543, August 2022
RE: NWB Technical Review of 2024 Annual Report for the City of Iqaluit; Water Licence No: 3AM-IQA1626	Nunavut Water Board (NWB), File: 3AM-IQA1626, November 20, 2025
Guide 7 - Licensee Requirements following the Issuance of a Water Licence	Nunavut Water Board (NWB), July 2015

C. RESULTS OF REVIEW / INFORMATION REQUESTS

1. Plans/Procedures/Reports for Existing Infrastructure under Licence

Comment:

Section 3-25 of the Nunavut Water Board (NWB) Municipal Supplemental Information Guideline (251231 3AM-IQA1626 251223-3AM-IQA---- Attach-04-SIG-Concordance-IMLE) requires the Applicant to provide a timetable for the filing of all appropriate plans and procedures.

The City’s response in column H of section 3-25 of the Supplemental Information Guideline (SIG) refers to section 1.4 of the reference document (251223-3AM-IQA---- Applic-Main-Doc-IMLE). Section 1.4 of the reference document outlines the amendments to the licence but does not reference the updated plans, designs, or reports and does not provide a timetable for filing the updated plans and procedures.

NWB Guide 7 – Licensee Requirements following the Issuance of a Water Licence, Part 2, Section 9, states that "the licensee must also submit updated plans including designs and reports if plans on the public registry are over three (3) years old or outdated."

The Application does not include a submission of plans and procedures for the infrastructure under the existing licence for review. Most of the documents included are for the Long Term Water Project (LTWP).



Recommendation:

(IR-01) CIRNAC recommends that the City provide the following information in accordance with section 3-25 of the Supplemental Information Guideline (SIG) and Guide 7:

- IR-01a) A list of relevant and current plans/reports/procedures for the existing infrastructure under the licence, and location of documents available for review.
- IR-01b) A timetable for filing updated plans and procedures that are not provided with the application.
- IR-01c) An update the response to section 3-25 of the SIG.

2. Potential Effect of Water Use and Waste Disposal on Groundwater and Surface Water Quality

Comment:

Section 3-27 of the SIG requires the Application to identify the potential effect of water use and waste disposal on surface water and groundwater quality, and section 6-5 of the SIG requires the Application to provide a description of the water quality of the water from the source for each season.

Surface water and groundwater baseline conditions as well as potential effects are summarized in the Physical, Biological and Socioeconomic Screening Report (251223-3AM-IQA---- Attach-29-Env-Screening-Rpt-IMLE) but are specific to the LTWP. There is no baseline data provided for water sources being used as part of current operations or consideration of the potential effects on surface water and groundwater from current water use and waste disposal activities, which are expected to continue with the addition of the LTWP.

The sampling provided in Table 2-6 of the Physical, Biological and Socioeconomic Screening Report provides water quality summary data that are used in an ecological context but did not include parameters related to contaminants. Water quality should include parameters related to contaminants.

Recommendation:

(IR-02) CIRNAC recommends that the City provide the following information in accordance with sections 3-27 and 6-5 of the SIG:

- IR-02a) Baseline water quality data (i.e., for each water source and season).
- IR-02b) Identification of the potential effects from water use (from current sources as well as LTWP) and waste disposal on surface water and groundwater quality.
- IR-02c) Updated responses to section 3-27 of the SIG.



3. Potential Effect of Water Use on Groundwater and Surface Water Quantity

Comment:

Section 3-27 of the SIG requires the Application to identify the potential effect of water use and waste disposal on surface water and groundwater quantity.

The Desktop Study of Discharge in Apex River (Document 251231 3AM-IQA1626 251223-3AM-IQA----Attach-33-Apex-River-Water-Withdrawal-Study-IMLE) provides a quantitative supply analysis and states that a targeted hydrological assessment is needed to determine precise licensing requirements. No such study has been completed. The Apex River Water Withdrawal Study provides hydrologic analysis, flow modelling, synthetic datasets, withdrawal scenarios, and capacity assessments, but it does not adequately identify the potential effects of water withdrawal on the Apex River itself—particularly hydrological or environmental effects.

The Physical, Biological and Socioeconomic Screening Report (Document 251231 3AM-IQA1626 251223-3AM-IQA---- Attach-29-Env-Screening-Rpt-IMLE) states the following: “Continuous water withdrawal and conveyance could affect the seasonal and long-term water levels in Lake Qikiqtalik and the Niaqunnguk (Apex) River.” However, the Screening Report does not qualify or quantify those effects and, therefore, it is not clear whether the proposed mitigation measures will be effective to avoid effects of water withdrawal on surface water quantity.

Recommendation:

(IR-03) CIRNAC recommends that the City provide the following information in accordance with section 3-27 of the SIG:

- IR-03a) Hydrological water balance assessment to assess impacts on flow rates, water levels, and seasonal hydrological variation from the proposed water withdrawals at Lake Qikiqtalik and the Apex River.
- IR-03b) Qualitative and quantitative description of the potential effects from water use (from current sources as well as LTWP) on surface water and groundwater quantity.
- IR-03c) Updated responses to section 3-27 of the SIG.

4. Potential Effect of Water Use and Waste Disposal on Soil Contamination

Comment:

Section 3-27 of the SIG requires the Application to identify the potential effect of water use and waste disposal on soil contamination.

Soil baseline conditions are presented in the Enhanced Phase I Environmental Site Assessment (Document 251231 3AM-IQA1626 251223-3AM-IQA---- Attach-35-Phase-I-ESA-IMLE) and potential effects are summarized in the Physical, Biological and Socioeconomic Screening Report (Document 251231 3AM-IQA1626 251223-3AM-IQA----



Attach-29-Env-Screening-Rpt-IMLE), but both documents are specific to the Long Term Water Project (LTWP). There is no baseline data provided for soil in the footprint of existing facilities or consideration of the potential effects on soil from current water use and waste disposal activities, which are expected to continue with the addition of the LTWP.

Recommendation:

(IR-04) CIRNAC recommends that the City provide the following information in accordance with section 3-27 of the SIG:

- IR-04a) Baseline soil quality data associated with the footprint of existing facilities.
- IR-04b) Identification of the potential effects from water use (from current sources as well as LTWP) and waste disposal on soil quality.
- IR-04c) Updated responses to section 3-27 of the SIG.

5. Studies and Designs: Site Specific Data and Analysis to Support the Design and Management Decisions - Geotechnical

Comment:

Section 3-49 of the SIG requires the Application to provide site specific data and analysis to support the design and decisions made, particularly in regards to new infrastructure or processes.

Section 5.7.1 in the Preliminary Design Report Long Term Water Program – Supply and Storage refers to design decisions that were made "based on recommendations of section 10 of the Geotechnical Report". There is no section 10 in the geotechnical report that was provided with the application: 251231 3AM-IQA1626 251223-3AM-IQA---- Attach-27-Geotech-Report-Reservoir&Pipeline-Crossing-IMLE. The geotechnical report upon which design decisions were based on are required to review the basis of such decisions.

Recommendation:

(IR-05) CIRNAC recommends that the City provide the geotechnical report that includes the recommendations referred to in the preliminary design report, in accordance with section 3-49 of the SIG.

6. Studies and Designs: Site Specific Data and Analysis to Support the Design and Management Decisions - Geotechnical Missing Appendices

Comment:

Section 3-49 of the SIG requires the Application to provide site specific data and analysis to support the design and management decisions made.

City of Iqaluit, Preliminary Geotechnical Investigation Report – DRAFT, Long Term Water Program – Supply and Storage, Iqaluit, Nunavut (Attach-27-Geotech-Report-Reservoir&Pipeline-Crossing) is missing the identified appendices. The geotechnical



reports upon which design decisions were based are required to review the basis of such decisions.

Recommendation:

(IR-06) CIRNAC recommends that the City provide the missing Appendices to the geotechnical report, in accordance with section 3-49 of the SIG.

7. Studies and Designs: Site Specific Data and Analysis to Support the Design and Management Decisions - Dam Safety Review

Comment:

Section 3-49 of the SIG requires the Application to provide site specific data and analysis to support the design and management decisions made.

The proposed dam structures for the new reservoir do not have a dam break analysis completed and the new structures introduce a cascade failure scenario for the Lake Geraldine Dam structure. It is required that all relevant approved facilities are designed and constructed to engineering standards such that, at a minimum, they comply with the most current version of the Canadian Dam Safety Guidelines.

Recommendation:

(IR-07) CIRNAC recommends that the City provide a dam break analysis of the proposed reservoir structures and assess the impact of cascade failure on the Lake Geraldine Dam structure as part of this application, in accordance with section 3-49 of the SIG and the most current version of the Canadian Dam Safety Guidelines.

8. Studies and Designs: Site Specific Data and Analysis to Support the Design and Management Decisions - Water Balance

Comment:

Section 3-49 of the SIG requires the Application to provide site specific data and analysis to support the design and management decisions made.

The application does not have an updated Lake Geraldine Water Balance Model completed with the most up to date data available. An updated water balance model is required under the current licence 30 days prior to the start of water withdrawals and no water balance model has been submitted since new bathymetric data of Lake Geraldine was captured. During review of the City's 2024 Annual Report for Water Licence No: 3AM-IQA1626, CIRNAC had recommended that the City provide an updated and recalibrated Lake Geraldine Water Balance Model to address the new bathymetric survey data collected in 2024 and the updated metrological information. The updated Lake Geraldine Water Balance Model was to be submitted with the renewal Application.



Recommendation:

(IR-08) CIRNAC recommends that the City provide an updated Lake Geraldine Water Balance Model, in accordance with section 3-49 of the SIG and previous recommendations.

9. Annual Reporting

Comment:

Section 3-55 of the SIG requires the Application to provide detailed information regarding the content of annual reports and a proposed outline or template of the annual report. The annual report should include the following:

- Comparison of water quality and quantity monitoring data with the water quality and quantity predictions presented in the application; and
- A description of how any conditions in the NIRB screening decision related to the NWB mandate have been implemented.

The City has provided their *Water Licence 3AM-IQA1626 2024 Annual Water License Report (2024 Annual Report)* as a template. The annual report template provided does not meet the requirements for the Water Licence application as outlined in section 3-55 of the SIG.

- The 2024 Annual Report includes a comparison of the water quantity to the licence allowance but does not provide a comparison of the water quality to predicted water quality. Justification for not including it was provided as "Comparison to predictions not completed".
- The 2024 Annual Report does not include a section to describe how any conditions in the NIRB screening decision related to the NWB mandate have been implemented.

Recommendation:

(IR-09) CIRNAC recommends the City provide the following information in accordance with section 3-55 of the SIG:

IR-09a) A revised Annual Report template that includes (i) a section for comparing water quality data to predictions and (ii) a section to describe how any conditions related to the NIRB have been implemented.

IR-09b) Updated responses to section 3-55 of the SIG.

10. Compliance Assessment

Comment:

Section 3-57 of the SIG requires the Application for a renewal or amendment of an existing licence to provide a compliance assessment/status report. This report must document the status of compliance for each condition of the existing water licence taking into consideration inspector dialogues and inspector directions, responses to inspector dialogues and inspector directions, spills that may have occurred, and any reporting requirements. The report must indicate when facilities were inspected by regulatory agencies and list any spills



that may have occurred including a description, location shown on a map, and the action taken to address the affected area.

The Compliance Assessment Report (251231 3AM-IQA1626 251223-3AM-IQA---- Attach-07-Compliance-Assessment-IMLE) provided with the Application consists of three documents: 1) the City's 2024 Annual Report, 2) a July 2025 Water Licence Inspection Report by CIRNAC, and 3) the City's 2024 Water License Inspection Report – Compliance Assessment Status in response to CIRNAC's July 2025 Water Licence Inspection Report.

The Compliance Assessment Report provides the 2024 annual report submitted by the City to comply with Water Licence 3AM-IQA1626 Schedule B Annual Reporting Requirements and the status of three non-compliance items identified in July 2025. Water Licence 3AM-IQA1626 contains 90 conditions in Parts B through J of the Licence. The Compliance Assessment Report provided with the Application does not address each of the Licence conditions.

Through review of the City's annual reporting on Water Licence 3AM-IQA1626, CIRNAC has raised multiple concerns and compliance issues. CIRNAC has repeated comments to the City about the following:

- Unresolved deficiencies identified in Dam Safety Reviews (DSR) and Inspections (DSI), such as instrumentation data collection, repairs, and installation of monitoring equipment
- Missing or incomplete sampling data, lack of compliance with Schedule I of the Water Licence, and recommendations for improved reporting of sampling locations, frequency, and analyses
- Quantification and reporting on the volume of spills, with several years of incomplete data
- Additional information on the maintenance and construction activities reported
- Updated operation and maintenance manuals
- Confirmation of hazardous waste management practices, including which wastes remain on-site, how contaminated materials are handled, and records of proper disposal
- Updated schedules and submission of technical studies, such as the Lake Geraldine Water Balance Model
- Updates on the Closure and Reclamation Plan for the West 40 Landfill

The Compliance Assessment Report does not address the issues identified by CIRNAC through the Annual Report reviews.



Recommendation:

(IR-10) CIRNAC recommends the City provide a revised compliance assessment/status report that complies with section 3-57 of the SIG and addresses previously identified compliance issues. Please see attachment A of Appendix A for the most up to date license terms.

11. Existing Water Intake

Comment:

Section 6-8 of the SIG requires the Application to provide a description of the water intake method(s) including the intake facility.

The reference document (251223-3AM-IQA---- Attach-09-LTWP-Prelim-Design-Rpt-IMLE) includes a description of the proposed intakes as part of the LTWP but does not provide a description of the existing infrastructure.

Recommendation:

(IR-11) CIRNAC recommends that the City provide description of the existing water intake infrastructure and update the response to section 6-8 of the SIG.

12. Existing Water Intake Condition

Comment:

Section 6-9 of the SIG requires the Application to provide a description of the general condition of any existing water intake facility. Rate the condition of the facility as satisfactory or unsatisfactory and explain the rating.

The reference document (251223-3AM-IQA---- Attach-09-LTWP-Prelim-Design-Rpt-IMLE) includes a description of the proposed intakes as part of the LTWP but does not provide a description of the existing infrastructure or rating.

Recommendation:

(IR-12) CIRNAC recommends that the City provide a description of the condition of the existing water intake infrastructure and update the response to section 6-9 of the SIG.

13. Water Storage

Comment:

Sections 6-15 through 6-19 of the SIG require the Application to provide details on the water storage facilities including the type, location, design and the water storage volume.

For sections 6-15 through 6-18 of the SIG, documentation is focused on the LTWP and does not provide details of the existing facilities. Section 6-19 of the SIG does provide reference



to the existing raw water storage but does not include the storage capacity at the water treatment plant.

Recommendation:

(IR-13) CIRNAC recommends that the City provide the required documentation for the existing infrastructure and update the response to sections 6-15 through 6-19 of the SIG.

14. Waste Disposal

Comment:

Sections 7-1 (parts a through j) of the SIG require that the Applicant provide a detailed description of all types of waste and all forms of waste disposal.

The City's response to sections 7-1 of the SIG refers to section 4.3 of the reference document (251223-3AM-IQA---- Applic-Main-Doc-IMLE), but that appears to be a typo as there is no section 4.3 in the report. Section 4.2 of the reference document provides a summary of the waste anticipated to be generated through the LTWP but does not provide details on the existing system.

Recommendation:

(IR-14) CIRNAC recommends that the City provide the required descriptions of all types of waste and waste disposal under the licence, including the existing waste facilities (i.e., West 40 and North 40 Landfills) and wastewater treatment systems and update the response to section 7-1 of the SIG.

15. Waste Disposal: Quality and Quantity

Comment:

Sections 7-2, 7-3, and 7-4 of the SIG require that the Applicant provide details on the quality and quantity of waste generated; location, rate, timing, frequency, and duration of deposits; the methods and processes for handling (collecting, storing, treating, and discharging) waste; the capacity of waste facilities; and a description of measures to minimize the production of wastes.

The application from the City indicates that the information required in sections 7-2 through 7-4 of the SIG is not applicable as no changes to the existing facilities are proposed. From *Guide 7 – Licensee Requirements following the Issuance of a Water Licence*, Part 2, Section 3, "Even if information in respect of an SIG(s) was provided upon application for the original licence, the Board requires the licensee to submit updated information addressing the SIG. Legislation, policies, best management practices and the information needs of both the Board and other parties may all change over time. Requirements and plans that were previously accepted may no longer reflect current conditions."



The response provided indicates that there are no changes to the existing infrastructure but does not provide any details of the existing facilities. The City's response to sections 7-2 through 7-4 of the SIG refer to section 4.3 of the reference document (251223-3AM-IQA---Applic-Main-Doc-IMLE), but there is no section 4.3 in the report. The reference document does not provide the details requested.

Recommendation:

(IR-15) CIRNAC recommends that the City provide the required descriptions of all types of waste and waste disposal under the licence, including the existing waste facilities to comply with items 7-2, 7-3 and 7-4 and update the response to these sections of the SIG.

16. Wastewater Including Sewage and Grey Water

Comment:

Sections 7-5 through 7-18 of the SIG require that the Applicant provide information on the wastewater treatment facilities.

The application from the City indicates that the information required in sections 7-5 through 7-18 of the SIG is not applicable as no changes to the existing facilities are proposed. From *Guide 7 – Licensee Requirements following the Issuance of a Water Licence*, Part 2, Section 3, "Even if information in respect of an SIG(s) was provided upon application for the original licence, the Board requires the licensee to submit updated information addressing the SIG. Legislation, policies, best management practices and the information needs of both the Board and other parties may all change over time. Requirements and plans that were previously accepted may no longer reflect current conditions."

The response does not provide any details on the existing infrastructure or references to applicable documents with the details.

Recommendation:

(IR-16) CIRNAC recommends that the City:

- IR-16a) Provide the required information on wastewater treatment facilities, including the existing wastewater treatment facilities.
- IR-16b) Update the response to sections 7-5 through 7-18 of the SIG.

17. Wastewater System Capacity

Comment:

Section 7-10 of the SIG requires that the Applicant indicate the capacity of the wastewater treatment facility.

As stated in comment 16, above, the City's response in section 7-10 of the SIG does not provide details on the existing infrastructure or references to applicable documents with the



details. It is unclear if the capacity of the wastewater treatment plant/sewage lagoon has been confirmed with the proposed increase in water use or if they would require upgrades to include additional capacity.

Recommendation:

(IR-17) CIRNAC recommends the City provide details on whether the wastewater system has capacity to meet the proposed increases in water use and update the response to section 7-10 of the SIG.

18. Wastewater Treatment System

Comment:

Section 7-19 of the SIG requires that the Applicant indicate whether there have been any operating problems with existing wastewater treatment facilities.

The reference document is the 2024 Annual Report, which provides only a summary of the modifications that were completed, but does not describe the operating problems that are or were experienced at the facility.

Section 7-20 of the SIG requires the Application to provide a description of the general condition of any existing wastewater collection system, discharge control system, dams, diversion dykes or berms and provide an explanation if unsatisfactory.

The reference document section that is listed summarizes the dam inspection for the Lake Geraldine Dam, but does not provide details on the wastewater infrastructure.

Recommendation:

(IR-18) CIRNAC recommends that the City provide the following required information in accordance with sections 7-19 and 7-20 of the SIG:

IR-18a) Description of operating problems with the existing wastewater treatment facilities.

IR-18b) Description of the general conditions of the existing wastewater treatment facilities (wastewater collection system, discharge control system, dams, diversion dykes or berms).

19. Solid Waste Facilities

Comment:

Sections 7-21 to 7-29 of the SIG requires that the Applicant provide information on the existing solid waste management facilities.



The application from the City indicates that the information required in sections 7-21, 7-22, 7-23, 7-24, 7-26, 7-27 and 7-28 of the SIG are not applicable as no changes to the existing facilities are proposed. From *Guide 7 – Licensee Requirements following the Issuance of a Water Licence*, Part 2, Section 3, "Even if information in respect of an SIG(s) was provided upon application for the original licence, the Board requires the licensee to submit updated information addressing the SIG. Legislation, policies, best management practices and the information needs of both the Board and other parties may all change over time. Requirements and plans that were previously accepted may no longer reflect current conditions."

The response does not provide any details on the existing infrastructure or references to applicable documents with the details.

Recommendation:

(IR-19) CIRNAC recommends that the City provide:

- IR-19a) The required information on solid waste management facilities, and
- IR-19b) An updated response to sections 7-21 through 7-28 of the SIG.

20. Fuel and Chemical Storage

Comment:

The Application notes that the City plans to construct new facilities over the period of mid-2026 to October 2029 and will require the development of several quarries, the operation of heavy equipment, storage and use of fuel, explosives, lubricating oils and greases for equipment maintenance. Section 4-1(o) of the SIG requires the Application to provide a complete description of the undertaking with detailed site plans including fuel and chemical storage. Sections 7-38 and 7-39 of the SIG require the Application to provide a description of the type and quantities of petroleum products, chemicals and/or hazardous materials to be disposed of and details on the handling and storage of hazardous or potentially hazardous materials.

Recommendation:

(IR-20) CIRNAC recommends that the City provide the following information in accordance with sections 4-1(o), 7-38, and 7-39 of the SIG:

- IR-20a) Present the locations of storage facilities/areas on a site plan and indicate whether they are temporary or permanent .
- IR-20b) Submit an updated version of the City of Iqaluit Solid Waste Management Plan to include such management activities for hazardous wastes.
- IR-20c) Update the response to section 4-1(o), 7-38 and 7-39 of the SIG.



21. Hazardous Waste Disposal

Comment:

In the 2024 Annual Report, it was noted that two 20-foot dangerous goods containers equipped with integrated secondary containment systems were scheduled to arrive at the West 40 Landfill during the 2025 sealift season to enhance the safe storage of household hazardous waste (HHW) and reduce the risk of environmental contamination. The City was also set to receive containment pallets, which will be used to store smaller volumes of hazardous materials and prevent potential spills during interim handling. This information indicates possible additional waste disposal facilities/areas for hazardous waste which were not included in the Application. Sections 7-38 and 7-39 of the SIG require the Application to provide a description of the type and quantities of hazardous materials to be disposed of and details on the handling and storage of hazardous or potentially hazardous materials.

Recommendation:

(IR-21) CIRNAC recommends that the City provide the following information in accordance with sections 7-38 and 7-39 of the SIG:

- IR-21a) Present the locations of these hazardous waste disposal facilities/areas on a site plan and indicate whether they are temporary in nature.
- IR-21b) An updated version of the City of Iqaluit Solid Waste Management Plan to include such management activities for hazardous wastes.
- IR-21c) Update the response to sections 7-38 and 7-39 of the SIG.

22. Studies

Comment:

Section 7-43 of the SIG requires the Applicant to provide a list of studies, reports, and plans relevant to the application that have been undertaken to date or are being planned, including design and management decisions. Section 7-43 (a through t) of the SIG list types of reports and plans that may be included.

The City's response to section 7-43 of the SIG states "*There are no changes proposed to the existing approved facilities covered under Water Licence No. 3AM-IQA-1626.*" As mentioned in previous comments, *Guide 7 – Licensee Requirements following the Issuance of a Water Licence*, Part 2, Section 3 states "Even if information in respect of an SIG(s) was provided upon application for the original licence, the Board requires the licensee to submit updated information addressing the SIG." The City provided the following plans or reports in response to section 7-43 (j, l, m, and q) of the SIG:

- For j - Preliminary Geotechnical Investigation Report (Arcadis, Aug 2025) (251223-3AM-IQA---- Attach-27-Geotech-Report-Reservoir&Pipeline-Crossing-IMLE)
- For l - City of Iqaluit Operations and Maintenance Manuals (via link to NWB Public Registry)



- City of Iqaluit Landfill Operations and Maintenance Manual, dated December 2018
- City of Iqaluit Landfill Operations and Maintenance Manual, dated December 18, 2018
- City of Iqaluit Sewage Lagoon Operation and Maintenance Manual, dated March 31, 2020
- Process – Mechanical Operation & Maintenance Manual for the Iqaluit Wastewater Treatment Plant, Iqaluit, Nunavut, dated April 24, 2020
- Architectural and Structural Operation & Maintenance Manual for the Iqaluit Wastewater Treatment Plant, Iqaluit, Nunavut, dated April 24, 2020
- Building Mechanical Operation & Maintenance Manual for the Iqaluit Wastewater Treatment Plant, Iqaluit, Nunavut, dated April 24, 2020
- City of Iqaluit Operations and Maintenance Manual (Revised – Version 4.0), Landfill and Waste Transfer Station, dated October 2020
- City of Iqaluit Operations and Maintenance Manual, Landfill and Waste Transfer Station, dated August 2022
- City of Iqaluit Environmental Management Plan, Landfill and Waste Transfer Station, dated August 2022
- City of Iqaluit Erosion and Sediment Control Plan, Landfill and Waste Transfer Station, dated August 2022
- For m - Emergency Response Plan (Arcadis, Sep 2024) (251223-3AM-IQA---- Attach-24-LTWP-Prelim-Design-Rpt-Append-M-ERP-IML)
- For q - Closure and Decommissioning Plan Landfill and Waste Transfer Station. (Dillon, Aug 2022) (251223-3AM-IQA---- Attach-38-North40-Landfill-Closure-Plan-IMLE)

The City's response to section 7-43(r) of the SIG states "Final closure plan will be filed 1 year prior to closure of the landfill."

From *Guide 7 – Licensee Requirements following the Issuance of a Water Licence*, Part 2, Section 9, "the licensee must also submit updated plans including designs and reports if plans on the public registry are over three (3) years old or outdated." During review of the City's 2024 Annual Report for Water Licence No: 3AM-IQA1626, the NWB stated that the renewal application must include the most recent and updated versions of management plans and O&M Manuals. All of the reports and plans referenced by the City in response to section 7-43(l) of the SIG are more than five years out of date and should be updated to reflect current conditions, legislation, policies, and best management practices.



The reference document provided by the City in response to section 7-43(j) of the SIG is missing the appendices, including the Appendix F which is relevant to the acid rock drainage assessment.

The reference document provided by the City in response to section 7-43(m) of the SIG is the Emergency Response Plan for the LTWP and does not address spill contingency and emergency response plans for the waste disposal facilities.

Recommendation:

(IR-22) CIRNAC recommends that the City provide the following information in accordance with section 7-43 of the SIG:

- IR-22a) Updated operation and maintenance plans for all waste disposal facilities included in this Application, including existing facilities.
- IR-22b) Spill contingency and emergency response plans—updated to reflect current conditions, legislation, policies, and best management practices—for the waste disposal facilities.
- IR-22c) Update the response to section 7-43 of the SIG.

23. Monitoring Plan and Quality Assurance/Quality Control Plan

Comment:

Section 8-1 of the SIG requires that the Applicant provide a Monitoring Plan including a description of the methods, procedures, standards, and schedules proposed and section 8-5 of the SIG requires a Quality Assurance/Quality Control (QA/QC) Plan addressing both field sampling and laboratory analyses.

A summary table that details the updated monitoring plan was included in the Application. The updated Monitoring Plan does not meet the requirements of the Application (i.e., methods, procedures, standards, etc.). Figure 6.1 in the Application presents the location of monitoring sites but does not differentiate between surface water and groundwater locations at the New North 40 Landfill and the Waste Transfer Station.

In the table 6.2 of the document “251231 3AM-IQA1626 251223-3AM-IQA---- Applic-Main-Doc-IMLE “, 19MW-05 is presented as an active site. Contrastingly, figure WTS-C02 in the document “251231 3AM-IQA1626 251223-3AM-IQA---- Attach-37-Waste-Transfer-Station-CSR-IMLE” presents 19MW-05 as a monitoring site set to be decommissioned.

Recommendation:

(IR-23) CIRNAC recommends that the City provide the following information in accordance with sections 8-1 and 8-5 of the SIG:

- IR-23a) Updated Monitoring Plan and QA/QC Plan accompanied by a letter from an Analyst of an accredited laboratory confirming acceptability of the Plan



- IR-23b) Differentiation between surface water and groundwater locations on the site plan showing the monitoring sites.
- IR-23c) Confirmation whether 19MW-05 is to remain active.
- IR-23d) Update the response to sections 8-1 and 8-5 of the SIG.

24. Monitoring

Comment:

Section 8-2 of the SIG requires that the Applicant provide details on the person responsible for sampling including that person's position, contact information and level of training. Section 8-3 of the SIG requires the name and contact information of the certified laboratory performing the analysis of the samples.

The section of the reference document does not include the name/position of the person responsible for sampling and does not include the laboratory performing the analysis of the samples.

Recommendation:

(IR-24) CIRNAC recommends that the City provide the required information regarding the laboratory and person responsible for sampling, in accordance with sections 8-2 and 8-3 of the SIG, and update the response to sections 8-2 and 8-3 of the SIG.

25. Inspection Plan

Comment:

Section 8-4 of the SIG requires that the Applicant provide an Inspection Plan for engineered facilities related to the management of water and waste as well as spills. Inspection Plans must include a description of the methods, procedures, standards, and schedules proposed.

The City's response to section 8-4 of the SIG states "To be developed during the detailed design phase."

Recommendation:

(IR-25) CIRNAC recommends that the City provide an Inspection Plan as part of this application and update the response to section 8-4 of the SIG.

26. LTWP Surveillance Network Program

Comment:

Section 8-6 of the SIG requires that the Applicant provide a map detailing the location of monitoring sites.

It is noted that the City will identify new surveillance network program (SNP) stations for the LTWP prior to the start of construction. Twelve monitoring wells were installed between



February and March 2024 to assess baseline groundwater conditions at the LTWP, as noted in the Physical, Biological and Socioeconomic Screening Report (251231 3AM-IQA1626 251223-3AM-IQA---- Attach-29-Env-Screening-Rpt-IMLE). These monitoring wells are potential sites for continued monitoring as part of the monitoring program; however, their location is unknown, and limited baseline data was provided (i.e. only for MW2023-4 and MW2023 for general chemistry).

Recommendation:

(IR-26) CIRNAC recommends that the City provide the following information in accordance with section 8-6 of the SIG:

IR-26a) Present the locations of these twelve monitoring wells on a site plan in accordance with section 8-6 of the SIG and indicate whether they have been decommissioned or are scheduled to be decommissioned.

IR-26b) Provide the general chemistry results for the other ten monitoring wells in accordance with section 6-5 of the SIG or provide a rationale if they were not sampled.

IR-26c) Update the response to section 8-6 of the SIG.

27. Explosives Management Plan and a Refueling Plan

Comment:

The Emergency Response Plan (251231 3AM-IQA1626 251223-3AM-IQA---- Attach-24-LTWP-Prelim-Design-Rpt-Append-M-ERP-IMLE Arcadis, 2024) references an Explosives Management Plan and a Refueling Plan. These plans were not included in the submission of the Application. Without these plans it would not be possible to comment on the completeness of the Application.

Recommendation:

(IR-27) CIRNAC recommends that the City provide the Explosives Management Plan and a Refueling Plan for review.

28. Safety Data Sheets (SDS)

Comment:

In the Emergency Response Plan - Long Term Water Program - Supply and Storage (251231 3AM-IQA1626 251223-3AM-IQA---- Attach-24-LTWP-Prelim-Design-Rpt-Append-M-ERP-IMLE), emergency steps taken for a chemical spill include consulting the SDS. SDSs for chemicals expected as part of the LTWP have not been included in the Plan to assess whether emergency actions outlined in the Plan are appropriate.



Recommendation:

(IR-28) CIRNAC recommends that the City submit an updated Emergency Response Plan that appends SDSs for chemicals expected as part of the LTWP. Note that these SDSs must also be included in the next iteration of the Spill Contingency Plan.

29. Verify Supplemental Information Guideline (SIG) Table

Comment:

Within the document “251231 3AM-IQA1626 251223-3AM-IQA---- Attach-04-SIG-Concordance-IMLE”, column H of tables 2.0 through 8.0 was in many cases either empty or did not provide the correct information. Providing accurate and complete information within the SIG table is essential for ensuring timely and thorough reviews of each of the Water Licence application requirement.

Recommendation:

(IR-29) CIRNAC recommends that the City verify the accuracy of the information provided after updating all of the previously mentioned sections of the SIG.

30. Ongoing Unaddressed Recommendations

Comment:

Through review of the City’s annual reporting on Water Licence 3AM-IQA1626, CIRNAC has raised multiple concerns and compliance issues. In the November 20, 2025, NWB Technical Review of 2024 Annual Report for the City of Iqaluit; Water Licence No: 3AM-IQA1626 there were 33 recommendations/concerns raised by CIRNAC, 32 of which remain unresolved.

The following recommendations/concerns have been resolved: 2024 R-11 recommends the applicant provide an update on when the Closure and Reclamation Plan for the for the West 40 Landfill will be submitted to the NWB. The City has stated that the plan will be submitted one (1) year prior to commencing the decommissioning of the West 40 Landfill.

There were three unresolved recommendations that were expected to be addressed in this Application:

- CIRNAC recommended that the O&M Manuals for the Landfill and Waste Transfer Station, Wastewater Treatment Plant and Water Treatment Plant be submitted with the renewal application or 2025 Annual Report, whichever is first.
- CIRNAC recommended clarification on whether [a spill] was considered a small, medium, or large spill based on spill types in the General Spill Response Plan and recommended adding this information to NWT/NU Spill Report Form to aid personnel to quantify spill when completing a spill report by estimating the size of the spill. CIRNAC recommended that a copy of this spill report be provided and included in the



Spill Contingency Plan to be submitted with the renewal application or 2025 Annual Report, whichever is first.

- CIRNAC recommended that the City submit an updated and recalibrated Lake Geraldine Water Balance Model to address the new bathymetric survey data collected in 2024 and the updated metrological information to be submitted with the renewal application or 2025 Annual Report, whichever is first.

Recommendation:

(IR-30) CIRNAC recommends that the City provide the following to resolve previous recommendations that were expected to be addressed in this Application:

- IR-30a) Updated O&M Manuals for the Landfill and Waste Transfer Station, Wastewater Treatment Plant and Water Treatment Plant
- IR-30b) Updated Spill Contingency Plan
- IR-30c) Updated and recalibrated Lake Geraldine Water Balance Model



Appendix A – Summary of Trends on the Annual Report to Nunavut Water Board and Identification of Potential Changes to Consider for the Water Licence Renewal

November 7, 2025

Michelle Blade, M.Sc., P.Geol.
Regulatory and Science Advisor, Water Resources, Nunavut Regional Office Crown-Indigenous Relations and Northern Affairs Canada

Andrew Keim
Manager, Water Resources, Nunavut Regional Office Crown-Indigenous Relations and Northern Affairs Canada

RE: City of Iqaluit Water Licence No. 3AM-IQA1626 – Summary of Trends on the Annual Report to Nunavut Water Board and Identification of Potential Changes to Consider for the Water Licence Renewal

CBCL Limited (CBCL) was retained by Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) to review the City of Iqaluit's 2022, 2023, and 2024 Annual Reports for Water Licence No. 3AM-IQA1626. In anticipation of the City of Iqaluit's imminent application for renewal of Water Licence No. 3AM-IQA1626, CIRNAC requested CBCL summarize key observations and provide recommendations for potential changes to the Water Licence. CBCL's review focused on aspects that are understood by CBCL to be within CIRNAC's areas of interest. This review was completed in accordance with the CIRNAC Standing Offer 4600002226 for Expert Engineering, Scientific, Technical and Environmental Evaluations associated with Northern Development.

This review provides an overview of the City's current Water Licence, a summary of key observations noted during reviews of Annual Reports, and recommendations or suggested changes to consider during CIRNAC's review of the application for renewal of Water Licence No. 3AM-IQA1626 to improve compliance and associated reporting requirements.

Overview of Water Licence No. 3AM-IQA1626

The City of Iqaluit (the City or the Licensee) obtained the Licence to alter, divert, or otherwise use water or deposit waste within the City's municipal boundaries in the Qikiqtani Region, Nunavut. The City was issued Water Licence No. 3AM-IQA1626 on June 17, 2016, for a 10-year period that expires June 16, 2026. Water Licence No. 3AM-IQA1626 authorizes the following activities, works, and undertakings by the City:

- a. Use, management, and protection of the Lake Geraldine drainage basin
- b. Management and protection of Waters surrounding the West 40 Landfill site
- c. Management, collection, and monitoring of leachate from the West 40 Landfill site and adjacent Sludge Management Facility
- d. Management of improved drainage works at the West 40 Landfill site

- e. Management, operation, and eventual closure and reclamation of the current West 40 Landfill site and associated solid waste disposal facilities
- f. Upgrades, operation, maintenance, monitoring, and eventual closure and reclamation of a Wastewater Treatment Plant (WWTP)
- g. Operation, maintenance, monitoring, and eventual closure and reclamation of a Sludge Management Facility
- h. Operation, maintenance, monitoring and eventual closure and reclamation of a Sewage Lagoon Facility
- i. Implementation of contingency measures for the Wastewater and Landfill management facilities
- j. Implementation of changes to the monitoring requirements including frequency, parameters, and stations being monitored

Since the Licence was issued in 2016, the City has applied for and received a series of amendments to the Licence, the following which are relevant to the period covered by the City of Iqaluit's 2022, 2023, and Annual Water Licence Reports:

- Amendment No. 4
 - effective April 1, 2020
 - allows seasonal replenishment of Lake Geraldine Reservoir from the Niaqunguk River (Apex River)
- Amendment No. 5
 - effective March 15, 2021
 - allows for construction and operation of new solid waste management facilities and water use from Imiqtarviviniq Lake (Dead Dog Lake)
- Amendment No. 6
 - effective October 15, 2021
 - allowed for construction, operation, and removal of temporary facilities to truck water from the Sylvia Grinnell River
 - expired upon resolution of the state of emergency
- Amendment No. 7
 - effective August 22, 2022
 - allowed replenishment of the Lake Geraldine Reservoir through withdrawal of water from an unnamed lake to the Apex River and an increase in withdrawal from the Apex River
 - expired upon completion of the temporary withdrawals required to replenish the Lake Geraldine Reservoir in 2022

Through the amendments, the quantity of water withdrawal permitted has increased from 1,100,000 m³ extracted annually from the Lake Geraldine Reservoir, authorized under Water Licence No. 3AM-IQA1626 issued in 2016, to the current annual withdrawal limits:

- 2,000,000 m³ from the Lake Geraldine Reservoir (Amendment 4, 2020)
- 500,000 m³ from Niaqunguk River (Apex River) for transfer to Lake Geraldine Reservoir (Amendment 5, 2021)
- 2,500 m³ from Imiqtarviviniq Lake (Dead Dog Lake) (Amendment 5, 2021)

A summary of all of the Water Licence No. 3AM-IQA1626 conditions—including those changed or added through Amendments 4, 5, 6, and 7—is provided in Appendix A; this summary

includes the definitions, annual reporting requirements, and monitoring requirements in Schedules, A, B, and I of Water Licence No. 3AM-IQA1626.

It is noted that Part B item 3 of Water Licence No. 3AM-IQA1626 requires that the *“Licensee shall file an application for renewal of this Licence at least one (1) year prior to the Licence expiry”*. Water Licence No. 3AM-IQA1626 expires June 16, 2026. An application for renewal of the licence was required to be submitted by June 26, 2025. The City is expected to submit the application for renewal in fall 2025; as of the date of this report (November 4, 2025), an application for renewal of Water Licence No. 3AM-IQA1626 has not been posted on the NWB public registry.

Key Comments in Previous Annual Report Reviews

In addition to the comments issued through review of City of Iqaluit’s 2022, 2023, and 2024 Annual Reports, CBCL also reviewed CIRNAC comments on the City’s Annual Reports for 2018 to 2021 for common gaps, technical deficiencies, and occurrences where either the reporting requirements or conditions of the licence could be improved. CBCL noted the following key themes. This list is not intended to be exhaustive of all technical comments; rather, this is focused on frequent comments and others of technical merit that could be improved through changes in the Water Licence requirements.

- Dam safety reviews and inspections
- Monitoring reporting
- Spill and unauthorized discharge reporting
- Documentation of activities, modifications, or major maintenance work
- Operations and maintenance documentation
- Hazardous waste management
- Water balance modelling and technical studies
- Closure and reclamation planning
- Planned work for the next year

Dam safety reviews and inspections

CIRNAC has repeatedly commented on unresolved deficiencies identified in Dam Safety Reviews (DSR) and Inspections (DSI), such as instrumentation data collection, repairs, and installation of monitoring equipment. The conditions of Water Licence No. 3AM-IQA1626 specify the DSR and DSI requirements and reporting to be provided to the NWB:

- Part D: Conditions Applying to the Use of Waters and Water Management Plans, Item 3
- Part E: Conditions Applying to the Deposit of Waste and Waste Management Plans, Item 10
- Schedule B: Annual Reporting Requirements, Item c

Dam infrastructure is present in the Lake Geraldine water supply and the Wastewater Treatment Facilities - Sewage lagoon. The associated dams require DSI and/ DSRs in accordance with requirements of the Canadian Dam Association (CDA), and the status of

these are to be reported in the Annual Report including recommended actions to address any deficiencies identified in the inspections and/or reviews. CIRNAC has requested detailed plans and timelines for mitigation measures and confirmation of completed actions.

Monitoring reporting

CIRNAC has repeated comments about missing or incomplete sampling data, lack of compliance with Schedule I of the Water Licence, and requests for improved reporting of sampling locations, frequency, and analyses. There are repeated comments on the availability and reporting of S::CAN data, and the need for updated procedures and equipment for proper sampling activities. The conditions of Water Licence No. 3AM-IQA1626 specify the monitoring and reporting to be provided to the NWB:

- Part I: Conditions Applying to Monitoring, Item 10 and Item 6
- Schedule B: Annual Reporting Requirements, Item f
- Schedule I: Condition Applying to Monitoring, Table 2

CIRNAC has repeatedly requested clarification and completeness in annual reports, such as specifying whether data presented is from the correct year, and including all required information (e.g., spill volumes, water withdrawal, wastewater discharge).

Spill and unauthorized discharge reporting

CIRNAC has repeated requests for the City to quantify and report the volume of spills, with several years of incomplete data. The conditions of Water Licence No. 3AM-IQA1626 specify the spill and unauthorized discharge reporting to be provided to the NWB:

- Part B: General Conditions, Item 11
- Part H: Conditions Applying to Spill Contingency Planning, Item 2 and Item 3
- Schedule B: Annual Reporting Requirements, Items b and k

CIRNAC has requested updated Spill Contingency Plans that address common causes of spills and incorporate improved response procedures. CIRNAC has requested more detail in spill reports, such as spill type (small, medium, large), follow-up actions, and corrective measures.

Documentation of activities, modifications, or major maintenance work

The comments from CIRNAC on the City's Annual Reports frequently request additional information on the maintenance and construction activities reported. The conditions of Water Licence No. 3AM-IQA1626 require this information to be provided to the NWB:

- Part F: Conditions, Item 1 and Item 6
- Part G: Conditions, Items 1, 2, and 3
- Schedule B: Items g, h, and n

CIRNAC repeatedly asks for updates on the progress of upgrades (e.g., caustic soda system for pH control, HVAC system at WWTP, UV system at WTP), construction summaries, and confirmation of notification and submission of as-built drawings for new or modified facilities. For example, construction activities on the ATCO Loop sanitary sewer and watermain

decommissioning and Federal Road Utilidor/ Watermain Extension was reported in the 2023 Annual Report; however, it was unclear whether notification or documentation required under Part G were provided to the NWB. Construction at the North 40 landfill and waste transfer facility was reported in the 2024 Annual Report; however, it was unclear whether the documentation required under Part F was provided to the NWB.

For activities undertaken and completed during the reporting year, the summary of activities provided in the Annual Report should include the date the relevant notifications and documentation were submitted to the NWB to demonstrate compliance with the conditions of the Licence.

Operations and maintenance documentation

CIRNAC repeatedly requests updated Operations & Maintenance (O&M) manuals for facilities like the Wastewater Treatment Plant (WWTP), Water Treatment Plant (WTP), Landfill, and Waste Transfer Station. The conditions of Water Licence No. 3AM-IQA1626 require plans to be reviewed and updated and to be provided to the NWB:

- Part B: General Conditions, Item 10
- Schedule B: Item j

CIRNAC has requested confirmation that manuals reflect recent upgrades and substantial completions, and recommends submission of the latest versions.

It is noted that the plans do not appear to be updated regularly when there are changes to the operation or modifications to the systems or activities. To facilitate compliance, the status of Plans, Manuals and Reports approved under the Licence should be provided with the Annual Report with either a summary of the changes made or rationale as to why no changes were made. The following example table could be added to the Annual Report template.

Plans, Manuals and Reports	Updated		Summary of Change /
	Yes	No	Rationale for no Change
Spill Contingency Plan	X		Updates to plan to reflect comments from 2024 Inspection Report.

Hazardous waste management

CIRNAC has requested confirmation of hazardous waste management practices, including which wastes remain on-site, how contaminated materials are handled, and records of proper disposal. The conditions of Water Licence No. 3AM-IQA1626 specify the management of hazardous waste and reporting to be provided to the NWB:

- Part E: Conditions Applying to the Deposit of Waste and Waste Management Plans, Item 18
- Schedule B: Item t

CIRNAC has emphasized the need for documentation and transparency in hazardous waste shipments and storage.

Water balance modelling and technical studies

CIRNAC has requested updated schedules and submission of technical studies, such as the Lake Geraldine Water Balance Model and Bathymetric Survey, to support licence renewal and ongoing water management. The conditions of Water Licence No. 3AM-IQA1626 specify the studies and reporting to be provided to the NWB:

- Part D: Conditions Applying to the Use of Waters and Water Management Plans, Item 11
- Schedule B: Annual Reporting Requirements, Item o

Closure and reclamation planning

CIRNAC has requested updates on the Closure and Reclamation Plan for the West 40 Landfill, including timelines and confirmation that plans are prepared in accordance with licence requirements. The conditions of Water Licence No. 3AM-IQA1626 specify the plans and reporting to be provided to the NWB:

- Part J: Conditions Applying to Closure and Reclamation, Items 2 and 4
- Schedule B: Annual Reporting Requirements, Item i

Planned work for the next year

Although not typically commented on by CIRNAC during review of the Annual Reports, the City's Annual Reports consistently omit information on the work planned for the next year. The conditions of Water Licence No. 3AM-IQA1626 (i.e., Schedule B: Item l) require this information to be provided in the Annual Report. A summary of planned work, including any changes to implementation and scheduling, would allow CIRNAC to articulate the expectations for reporting on the planned work in the next year's Annual Report.

Additional Observations on the Water Licence

The following comments are not specific to the annual reporting requirements, but are provided as observations on the Water Licence that may be considered by the NWB for change with the upcoming Licence renewal application.

Consolidated Licence

The management of multiple amendments to Water Licence No. 3AM-IQA1626 has introduced complexity to both the administration and reporting processes for the City of Iqaluit. With each amendment altering withdrawal limits, operational permissions, and facility management requirements, tracking compliance and accurate reporting on current and future activities, and monitoring requirements, has become increasingly challenging. Consolidating these amendments into a single, unified licence could streamline reporting requirements, reduce the risk of oversight, and enable clearer documentation of annual activities. Additionally, this approach would facilitate NWB and CIRNAC review of the Annual Reports.

Effluent requirements for compliance

Under the current water licence, Part E (Conditions Applying to the Deposit of Waste and Waste Management Plans) does not specify effluent discharge criteria for either the wastewater treatment plant or the sewage lagoon. Schedule I specifies effluent sampling requirements and frequencies for both facilities; however, without effluent discharge criteria, it is difficult to determine if the facilities are in compliance or to determine if the treatment facilities are operating as intended. It is recommended that through the licence renewal process, consideration be given to developing site-specific effluent discharge requirements for effluent at the end of pipe for both facilities. This would align with effluent discharge requirements that have been included for licences issued to other municipalities by the NWB.

Table 1 of Schedule I outlines the analytical parameters, which are presented in test groups, which are applicable to the various sampling stations outlined in Table 2. For the wastewater sampling stations (IQA-02, IQA-04, IQA-05), the test groups that are required for sampling are biological (b), nutrients (N), effluent (E) and total metals scan (ICP). It is not clear the basis for developing the parameter list for sampling requirements in the current licence; however, the current sampling requirements do not align with what is typically expected for municipal wastewater treatment plants located elsewhere in Canada. It is acknowledged that the National Performance Standards, Wastewater System Effluent Regulations (WSER), or criteria applied by provincial regulators do not apply for the facilities, in Nunavut. However, for comparison purposes, systems under those regulations typically sample biological oxygen demand (BOD), total suspended solids (TSS), E.coli/coliforms, pH, and total chlorine residual on a regular basis (biweekly or monthly). Additional parameters including nutrients may be added as site specific parameters based on the receiving environment. Generally, metals scans (ICP-Metals scan in Table 1) are not included in routine monthly sampling. Inclusion of

additional parameters incurs additional costs and logistics for the City, with limited benefit from the results generated.

Table 2 of Schedule I of the current licence outlines the station IDs for the various sampling locations. Under the current table, the treated water from the water treatment plant does not have a dedicated station id or monitoring requirements. The City has been collecting treated water samples (before entering the distribution system) based on IQA-01, however it is recommended that a dedicated station Id and testing requirements be included for the treated water.

In response to the hydrocarbon event in 2021, the WTP has installed a S::CAN online analyzer to monitor for hydrocarbons in the raw and treated water. Through the Annual Report review process, it has been requested that the City provide a summary of the results as part of the Schedule B item f; however, this data is not explicitly listed in the licence or schedule I table 1. If the analyzer is considered long term monitoring as part of the follow-up activities from the spill as identified in Reporting requirement K. *“A list and description, including volumes and Spill Report Line Identification Number, of all un-authorized Discharges, spills and summaries of follow-up action taken”* it is recommended that it is included in the monitoring requirements Schedule I .

Under the current licence, Part D outlines the conditions for the use of waters and water management plans. The majority of the items are relevant to the source water and protection of the source water environment. Item 8 refers to the licensee maintaining the potable water treatment facility in accordance with applicable guidelines, procedures and regulations to the satisfaction of an Inspector. Through the Annual Report review process, there was discussion about the applicable guidelines for comparing the sample results provided. For treated water quality, the Government of Nunavut has been developing the “Drinking Water Strategic Framework” (2023), which indicates that forthcoming regulatory changes in Nunavut are anticipated to reflect the Health Canada Guidelines for Canadian Drinking Water Quality (GCDWQ). While the regulatory changes may not occur until after the licence renewal process, consideration should be given to update item 8 to include reference to the GCDWQ and the future GN framework as applicable guidelines.

References

CIRNAC. 2025. Crown-Indigenous Relations and Northern Affairs Canada’s review of the City of Iqaluit 2024 Annual Report for Type A Water Licence No. 3AM-IQA1626 in the Qikiqtani Region of Nunavut. Dated July 28, 2025.

CIRNAC. 2024. Crown-Indigenous Relations and Northern Affairs Canada's review of the City of Iqaluit 2023 Annual Report for Type A Water Licence No. 3AM-IQA1626 in the Qikiqtani Region of Nunavut. Dated August 6, 2024.

CIRNAC. 2023. Crown-Indigenous Relations and Northern Affairs Canada's review of the City of Iqaluit 2022 Annual Report for Type A Water Licence No. 3AM-IQA1626 in the Qikiqtani Region of Nunavut. Dated August 22, 2023

CIRNAC. 2022. Crown-Indigenous Relations and Northern Affairs Canada's Review of City of Iqaluit's 2021 Annual Report for Water Licence 3AM-IQA1626. Dated October 5, 2022

CIRNAC. 2021. Crown-Indigenous Relations and Northern Affairs Canada Comments on City of Iqaluit 2020 Annual Report for Municipal Type A Water Licence No. 3AM-IQA1626. Dated June 24, 2021

CIRNAC. 2020. Crown-Indigenous Relations and Northern Affairs Canada Comments on City of Iqaluit 2019 Annual Report for Municipal Type A Water Licence No. 3AMIQA1626. Dated July 14, 2020.

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City of Iqaluit. 2025. City of Iqaluit Water Licence 3AM-IQA1626 2024 Annual Water License Report. Dated May 2, 2025.

City of Iqaluit. 2024. City of Iqaluit Water Licence 3AM-IQA1626 2023 Annual Report Review Response.

City of Iqaluit. 2024. City of Iqaluit Water Licence 3AM-IQA1626 2023 Annual Water License Report.

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City of Iqaluit. 2022. City of Iqaluit Water Licence 3AM-IQA1626 2021 Annual Water License Report. Dated June 24, 2022

Nunavut Water Board. 2016. Type "A" Water Licence No. 3AM-IQA1626. Issued to the City of Iqaluit. Dated June 17, 2016.

Nunavut Water Board. 2019. Licence No. 3AM-IQA1626 – City of Iqaluit; Amendment No. 4 – Seasonal Replenishment of Lake Geraldine Reservoir from the Niaqunguk River (Apex River). Dated September 14, 2019.

Nunavut Water Board. 2021. Licence No: 3AM-IQA1626 – City of Iqaluit; Amendment No. 5 – New Solid Waste Management Facility and Additional Water Source. Dated March 15, 2021.

Nunavut Water Board. 2021. City of Iqaluit, Application to Amend Type “A” Water Licence No: 3AM-IQA1626 – Request for the Minister’s Consent to Process the Application on an Emergency Basis and Attached Reasons for Decision and Recommended Text of Amendment No. 6 to Water Licence No: 3AM-IQA1626 for the Minister’s Consideration. Dated October 15, 2021.

Nunavut Water Board. 2022. NWB Water Licence Type “A” No: 3AM-IQA1626, City of Iqaluit – Request for the Minister’s Consent to Process the Application on an Emergency Basis and Attached Reasons for Decision and Amendment No. 7 for the Minister’s Consideration. Dated August 22, 2022.

Closure

This report has been prepared for the sole benefit of CIRNAC. The report may not be relied upon by any other person or entity without the express written consent of CBCL Limited and CIRNAC.

Any use which a third party makes of this report and any reliance on decisions made based on it, are the responsibility of such third parties. CBCL Limited accepts no responsibility for damages, if any, suffered by any third party as a result of decisions or actions made based on this report. Information presented in this report was provided through existing documents and interviews conducted with CIRNAC personnel.

The conclusions presented represent the best judgement of the assessors based on the information provided, and the current environmental legislation and regulation at the time of the assessment.

CBCL Limited

Prepared by:
Melissa Rutherford

Reviewed by:
Loretta Hardwick



Manager, Environmental, Ottawa
Direct: 1 343-655-2774
Email: mrutherford@cbcl.ca

Senior Environmental Scientist
Direct: 343-552-2235
E-Mail: lhardwick@cbcl.ca

Attachments: A City of Iqaluit Water Licence Combined

Report No: 253602.00

This document was prepared for the party indicated herein. The material and information in the document reflects CBCL Limited's opinion and best judgment based on the information available at the time of preparation. Any use of this document or reliance on its content by third parties is the responsibility of the third party. CBCL Limited accepts no responsibility for any damages suffered as a result of third party use of this document.



Attachment A

City of Iqaluit Water Licence Combined

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626		Amendment 4	Amendment 5	Amendment 6	Amendment 7
Quantity of Water Not to be Exceeded:	1,100,000 cubic metres annually	2,000,000 cubic meters annually from Lake Geraldine Reservoir, 500,000 cubic meters annually from Niaqunguk River (Apex River) for transfer To Lake Geraldine Reservoir	2,000,000 cubic meters annually from Lake Geraldine Reservoir, 500,000 cubic meters annually from Niaqunguk River (Apex River) for transfer to Lake Geraldine Reservoir, and 2,500 cubic metres annually from Imiqtarviviniq (Dead Dog Lake).	2,000,000 cubic meters annually from Lake Geraldine Reservoir, 500,000 cubic meters annually from Niaqunguk River (Apex River) for transfer to Lake Geraldine Reservoir, 2,500 cubic metres annually from Imiqtarviviniq (Dead Dog Lake) and 350 cubic metres daily from Sylvia Grinnell River during state of emergency.	2,000,000 cubic meters annually from Lake Geraldine Reservoir, 900,000 cubic meters in 2022 from Niaqunguk River (Apex River) for transfer to Lake Geraldine Reservoir, 2,500 cubic metres annually from Imiqtarviviniq (Dead Dog Lake), and 600,000 cubic metres in 2022 from large Unnamed Source Water Lake (Unnamed Lake) to the Niaqunguk River (Apex River).

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7																										
<p>Part A: Scope, Definitions, and Enforcement</p> <p>1. Scope This Type "A" Water Licence No. 3AM-IQA1626 ("Replacement and Amended Licence" or "Licence") authorizes the City of Iqaluit ("Licensee" or the "City") to use Water and deposit Waste in support of a Municipal undertaking, as classified under Schedule 1 of the Regulations, within the City's municipal boundaries at the following approximate geographic coordinates:</p> <table border="1" data-bbox="254 451 832 673"> <thead> <tr> <th>Undertaking</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Overall Extents</td> <td>63° 50' 56.31" N</td> <td>68° 39' 49.87" W</td> </tr> <tr> <td>63° 50' 57.30" N</td> <td>68° 33' 41.94" W</td> </tr> <tr> <td>63° 43' 48.91" N</td> <td>68° 18' 12.53" W</td> </tr> <tr> <td>63° 41' 06.60" N</td> <td>68° 18' 18.82" W</td> </tr> <tr> <td>63° 41' 04.08" N</td> <td>68° 32' 44.20" W</td> </tr> <tr> <td></td> <td>63° 44' 46.02" N</td> <td>68° 39' 43.10" W</td> </tr> <tr> <td>West 40 Landfill</td> <td>63° 43' 58.15" N</td> <td>68° 32' 08.54" W</td> </tr> <tr> <td>Water Treatment Plant</td> <td>63° 45' 12.24" N</td> <td>68° 30' 22.79" W</td> </tr> <tr> <td>Wastewater Treatment Plant</td> <td>63° 44' 45.15" N</td> <td>68° 32' 19.80" W</td> </tr> </tbody> </table> <p>The scope of activities, works, and undertakings authorized in accordance with the terms and conditions of this Replacement and Amended Licence is as follows:</p> <ol style="list-style-type: none"> a. Use, management, and protection of the Lake Geraldine drainage basin; b. Management and protection of Waters surrounding the West 40 Landfill site; c. Management, collection, and monitoring of leachate from the West 40 Landfill site and adjacent Sludge Management Facility; d. Management of improved drainage works at the West 40 Landfill site; e. Management, operation, and eventual closure and reclamation of the current West 40 Landfill site and associated solid waste disposal facilities; f. Upgrades, operation, maintenance, monitoring, and eventual closure and reclamation of a Wastewater Treatment Plant (WWTP); g. Operation, maintenance, monitoring, and eventual closure and reclamation of a Sludge Management Facility; h. Operation, maintenance, monitoring and eventual closure and reclamation of a Sewage Lagoon Facility; i. Implementation of contingency measures for the Wastewater and Landfill management facilities; and j. Implementation of changes to the monitoring requirements including frequency, parameters, and stations being monitored. <ol style="list-style-type: none"> b. This Licence is issued subject to conditions contained herein with respect to the taking of Waters and the depositing of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the Act, or other statutes imposing more stringent conditions relating to the quantity, type or manner under which any such Waste may be so deposited, this Licence shall be deemed to be subject to such requirements; and c. Compliance with the terms and conditions of this Licence does not absolve the Licensee from the responsibility for compliance with all applicable legislation, guidelines, and directives. 	Undertaking	Latitude	Longitude	Overall Extents	63° 50' 56.31" N	68° 39' 49.87" W	63° 50' 57.30" N	68° 33' 41.94" W	63° 43' 48.91" N	68° 18' 12.53" W	63° 41' 06.60" N	68° 18' 18.82" W	63° 41' 04.08" N	68° 32' 44.20" W		63° 44' 46.02" N	68° 39' 43.10" W	West 40 Landfill	63° 43' 58.15" N	68° 32' 08.54" W	Water Treatment Plant	63° 45' 12.24" N	68° 30' 22.79" W	Wastewater Treatment Plant	63° 44' 45.15" N	68° 32' 19.80" W	<p>Insert Item 1. k.:</p> <p>Construction, operation, and removal of temporary facilities for the Supplementary Pumping Program (SPP).</p>	<p>Insert Item 1. l.:</p> <p>Construction and operation of the new solid waste management facilities, including the Waste Transfer Station, the New North Landfill, and associated infrastructure.</p>	<p>Insert Item 1. l.:</p> <p>Construction, operation, and removal of temporary facilities to provide for trucking water from the Sylvia Grinnell River.</p>	<p>Insert Item 1. m.:</p> <p>Construction, operation, and removal of temporary facilities to provide for pumping Water from the Unnamed Lake.</p>
Undertaking	Latitude	Longitude																												
Overall Extents	63° 50' 56.31" N	68° 39' 49.87" W																												
	63° 50' 57.30" N	68° 33' 41.94" W																												
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<p>2. Definitions</p> <ol style="list-style-type: none"> a. The Licensee shall refer to Schedule A for definitions of terms used in this Licence. 	<p>Definitions amended to include Supplementary Pumping Program (SPP)</p>																													

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626		Amendment 4	Amendment 5	Amendment 6	Amendment 7
Part B: General Conditions	<p>3. Enforcement</p> <p>a. Failure to comply with this Licence shall be a violation of the Act, subjecting the Licensee to the enforcement measures and the penalties provided for in the Act.</p> <p>b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the Act.</p> <p>c. For the purpose of enforcing the terms and conditions of this Licence with respect to the use of Water and deposit or Discharge of Waste in Waters, Inspectors appointed under the Act, hold all powers, privileges, and protections that are conferred upon them by the Act or by other applicable laws.</p>				
	1. The Licensee shall file, with the Board for review, no later than the 31st of March of the year following the calendar year being reported, an Annual Report formulated in accordance with the requirements under Schedule B of this Licence.				
	2. The Licensee shall maintain a copy of this Licence at the Municipal Office, potable Water Treatment Facility, and the Waste Treatment Facilities at all times.				
	3. The Licensee shall file an application for renewal of this Licence at least one (1) year prior to the Licence expiry.				
	4. The Licensee shall, to the satisfaction of an Inspector, install, operate, and maintain metres, devices or other appropriate methods for measuring the volumes of Water used and Waste Discharged or deposited.				
	5. The Licensee shall post the necessary signs to identify the stations of the Monitoring Program included under Schedule I of this Licence. All signage shall be in the Official Languages of Nunavut.				
	6. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted cannot be undertaken without subsequent written approval and/or directions from the Board. The Board may alter or modify a Plan if necessary to achieve legislative objectives and will notify the Licensee in writing of acceptance, rejection, or alteration of the Plan.				
	7. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.				
	8. The Licensee shall, within thirty (30) days of notification or within the timeframe specified by the Board, submit for review and/or Board's approval revisions for any plan found to be unacceptable to the Board.				
	9. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of the Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board shall also become part of the Licence. All relevant terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.				
	10. The Licensee shall review the Plans referred to in this Licence as required by changes in operation and/or technology and modify the Plans accordingly. Revisions to any Plan shall be submitted in the form of an addendum to be included within the Annual Report required under Part B, Item 1, complete with the lists of revisions detailing where significant content changes are made.				
	11. The Licensee shall immediately report to the NWT/NU 24-Hour Spill Report Line (867-920-8130) any spills of Waste associated with the Undertakings under this Licence including the potable Water Treatment Facility and Waste Treatment Facilities, which are reported to or observed by the Licensee.				

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7
<p>12. Any communication with respect to this Licence shall be made in writing to the attention of: Manager of Licensing Nunavut Water Board P. O. Box 119 Goji Haven, NU X0B 1J0 Telephone: (867) 360-6338 Fax: (867) 360-6369 Email: licensing@nwb-oen.ca</p>				
<p>13. Any notice made to an Inspector shall be made in writing to the attention of: Water Resources Officer Nunavut District, Nunavut Region P.O. Box 100 Iqaluit, NU X0A 0H0 Telephone: (867) 975-4295 Fax: (867) 979-6445</p>				
<p>14. The Licensee shall submit, to the Board for information or as otherwise directed, one (1) paper copy and one (1) electronic copy of all reports, studies, and Plans generated for the works, activities, and undertakings under this Licence. All Reports, studies or Plans submitted to the Board by the Licensee shall include an executive summary in English, Inuktitut, and French.</p>				
<p>15. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the Board is received by the Board and maintain on file a copy of the acknowledgment of receipt issued by the Manager of Licensing or his/her designate.</p>				
<p>16. This Licence is assignable as provided for in section 44 of the Act.</p>				
<p>17. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.</p>				
<p>Part C: Conditions Applying to Security 1. The Licensee is not required to post reclamation security for the activities, works, and undertakings authorized under this Licence.</p>				

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Part D: Conditions Applying to the Use of Waters and Water Management Plans</p> <p>1. The Licensee is authorized to withdraw, from the Lake Geraldine Reservoir at Monitoring Station No. IQA-01, up to 1,100,000 cubic metres of Water annually for the relevant activities, works, and undertakings authorized under the scope of this Licence.</p>	<p>Amend Item 1 to Read:</p> <p>The Licensee is authorized to withdraw, from the Lake Geraldine Reservoir at Monitoring Station No. IQA-01, up to 2,000,000 cubic metres of Water annually for the relevant activities, works, and undertakings authorized under the scope of this Licence.</p> <p>The Licensee is authorized to withdraw, from the Niaqunguk River (Apex River) at Monitoring Station No. IQA-10, up to a total of 500,000 cubic metres of Water annually for the supplementation of Water levels in the Lake Geraldine Reservoir.</p>	<p>Amend Item 1 to Read:</p> <p>The Licensee is authorized to withdraw, from the Lake Geraldine Reservoir at Monitoring Station No. IQA-01, up to 2,000,000 cubic metres of Water annually for the relevant activities, works, and undertakings authorized under the scope of this Licence.</p> <p>The Licensee is authorized to withdraw, from the Niaqunguk River (Apex River) at Monitoring Station No. IQA-10, up to a total of 500,000 cubic metres of Water annually for the supplementation of Water levels in the Lake Geraldine Reservoir.</p> <p>The Licensee is authorized to withdraw, from Imiqtarviviniq (Dead Dog Lake) at Monitoring Station No. IQA-14, up to a total of 2,500 cubic metres of Water annually for dust suppression and general municipal purposes.</p>	<p>Amend Item 1 to Read:</p> <p>The Licensee is authorized to withdraw, from the Lake Geraldine Reservoir at Monitoring Station No. IQA-01, up to 2,000,000 cubic metres of Water annually for the relevant activities, works, and undertakings authorized under the scope of this Licence.</p> <p>The Licensee is authorized to withdraw, from the Niaqunguk River (Apex River) at Monitoring Station No. IQA-10, up to a total of 500,000 cubic metres of Water annually for the supplementation of Water levels in the Lake Geraldine Reservoir.</p> <p>The Licensee is authorized to withdraw, from Imiqtarviviniq (Dead Dog Lake) at Monitoring Station No. IQA-14, up to a total of 2,500 cubic metres of Water annually for dust suppression and general municipal purposes.</p> <p>The Licensee is authorized to withdraw, from the Sylvia Grinnell River, at Monitoring Station No. IQA-17, up to 350 cubic metres of Water daily during the investigation of possible contamination of the Lake Geraldine Reservoir and application of any corrective actions resulting from the investigation.</p>	<p>Amend Item 1 to Read:</p> <p>The Licensee is authorized to withdraw, from the Lake Geraldine Reservoir at Monitoring Station No. IQA-01, up to 2,000,000 cubic metres of Water annually for the relevant activities, works, and undertakings authorized under the scope of this Licence.</p> <p>The Licensee is authorized to withdraw in 2022, from the Niaqunguk River (Apex River) at Monitoring Station No. IQA-10, up to a total of 900,000 cubic metres of Water for the supplementation of Water levels in the Lake Geraldine Reservoir.</p> <p>The Licensee is authorized to withdraw, from Imiqtarviviniq (Dead Dog Lake) at Monitoring Station No. IQA-14, up to a total of 2,500 cubic metres of Water annually for dust suppression and general municipal purposes.</p> <p>The Licensee is authorized to withdraw in 2022, from the large unnamed source lake (Unnamed Lake) at Monitoring Station No. IQA-13, up to 600,000 cubic metres of Water for augmentation of flow in the Niaqunguk River (Apex River).</p>
<p>1. The Licensee shall submit to the Board for approval, within sixty (60) days of the Effective Date of the Licence, an updated manual for the potable Water Treatment Facility. The Manual shall be prepared in accordance with relevant aspects of the format outlined in the <i>Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories</i> (GNWT, 1996). The manual shall, address among other items, the following:</p> <ol style="list-style-type: none"> Purpose of facility; Site setting; Operational procedures for storage, treatment and distribution of potable Water; Waste generated and hazardous substances associated with the facility; site inspections; and personnel training; Maintenance procedures including equipment servicing; Sampling and monitoring requirements; and Emergency response measures. 				
<p>2. The Licensee shall equip all freshwater intake structures with screens of appropriate mesh size that meet the requirements of Fisheries and Oceans (DFO) Canada's <i>Freshwater Intake End-of-Pipe Fish Screen Guidelines</i> (1995 or the most current) so as to prevent the entrainment of fish and control Water withdrawal rates such that fish do not become impinged within the screens.</p>				

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7
<p>3. The Licensee shall undertake Dam Safety Inspections (DSI) and/or Dam Safety Reviews (DSR) of the Lake Geraldine water supply facility in accordance with requirements of the Canadian Dam Association (CDA), <i>Dam Safety Guidelines</i> (2007, or the most current version). The Licensee shall submit for the Board's review, within the Annual Report required under Part B, Item 1, the report generated for the DSIs or DSRs along with the Licensee's recommended actions to address any deficiencies identified in the inspections and/or reviews.</p>				
<p>4. The Licensee shall not remove any material from below the ordinary High Water Mark of any Water body unless otherwise approved by the Board in writing.</p>				
<p>5. The Licensee shall not cause erosion to the banks of any body of Water and shall provide the necessary controls to prevent such erosion.</p>				
<p>6. The Licensee shall implement necessary measures to control sediment and erosion prior to and during operations to prevent entry of sediments into Water.</p>				
<p>7. The Licensee shall maintain the potable Water Treatment Facility in accordance with applicable guidelines, procedures, and regulations and to the satisfaction of an Inspector.</p>				
<p>8. The Licensee shall, as part of any proposal to supplement the Lake Geraldine Reservoir, evaluate the potential impact on freshwater resources, including fish and fish habitat. The results of the evaluation must be included as part of any application to augment the Lake Geraldine Reservoir with Water from proximal water bodies.</p>				
	<p>Insert Item 10:</p> <p>Unless approved or otherwise authorized by Fisheries and Oceans Canada, the Licensee shall ensure that withdrawals from the Niaqunguk River (Apex River) at Monitoring Station No.: IQA-10 only occur when the natural flow in the Niaqunguk River (Apex River) is above 30% of the mean annual discharge (MAD) and the withdrawals will not exceed 10% of the instantaneous flow of the Niaqunguk River (Apex River). If, at any time, Fisheries and Oceans Canada advises the Licensee that due to potential effects on fish or fish habitat the withdrawals from the Niaqunguk River (Apex River) are no longer acceptable, the withdrawals must cease until Fisheries and Oceans Canada indicates that the withdrawals can resume.</p>			
	<p>Insert Item 11:</p> <p>The Licensee shall, at least thirty (30) days prior to the intended annual start of water withdrawals referred to in Part D, Item 10, submit to the Board, for review, an updated Lake Geraldine Water Balance Model completed with the most up to date data available.</p>			
	<p>Insert Item 12:</p> <p>The Licensee shall, prior to the expiry of this Licence in 2026, submit to the Board a contingency plan in either a standalone document or as an addendum to a current plan that includes the options for action if the Niaqunguk River (Apex River) is found to have insufficient water volumes to fully supplement the Lake Geraldine Reservoir.</p>			

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7									
			<p>Insert Item 13:</p> <p>The Licensee shall cease all withdrawals from the Sylvia Grinnell River (Monitoring Station No. IQA-17) when the Licensee has confirmed the water quality in the Lake Geraldine Reservoir is no longer considered contaminated with petroleum hydrocarbons and the "Do Not Drink" Water Advisory has been lifted. The Licensee shall remove any infrastructure set up for water withdrawals at Monitoring Station No. IQA-17.</p>										
				<p>Insert Item 14:</p> <p>The Licensee shall cease all withdrawals from the Unnamed Lake (Monitoring Station No. IQA-13) when the Licensee has completed the replenishment of the Lake Geraldine Reservoir for 2022. The Licensee shall remove infrastructure set up for water withdrawals at Monitoring Station No. IQA-13.</p>									
<p>Part E: Conditions Applying to the Deposit of Waste and Waste Management Plans</p> <ol style="list-style-type: none"> The Licensee is authorized to use the Sewage Lagoon Facility and the Wastewater Treatment Plant to treat and dispose of Wastewater generated by the Undertaking authorized under this Licence until such time that the Upgraded Wastewater Treatment Plant authorized by the Licensee is constructed and commissioned, or as otherwise approved by the Board in writing. The Licensee shall provide written notice to an Inspector and the Board at least ten (10) days prior to any planned Discharges from the Solid Waste Facility, Sewage Lagoon Facility, Wastewater Treatment Plant, and the Upgraded Wastewater Treatment Plant once commissioned. The Licensee shall establish the relevant monitoring stations for the facilities authorized under this Licence in accordance with Schedule I. The Licensee shall ensure that Surface Drainage or surface Water runoff associated with site activities or generated during the construction of any facility designed to withhold, divert, or retain Water or Waste, does not exceed the following Effluent criteria: <table border="1" data-bbox="254 1306 851 1393"> <thead> <tr> <th>Parameter</th> <th>Maximum Average Concentration</th> <th>Maximum concentration of Any Grab Sample</th> </tr> </thead> <tbody> <tr> <td>Total Suspended Solids (TSS)</td> <td>50.0 mg/L</td> <td>100.0 mg/L</td> </tr> <tr> <td>pH</td> <td colspan="2">Between 6 and 9.</td> </tr> </tbody> </table> Upon commissioning of the Upgraded Wastewater Treatment Plant, the Sewage Lagoon Facility shall be used as a back-up facility or closed and reclaimed in accordance in Part J, Item 4. The Licensee shall submit to the Board for approval in writing, within four (4) months of the Effective Date of the Licence, an Operation and Maintenance Manual for the Sewage Lagoon Facility that addresses requirements for both the Sewage Lagoon and Sludge Management Facilities. The manual shall be prepared in accordance with the <i>Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories</i> (GNWT, 1996). 	Parameter	Maximum Average Concentration	Maximum concentration of Any Grab Sample	Total Suspended Solids (TSS)	50.0 mg/L	100.0 mg/L	pH	Between 6 and 9.					
Parameter	Maximum Average Concentration	Maximum concentration of Any Grab Sample											
Total Suspended Solids (TSS)	50.0 mg/L	100.0 mg/L											
pH	Between 6 and 9.												

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7
<p>7. The Licence shall submit to the Board for approval in writing, by December 21, 2018 or as otherwise directed by the Board in writing, an Operations and Maintenance Manual for the Upgraded Wastewater Treatment Plant that incorporates the requirements of Part E, Item 6. The manual shall be prepared in accordance with the <i>Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories (GNWT, 1996)</i>.</p>				
<p>8. The manual referred to in Part E, Item 7 shall supersede the manual referenced in Part E, Item 6, following approval by the Board in writing.</p>				
<p>9. The Licensee shall submit to the Board for approval in writing, by December 31, 2018, an updated version of the plan entitled <i>City of Iqaluit Solid Waste Management Plan</i>, dated January 2014 that addresses relevant intervener's comments and recommendations made during the licensing process, such as inclusion of details related to future uses of the landfill, timeframe for closure, and ongoing activities within the scope of this Licence.</p>				
<p>10. The Licensee shall undertake Dam Safety Inspections (DSI) and/or Dam Safety Reviews (DSR) of the Wastewater Treatment Facilities in accordance with requirements of the Canadian Dam Association (CDA), <i>Dam Safety Guidelines (2007, or most current version)</i>. The Licensee shall submit for the Board's review, within the Annual Report required under Part B, Item 1, the report generated for the DSIs or DSRs along with the Licensee's recommended actions to address any deficiencies identified in the inspections and/or reviews.</p>				
<p>11. The Licensee shall dispose of and contain all municipal solid waste generated by the City at the West 40 Landfill as associated site(s) authorized under this licence or as otherwise approved by the Board in writing.</p>		<p>Amend Item 11 to Read: The Licensee shall dispose of and contain all municipal solid waste generated by the City at the West 40 Landfill or the Solid Waste Disposal Facilities and associated site(s) authorized under this Licence or as otherwise approved by the Board in writing.</p>		
<p>12. The Licensee shall submit to the Board for approval, within sixty (60) days of the Effective Date of the Licence, an updated Landfill Operation and Maintenance Manual that addresses concerns raised by intervening parties during the licensing process including the following:</p> <ul style="list-style-type: none"> a. Management of Leachate from the facility; b. Updated sampling and monitoring requirements; and c. Open burning practices. d. Ongoing activities within 				
<p>13. The Licensee shall collect and contain all leachate generated by the West 40 Landfill within the Landfill.</p>				
<p>14. The Licensee shall submit to the Board for review, by December 31, 2017, an updated version of the document entitled West 40 Landfill Drainage Management Review, dated September 16, 2011, that addresses the concerns raised by intervening parties including information on the absence of permafrost related data.</p>				
<p>15. The Inspector may authorize an emergency Discharge ,following the Licensee's written submission to the Inspector and to the Board, at least fifteen (15) days prior to discharge or as instructed by the Inspector, that includes the following information:</p> <ul style="list-style-type: none"> a. Proposed quantity of discharge; b. Reason for discharge; c. Identification of the Final Discharge Location; d. Proposed sampling and analysis to be conducted; and e. Proposed mitigation measures to implemented. 				

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7
16. The Licensee shall submit to the Board and the Inspector for review, within sixty (60) days following any emergency Discharge authorized by the Inspector, a report that includes, among other items, an analysis of results for the emergency Discharge.				
17. The Licensee shall maintain the Licensed Facilities to the satisfaction of an Inspector.				
18. The Licensee shall remove from the site associated with the undertaking, all Hazardous Wastes, waste oil and non-combustible waste generated through the course of the operation, for disposal at a licensed waste disposal facility.				
19. The Licensee shall maintain records of all Waste removed from site and records of confirmation of proper disposal of removed Waste. These records shall be made available to an Inspector or the Board upon request.				
		<p>Insert Item 20:</p> <p>The Board has approved under this Licence No: 3AM-IQA1626, Amendment No. 5, the Plan entitled "City of Iqaluit Operations and Maintenance Manual Landfill and Waste Transfer Station," dated October, 2020. The Licensee shall submit to the Board for review, within sixty (60) days of approval of Amendment No. 5, an updated Manual, as referred to above, that addresses interveners' comments and recommendations provided during the review of the Application dated April 9, 2020.</p>		
		<p>Insert Item 21:</p> <p>The Licensee shall collect and contain all leachate and runoff generated by the New North Landfill and Waste Transfer Station within the facility collection ponds/sumps.</p>		
		<p>Insert Item 22:</p> <p>The Licensee shall characterize leachate chemistry from the New North Landfill and Waste Transfer Station, prior to discharge to the Waste Water Treatment Facilities.</p>		
		<p>Insert Item 23:</p> <p>The Licensee shall submit to the Board for approval, at least six (6) months prior to commissioning of the New North Landfill or within one (1) year of approval of the Amendment No. 5, whichever comes first, a <i>Leachate Characterization and Management Plan</i> that includes methods for characterization of leachate and contingency measures for discharge that incorporate appropriate mitigations, including, if necessary, leachate treatment, to avoid adverse effects in the receiving environment.</p>		
		<p>Insert Item 24:</p> <p>The Licensee shall monitor and report on the leachate before the leachate collection ponds become full, and implement any treatment methodologies within one year of making a decision that treatment of the leachate in the ponds is as per the <i>Leachate Characterization and Management Plan</i> required under Part E, Item 23.</p>		

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626		Amendment 4	Amendment 5	Amendment 6	Amendment 7
Part F: Conditions Applying to Construction			<p>Insert Item 25:</p> <p>The Licensee shall inspect the leachate collection system on a daily basis during periods of flow as per the "City of Iqaluit Operations and Maintenance Manual Landfill and Waste Transfer Station," dated October, 2020.</p>		
			<p>Insert Item 26:</p> <p>The Licensee shall add additional ground cover at the landfill, if disturbance occurs due to nuisances' wildlife or other causes.</p>		
	1.	The Licensee shall, submit to the Board for review, within thirty (30) days prior to commencing construction of any facilities or infrastructure authorized under this Licence, for-construction designs and drawings, signed and stamped by an Engineer.			
	2.	The Licensee shall ensure that all relevant approved facilities are designed and constructed to engineering standards such that, at a minimum, they comply with the most current version of the Canadian Dam Safety Guidelines.			
	3.	The Licensee shall implement measures to ensure that all materials used in the construction of relevant facilities or infrastructure included under the scope of this Licence are free of contaminants, to the extent that they do not cause harmful or significant effects to Water.		<p>Amend Item 3 to Read:</p> <p>The Licensee shall use fill material for Construction only from approved sources that have been demonstrated, by appropriate geochemical analyses, to not produce Acid Rock Drainage and to be Non-Metal Leaching, and free of contaminants.</p>	
	4.	The Licensee shall maintain shoreline stability during construction.			
	5.	The Licensee shall ensure that all final designs and drawings are qualified by an Engineer confirming that: <ul style="list-style-type: none"> a. Works are designed under sound engineering principles; b. Design limitations are understood and communicated within the report; and c. Measures are implemented to minimize impact to Water. 			
	6.	The Licensee shall, submit to the Board for review, within ninety (90) days of completion of any structure authorized under this licence, to contain, withhold, divert or retain Water or Wastes; a construction summary report prepared by an Engineer that includes, among other relevant information, as-built drawings, documentation of field decisions that deviated from original plans, and any data used to support these decisions.			
	7.	The Licensee shall, if contamination of surface and/or ground water is encountered during construction and excavation, notify the Inspector immediately and implement the Spill Contingency Plan.			
	8.	The Licensee shall develop and implement measures necessary to prevent and mitigate erosion and/or the release of sediment into Water during the construction of the Upgraded Wastewater Treatment Plant or during any construction activities associated with the Undertaking.			
		<p>Insert Item 9:</p> <p>The Board has approved under this Licence 3AM-IQA1626 Amendment No. 4, the Plan entitled "Apex River Water Withdrawal: Erosion and Sedimentation Control Plan," dated December 21, 2018.</p>	<p>Insert Item 9:</p> <p>The Board has approved under this Licence No: 3AM-IQA1626, Amendment No. 5, the Plan entitled "City of Iqaluit Environmental Protection Plan Construction Phase, Landfill and Waste Transfer Station," dated December, 2020. The Licensee shall submit to the Board for review, within sixty (60) days of approval of Amendment No. 5, an updated Plan, as referred to above, that addresses interveners' comments and recommendations provided during the review of the Application dated April 9, 2020.</p>		

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626		Amendment 4	Amendment 5	Amendment 6	Amendment 7
			<p>Insert Item 10:</p> <p>The Board has approved under this Licence No: 3AM-IQA1626, Amendment No. 5, the Plan entitled “City of Iqaluit Environmental Protection Plan - Operations, Closure and Post-Closure Phases, Landfill and Waste Transfer Station,” dated October, 2020. The Licensee shall submit to the Board for review, within sixty (60) days of approval of Amendment No. 5, an updated Plan, as referred to above, that addresses interveners’ comments and recommendations provided during the review of the Application dated April 9, 2020.</p>		
			<p>Insert Item 11:</p> <p>The Board has approved under this Licence No: 3AM-IQA1626, Amendment No. 5, the Plan entitled “City of Iqaluit Erosion and Sediment Control Plan, Landfill and Waste Transfer Station,” dated October, 2020. The Licensee shall submit to the Board for review, within sixty (60) days of approval of Amendment No. 5, an updated Plan, as referred to above, that addresses interveners’ comments and recommendations provided during the review of the Application dated April 9, 2020.</p>		
			<p>Insert Item 12:</p> <p>The Licensee shall, submit to the Board for review, at least six (6) months prior to commencing construction of the New North Landfill facility, a <i>Heat Generation and Permafrost Mitigation Plan</i> that addresses comments and recommendations provided during the review of the Application dated April 9, 2020.</p>		
			<p>Insert Item 13:</p> <p>The Licensee shall, submit to the Board for review, at least sixty (60) days prior to commencing construction of the New North Landfill facility, the proposed cut methodology for mitigating permafrost degradation.</p>		
Part G: Conditions Applying to Modifications	<p>1. The Licensee may, without written consent from the Board, carry out Modifications to the potable Water Treatment Facility and Waste Treatment Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:</p> <ul style="list-style-type: none"> a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications; b. Such Modifications are consistent with the NPC Land Use Planning (NPC) Conformity Determination and the NIRB Screening Decision; c. such Modifications do not place the Licensee in contravention of the Licence or the Act; d. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and e. The Board has not rejected the proposed Modifications. 				
	<p>2. Modifications for which all of the conditions referred to in Part G, Item 1 have not been met can be carried out only with written approval from the Board.</p>				
	<p>3. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modifications. These plans and drawings shall be stamped by an Engineer.</p>				

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626		Amendment 4	Amendment 5	Amendment 6	Amendment 7
Part H: Conditions Applying to Spill Contingency Planning	1. The Licensee shall, submit to the Board for approval in writing, within thirty (30) days of the Effective Date of this Licence, an amalgamated and updated Spill Contingency Plan. The Plan shall address spill contingency planning requirements for all relevant aspects of works, activities, and undertakings associated with the scope of this Licence including the Sewage Lift Station.	Amend Item 1: The Board has approved under this Licence 3AM-IQA1626 Amendment No. 4, the Plan entitled "Apex River Water Withdrawal: Site Specific Spill Contingency Plan," dated December 21, 2018.			
	2. The Licensee shall, subject to section 16 of the Regulations, report any unauthorized deposits of Waste or foreseeable unauthorized deposits of waste and/or Discharges of Effluent, and: a. Employ, as required, the approved Spill Contingency Plan; b. Report the incident immediately via the NWT/NU 24-Hour Spill Reporting Line (867) 920-8130 and to the Inspector at (867) 975-4295; and c. For each spill occurrence, submit a detailed report to the Inspector, no later than thirty (30) days after initially reporting the event. The report shall include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain, clean up and restore the spill site.				
	3. The Licensee shall, in addition to Part H, Item 2, regardless of the quantity of release of a harmful substance, report to the NWT/NU Spill Line if the release is near or into a Water body.				
Part I: Conditions Applying to Monitoring	1. The Licensee shall monitor the relevant potable Water Treatment Facility and Waste Treatment Facilities authorized under this Licence in accordance with requirements included under Schedule I.				
	2. The Licensee shall, submit Board for approval in writing, within sixty (60) days of the Effective Date of this Licence, an updated Monitoring Program that addresses monitoring requirements for the Water Treatment Facility and Waste Treatment Facilities. The Monitoring Program shall address, among other items, the requirements outlined in Schedule I.				
	3. All analyses required under Schedule I shall be conducted using methods as described in the most recent edition of "Standard Methods for the Examination of Water and Wastewater", or by such other methods as approved by the Board in writing.				
	4. All laboratory analyses shall be performed at a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.				
	5. The Licensee shall, submit to the Board for review, within sixty (60) days of the Effective Date of the Licence, an updated Quality Assurance/Quality Control (QA/QC) Plan prepared in accordance with <i>Quality Assurance (QA) and Quality Control (QC) Guidelines for Use by Class "A" Licensees in Meeting SNP Requirements and for Submission of a QA/QC Plan</i> (INAC, 1996 or most current version). The updated plan shall be accompanied by a letter from an Analyst of an accredited laboratory confirming acceptability of the Plan.				
	6. The Licensee shall measure by instrument and record in cubic metres, the monthly quantities of freshwater extracted from the Lake Geraldine Reservoir, at Monitoring Program Station No. IQA-01, used for all purposes under this Licence.				
	7. The Licensee shall measure, by instrument and record in cubic metres, the quantities of Effluent released from the Sewage Lagoon Facility at Monitoring Station No. IQA-02, Wastewater Treatment Plant and/or Upgraded Wastewater Treatment Plant at Monitoring Station No. IQA-04 and the West 40 Landfill at Monitoring Station No. IQA-08.				
	8. The Licensee shall measure and record in cubic metres, the monthly and annual volumes of sludge removed from the Wastewater Treatment Facilities.				

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626		Amendment 4	Amendment 5	Amendment 6	Amendment 7
	9. The Licensee shall provide the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations of sources of Water utilized and Waste deposited under this Licence.				
	10. The Licensee shall include all of the data and information required by the Monitoring Program under Schedule I within the Annual Report required under Part B, Item 1 of the Licence or as otherwise requested by an Inspector and/or the Board.				
	11. Additional Monitoring may be requested by the Board and/or the Inspector.				
	12. The Monitoring Program and compliance dates specified in the Licence may be modified at the discretion of the Board in writing and do not constitute an application for Amendment as defined in the Act.				
		Insert Item 13: The Licensee shall monitor the Supplementary Pumping Program (SPP) in accordance with requirements included under Schedule I.			
			Insert Item 14: The Licensee shall monitor water uptake from Imiqtarviviniq (Dead Dog Lake) in accordance with requirements included under Schedule I.		
			Insert Item 15: The Licensee shall implement the Plan entitled "Facility Monitoring Plan, Landfill and Waste Transfer Station," dated December 2020 that was submitted within the Application and approved by the Board with the issuance of Licence No: 3AM-IQA1626, Amendment No. 5.		
				Insert Item 16: The Licensee shall monitor withdrawals from the Sylvia Grinnell River in accordance with requirements included under Schedule I.	
Part J: Conditions Applying to Closure and Reclamation					Insert Item 17: The Licensee shall monitor withdrawals from the Unnamed Lake in accordance with requirements included under Schedule I.
	1. The Board has accepted the document entitled <i>Iqaluit Solid Waste Management Plan West 40 Landfill Decommissioning Technical Memorandum</i> , dated January 2014, submitted as additional information with the Application.				
	2. The Licensee shall submit to the Board for approval in writing, at least one (1) year prior to commencing the decommissioning of the West 40 Landfill, a Final Closure and Reclamation Plan prepared by an Engineer in accordance with industry's best practices and relevant guidelines.				
	3. The Licensee shall, for the Plan required under Part J, Item 2, include a presentation of data and a discussion of environmental conditions existing before the use of the site by the Licensee as a municipal landfill, as well as remediation objectives.				
	4. The Licensee shall notify the Board in writing, at least one year prior to the implementation of final closure, of its intentions to proceed with final closure of any Water use or Waste disposal facilities included within the scope of this Licence, excluding the Facility under Part J, Item 2.				

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626		Amendment 4	Amendment 5	Amendment 6	Amendment 7
			<p>Insert Item 5:</p> <p>The Licensee shall provide to the Board for review, the final closure design report, including details pertaining to site drainage, within one year of closure of the West 40 Landfill and one year prior to undertaking West 40 Landfill reclamation work.</p>		
				<p>Insert Item 6:</p> <p>The Licensee shall, within three (3) months of terminating temporary withdrawal of Water from Sylvia Grinnell River or with the 2021 Annual Report, whichever comes first, submit to the Board for review, the final closure report of temporary infrastructure established for Water withdrawals at Monitoring Station No. IQA-17.</p>	
					<p>Insert Item 7:</p> <p>The Licensee shall, within three (3) months of terminating temporary withdrawal of Water from Unnamed Lake or with the 2022 Annual Report, whichever comes first, submit to the Board for review, the final closure report of temporary infrastructure established for Water withdrawals at Monitoring Station No. IQA-13.</p>
Schedule A: Definitions	“Act” means the Nunavut Waters and Nunavut Surface Rights Tribunal Act;				
	“Addendum” means the supplemental text that is added to a full plan, manual, or report, usually included at the end of the document and is not intended to require a full resubmission of the revised report. It may also be considered as an appendix or supplement;				
	“Analyst” means an Analyst designated by the Minister under section 85 (1) of the Act;				
	“Annually” means, in the context of monitoring frequency, one sampling event occurring every 365 days with a minimum of 200 days between sampling events;				
	“Application” means, for the purposes of this License, the totality of the NWB Public Register opened as a result of the filing of the application to replace and amend expired Water Licence 3AM-IQA0611(3AM-IQA0612);				
	“Biannually” means, in the context of the monitoring frequency, two sampling events occurring per calendar year, with a minimum of 150 days and a maximum of 210 days between sampling events;				
	“Board” means the Nunavut Water Board established under Article 13 of the Nunavut Land Claims Agreement and under section 14 of the Act;				
	“Discharge” means the release of any Water or Waste to the receiving environment;				
	“Effective Date” means the date on which the Minister of Indigenous and Northern Affairs Canada approves the Licence;				
“Effluent” means treated or untreated liquid Waste material that is Discharged into the environment from the site water management facilities such as a settling pond or a treatment plant;					

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7
<p>“Engineer” means a professional engineer registered to practice in Nunavut in accordance with the Consolidation of Engineers and Geoscientists Act S. Nu 2008, c.2 and the Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12;</p>				
<p>“Engineered Structure” means any facility, designed and approved by a Professional Engineer who is registered with the Association of Professional Engineers, Geologists and Geophysicists of Nunavut;</p>				
<p>“Grab Sample” means an undiluted quantity of material collected at a particular time and place that may be representative of the total substance being sampled at the time and place it was collected;</p>				
<p>“Greywater” means the component of Effluent produced from domestic use (i.e. washing, bathing, food preparation and laundering), excluding Sewage;</p>				
<p>“Hazardous Waste” means materials or contaminants categorized as dangerous goods under the Transportation of Dangerous Good Act (1992), no longer used for their original purpose and intended for recycling, treatment, disposal or storage at appropriate facilities;</p>				
<p>“High Water Mark” means the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (ref. Department of Fisheries and Oceans Canada, Operational Statement: Mineral Exploration Activities);</p>				
		<p>“Imiqtarviviniq (Dead Dog Lake)” means the water body located within the City’s boundaries and identified in the Application dated April 9, 2020 for use as a water source for dust suppression and general municipal activities, as described in that Application.</p>		
<p>“Inspector” means an Inspector designated by the Minister under section 85 (1) of the Act;</p>				
<p>“Licence” means this Type “A” Water Licence No. 3AM-IQA1626, issued by the Nunavut Water Board to the City of Iqaluit in accordance with the Act;</p>				
<p>“Licensee” means the entity to whom Licence No. 3AM-IQA1626 is issued or assigned;</p>				
<p>“Minister” means the Minister of Indigenous and Northern Affairs Canada (INAC);</p>				
<p>“Modification” means an alteration to a physical work that may introduce a new structure or eliminates an existing structure and does not alter the purpose or function of the work;</p>				
<p>“Monitoring Program” means the program to collect data on surface water and groundwater quality to assess impacts to the environment of an appurtenant undertaking;</p>				
<p>“Monthly” means, in the context of monitoring frequency, one sampling event occurring within calendar month with a minimum of twenty-one (21) days between sampling events;</p>				

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7
		<p>“New North Landfill” means the solid waste management facility located approximately 6 km north of the City, functioning as a landfill to receive waste from the Waste Transfer station, and other sources, as described in the Application dated April 9, 2020.</p>		
<p>“Nunavut Land Claims Agreement” (NLCA) means the “Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada,” including its preamble and schedules, and any Amendments to that agreement made pursuant to it;</p>				
<p>“Quality Assurance / Quality Control (QA/QC)” Quality Assurance means the system of activities designed to better ensure that quality control is done effectively; Quality Control means the use of established procedures to achieve standards of measurement for the three principal components of quality: precision, accuracy and reliability;</p>				
<p>“Quarterly” means divisions of the calendar year, comprised of three month intervals from January to December, inclusive (January – March, April – June, July – September and October – December);</p>				
<p>“Regulations” means the Nunavut Waters Regulations (SOR/2013/669 18th April, 2013);</p>				
<p>“Sewage” means all toilet wastes and greywater;</p>				
<p>“Sewage Lagoon Facility” refers to the waste disposal facility and associated structures designed and constructed to treat Sewage in the City of Iqaluit since 1978, which has also been upgraded in subsequent years;</p>				
<p>“Sludge Management Facility” means the facility located within the West 40 Landfill that is used for the disposal and treatment of sludge generated by the Wastewater Treatment Plant;</p>				
<p>“Solid Waste Facility” means the West 40 Landfill, Sludge Management Facility and all other facilities identified in the Application that are designed and constructed to manage solid waste generated by the City of Iqaluit;</p>		<p>“Solid Waste Facility”</p> <p>To Read:</p> <p>“Solid Waste Disposal Facilities” means the New North Landfill, Waste Transfer Station, West 40 Landfill, Sludge Management Facility and all other facilities identified in the Application dated April 9, 2020 that are designed and constructed to manage solid waste generated by the City of Iqaluit;</p>		
	<p>“Supplementary Pumping Program (SPP)” means the pumps, pipe/hose, intakes, coffer dams, and related temporary facilities to use fresh Water from the Niaqunguk River (Apex River)), to augment Water levels in the Lake Geraldine Reservoir. The active pumping under the SPP is authorized to proceed in accordance with the terms and conditions of the Licence from June to October annually to address a potential Water shortage in the following winter.</p>			
<p>“Surface Drainage” means all surface waters resulting from the flow over, through or out of an operations area and is collected by means of Engineered structures;</p>				
<p>“Undertaking or Undertakings” means an undertaking or undertakings in respect of which Water is to be used or Waste is to be deposited, as classified in Schedule 1 of the Regulations;</p>				

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7
<p>“Upgraded Wastewater Treatment Plant (UWWTP)” means the current Wastewater Treatment Plant, which was designed, constructed, and commissioned under Phase 1, for the preliminary treatment of Wastewater, in addition to the infrastructure scheduled for construction and commissioning by December 2018, under Phase 2, for the secondary treatment of Wastewater as described in the Application;</p>				
<p>“Use” means use as defined in section 4 of the Act;</p>				
<p>“Waste” means Water as defined in section 4 of the Act;</p>				
		<p>“Waste Transfer Station (WTS)” means the solid waste management/transfer facility located within the City’s industrial area, functioning to receive, compact, and bale municipal waste prior to transferring to the New North Landfill, as described in the Application dated April 9, 2020.</p>		
<p>“Waste Treatment Facilities” refers to all facilities constructed and operated by the City of Iqaluit to manage solid and liquid Waste associated with this licence.</p>				
<p>“Wastewater” means the water generated by site activities or originates on-site that requires treatment or any other water management activity;</p>				
<p>“Wastewater Treatment Facilities” means the Sewage Lagoon, Wastewater Treatment Plant, Upgraded Wastewater Treatment Plant and associated facilities authorized under this Licence;</p>				
<p>“Wastewater Treatment Plant” means the engineered system, located adjacent to the Sewage Lagoon Facility that is designed for the containment and preliminary treatment of Sewage generated by the City of Iqaluit as described in the Application;</p>				
<p>“Water or Waters” means water as defined in section 4 of the Act;</p>				
<p>“Water Treatment Facility” means the engineered facilities and appurtenances designed and constructed for the withdrawal storage treatment and distribution of fresh water for domestic purposes, described in the Application; and</p>				
<p>“West 40 Landfill” means the Solid Waste Facility or original landfill facility along with its Northern Expansion and Sludge Management Facility that is designed to manage solid waste generated by the City of Iqaluit.</p>				
<p>Schedule B: Annual Reporting Requirements</p>	<p>a. The monthly and annual quantities in cubic metres of fresh Water withdrawn from the Lake Geraldine Reservoir at Monitoring Station No. IQA-01</p>			
	<p>b. The monthly and annual quantities in cubic metres of any Discharges from the Wastewater Treatment Facilities at Monitoring Stations IQA-02, IQA-04, and IQA-08</p>			
	<p>c. Copy of reports generated from Dam Safety Inspections and Dam Safety Reviews along with the Licensee’s proposed actions to address issues identified and/or updates on continuing actions to address issues</p>			
	<p>d. The monthly and annual quantities in cubic metres of sludge removed from the Wastewater Treatment Facilities</p>			
	<p>e. The monthly and annual quantities of Wastes disposed of at the West 40 landfill</p>			

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7
f. A summary report which includes all data and information generated under the Monitoring Program, including the QA/QC program, in electronic and printed formats acceptable to the Board				
g. A summary of all construction activities carried out for facilities under the Licence				
h. A summary of modifications and/or major maintenance work carried out on the potable Water Treatment and Waste Treatment Facilities, including all associated structures				
i. A progress report and revisions (if applicable) to any studies requested by the Board that relate to Waste management, Water use or reclamation and a brief description of any future studies planned by the Licensee including, a non-technical executive summary for the general public, translated into Inuktitut				
j. Any revisions required, in the form of addenda, to Plans, Manuals and Reports approved under the Licence				
k. A list and description, including volumes and Spill Report Line Identification Number, of all un-authorized Discharges, spills and summaries of follow-up action taken				
l. A summary of any closure and reclamation work undertaken and an outline of any work anticipated for the next year, including any changes to implementation and scheduling				
m. A summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector				
n. A brief update on the implementation plan of all facilities within the scope of this Licence including changes projected implementation and status of the Upgraded Wastewater Treatment Plant				
o. A summary of any studies, reports and plans requested by the Board that relate to Waste disposal, Water use or reclamation and a brief description of any future studies planned				
p. Any other details on the use of Water or Waste disposal requested by the Board by November 1st of the year being reported				

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7
	<p>q. The 2019 Annual Report referred to in Part B, Item 1, shall provide the following information about the SPP including:</p> <ol style="list-style-type: none"> 1 A summary of the SPP program, including lessons learned, based on monitoring and mitigation efforts. 2 GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) and datum for the locations of all water withdrawals. 3 The daily and monthly quantities in cubic metres of fresh Water withdrawn from the Niaqunguk River (Apex River) watershed at Monitoring Station No. IQA-10. 4 The daily water levels and/or flow rates in the Niaqunguk River when withdrawals are occurring at Monitoring Station No. IQA-10. 5 All other monitoring conducted to meet the Fisheries and Oceans Canada requirements. 6 Discussion of any observed trends, exceedances, or unanticipated impacts. 			
		<p>r. The monthly and annual quantities in cubic metres of fresh Water withdrawn from Imiqtarviviniq Lake (Dead Dog Lake) at Monitoring Station No. IQA-14</p>		
		<p>s. The monthly and annual quantities, and general types of Wastes brought to the Waste Transfer Station and disposed of at the New North Landfill</p>		
		<p>t. A review of procedures for packaging, storage, and shipment of harmful hazardous waste</p>		
		<p>u. An update on the capacity of the landfill cell currently in use, including the installation timing calculation (inputs and results), including discussion on the required actions/schedule for the design and installation of the next lined disposal area in the sequence.</p>		
			<p>v. The 2021 Annual Report referred to in Part B, Item 1, shall provide the following information:</p> <ol style="list-style-type: none"> 1 A summary of the investigation of the petroleum hydrocarbon contamination in the City's water supply system, including lessens learned, based on monitoring and mitigation efforts 2 GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) and datum for the locations of all water withdrawals 3 The daily and monthly quantities in cubic metres of fresh Water withdrawn from the Sylvia Grinnel River at Monitoring Station No. IQA-17 4 Discussion of any observed trends, exceedances, or unanticipated impacts 	<p>v. The 2022 Annual Report referred to in Part B, Item 1, shall provide the following information:</p> <ol style="list-style-type: none"> 1 GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) and datum for the locations of all water withdrawals 2 The daily and monthly quantities in cubic metres of fresh Water withdrawn from the Unnamed Lake at Monitoring Station No. IQA-13 3 All other monitoring conducted to meet DFO requirements 4 Discussion of any observed trends, exceedances, or unanticipated impacts

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626	Amendment 4	Amendment 5	Amendment 6	Amendment 7																																																																		
<p style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold;">Schedule 1: Condition Applying to Monitoring</p> <p>Table 1 – Water Quality Parameters</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Table 1 – Water Quality Parameters</th> </tr> <tr> <th>Test Groups</th> <th>Analytical Parameters</th> <th>Units</th> </tr> </thead> <tbody> <tr> <td rowspan="7">Routine (R)</td> <td>Alkalinity, Acidity, Chloride, Carbonate, Bicarbonate, Total Hardness, Hydroxide, Sulphate, Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Total Organic Carbon (TOC), Total Inorganic Carbon (TIC)</td> <td>mg/L</td> </tr> <tr> <td>pH (field and lab)</td> <td>pH units</td> </tr> <tr> <td>Oxidation-Reduction Potential (ORP) (field)</td> <td>mV</td> </tr> <tr> <td>Conductivity (field and lab)</td> <td>uS/cm</td> </tr> <tr> <td>Temperature (field)</td> <td>°C</td> </tr> <tr> <td>Turbidity</td> <td>NTU</td> </tr> <tr> <td>Total Suspended Solids (TSS)</td> <td>mg/L</td> </tr> <tr> <td rowspan="3">Effluent (E)</td> <td>Temperature (field)</td> <td>°C</td> </tr> <tr> <td>Conductivity (field and lab)</td> <td>uS/cm</td> </tr> <tr> <td>pH (field and lab)</td> <td>pH units</td> </tr> <tr> <td>Acute Lethality (AL)</td> <td>Based on Environment Canada's <i>Procedure for pH Stabilization During the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout</i> (EPS 1/RM/50, March 2008), if single concentration test fails and unionized ammonia concentration is less than or equal to 1.25 mg/L</td> <td>"Pass" / "Fail"</td> </tr> <tr> <td>ICP- Metals Scan (Total)</td> <td>Al, Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Li, Mn, Mo, Ni, Se, Sn, Ag, Sr, Ti, U, V, Zn, Hg</td> <td>mg/L</td> </tr> <tr> <td rowspan="2">Nutrients (N)</td> <td>Ammonia-N, Nitrate-N, Nitrite-N</td> <td>mg N/L</td> </tr> <tr> <td>Total Phosphorus, Orthophosphate</td> <td>mg/L</td> </tr> <tr> <td rowspan="2">Biological (B)</td> <td>Biochemical Oxygen Demand</td> <td>mg/L</td> </tr> <tr> <td>Total and Fecal Coliform</td> <td>CFU/100 mL</td> </tr> <tr> <td rowspan="3">Potable Water (PW)</td> <td>Fecal Coliform</td> <td>CFU/100 mL</td> </tr> <tr> <td>ICP Metals (Total and dissolved)</td> <td>mg/L</td> </tr> <tr> <td>Total Suspended Solids –TSS</td> <td>mg/L</td> </tr> <tr> <td>Flow (F)</td> <td>Volume</td> <td>m³</td> </tr> <tr> <td>Landfill Specific (LS)</td> <td>Polychlorinated Biphenyls (PCBs) Benzene, Toluene, Ethylbenzene and Xylene (BTEX)</td> <td>mg/L</td> </tr> </tbody> </table>	Table 1 – Water Quality Parameters			Test Groups	Analytical Parameters	Units	Routine (R)	Alkalinity, Acidity, Chloride, Carbonate, Bicarbonate, Total Hardness, Hydroxide, Sulphate, Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Total Organic Carbon (TOC), Total Inorganic Carbon (TIC)	mg/L	pH (field and lab)	pH units	Oxidation-Reduction Potential (ORP) (field)	mV	Conductivity (field and lab)	uS/cm	Temperature (field)	°C	Turbidity	NTU	Total Suspended Solids (TSS)	mg/L	Effluent (E)	Temperature (field)	°C	Conductivity (field and lab)	uS/cm	pH (field and lab)	pH units	Acute Lethality (AL)	Based on Environment Canada's <i>Procedure for pH Stabilization During the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout</i> (EPS 1/RM/50, March 2008), if single concentration test fails and unionized ammonia concentration is less than or equal to 1.25 mg/L	"Pass" / "Fail"	ICP- Metals Scan (Total)	Al, Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Li, Mn, Mo, Ni, Se, Sn, Ag, Sr, Ti, U, V, Zn, Hg	mg/L	Nutrients (N)	Ammonia-N, Nitrate-N, Nitrite-N	mg N/L	Total Phosphorus, Orthophosphate	mg/L	Biological (B)	Biochemical Oxygen Demand	mg/L	Total and Fecal Coliform	CFU/100 mL	Potable Water (PW)	Fecal Coliform	CFU/100 mL	ICP Metals (Total and dissolved)	mg/L	Total Suspended Solids –TSS	mg/L	Flow (F)	Volume	m ³	Landfill Specific (LS)	Polychlorinated Biphenyls (PCBs) Benzene, Toluene, Ethylbenzene and Xylene (BTEX)	mg/L		<p>Amend Table 1 to include:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Test Group</th> <th>Analytical Parameters</th> <th>Units</th> </tr> </thead> <tbody> <tr> <td>Field</td> <td>pH, temperature, conductivity, Dissolved Oxygen (DO), and turbidity.</td> <td>pH units °C uS/cm mg/L NTU</td> </tr> <tr> <td>Laboratory</td> <td>PHCs Fractions F1 to F4, including BTEX; Total metals; Dissolved metals; PFAS (WTS only) PAHs; and, Dissolved major ions (including alkalinity), hardness, total dissolved solids and total suspended solids.</td> <td>mg/L</td> </tr> </tbody> </table>	Test Group	Analytical Parameters	Units	Field	pH, temperature, conductivity, Dissolved Oxygen (DO), and turbidity.	pH units °C uS/cm mg/L NTU	Laboratory	PHCs Fractions F1 to F4, including BTEX; Total metals; Dissolved metals; PFAS (WTS only) PAHs; and, Dissolved major ions (including alkalinity), hardness, total dissolved solids and total suspended solids.	mg/L		
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Attachment A - City of Iqaluit Water Licence Combined

Table 2¹ - Water Quality Monitoring Criteria

Station ID	Description	Status	Parameter	Testing / Measurement Frequency	Reporting Frequency
IQA-01	Lake Geraldine Reservoir – Raw Water	Active	R, PW F	Monthly	Biannually
IQA-01(#)	Based on Part I, Item 4 of Expired Licence	Inactive	N/A	N/A	
IQA-02	Sewage Lagoon – Effluent Discharge Point	Active	B, N, E, ICP F	Once prior to discharge; once during discharge; and once prior to the completion of discharge During decant	Annually
IQA-03	Sewage Lagoon – Influent	Inactive	N/A	N/A	N/A
IQA-04	Wastewater Treatment Plant - Effluent	Active	B, N, E, ICP	Quarterly – Prior to commissioning of the WWTP	Annually
			B, N, E, ICP	Monthly – Following commissioning of the WWTP	
			AL	Annually – following commissioning of the WWTP	
			F	During Discharge	
IQA-05	Wastewater Treatment Plant - Influent	Active	B, E, N, ICP	Biannually – Prior to commissioning of the WWTP No testing requirements following commissioning of the WWTP	Annually N/A
IQA-06	Sludge – From WWTP	Active	B, E, N, ICP	Quarterly	Annually
IQA-07	Surface Water entering West 40 Landfill – Based on Part E, Item 4 of the Expired Licence	Inactive	N/A	N/A	N/A

Station ID	Description	Status	Parameter	Testing / Measurement Frequency	Reporting Frequency
IQA-08	West 40 Landfill – Effluent Discharge Point, Based on Part E, Item 4 of the Expired Licence	Active	B, E, N, ICP, F, LS F	Once prior to discharge; once during discharge; and once prior to the completion of discharge During Discharge	Annually
IQA-08(#)	Based on E, Item 17, Part F, Item 10 & Part I, Item 4 of the Expired Licence	Inactive	N/A ²	N/A	N/A
IQA-08A	Station situated up-gradient of West 40 Landfill	Active	B, E, N, ICP, F, LS	Annually	Annually
IQA-08B	Station situated down-gradient of West 40 Landfill	Active			
IQA-09	Contaminated soil accepted at the West 40 Landfill	Inactive	NA	N/A	N/A

¹ Table 2 may be modified by the Board and re-issued where necessary. Re-issuance is not considered an Amendment to the application of Licence as defined in the Act.
² Means not applicable

Amend Table 2

Station ID	Description	Status	Parameter	Testing / Measurement Frequency	Reporting Frequency
IQA-01	Lake Geraldine Reservoir – Raw Water Intake	Active	R, PW F	Monthly	Biannually
IQA-01(#) ¹	Additional Monitoring Points for Lake Geraldine Reservoir – Raw Water Intake	N/A	N/A	N/A	N/A
IQA-02	Sewage Lagoon – Effluent Discharge Point	Active	B, N, E, ICP	Once prior to discharge; once during discharge; and once prior to the completion of discharge	Annually
			F	During decant	
IQA-03	Sewage Lagoon – Influent	Inactive	N/A	N/A	N/A
IQA-04	Wastewater Treatment Plant - Effluent	Active	B, N, E, ICP	Quarterly – Prior to commissioning of the WWTP	Annually
			B, N, E, ICP	Monthly – Following commissioning of the WWTP	
			AL	Annually – following commissioning of the WWTP	

¹ # is a place holder for any additional monitoring sites added to the program.

Amend Table 2 to include:

Station ID	Description	Status	Parameter	Testing / Measurement Frequency	Reporting Frequency
IQA-14	Withdrawal from Inuqarviniq (Dead Dog Lake) for dust suppression.	Active	F	Daily when withdrawals occurring at this station.	Annually
IQA-15	Waste Transfer Station Runoff/Leachate Discharge Point	Active	B, E, N, ICP, F, LS	Daily flow measurements; once prior to discharge; once during discharge; and once prior to the completion of discharge.	Annually
				Daily flow measurements; once prior to discharge; once during discharge; and once prior to the completion of discharge.	
IQA-16 (WS-103)	Landfill Runoff/Leachate Discharge Point	Active	B, E, N, ICP, F, LS	Daily flow measurements; once prior to discharge; once during discharge; and once prior to the completion of discharge.	Annually

Station ID	Description	Status	Parameter	Testing / Measurement Frequency	Reporting Frequency
SW1	Waste Transfer Station surface water monitoring	Active	Field	Monthly	Annually
SW2	Waste Transfer Station surface water monitoring	Active	Laboratory	Twice per year	Annually
SW3	Waste Transfer Station surface water monitoring	Active	Laboratory	Monthly	Annually
WS-100	New North Landfill surface water monitoring	Active	Field	Twice per year	Annually
WS-101	New North Landfill surface water monitoring	Active	Laboratory	Monthly	Annually
WS-102	New North Landfill surface water monitoring	Active	Field	Twice per year	Annually
19MW-01	Waste Transfer Station ground water monitoring	Active	Laboratory	Monthly	Annually
19MW-02	Waste Transfer Station ground water monitoring	Active	Laboratory	Twice per year	Annually
19MW-03	Waste Transfer Station ground water monitoring	Active	Field	Monthly	Annually
19MW-04	Waste Transfer Station ground water monitoring	Active	Laboratory	Twice per year	Annually
19MW-05	Waste Transfer Station ground water monitoring	Active	Field	Monthly	Annually
W-107	New North Landfill ground water monitoring	Active	Field	Twice per year	Annually
W-108	New North Landfill ground water monitoring	Active	Laboratory	Monthly	Annually
W-109	New North Landfill ground water monitoring	Active	Field	Twice per year	Annually
W-110	New North Landfill ground water monitoring	Active	Laboratory	Monthly	Annually

Station ID	Description	Status	Parameter	Testing / Measurement Frequency	Reporting Frequency
W-111	New North Landfill ground water monitoring	Active	Field	Monthly	Annually
			Laboratory	Twice per year	

Amend Table 2 to include:

Station ID	Description	Status	Parameter	Testing / Measurement Frequency	Reporting Frequency
IQA-17	Withdrawal from Sylvia Grinnell River.	New	F	Daily when withdrawals occurring at this station.	2021 Annual Report

Amend Table 2 to include:

Station ID	Description	Status	Parameter	Testing / Measurement Frequency	Reporting Frequency
IQA-13	Withdrawal from large unnamed source water lake (Unnamed Lake) for transfer into regional tributary to Nauyasung River. Intake of withdrawal is to provide water to withdrawal point at Monitoring Station IQA-10.	Active as of 2022	F	Daily when withdrawals occur at this station.	2022 Annual Report

Attachment A - City of Iqaluit Water Licence Combined

Licence No. 3AM-IQA1626		Amendment 4				Amendment 5		Amendment 6		Amendment 7	
Station ID	Description	Status	Parameter	Testing/ Measurement Frequency	Reporting Frequency						
			F	During Discharge							
IQA-05	Wastewater Treatment Plant - Influent	Active	B, E, N, ICP	Biannually – Prior to commissioning of the WWTP	Annually						
				No testing requirements following commissioning of the WWTP	N/A						
IQA-06	Sludge – From WWTP	Active	B, E, N, ICP	Quarterly	Annually						
IQA-07	Surface Water entering West 40 Landfill	Inactive	N/A	N/A	N/A						
IQA-08	West 40 Landfill – Effluent Discharge Point	Active	B, E, N, ICP, F, LS	Once prior to discharge; once during discharge; and once prior to the completion of discharge	Annually						
			F	During Discharge							
IQA-08(a) ²	Additional Effluent Discharge Points for the West 40 Landfill	N/A	N/A	N/A	N/A						
IQA-08A	Station situated up-gradient of West 40 Landfill	Active	B, E, N, ICP, F, LS	Annually	Annually						
IQA-08B	Station situated down-gradient of West 40 Landfill	Active									
IQA-09	Contaminated soil accepted at the West 40 Landfill	Inactive	NA	N/A	N/A						
IQA-10	Withdrawal from Upper Niaqunguk River for transfer directly into the Reservoir.	Active	F	Daily when withdrawals occurring at this station.	Annual Report						
IQA-11	Withdrawal from Middle Niaqunguk River watershed for transfer directly into the	Inactive	F	Daily when withdrawals occurring at this	N/A						
Station ID	Description	Status	Parameter	Testing/ Measurement Frequency	Reporting Frequency						
	Reservoir. Withdrawal point to be located on an ephemeral tributary near where it enters the Niaqunguk River or on the river itself just downstream of the confluence with the tributary.			station.							
IQA-12	Withdrawal from small unnamed source water lakes adjacent to Lake Geraldine Reservoir for transfer directly to the reservoir.	Inactive	F	Daily when withdrawals occurring at this station.	N/A						
IQA-13	Withdrawal from large unnamed source water lake for transfer into ephemeral tributary to Niaqunguk River. Intent of withdrawal is to provide water to withdrawal point at Monitoring Station IQA-10.	Inactive	F	Daily when withdrawals occurring at this station.	N/A						

Attachment A - City of Iqaluit Water Licence Combined