



ᓄᓇᓂᓪ ᐃᓕᓕᓂᓪ ᑲᓂᓕᓂᓪ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: **1BR-MAC1323**

August 14, 2013

Tamara Van Dyck
Director General Military Engineering
National Defence Headquarters
101 Colonel By Drive,
Ottawa, ON K1A 0K2
Email: Tamara.VanDyck@dcc-cdc.gc.ca
Email: Eva.Schulz@aecom.com

RE: NWB Renewal Licence No. 1BR-MAC1323

Dear Ms. Van Dyck:

Please find attached Licence No. **1BR-MAC1323** issued to Defence Construction Canada by the Nunavut Water Board (NWB) pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (Nunavut Land Claims Agreement or NLCA)*. The terms and conditions of the attached Licence related to water use and waste disposal are an integral part of this approval.

If the Licensee contemplates the renewal of this Licence, it is the responsibility of the Licensee to apply to the NWB for its renewal. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the Licence renewal. Note that if the Licence expires before the NWB issues a new one, then water use and waste disposal must cease, or the Licensee may be in contravention of the *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*. However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least three months prior to the Licence expiry date.

If the Licensee contemplates or requires an amendment to this licence, the NWB may decide, in the public interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment process. The process and timing may vary depending on the scope of the amendment; however, a minimum of sixty (60) days is required from time of acceptance by the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and are acknowledged by the Manager of Licensing.

The NWB strongly recommends that the Licensee consult the comments received by interested persons on issues identified. This information is attached for your consideration.¹

Sincerely,



Thomas Kabloona
Nunavut Water Board
Chair

TK/kk/pb

Enclosure: Licence No. **1BR-MAC1323**
Comments - EC

Cc: Qikiqtani Distribution List

¹ Environment Canada (EC), March 15, 2013.

TABLE OF CONTENTS

DECISION	ii
I. BACKGROUND	iii
II. PROCEDURAL HISTORY	iii
III. GENERAL CONSIDERATIONS	iv
A. Term of the Licence.....	iv
B. Annual Report.....	v
C. Water Use	v
D. Deposit of Waste	v
I. Monitoring	v
WATER LICENCE RENEWAL	1
PART A: SCOPE, DEFINITIONS AND ENFORCEMENT	2
1. Scope	2
2. Definitions	2
3. Enforcement	5
PART B: GENERAL CONDITIONS	5
PART C: CONDITIONS APPLYING TO WATER USE	7
PART D: CONDITIONS APPLYING TO WASTE DISPOSAL	7
PART E: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS	8
PART F: CONDITIONS APPLYING TO MODIFICATIONS	8
PART G: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING	9
PART H: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION OR TEMPORARY CLOSING	9
PART I: CONDITIONS APPLYING TO THE MONITORING PROGRAM	10

DECISION

LICENCE NUMBER: 1BR-MAC1323

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated December 12, 2012 for a renewal/amendment of a Water Licence made by:

DEFENCE CONSTRUCTION CANADA

to allow for the disposal of waste during camp operations at the CAM-5 (Mackar Inlet) Landfill Monitoring Program project, located approximately 150 km east of the community of Kugaaruk, within the Qikiqtani Region, Nunavut, generally located at the geographical coordinates as follows:

Latitude: 68° 17' N Longitude: 85° 07' W

DECISION

After having been satisfied that the application was for a location that falls outside of an area with an approved Land Use Plan¹ and exempt from the requirement for screening as described within Section 12.4.3 by the Nunavut Impact Review Board² in accordance with Article 12 of the *Nunavut Land Claim Agreement (NLCA)* and the activities therein remain subject to the terms and conditions recommended in the original February 9, 2011 Screening Decision Report, the NWB decided that the application could proceed through the regulatory process. In accordance with S.55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (Act)* and Article 13 of the *NLCA*, public notice of the application was given and interested persons were invited to make representations to the NWB.

After reviewing the submission of the Applicant and considering the representations made by interested persons, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the *NLCA* and of the *Act*, waived the requirement to hold a public hearing, and determined that:

Licence No. 1BR-CAM0712 be renewed as Licence No. 1BR-CAM1323 subject to the terms and conditions contained therein (Motion #: 2013-B1-030).

Signed this 14th day of August 2013 at Gjoa Haven, NU.



Thomas Kabloona
Nunavut Water Board, Chair

TK/kk/pb

¹ NPC Confirmation dated August 12, 2008

² NIRB Confirmation dated April 20, 2011.

I. BACKGROUND

The former CAM-5 Mackar Inlet Distant Early Warning (DEW) Line site is located on the western shore of the Melville Peninsula in the Committee Bay area approximately 150 km east of the community of Kugaaruk, within the Qikiqtani Region, Nunavut at general latitude of 68° 17' N and general longitude of 85° 07' W.

The CAM-5 DEW Line site was constructed in the 1950's to provide radar surveillance of the northern approaches to North America. However the site and facility was closed in the 1990's later superseded by the more modernized North Warning System (NWS).

Following closure of the site, two initial site assessments were carried out independently: the first was conducted in 1990 by UMA Engineering Ltd. (UMA) in association with Hardy BBT Ltd. and Jacques Whitford Group (Jacques), while the second was conducted by the Environmental Sciences Group (ESG) in 1989 and 1990. In 2000 and 2002, a detailed site investigation was completed to delineate contamination identified in the assessments, and to collect additional geophysical, geotechnical, demolition, and debris information. Input on traditional land use was provided by NTI at that time. The requirements for landfill closure were based on the 2002 site investigation data.

The environmental cleanup and demolition of facilities commenced in 2005 and was completed in the summer of 2010. The cleanup included the remediation of four existing landfills as well as the construction of a landfill for the disposal of non-hazardous wastes generated from demolition, the collection of site debris, and installation of Monitoring Wells and Thermistors. A Tier II soil disposal facility was also constructed at this site. Additional soil and groundwater sampling was completed as part of landfill baseline monitoring in 2010/2011, during site clean-up.

Two of the four existing landfills were completely excavated. The remaining existing landfills and new landfills include the following:

- Lower Site Landfill - South
- USAF and Asbestos Landfill
- Non-Hazardous Waste Landfill
- Tier II Disposal Facility

The Applicant has stated that Phases I to II of the landfill monitoring program is scheduled to last for a period of 25 years following construction of the facilities associated with the project (until approximately 2036). At the end of Phase II monitoring, a re-evaluation of the program will be carried out prior to initiating any Phase III monitoring required. Although the scope and content of Phase III monitoring have not been determined and developed yet, it is anticipated to be based on a ten-year monitoring interval.

II. PROCEDURAL HISTORY

On September 1, 2002, the Nunavut Water Board (NWB or Board) issued Licence No. NWB5MAC0204, with the expiry date set for August 31, 2004, to Defence Construction

Canada (DCC) for water use and waste disposal activities associated with the Site Investigation Project at the Mackar Inlet (CAM-5) DEW Line site.

A Licence renewal application was submitted on August 31, 2005 for activities that included the operation of a camp and site remediation activities. In response, the NWB issued renewal Licence 1BR-MAC0712 on July 31, 2007 with an expiry date of December 31, 2012. Prior to expiry, and following a formal request by the proponent, the NWB amended the Licence on February 9, 2009 to allow DCC to draw water (55 m³ approved originally) for domestic and industrial uses from a source other than the one allowed for under the original Licence issued to the CAM-5 (Mackar Inlet) DEW line site project.

On December 12, 2012, AECOM Canada Ltd. on behalf of DCC applied to renew/amend the water licence in order to undertake a long-term monitoring program at the CAM-5, Mackar Inlet DEW Line site. Following an internal review of the application information the Board posted notice of the renewal application with the deadline for comments set for March 16, 2013. Comments were received from Environment Canada (EC). Following a review of the application and comments received, the Board has renewed licence 1BR-MAC0712 as Licence No. 1BR-MAC1323. The scope of the Licence is limited to activities associated with the landfill monitoring program.

III. GENERAL CONSIDERATIONS

A. Term of the Licence

In accordance with the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (Act)* S. 45, the NWB may issue a licence for a term not exceeding twenty-five years. The NWB has taken into consideration the Landfill Monitoring Program put forward by the applicant and the request for a twenty four (24) year licence term. For Phase I monitoring, a five-year term was selected on the basis that ground-temperature thermal regimes will require three to five years to reach equilibrium. The Phase I monitoring started in 2011. As stated, the Phase I monitoring program may be extended, if required, to provide sufficient data to establish equilibrium conditions. Phase II monitoring is designed to verify equilibrium conditions established in Phase I. The monitoring frequency in Phase II will be carried out according to the following schedule: year 7, 10, 15 and 25. Year 25 marks the end of Phase II monitoring.

The NWB understands that the proposed twenty four (24) year term would allow the Licensee to complete Phase II monitoring, which is scheduled to end in 2036. However, at this time, prior to the analysis and synthesis of all Phase I monitoring data, which is designed to confirm the establishment of chemical and thermal stability in the reclaimed landfills, the NWB finds that a ten (10) year term is more appropriate. This shorter Licence term is intended to ensure that all necessary closure conditions are on track and functioning as designed early on in Phase II monitoring. The ten (10) year term will also allow the Licensee to complete the evaluation of Phase I monitoring data and to complete also two Phase II verification monitoring events in 2018 and 2021. The Licence term takes into account the additional time needed to synthesize the first part of Phase II monitoring into the program and make recommendations as may be necessary for moving forward. Finally, the licence term will also allow the NWB and

interested parties an opportunity to consider the results prior to renewing the Licence before Phase II close-out.

B. Annual Report

The annual reporting requirements imposed on the Licensee in this licence are for the purpose of ensuring that the NWB has an accurate annual update of depositions of waste during a calendar year. This information is maintained on the public registry and is available to any interested persons upon request. The requirements of this Annual Report can be found in Part B, Item 1. A standard form for annual reporting can be downloaded from the NWB ftp site at <http://nunavutwaterboard.org/ftp/> in the administration folder.

C. Water Use

The previous licence authorized fifty five (55) cubic metres of water per day. The Licensee did indicate that no water will be required for camp use and monitoring operations under the renewed/amended Licence as bottled water would be brought to site for consumption. Therefore the current Licence does not authorize water use.

D. Deposit of Waste

The NWB understands that the MAC-5 site has been reclaimed and that during on-site monitoring, the Licensee is proposing that camp sewage and greywater be disposed of in sumps. Latrine pits and sumps must be at least thirty one (31) metres from the nearest ordinary high water mark. All other wastes generated through the monitoring activities are to be backhauled for proper disposal at a licensed facility.

I. Monitoring

The environmental cleanup and demolition of facilities was completed in the summer of 2010. The cleanup included the remediation of four existing landfills as well as the construction of a landfill for the disposal of non-hazardous wastes generated from demolition, and collection of site debris. A Tier II soil disposal facility was constructed at this site.

Monitoring of remaining facilities will be on-going for at least twenty five years ending in 2036. The monitoring to be carried out under this licence shall be conducted in accordance with the approved Plan entitled “*Water Use and License Amendment and Renewal CAM-5, Mackar Inlet Landfill Monitoring*” prepared by AECOM and dated December, 2012. The Plan includes visual monitoring and soil monitoring for Non-Hazardous Waste Landfill, Lower Site Landfill South, USAF & Asbestos Landfill, and Tier II Disposal Facility; groundwater sampling from monitoring wells is included for the Non-Hazardous Waste Landfill and Tier II Soil Disposal Facility. Thermal Monitoring is included for the Tier II Soil Disposal Facility. All monitoring results are to be provided to the NWB with an analysis/interpretation of results as part of the Annual Reports.

Finally, the NWB has included a requirement for the Licensee to submit a Preliminary Phase II Monitoring Summary Report as part of an application to renew this Licence in 2021. The Report shall be prepared by a geotechnical Engineer to summarize data collected during Phase I and II monitoring, and assess the integrity of the Waste Disposal Facilities. The Report shall address whether the facilities have performed as expected, whether they are encased in permafrost and shall include an assessment of how the facilities are expected to perform over the long term and provide additional recommendations where may be necessary. This requirement is detailed under Part I, Item 5 and will help the NWB and interested parties assess the effectiveness of both the reclamation and monitoring measures undertaken.



NUNAVUT WATER BOARD WATER LICENCE RENEWAL

Licence No. 1BR-MAC1323

Pursuant to the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

DEFENCE CONSTRUCTION CANADA

(Licensee)

101 COLONEL BY DRIVE, OTTAWA, ON K1A 0K2

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water or dispose of waste for a period subject to restrictions and conditions contained within this Licence renewal:

Licence Number/Type: 1BR-MAC1323 TYPE "B"

Water Management Area: GULF OF BOOTHIA WATERSHED (34)

Location: CAM-5 (MACKAR INLET) LANDFILL MONITORING PROGRAM, QIKIQTANI REGION, NUNAVUT

Classification: INDUSTRIAL UNDERTAKING

Purpose: DEPOSIT OF WASTE

Quantity of Water use not to Exceed: NO WATER USE AUTHORIZED

Date of Licence Issuance: AUGUST 14, 2013

Expiry of Licence: AUGUST 13, 2023

This Licence renewal, issued and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

Thomas Kabloona,
Nunavut Water Board, Chair

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

This Licence allows for the use of water and the disposal of waste for an undertaking classified as Industrial as per Schedule II of the *Regulations* at the CAM-5 (Mackar Inlet) DEW Line site, located approximately 150 km east of the community of Kugaaruk, within the Qikiqtani Region, Nunavut, located generally at latitude 68° 17' N and longitude 85° 07' W.

- a. This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of waste of any type in any waters or in any place under any conditions where such waste or any other waste that results from the deposits of such waste may enter any waters. Whenever new *Regulations* are made or existing *Regulations* are amended by the Governor in Council under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, or other statutes imposing more stringent conditions relating to the quantity or type of waste that may be so deposited or under which any such waste may be so deposited, this Licence shall be deemed, upon promulgation of such *Regulations*, to be subject to such requirements; and
- b. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

“**Act**” means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“**Addendum**” means the supplemental text that is added to a full plan or report usually included at the end of the document and is not intended to require a full resubmission of the revised report;

“**Amendment**” means a change to original terms and conditions of this Licence requiring correction, addition or deletion of specific terms and conditions of the Licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

“**Appurtenant Undertaking**” means an undertaking in relation to which a use of water or a deposit of waste is permitted by a licence issued by the Board;

“**Board**” means the Nunavut Water Board established under the *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“**Effluent**” means treated or untreated liquid waste material that is discharged into the environment from a structure such as a settling pond, landfarm or a treatment plant;

“Engineer” means a professional engineer registered to practice in Nunavut in accordance with the *Consolidation of Engineers and Geoscientists Act S. Nu 2008, c.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

“Greywater” means all liquid wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include toilet wastes;

“High Water Mark” means the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (ref. Department of Fisheries and Oceans Canada, Operational Statement: Mineral Exploration Activities);

“Inspector” means an Inspector designated by the Minister under Section 85 (1) of the *Act*;

“Licensee” means the holder of this Licence;

“Lower Site Landfill – South” means the waste disposal facility as described in the application for renewal dated December 12, 2012 and in Figure CAM-5.3;

“Modification” means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

“Monitoring Program” means the plan entitled “*Water Use and License Amendment and Renewal CAM-5, Mackar Inlet Landfill Monitoring*” dated December, 2012;

“Non-Hazardous Waste Landfill” comprises the landfill constructed in 2008 and containing approximately 9886 cubic metres of non-hazardous wastes and demolition debris, non-hazardous site debris generated and collected during site cleanup as described in the 2010 Annual Report, and including adjacent monitoring wells as described in the application for renewal dated December 12, 2012 and in Figure CAM-5.4;

“Nunavut Land Claims Agreement (NLCA)” means the “*Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*”, including its preamble and schedules, and any amendments to that agreement made pursuant to it;

“NTI Agreement” means the “*Agreement Between Nunavut Tunngavik Incorporated and Her Majesty the Queen in the Right of Canada, as Represented by the Minister of National Defense for the Clean-up and Restoration of Distant Early Warning Sites within the Nunavut Settlement Area-Environmental Provisions*” including its preamble and schedules, and any amendments to that agreement made pursuant to it;

“Regulations” means the *Nunavut Waters Regulations SOR2013/69 18th April, 2013*;

“Sewage” means all toilet wastes and greywater;

“Spill Contingency Plan” means a Plan developed to deal with unforeseen petroleum and hazardous materials events that may occur during the operations conducted under the Licence;

“Sump” means an excavation in impermeable soil for the purpose of catching or storing water or waste;

“Tier I Soil” means soil containing contaminant concentrations within the types and ranges defined as DCC Tier I in Appendix E of the NTI Agreement, including its preamble and schedules, and any amendments to that agreement made pursuant to it (see Table I);

“Tier II Soil” means soil containing contaminant concentrations within the types and ranges defined as DCC Tier II in Appendix E of the NTI Agreement including its preamble and schedules, and any amendments to that agreement made pursuant to it (see Table I);

“Tier II Soil Disposal Facility” means the facility constructed in 2009 and containing approximately 3936 cubic metres of Tier II contaminated soil defined as per Table No. 1 as described in the 2010 Annual Report, and including adjacent monitoring wells and thermistors as described in the application for renewal dated December 12, 2012 and in Figure CAM-5.3;

“Toilet Wastes” means all human excreta and associated products, but does not include greywater;

“USAF & Asbestos Landfill” means the facility constructed during the closure of the site in 1992 and anticipated to contain inert wastes as described in the application for renewal dated December 12, 2012 and in Figure CAM-5.4;

“Waste” means, as defined in S.4 of the *Act*, any substance that, by itself or in combination with other substances found in water, would have the effect of altering the quality of any water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any water that would have that effect because of the quantity or concentration of the substances contained in it or because it has been treated or changed, by heat or other means;

“Waste Disposal Facilities” means the facilities designed to retain wastes including the Lower Site Landfill – South, USAF and Asbestos Landfill, Non-Hazardous Waste Landfill and Tier II Soil Disposal Facility, as described in the Application for renewal Water Licence submitted by the Applicant on December 12, 2012;

“Water” or “Waters” means waters as defined in section 4 of the Act.

3. Enforcement

- a. Failure to comply with this Licence will be a violation of the *Act*, subjecting the Licensee to the enforcement measures and the penalties provided for in the *Act*;
- b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*; and
- c. For the purpose of enforcing this Licence and with respect to the use of water and deposit or discharge of waste by the Licensee, Inspectors appointed under the *Act*, hold all powers, privileges and protections that are conferred upon them by the *Act* or by other applicable law.

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board no later than March 31st of the year following the calendar year being reported, containing the following information:
 - a. Summaries for all data and information generated under the Monitoring Program;
 - b. A review and analysis of data collected during the Monitoring Program and a brief description of any future studies planned by the Licensee;
 - c. The results of any review conducted and any recommendations regarding any changes to the Monitoring Program and/or remediation requirements;
 - d. A summary of any abandonment and restoration work undertaken during the year and an outline of any work anticipated for the next year;
 - e. A list of unauthorized discharges and summary of follow-up actions taken;
 - f. If applicable, a description of any trenches and sumps excavated, including the following: GPS coordinates, dimensions, depth below active layer, and secondary containment features;
 - g. A brief summary of work done to address concerns or deficiencies listed in the inspection reports and/or compliance reports prepared by an Inspector;
 - h. A public consultation/participation report describing consultation with local organizations and the residents of the nearby communities;
 - i. An executive summary in English and Inuktitut of all plans, reports, or studies conducted under this Licence; and
 - j. Any other details on water use or waste disposal requested by the Board by November 1st of the year being reported.
2. The Licensee shall notify the NWB of any changes in operating plans or conditions associated with this project at least thirty (30) days prior to any such change.

3. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan, if necessary to achieve the legislative objectives, and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.
4. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
5. The Licensee shall review the Plans referred to in this Licence, as required by changes in operation and/or technology, and modify the Plan accordingly. Revisions to the Plans shall be submitted in the form of an Addendum to be included with the Annual Report.
6. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.
7. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:
 - (a) **Manager of Licensing:**
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Telephone: (867) 360-6338
Fax: (867) 360-6369
Email: licensing@nunavutwaterboard.org
 - (b) **Inspector Contact:**
Manager of Field Operations, AANDC
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445
8. The Licensee shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.
9. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the NWB is received and acknowledged by the Manager of Licensing.
10. This Licence is assignable as provided for in Section 44 of the *Act*.

PART C: CONDITIONS APPLYING TO WATER USE

1. No Water use is authorized under this Licence.
2. The Licensee shall not remove any material from below the ordinary high water mark of any water body unless authorized.
3. The Licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
4. Sediment and erosion control measures shall be implemented prior to and maintained during the undertaking to prevent entry of sediment into water.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall locate areas designated for waste disposal at a minimum distance of thirty one (31) metres from the ordinary high water mark of any water body such that the quality, quantity or flow of water is not impaired, unless otherwise approved by the Board in writing.
2. The Licensee shall not practice on-site land filling of domestic waste, unless otherwise approved by the Board in writing.
3. The Licensee is authorized to dispose of all acceptable food waste, paper waste and untreated wood products in an incinerator.
4. The Licensee shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding waters, unless otherwise approved by the Board in writing.
5. The Licensee shall provide to the Board documented authorization from all communities in Nunavut receiving wastes from the site prior to any backhauling and disposal of wastes to those communities.
6. The Licensee shall backhaul and dispose of all hazardous wastes, waste oil and non-combustible waste generated through the course of the operation at a licensed waste disposal site.
7. The Licensee shall maintain records of all waste backhauled and records of confirmation of proper disposal of backhauled waste. These records shall be made available to an Inspector upon request.

8. The Licensee shall contain all greywater in a sump located at a distance of at least thirty-one (31) metres above the ordinary high water mark of any water body, at a site where direct flow into a water body is not possible and no additional impacts are created, unless otherwise approved by the Board in writing.
9. The Licensee shall contain all toilet wastes in latrine pits or use incineration, chemical, portable or composting toilets. Latrine pits shall be located at a distance of at least thirty one (31) metres above the ordinary high water mark of any water body, treated with lime and covered with native material to achieve the pre-existing natural contours of the land prior to abandonment.

PART E: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

1. The Licensee shall not erect camps or store material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use. Camps shall be located such as to minimize impacts on surface drainage.
2. The Licensee shall conduct all activities in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake corrective measures in the event of any impacts on surface drainage.
3. With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into or onto any water body is prohibited. These materials shall be disposed a distance of at least thirty one (31) metres from the ordinary high water mark in such a fashion that they do not enter the water.

PART F: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facilities and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
 - a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
 - b. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
 - c. such Modifications are consistent with the NIRB Screening Decision;
 - d. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
 - e. the Board has not rejected the proposed Modifications.

2. Modifications for which all of the conditions referred to in Part F, Item 1 have not been met can be carried out only with written approval from the Board.
3. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.

PART G: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Licensee shall implement the updated “Spill Contingency Plan”, approved by the Board with the previous Licence, submitted as additional information within the application on December 12, 2012.
2. The Licensee shall prevent any chemicals, petroleum products or wastes associated with the project from entering water. All sumps and fuel caches shall be located at a distance of at least thirty one (31) metres from the ordinary high water mark of any adjacent water body and inspected on a regular basis.
3. The Licensee shall ensure that any equipment maintenance and servicing be conducted only in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other waste and contain potential spills.
4. If during the term of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a. Employ the approved Spill Contingency Plan;
 - b. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and
 - c. For each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.

PART H: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION OR TEMPORARY CLOSING

1. The Licensee shall complete all restoration work prior to the expiry of this Licence.
2. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee’s operations.
3. The Licensee shall backfill and restore all sumps to the pre-existing natural contours of the land.

4. The Licensee shall remove from the site, all infrastructure and site materials, including all fuel caches, drums, barrels, buildings and contents, docks, water pumps and lines, material and equipment prior to the expiry of this Licence.
5. In order to promote growth of vegetation and the needed microclimate for seed deposition, all disturbed surfaces shall be prepared by ripping, grading, or scarifying the surface to conform to the natural topography.
6. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of Nunavut's Environmental Guideline for Site Remediation, 2010. The use of reclaimed soils for the purpose of back fill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.
7. The Licensee shall contour and stabilize all disturbed areas to a pre-disturbed state upon completion of work.

PART I: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The NWB has approved the Monitoring Plan entitled "Water Use License Amendment and Renewal CAM-5, Mackar Inlet Landfill Monitoring" dated December, 2012.
2. The Licensee shall conduct all sampling, sample preservation and analyses in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board.
3. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
4. The Licensee shall include in the Annual Report, required under Part B, Item 1, all monitoring results and information required by this Part.
5. In addition to the Annual Reporting requirements, the Licensee shall submit a Preliminary Phase II Monitoring Summary Report as part of an application to renew this Licence in 2021. The Report shall be prepared by a geotechnical Engineer and summarize data collected during Phase I and II monitoring, and assesses the integrity of the Waste Disposal Facilities. The Report shall address whether the facilities have performed as expected, whether they are encased in permafrost and shall include an assessment of how the facilities are expected to perform in the long term and provide additional recommendations where necessary.

**Table No.1 Tier I and Tier II
DEW Line Clean-up Criteria (DCC)^a
(From INAC Abandoned Military Site Remediation Protocol)**

Substance	DCC Tier I^{bc} (ppm)	DCC Tier II^d (ppm)
Arsenic	-	30
Cadmium	-	5.0
Chromium	-	250
Cobalt	-	50
Copper		100
Lead	200	500
Mercury	-	2.0
Nickel	-	100
Zinc	-	500
PCB's	1.0	5.0

a. These criteria were adopted specifically for the cleanup of Arctic DEW Line Sites from the 1991 versions of the Quebec Soil Contamination Indicators and the Canadian Council of Ministers of the Environment Interim Canadian Environmental Criteria for Contaminated Sites.

b. Soil criteria are given in parts per million, ppm.

c. Soils containing lead and/or PCBs at concentrations in excess of DCC I, but less than DCC II, may be landfilled, d. Soils containing one or more substrates in excess of DCC II must be containerized - i.e. removed in a manner which precludes contact with the Arctic ecosystem.