



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# 146770681

May 15, 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: Crown-Indigenous Relations and Northern Affairs Canada's review of the City of Iqaluit 2024 Completeness Check Responses for Type A Water Licence No. 3AM-IQA1626 Renewal Application in the Qikiqtani Region of Nunavut

Dear Mr. Dwyer,

Thank you for the April 30, 2026 invitation to review the City of Iqaluit's responses to information requests for the Type A Water Licence Renewal and Amendment Application and supporting documentation for Water Licence No: 3AM-IQA1626.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) assessed the responses 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*. **CIRNAC has 9 unresolved information requests, with the most pressing being a dam break analysis, in accordance with current CDA guidelines, assessing the impacts of a catastrophic failure of the proposed upstream reservoir dam on the existing Lake Geraldine dam and downstream environment.** The following items are also missing in the information request responses:

- Clear timelines outlining commitments to provide updated plans.
- Water quality data associated with Lake Geraldine and comparison of water quality data collected for each water source against current guidelines.
- Identification of the potential effects from existing water use and waste disposal facilities.
- Assessment of the potential effects of water use associated with existing sources.
- Baseline soil quality data associated with the existing facilities.
- Assessment of the potential effects on soil from water use and waste disposal associated with existing sources.
- Reporting approach and template that compares the results to predicted impacts on water quality.



- Description of measures to address non-compliant items and actions to achieve compliance with Licence conditions.
- Clarification that the statement "... Plan is to not store any fuel, chemical or hazardous materials on site with the exception of explosives ..."
- Updated city of Iqaluit Solid Waste Management Plan.
- Confirmation whether 19MW-05 is to remain active.
- Position and contact information of sampling personnel.

CIRNAC's detailed information request assessment can be found in the attached Technical Memorandum.

If there are any questions or concerns, please contact Michelle Blade at michelle.blade@rcaanc-cirnac.gc.ca or Andrew Keim at andrew.keim@rcaanc-cirnac.gc.ca.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michelle Blade".

Michelle Blade
Regulatory and Science Advisor

Information Request Response Memorandum

Date: May 15, 2026

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

From: Michelle Blade, Regulatory and Science Advisor, CIRNAC

Subject: **Crown-Indigenous Relations and Northern Affairs Canada's review of the City of Iqaluit 2024 Completeness Check Responses for Type A Water Licence No. 3AM-IQA1626 Renewal Application in the Qikiqtani Region of Nunavut**

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 | Status |
|--|---|----------------|
| 2026-02-06-IR#01 | Plans/Procedures/Reports for Existing Infrastructure under Licence | Missing |
| 2026-02-06-IR#02 | Potential Effect of Water Use and Waste Disposal on Groundwater and Surface Water Quality | Missing |
| 2026-02-06-IR#03 | Potential Effect of Water Use on Groundwater and Surface Water Quantity | Missing |
| 2026-02-06-IR#04 | Potential Effect of Water Use and Waste Disposal on Soil Contamination | Missing |

| Recommendation Number / Information Request Number | Subject | Status |
|--|---|----------------|
| 2026-02-06-IR#05 | Studies and Designs: Site Specific Data and Analysis to Support the Design and Management Decisions - Geotechnical | Received |
| 2026-02-06-IR#06 | Studies and Designs: Site Specific Data and Analysis to Support the Design and Management Decisions - Geotechnical Missing Appendices | Received |
| 2026-02-06-IR#07 | Studies and Designs: Site Specific Data and Analysis to Support the Design and Management Decisions - Dam Safety Review | Missing |
| 2026-02-06-IR#08 | Studies and Designs: Site Specific Data and Analysis to Support the Design and Management Decisions - Water Balance | Received |
| 2026-02-06-IR#09 | Annual Reporting | Missing |
| 2026-02-06-IR#10 | Compliance Assessment | Missing |
| 2026-02-06-IR#11 | Existing Water Intake | Received |
| 2026-02-06-IR#12 | Existing Water Intake Condition | Received |
| 2026-02-06-IR#13 | Water Storage | Received |
| 2026-02-06-IR#14 | Waste Disposal | Received |
| 2026-02-06-IR#15 | Waste Disposal: Quality and Quantity | Received |
| 2026-02-06-IR#16 | Wastewater Including Sewage and Grey Water | Received |
| 2026-02-06-IR#17 | Wastewater System Capacity | Received |
| 2026-02-06-IR#18 | Wastewater Treatment System | Received |
| 2026-02-06-IR#19 | Solid Waste Facilities | Received |
| 2026-02-06-IR#20 | Fuel and Chemical Storage | Missing |
| 2026-02-06-IR#21 | Hazardous Waste Disposal | Missing |
| 2026-02-06-IR#22 | Studies | Received |
| 2026-02-06-IR#23 | Monitoring Plan and Quality Assurance/Quality Control Plan | Missing |
| 2026-02-06-IR#24 | Monitoring | Missing |

| Recommendation Number / Information Request Number | Subject | Status |
|--|---|----------|
| 2026-02-06-IR#25 | Inspection Plan | Received |
| 2026-02-06-IR#26 | LTWP Surveillance Network Program | Received |
| 2026-02-06-IR#27 | Explosives Management Plan and a Refueling Plan | Received |
| 2026-02-06-IR#28 | Safety Data Sheets (SDS) | Received |
| 2026-02-06-IR#29 | Verify Supplemental Information Guideline (SIG) Table | Received |
| 2026-02-06-IR#30 | Ongoing Unaddressed Recommendations | Received |

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 |
| 260424-3AM-IQA---- Applic-Main-Doc | City of Iqaluit, Rev 01, April 24, 2026 |
| 260424-3AM-IQA---- Attach-01-NWB-Application-Form | City of Iqaluit, December 23, 2025 |
| 260424-3AM-IQA---- Attach-02a-NPC-Determination | Nunavut Planning Commission, NPC File No. 150798, April 23, 2025 |
| 260424-3AM-IQA---- Attach-02b-NPC-Determination | Nunavut Planning Commission, NPC File No. 151186, April 21, 2026 |
| 260424-3AM-IQA---- Attach-04-DFO-Advice | Fisheries and Oceans Canada, 23-HCAA-02636, March 25, 2024 |
| 260424-3AM-IQA---- Attach-05-SIG-Concordance | City of Iqaluit, Rev 01. April 24, 2026 |
| 260424-3AM-IQA---- Attach-07-Compliance-Assessment | City of Iqaluit, Rev 01. April 24, 2026 |
| 260424-3AM-IQA---- Attach-08-Lake-Geraldine-Dam-Safety-Review | Mitchelmore Consulting International Limited. Rev 1. February 17, 2025 |
| 260424-3AM-IQA---- Attach-09-Lake-Geraldine-Dam-Breach-Analysis | AMEC Environment & Infrastructure, May 2011 |
| 260424-3AM-IQA---- Attach-10-Lake-Geraldine-Intake-Replacement-Conceptual-Design | WSP, April 29, 2024 |

| Document Title | Author, File No., Rev., Date |
|---|--|
| 260424-3AM-IQA---- Attach-11 Water Treatment Plant O&M Manual | City of Iqaluit, April 2026 |
| 260424-3AM-IQA---- Attach-12-Lake-Geraldine-Water-Balance-2013 | Golder Associates, August 20, 2013 |
| 260424-3AM-IQA---- Attach-13-Lake-Geraldine-Water-Balance-Update | WSP, November 12, 2025 |
| 260424-3AM-IQA---- Attach-14-LTWP-Site-Plans | Arcadis Canada Inc.; Rev 1; April 24, 2026 |
| 260424-3AM-IQA---- Attach-15-LTWP-Detailed-Design-Rpt | Arcadis Canada Inc.; January 17, 2026 |
| 260424-3AM-IQA---- Attach-16-LTWP-Detailed-Design-Rpt-Append-A-Detailed-Design-Drawings | Arcadis Canada Inc.; December 19, 2025 |
| 260424-3AM-IQA---- Attach-17-LTWP-Detailed-Design-Rpt-Append-B-Survey-Rpt | Arcadis Canada Inc., File No. 30192375, January 2024 |
| 260424-3AM-IQA---- Attach-18-LTWP-Detailed-Design-Rpt-Append-C-Geotech-Workplan | Arcadis Canada Inc., File No. 30192375, February 2024. |
| 260424-3AM-IQA---- Attach-19-LTWP-Detailed-Design-Rpt-Append-D-Draft-Spec | City of Iqaluit; April 24, 2026 |
| 260424-3AM-IQA---- Attach-20-LTWP-Detailed-Design-Rpt-Append-E-Pump-Calcs | Arcadis Canada Inc., File No. 144081, August 28, 2024 |
| 260424-3AM-IQA---- Attach-21-LTWP-Detailed-Design-Rpt-Append-F-Pump-Curves | Xylem, File No. NP 3231/706 3~ 480, April 24, 2026 |
| 260424-3AM-IQA---- Attach-22-LTWP-Detailed-Design-Rpt-Append-G-Hydrology | Arcadis Canada Inc., File: No. 30192375, March 25, 2024. |
| 260424-3AM-IQA---- Attach-23-LTWP-Detailed-Design-Rpt-Append-H-Liner-Memo | Arcadis Canada Inc., File: No. 30192375, October 20, 2023. |
| 260424-3AM-IQA---- Attach-24-LTWP-Detailed-Design-Rpt-Append-I-Slope-Stability | Arcadis Canada Inc., File: No. 301192375, February 29, 2024. |
| 260424-3AM-IQA---- Attach-25-LTWP-Detailed-Design-Rpt-Append-J-Blasting-Assessment | Explotech Engineering Limited, December 15, 2023. |
| 260424-3AM-IQA---- Attach-26-LTWP-Detailed-Design-Rpt-Append-K-Facility-Manual | Arcadis Canada Inc., File: No. 30192375, March 22, 2024 |
| 260424-3AM-IQA---- Attach-28-LTWP-Detailed-Design-Rpt-Append-M-EMP | Arcadis Canada Inc., File: No. 30192375, September 2024. |
| 260424-3AM-IQA---- Attach-29-LTWP-Detailed-Design-Rpt-Append-M-EPP | Arcadis Canada Inc., File: No. 30192375, September 2024 |
| 260424-3AM-IQA---- Attach-30-LTWP-Detailed-Design-Rpt-Append-M-ERP | Arcadis Canada Inc., File: No. 30192375, September 2024 |
| 260424-3AM-IQA---- Attach-31-LTWP-Detailed-Design-Rpt-Append-M-ESCP | Arcadis Canada Inc., File: No. 30192375, September 2024 |
| 260424-3AM-IQA---- Attach-32-LTWP-Detailed-Design-Rpt-Append-M-Climate-Lens | Arcadis Canada Inc., File: No. 30192375, April 2024 |

| Document Title | Author, File No., Rev., Date |
|---|---|
| 260424-3AM-IQA---- Attach-34-Lake-Qikiqtalik-Water-Withdrawal-Study | Tetra Tech Canada Inc. File No: 704-ENG.WTRI03087-01, July 24, 2025 |
| 260424-3AM-IQA---- Attach-35-Lake-Qikiqtalik-WQ-Rpt | Nunami Stantec, File:144902884, October 1, 2019 |
| 260424-3AM-IQA---- Attach-36-Env-Screening-Rpt | Arcadis Canada Inc., File: No. 30192375, September 2025 |
| 260424-3AM-IQA---- Attach-37-Apex-River-Water-Withdrawal-Study | Tetra Tech Canada Inc. File No: 704-ENG.WTRI03087-01, Memo 1, July 24, 2025 |
| 260424-3AM-IQA---- Attach-38-Geotech-Report-Reservoir&Pipeline-Crossing | Arcadis Canada Inc., File: No. 30192375, August 2025 |
| 260424-3AM-IQA---- Attach-39-Aggregate-Sources-Assessment-Rpt | Arcadis Canada Inc., File: No. 30192375, May 16, 2025 |
| 260424-3AM-IQA---- Attach-42-Phase-I-ESA. | Arcadis Canada Inc., File: No. 30192375, April 2024 |
| 260424-3AM-IQA---- Attach-43a-WWTP-Arch-Stru-Civ-O&M-Manual | City of Iqaluit, April 24, 2020. |
| 260424-3AM-IQA---- Attach-43b-WWTP-Process-O&M-Manual | City of Iqaluit, April 24, 2020. |
| 260424-3AM-IQA---- Attach-43c-WWTP-Mech-O&M-Manual | City of Iqaluit, April 24, 2020. |
| 260424-3AM-IQA---- Attach-43d-WWTP-EIC-O&M-Manual | City of Iqaluit, April 24, 2020. |
| 260424-3AM-IQA---- Attach-43e-WWTP-Generator-O&M-Manual | Bluestar Power Systems Inc., November 1, 2019 |
| 260424-3AM-IQA---- Attach-44-WWTP-Redesign-Report | Nunami Stantec, November 27, 2017 |
| 260424-3AM-IQA---- Attach-45-Sewage-Lagoon-O&M-Manual | City of Iqaluit, Rev 8, April 24, 2026 |
| 260424-3AM-IQA---- Attach-46-Solid-Waste-Mgmt-Plan | City of Iqaluit, January 2014 |
| 260424-3AM-IQA---- Attach-47-West40-Landfill-O&M-Manual | AECOM, January 8, 2024 |
| 260424-3AM-IQA---- Attach-48-West40-Landfill-Decommissioning-TM | AECOM, January 2014 |
| 260424-3AM-IQA---- Attach-49-North40-Landfill-CSR | City of Iqaluit, December 19, 2025 |
| 260424-3AM-IQA---- Attach-50-Waste-Transfer-Station-CSR | City of Iqaluit, December 19, 2025 |
| 260424-3AM-IQA---- Attach-51-North40-Landfill-WTS-O&M-Manual | Dillion Consulting, Rev 6. August 2022 |
| 260424-3AM-IQA---- Attach-52-North40-Landfill-Leachate-Characteriz-Plan | Dillion Consulting, February 2, 2023 |

| Document Title | Author, File No., Rev., Date |
|---|--|
| 260424-3AM-IQA---- Attach-53-North40-Landfill-Closure-Plan | Dillion Consulting, August 2022 |
| 260424-3AM-IQA---- Attach-54-North-Landfill-WTS-EMP | Dillion Consulting, August 2022 |
| 260424-3AM-IQA---- Attach-55-North40-Landfill-WTS-EPP | Dillion Consulting, October 2020 |
| 260424-3AM-IQA---- Attach-56-Spill-Plan | City of Iqaluit, Rev 1, April 24, 2026 |
| 260424-3AM-IQA---- Attach-57-Apex-Site-Specific-Spill-Plan | Nunami Stantec, December 21, 2018 |
| 260424-3AM-IQA---- Attach-58-Env-Monitoring-QA-QC-Plan | City of Iqaluit, Rev 4, April 24, 2026 |
| 260424-3AM-IQA---- Attach-59-North-Landfill-WTS-Facility-Monitoring-Program | Dillion Consulting, December 2020, |
| 260424-3AM-IQA---- Attach-60-Historical-Streamflow-Statistics-Apex-River | Stantec Consulting Ltd. Project/File: 144903621. August 20, 2025 |
| 260430 3AM-IQA1626 City of Iqaluit Table 1 - IR Responses-IMLE | City of Iqaluit, April 24, 2026 |
| 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 Application to provide a timetable for filing the 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.

City Response:

IR-01a: The management plans required under the licence have been reviewed, and these plans are listed in Section 8 and have been appended to the revised Application. Several plans warranted updates and were updated in the past month. Exceptions include those plans associated with the new North Landfill and Waste Transfer Station, as these facilities have been constructed but not yet commissioned, and the Wastewater Treatment Plant O&M Manual, since that facility has not had any updates since the manual was produced with the commissioning of the facility in 2020.

IR-01b: The City will need to review each of its plans and amend them as required to reflect changes to terms and conditions in the new licence, once issued. Updates to the plans and manuals for the new North Landfill and WTS will be completed once these facilities have been commissioned and some operating history has been gained. These timelines are noted in Section 8 of the Application.

IR-01c: Section 3-25 of the SIG has been updated in the revised Application.

Reference
Section 8

CIRNAC Response:

IR-01a) CIRNAC acknowledges that the revised application includes a list of relevant and current plans/reports/procedures for the existing infrastructure under the licence, and the location of documents available for review. Although some of these documents are over three (3) years old, it is understood by CIRNAC that they have been reviewed by the City for continued relevance.

IR-01b) CIRNAC acknowledges that the City will need to review and amend the plans as required by terms and conditions in the renewed/modified licence and a section has been added that refers to a schedule for updating the plans. However, the schedule does not provide clear timelines. Clear timelines should be provided that can be carried forward into the licence terms and conditions.

MISSING – clear timelines outlining commitments to provide updated plans.

IR-01c) CIRNAC acknowledges the City's updated response to section 3-25 of the SIG in April 2026.

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.

City Response:

IR-02a: Baseline water quality for Lake Qikiqtalik is presented in Attachment 35. The in-situ water quality measurements presented in the Physical, Biological and Socioeconomic Screening Report (Attachment 36) is the only water quality data that has been collected for the Apex River.

IR-02b: Section 3-27 of the SIG requires the proponent to identify the potential effects of water use and waste disposal on groundwater and surface water; land; vegetation; and aquatic ecosystems. The effects of existing facilities are not typically addressed during relicensing and this item of the SIG is for proposed facilities. This information is provided for the LTWP. The potential effects of water use are primarily flow-related impacts on fish and fish habitat. Lake Geraldine is a man-made reservoir and available data suggests that there may not be fish within Lake Geraldine (Nunami Stantec, 2017). The main effects would have been during its construction several decades ago. The changes in flow for Lake Qikiqtalik and Apex River are described in Attachments 34 and 37, and the effects from this are described in Attachment 36 as well as Section 3.32 of the Application. Waste disposal facilities were licensed previously, the North 40 Landfill and Waste Transfer Station were subject to a NIRB screening and Amendment No. 5 of the water licence in 2021. The West 40 Landfill is nearing the end of its life, and the City expects to close the landfill within the next three years. A closure plan will be filed with the NWB and will be subject for review at least a year before that occurs. The WWTP and sewage lagoon have also been in place for many years. For existing facilities, which have all been operating for decades, the potential effects are best described by recent monitoring.

IR-02c: Section 3-27 of the SIG has been updated.

References

Attachment 34 - Lake Qikiqtalik Water Withdrawal Study

Attachment 35 - Lake Qikiqtalik Water Quality Report

Attachment 37 - Apex River Water Withdrawal Study

Attachment 36 - Physical, Biological and Socioeconomic Screening Report

CIRNAC Response:

IR-02a) CIRNAC acknowledges that baseline water quality data for Lake Qikiqtalik for the months of July and September 2019, are presented in Attachment 35 to the revised application and the data are considered outdated. CIRNAC understands that the in-situ water quality measurements presented in the Physical, Biological and Socioeconomic Screening Report (Attachment 36) for July, 2024, is the only water quality data that has been collected for the Apex River; however, it is noted that it is water quality summary data that are used in an ecological context and not parameters related to contaminants. Water quality should include parameters related to contaminants and should be

presented in the context of current guidelines. CIRNAC requests that water quality data associated with Lake Geraldine as part of annual reporting requirements be included in the Application and that water quality data collected for each water source be compared against current guidelines.

MISSING – water quality data associated with Lake Geraldine and comparison of water quality data collected for each water source against current guidelines.

IR-02b) The City's response does not fully address the request to identify the potential effects from water use and waste disposal, and it expressly declines to assess existing facilities in the manner requested. Neither the SIG nor Guide 7 exempt existing facilities from the requirement. CIRNAC acknowledges the City's response which speaks to potential effects of water use associated with the LTWP.

MISSING – identification of the potential effects from existing water use and waste disposal facilities.

IR-02c) CIRNAC acknowledges the City's updated response to section 3-27 of the SIG in April 2026.

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.

City Response:

IR-03a: The original water balance for Lake Geraldine and an update to the water balance are provided as Attachments 12 and 13. Impacts on flow rates and water levels are considered in Section 3.3.2 of the Application and in Attachments 34, 36 and 37.

IR-03b: An additional discussion on effects has been added to Section 3.3.2 of the Application.

IR-03c: Section 3-27 of the SIG has been updated.

References

Attachment 12 - LG Water Balance

Attachment 13 - LG Water Balance Update

Attachment 34 - Lake Qikiqtalik Water Withdrawal Study

Attachment 36 - Physical, Biological and Socioeconomic Screening Report

Attachment 37 - Apex River Water Withdrawal Study

CIRNAC Response:

IR-03a) CIRNAC acknowledges that the original water balance for Lake Geraldine and an update to the water balance are provided as Attachments 12 and 13 to the revised Application, and impacts on flow rates and water levels are included in Section 3.3.2 of the revised Application and in Attachments 34, 36 and 37.

IR-03b) As noted above, CIRNAC acknowledges that a discussion of the potential effects from water use associated with the LTWP, including impacts on flow rates and water levels, are included in Section 3.3.2 of the revised Application. However, the City's response does not address the request to identify the potential effects of water use from current sources.

MISSING – assessment of the potential effects of water use associated with existing sources.

IR-03c) CIRNAC acknowledges the City's updated response to section 3-27 of the SIG in April 2026.

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.

City Response:

IR-04a: The cited requirement of the SIG applies to new facilities. There are no plans to obtain soil quality data for existing facilities that have been operating under a water licence for decades.

IR-04b: The effects from water use and waste disposal using current facilities will not be assessed, as these facilities already exist.

IR-04c: As mentioned above, the cited requirement of the SIG applies to new facilities.

CIRNAC Response:

(IR-04a) The City's response does not address the request to provide baseline soil quality data associated with the existing facilities, and it expressly declines to provide such. Neither the SIG nor Guide 7 exempt existing facilities from the request. A current baseline of soil quality at new and existing facilities will support monitoring compliance with licence conditions through the licence period.

MISSING – baseline soil quality data associated with the existing facilities.

(IR-04b) The City's response does not address the request to identify the potential effects from water use and waste disposal, and it expressly declines to assess existing facilities in the manner requested. Neither the SIG nor Guide 7 exempt existing facilities from the requirement. CIRNAC notes that there have been compliance concerns documented in the past for the existing facilities, indicating credible pathways for effects of water use and waste disposal on soil quality. Identification of potential effects, combined with a current baseline of soil quality at new and existing facilities, will support monitoring compliance with licence conditions through the licence period.

MISSING – assessment of the potential effects on soil from water use and waste disposal associated with existing sources.

(IR-04c) The City's response does not address the request to update the SIG responses. Neither the SIG nor Guide 7 exempt existing facilities from the request.

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 regard 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.

City Response:

The recommendations cited in the Preliminary Design Report are those found in Section 6 (PDF page 32) of the Arcadis geotechnical report (Attachment 38) and in the report by Adaptive Baseline Geotechnical Ltd. presented in Appendix H of Arcadis's geotechnical report (PDF page 288).

Reference

Attachment 38 - Geotechnical Report

CIRNAC Response:

(IR-05) CIRNAC acknowledges an update to the location of the information requested and receipt of the LTWP Geotechnical Report (Attachment 38) with the revised Application, which includes the previously missing appendices for technical review.

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.

City Response:

The version of this report with appendices is provided as Attachment 38.

Reference

Attachment 38 - Geotechnical Report

CIRNAC Response

(IR-06) CIRNAC acknowledges receipt of the LTWP Geotechnical Report (Attachment 38) with the revised Application, which includes the previously missing appendices for technical review.

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.

City Response:

Dam break analyses are currently underway, and are being performed in accordance with the latest CDA guidelines. A copy of the report will be provided Summer 2026. However, a 2011 Dam Breach Analysis completed for Lake Geraldine provides some relevant information, since a dam breach at the new reservoir would discharge into Lake Geraldine (Attachment 9). In the absence of an updated dam breach assessment of this scenario, the flow path of a release of water from Lake Geraldine would look similar, but the duration of the flood would likely be longer.

Reference

Attachment 9 - Lake Geraldine Dam Break Analysis

CIRNAC Response:

(IR-07) The City noted that the Dam Break Analyses are still underway and anticipated to be completed in the summer of 2026, and therefore, were not provided. CIRNAC requires the Dam Break Analyses in accordance with the latest Canadian Dam Association (CDA) guidelines for the technical review of this item.

MISSING – Dam Break Analysis, in accordance with current CDA guidelines, assessing the impacts of a catastrophic failure of the proposed upstream reservoir dam on the existing Lake Geraldine dam and downstream environment.

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.

City Response:

The original Lake Geraldine Water Balance Model and updates are provided as Attachments 12 and 13.

Reference

Attachment 12 - Lake Geraldine Water Balance

Attachment 13 - Lake Geraldine Water Balance Update

CIRNAC Response:

(IR-08) CIRNAC acknowledges receipt of the updated and recalibrated water balance model as Attachment 13 to the revised Application.

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.

City Response:

IR-09a (i): Monitoring data from 2025 was presented in Appendix A of the 2025 Annual Report. The City proposes to present future monitoring data in a similar way in future annual reports. No water quality or quantity predictions were presented in a previous Application. Hence, a comparison is not possible.

IR-09a (ii) SIG Section 3-55 asks the proponent to describe how any conditions in the NIRB screening decision related to the NIRB mandate have been implemented. Below is a summary regarding the 2014 screening decision report (NIRB File No. 13UN034):

Water use: fish screens are used on all intakes (Term #5), and the City has sought permission from the NWB before extracting water from new sources (Term #6).

Landfill operations: Only non-hazardous wastes are accepted at the West 40 Landfill, and hazardous materials are shipped south for disposal at licensed facilities (Term #13). Fencing is maintained around the landfill (Term #14). Dust suppression measures are applied where appropriate (Term #15). Personnel are trained before working at the landfill and are trained regarding key operational guidelines and commitments (Term #16). The landfill boundaries are clearly identified with the fencing (Term #17). Natural drainage is unobstructed at the landfill (Term #18). Silt fences are installed downgradient of construction activities (Term #19). An undisturbed buffer is maintained between the landfill and high-water mark of the nearest waterbody, which is Koojesse Inlet (Term #20). Excess overburden/topsoil generated during construction is stockpiled if not used for other purposes (Term #21). However, re-vegetation is not normally done at disturbed areas.

IR-09b: Section 3-55 of the SIG has been updated to refer to the applicable sections of the 2025 Annual Report, and this IR response which will be attached to the revised application.

CIRNAC Response:

IR-09a (i) CIRNAC acknowledges that the City has provided a commitment to presenting the results in a table format in the future; however, have not provided an approach to compare the results to predictions or guidelines. City's response does not fully address the request to provide a template that compares the results to predictions. CIRNAC has requested that the City provide the predictions of impacts on water quality; however, it expressly declines to assess existing facilities in the manner requested (see IRs 2, 3, and 4). It is noted that the annual report layout was revised in 2025 and will be used moving forward.

MISSING – reporting approach and template that compares the results to predicted impacts on water quality.

IR-09a (ii) CIRNAC acknowledges that the City has provided descriptions of how any conditions in the 2014 NIRB screening decision related to the NWB mandate have been implemented. CIRNAC recommends that a section describing such is provided in the Annual Report template.

IR-09b) CIRNAC acknowledges the City's updated response to section 3-55 of the SIG in April 2026.

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.

City Response:

An updated Compliance Assessment that reviews the City's performance regarding the individual terms of the licence (including amendment) is presented as Attachment 7.

References

Attachment 7 - Compliance Assessment

CIRNAC Response:

(IR-10) CIRNAC acknowledges that the City has provided an updated Compliance Assessment which includes the condition details and their status on compliance. However, minimal information is provided for items identified as non-compliant or actions being undertaken to achieve compliance with the current Licence conditions.

MISSING – description of measures to address non-compliant items and actions to achieve compliance with Licence conditions.

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.

City Response:

A description of the intake is provided in Section 3.1 and a technical report describing its current condition with conceptual plans for its replacement in 2026 is provided as Attachment 10.

References

Attachment 10 - Lake Geraldine Intake Replacement Conceptual Design

CIRNAC Response

(IR-11) CIRNAC acknowledges receipt of the Lake Geraldine Intake Replacement Conceptual Design (Attachment 10) with the revised Application, which describes its current condition with conceptual plans for its replacement in 2026. The City has also provided a description of the Existing Water Intake in Section 3.1 of the revised Application.

CIRNAC also acknowledges that the City provided an update to section 6-8 of the SIG in April 2026, but the response was still focused on the LTWP and did not provide details on the existing water intake.

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 description of the condition of the existing water intake infrastructure and update the response to section 6-9 of the SIG.

City Response:

A technical report describing the condition of the existing water intake is provided as Attachment 10.

References

Attachment 10 - Lake Geraldine Intake Replacement Conceptual Design

CIRNAC Response

(IR-12) CIRNAC acknowledges receipt of the Lake Geraldine Intake Replacement Conceptual Design (Attachment 10) with the revised Application, which describes its current condition with conceptual plans for its replacement in 2026. The City has also provided a description of the Existing Water Intake in Section 3.1 of the revised Application.

CIRNAC also acknowledges that the City provided an update to section 6-9 of the SIG in April 2026, but the response was still focused on the LTWP and did not provide details on the existing water intake.

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.

City Response:

The Lake Geraldine Dam is described in a recent dam safety review (Attachment 8). The Lake Geraldine Water Intake is described in a condition assessment and conceptual design for its replacement, in Attachment 10. The Water Treatment Plant is described in its O&M Manual (Attachment 11).

References

Attachment 8 - Lake Geraldine Dam Safety Review

Attachment 10 - Lake Geraldine Intake Replacement Conceptual Design

Attachment 11 - Water Treatment Plant O&M Manual

CIRNAC Response:

(IR-13) CIRNAC acknowledges receipt of documentation for the existing water storage infrastructure with the revised Application. CIRNAC also acknowledges that the City provided an update to sections 6-15 through 6-18 of the SIG in April 2026, but such

responses are still focused on the LTWP and do not provide details of the existing facilities.

14. Waste Disposal

Comment:

Sections 7-1 a through j of the SIG require the Application to provide a detailed description of all types of waste and all forms of waste disposal.

The City's response to section 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.

City Response:

A description of existing water supply facilities is provided in Section 3.1, supported by Attachments 8, 10 and 11. Information on existing sewage disposal facilities is provided in Section 4.1 and Attachments 43, 44 and 45. Information on existing solid waste management facilities is provided in Section 4.2 and with Attachments 46 through 52.

References

Attachment 8 - Lake Geraldine Dam Safety Review
 Attachment 10 - Lake Geraldine Intake Replacement Conceptual Design
 Attachment 11 - Water Treatment Plant O&M Manual
 Attachment 43 - Wastewater Treatment Plant O&M Manuals
 Attachment 44 - WWTP Draft Control Narrative
 Attachment 45 - Sewage Lagoon O&M Manual
 Attachment 46 - Solid Waste Management Plan
 Attachment 47 - West 40 Landfill O&M Manual
 Attachment 48 - West 40 Decommissioning Technical Memorandum
 Attachment 49 - North 40 Landfill Construction Summary Report
 Attachment 50 - Waste Transfer Station Construction Summary Report
 Attachment 51 - North 40 Landfill and Waste Transfer Station O&M Manual
 Attachment 52 - North 40 Landfill Leachate Collection and Characterization Plan

CIRNAC Response:

(IR-14) CIRNAC acknowledges the City's updated response to section 7-1 a through j of the SIG in April 2026 and related documentation.

15. Waste Disposal: Quality and Quantity**Comment:**

Sections 7-2, 7-3, and 7-4 of the SIG require the Application to 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 indicated 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.

City Response:

Information on existing solid waste management facilities including the quantity of solid waste disposed of in the landfill in 2025 is provided in Section 4.2. The types of waste and waste disposal methods are described in the West 40 Landfill O&M Manual (Attachment 47). Additional information on the solid waste disposal facilities is provided in Attachments 46 through 52.

References

Attachment 46 - Solid Waste Management Plan
 Attachment 47 - West 40 Landfill O&M Manual
 Attachment 48 - West 40 Decommissioning Technical Memorandum
 Attachment 49 - North 40 Landfill Construction Summary Report
 Attachment 50 - Waste Transfer Station Construction Summary Report
 Attachment 51 - North 40 Landfill and Waste Transfer Station O&M Manual
 Attachment 52 - North 40 Landfill Leachate Collection and Characterization Plan

CIRNAC Response

(IR-15) CIRNAC acknowledges the City's updated response to sections 7-2, 7-3 and 7-4 of the SIG in April 2026 and related documentation. It is noted that the quantity of each type of solid waste is not recorded. The overall quantity of sewage treated and solid waste accepted is provided.

16. Wastewater Including Sewage and Grey Water

Comment:

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

The application from the City indicated 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.

City Response:

An overview of the existing wastewater treatment facilities has been added to Section 4.1 of the Application. Additional detail on the wastewater treatment plant (WWTP) and

sewage lagoon is provided in the respective operation and maintenance manuals presented as Attachments 43 and 45, and in the WWTP Upgrade Redesign Report for the recent upgrades (Attachment 44).

References

Attachment 43 - WWTP O&M Manual

Attachment 44 - WWTP Redesign Development Report

Attachment 45 - Sewage Lagoon O&M Manual

CIRNAC Response

(IR-16) CIRNAC acknowledges the City's updated response to sections 7-5 through 7-18 of the SIG in April 2026 and related documentation.

17. Wastewater System Capacity

Comment:

Section 7-10 of the SIG requires the Application to 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.

City Response:

The current WWTP upgraded in 2020 is designed to meet the peak hour flow in 2041 (Attachment 44).

References

Attachment 44 - WWTP Redesign Development Report

CIRNAC Response:

(IR-17) CIRNAC acknowledges the City's updated response to section 7-10 of the SIG in April 2026 and related documentation.

18. Wastewater Treatment System

Comment:

Section 7-19 of the SIG requires the Application to 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).

City Response:

For the WWTP, this information was provided to CIRNAC in the City's quarterly report, "Iqaluit WWTP Upgrades Effluent and Water License Quarterly Report 2025-Q2-Q4, April 2025 – Dec 2025 for Inspector's direction," dated January 23, 2026. Information from the quarterly report has been incorporated into Section 4.1.1 of the Application. The sewage lagoon is currently not experiencing operating problems.

A description of the general condition of the WWTP and the sewage lagoon are provide in Section 4.1, with more detail on the sewage lagoon provided in the Sewage Lagoon O&M Manual (Attachment 45).

References

Attachment 45 - Sewage Lagoon O&M Manual

CIRNAC Response:

(IR-18) CIRNAC acknowledges the City's updated response to sections 7-19 through 7-20 of the SIG in April 2026 and related documentation.

19. Solid Waste Facilities**Comment:**

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

The application from the City indicated 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.

City Response:

Information on the existing solid waste management facilities is provided in Section 4.2 and in the various solid waste related management plans and manuals listed in Section 8.1 of the Application. These plans and manuals are appended to the Application (Table 8.1 identifies their location).

References

- Attachment 46 - Solid Waste Management Plan
- Attachment 47 - West 40 Landfill O&M Manual
- Attachment 48 - West 40 Decommissioning Technical Memorandum
- Attachment 49 - North 40 Landfill Construction Summary Report
- Attachment 50 - Waste Transfer Station Construction Summary Report

Attachment 51 - North 40 Landfill and Waste Transfer Station O&M Manual

Attachment 52 - North 40 Landfill Leachate Collection and Characterization Plan

CIRNAC Response:

IR-19a) CIRNAC acknowledges that information on the existing solid waste management facilities are included in Section 4.2 of the revised Application, as well as in Attachments 46-52.

IR-19b) CIRNAC acknowledges that the City provided an update to sections 7-21 through 7-28 of the SIG in April 2026.

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.

City Response:

The current plan is to not store any fuel, chemical or hazardous materials on site with the exception of explosives which will be managed in accordance with the regulation pertaining to the use and management of explosives. At present it is anticipated the explosives will be stored near the former shooting range however that is to be confirmed by the Blast Master once the general contractor has been retained. Equipment fueling is expected to be done using a fuel truck that mobilizes to site as required and will be done in designated areas to be confirmed but will be appropriately set back from water bodies as required by the Board. Similarly, maintenance/service trucks will mobilize to site from local shops in Iqaluit on an as needed basis (re used of grease and oils for equipment).

It is not anticipated that a maintenance shop will be set up on site; however, should that be necessary the Board will be advised at least 60 days prior to work. The documentation relating to the use of fuels and chemicals will be incorporated in the general contractor's management plans which will be provided at least 60 days prior to the start of work.

CIRNAC Response:

(IR-20) CIRNAC acknowledges that documentation relating to the use of fuels and chemicals will be incorporated in the general contractor's management plans which will be provided at least 60 days prior to the start of work. CIRNAC requests the City to clarify that their statement that the "*... plan is to not store any fuel, chemical or hazardous materials on site with the exception of explosives ...*" refers specifically to construction of the new facilities and not operation of the new facilities which include new waste management sites.

MISSING – clarification that the statement "*... plan is to not store any fuel, chemical or hazardous materials on site with the exception of explosives ...*".

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.

City Response:

IR-21a: The locations of hazardous waste disposal facilities/areas are presented on Figure 4.2 of the Application.

IR-21b: An updated (2024) version of the West 40 Landfill O&M Manual includes a description of hazardous waste management activities as well as procedures covering the handling and disposal of various hazardous wastes (i.e., batteries, end-of-life vehicle decontamination, etc.).

IR-21c: Sections 7-38 and 7-39 of the SIG have been updated.

References

Attachment 47 - West 40 Landfill O&M Manual

CIRNAC Response:

IR-21a) CIRNAC acknowledges receipt of Figure 4.2 in the revised Application which shows the footprint of the hazardous waste area.

IR-21b) CIRNAC understands that the updated (2024) version of the West 40 Landfill O&M Manual includes a description of hazardous waste management activities as well as procedures covering the handling and disposal of various hazardous wastes (i.e., batteries, end-of-life vehicle decontamination, etc.); however, CIRNAC is still awaiting the updated version of the City of Iqaluit Solid Waste Management Plan referred to in the existing Water Licence with similar details, or alternatively, an explanation as to why the O&M Manual was updated with this information instead of the Solid Waste Management Plan.

MISSING – updated City of Iqaluit Solid Waste Management Plan.

IR-21c) CIRNAC acknowledges that the City provided an update to sections 7-38 and 7-39 of the SIG in April 2026.

22. Studies**Comment:**

Section 7-43 of the SIG requires the Application 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.

City Response:

A large number of reports and plans have been appended to the revised Application. The following is an overview of future work for each major water and waste management infrastructure:

1. Water Treatment Plant: the intake will be replaced in 2026. A conceptual design report is presented as Attachment 10. An updated O&M Manual is presented as Attachment 11.
2. Long Term Water Project: The project is currently at 50% detailed design, and the design report and appendices are included as Attachments 15 through 32. Key will be to permit the replacement of the bridge on the Road to Nowhere in 2026 (with DFO and the NWB) so that construction of the LTWP Raw Water Supply and Storage Reservoir can begin in May 2027.
3. WWTP and Sewage Lagoon: The WWTP has experienced a number of operational issues that the City has been addressing, as described in Section 4.1.1 of the Application. The O&M Manual is provided as Attachments 43 and 45.
4. West 40 Landfill: The latest O&M Manual is provided as Attachment 47, and a previously submitted closure technical memorandum (2014) is presented as Attachment

48. As acknowledged by CIRNAC, a final closure plan will be presented in the next couple of years at least one year prior to closure. An emergency response plans specific to the West 40 Landfill is presented in Appendix G.

5. North 40 Landfill and Waste Transfer Station: These facilities have been constructed, and the CSRs are provided as Attachments 49 and 50. The facilities have not yet been placed in operation. Attachments 51 to 55 are various plans and manuals related to these facilities.

6. An updated Spill Contingency Plan is presented as Attachment 56. The SIG has been updated accordingly.

References

Attachment 11 - Water Treatment Plant O&M Manual

Attachment 10 - Lake Geraldine Intake Replacement Conceptual Design

Attachments 15 to 32 - LTWP Detailed Design Report

Attachment 43 - WWTP O&M Manual

Attachment 44 - WWTP Draft Control Narrative

Attachment 45 - Sewage Lagoon O&M Manual

Attachment 46 - Solid Waste Management Plan

Attachment 47 - West 40 Landfill O&M Manual

Attachment 48 - West 40 Decommissioning Technical Memorandum

Attachment 49 - North 40 Landfill Construction Summary Report

Attachment 50 - Waste Transfer Station Construction Summary Report

Attachment 51 - North 40 Landfill and Waste Transfer Station O&M Manual

Attachment 52 - North 40 Landfill Leachate Collection and Characterization Plan

CIRNAC Response:

(IR-22) CIRNAC acknowledges receipt of a large number of reports and plans appended with the revised Application, as well as the City's updated response to section 7-43 of the SIG in April 2026. These reports and plans will be further evaluated as part of CIRNAC's technical review.

23. Monitoring Plan and Quality Assurance/Quality Control Plan

Comment:

Section 8-1 of the SIG requires the Application to 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.

City Response:

IR-23a: The Environmental Monitoring and QA/QC Plan has been updated for the revised Application (Attachment 58). Updated credentials from the accredited laboratory used by the City has also been included.

IR-23b: While Figure 6.1 does not distinguish between surface water, groundwater, and effluent samples, maps showing this detail is provided in Appendix A of the Environmental Monitoring and QA/QC Plan.

IR-23c: Sections 8-1 and 8-5 of the SIG have been updated.

Reference

Attachment 58 - Environmental Monitoring and Quality Assurance / Quality Control Plan

CIRNAC Response:

IR-23a) CIRNAC acknowledges receipt of an updated Environmental Monitoring Program and QA/QC Plan (Attachment 58) with the revised Application, with Appendix D - Laboratory Accreditation & Supporting Documents containing a letter from an Analyst of the accredited laboratory confirming acceptability of the Plan (dated March 11th, 2019). The updated Plan, dated April 24, 2026, should be reviewed by the accredited laboratory for continued acceptance.

IR-23b) CIRNAC acknowledges that the Figures now include Station ID labels which adequately distinguish sample type.

IR-23c) CIRNAC has not received a direct response from the City with respect to whether 19MW-05 is to remain active.

MISSING – confirmation whether 19MW-05 is to remain active.

IR-24d) CIRNAC acknowledges that the City provided an update to sections 8-1 and 8-5 of the SIG in April 2026.

24. Monitoring

Comment:

Section 8-2 of the SIG requires the Application to 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.

City Response:

The Environmental Monitoring and QA/QC Plan (Attachment 58) presents this information. The position and training of environmental samplers is provided in Section 4.10, and details on the laboratory conducting the analyses is provided in Section 5.

Reference

Attachment 58 - Environmental Monitoring and Quality Assurance / Quality Control Plan

CIRNAC Response:

(IR-24) CIRNAC acknowledges that the City provided an update to sections 8-2 and 8-3 of the SIG in April 2026. It is noted that Section 4.10 of the Environmental Monitoring Program and QA/QC Plan (Attachment 58) includes sampling personnel training but lacks their position and contact information.

MISSING – position and contact information of sampling personnel.

25. Inspection Plan

Comment:

Section 8-4 of the SIG requires the Application to provide an Inspection Plan for engineered facilities related to the management of waster 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.

City Response:

The requirements for inspections are incorporated into the O&M manuals and that are appended to the Application.

Reference

Attachment 11 - Water Treatment Plant O&M Manual

Attachment 43 - WWTP O&M Manual

Attachment 45 - Sewage Lagoon O&M Manual

Attachment 47 - West 40 Landfill O&M Manual

Attachment 51 - North 40 Landfill and WTS O&M Manual

Attachment 58 - Environmental Monitoring and QA/QC Plan

CIRNAC Response

(IR-25) CIRNAC acknowledges the City's updated response to section 8-4 of the SIG in April 2026, which indicates that the requirements for inspections are incorporated into the O&M Manuals appended to the revised Application.

26. LTWP Surveillance Network Program

Comment:

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

It is noted in the Application 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.

City Response:

IR-26a: Existing monitoring sites are shown on Figure 6.1 of the Application. More detailed maps showing the monitoring stations at each facility are presented in Appendix A of the Environmental Monitoring and QA/QC Plan (Attachment 58). The City is open to discussing new SNP stations for the LTWP. The stations (and media that is monitored) should be based on the potential for effects. During construction, SNP stations should be strategically located to monitor the runoff from construction areas and quarries. During operations, SNP stations will be required to measure flow and water volumes extracted from local waterbodies. A Water Management Plan is envisaged to monitor and adapt extraction to water levels in the extraction water bodies. The City does not believe groundwater monitoring will be necessary to monitor effects, and many of the current wells will be displaced by the reservoir.

IR-26b: The 10 other monitoring wells were installed to measure water levels. It wasn't judged necessary to have groundwater quality data for each monitoring well location.

IR-26c: Section 8-6 of the SIG has been updated.

Reference

Attachment 58 - Environmental Monitoring and QA/QC Plan

CIRNAC Response:

IR-26a) CIRNAC understands that many of the current wells will be displaced by the reservoir and as such, are not available for monitoring.

IR-26b) CIRNAC understands that the 10 other monitoring wells were installed to measure water levels only.

IR-26c) CIRNAC acknowledges that the City provided an update to section 8-6 of the SIG in April 2026.

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-IMLEArcadis, 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.

City Response:

These plans require the Project to be advanced in design, and ideally these are developed by the contractor responsible for building the facilities. The City suggests that these plans could be filed with the Board prior to construction.

CIRNAC Response:

(IR-27) CIRNAC acknowledges the City's request to provide the Explosives Management Plan and a Refueling Plan following future design and to the NWB as a condition of approval prior to construction.

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.

City Response:

Acknowledged. As noted above, this plan requires the Project to be advanced in design, and ideally these are developed by the contractor responsible for building the facilities. The City suggests that a site-specific Spill Contingency Plan for construction, complete with the SDSs the contractor will use, be filed with the Board prior to construction.

CIRNAC Response:

(IR-28) CIRNAC acknowledges the City's request to provide a site-specific Spill Contingency Plan for construction, complete with the SDSs the contractor will use, following future design and to the NWB as a condition of approval prior to construction.

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 License 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.

City Response:

This has been reviewed and updated. The SIG concordance table is Attachment 5 in the revised Application.

Reference

Attachment 5 - SIG Concordance Table

CIRNAC Response:

(IR-29) CIRNAC acknowledges that the City provided an update to the SIG in April 2026.

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

City Response:

IR-30a: The O&M manual for the North 40 Landfill and Waste Transfer Station is presented as Attachment 51 of the revised Application. The manuals will be updated once

operating experience has been gained to warrant updating. At present, there is no new information that warrants updating the plans.

IR-30b: The updated Spill Contingency Plan is presented as Attachment 55 of the revised Application.

IR-30c: The original (2013) water balance model is presented as Attachment 12, and the updated and recalibrated water balance model is presented as Attachment 13.

CIRNAC Response:

IR-30a) CIRNAC acknowledges receipt of the West 40 Landfill O&M Manual (Attachment 47) and the North 40 Landfill and Waste Transfer Station O&M Manual (Attachment 51) with the revised Application, and that the North 40 Landfill and Waste Transfer Station O&M Manual (dated August 2022) will be updated once operating experience has been gained to warrant updating. Although not provided in the response from the City, CIRNAC acknowledges receipt of the Wastewater Treatment Plant O&M Manual (Attachment 43 - five parts) and the Water Treatment Plant O&M Manual (Attachment 11). It is noted that the Wastewater Treatment Plant O&M Manual is outdated (i.e., dated April 2020), however, it is understood that there is no new information that warrants updating it.

IR-30b) CIRNAC acknowledges receipt of the updated Spill Contingency Plan as Attachment 56 of the revised Application with the attached NWT/NU Spill Report Form (Appendix C). Information on small, medium and large spills to aid personnel to quantify the spill when completing a spill report by estimating the size of the spill was not completed, however it should be noted that the 2025 Annual Report adequately addressed concerns around estimating the size of spills (i.e., the City stated that they will provide estimates or ranges for spill volumes going forward, and if estimates are not provided, an explanation of why this information is not included will be provided).

IR-30c) CIRNAC acknowledges receipt of the updated and recalibrated water balance model as Attachment 13 to the revised Application.