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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: 1BR-SHE1733 /
Replacement – Amendment

December 4, 2017

Laura D'Costa, P.Eng, M.Sc. Senior Project Manager
Alison Street, P. Eng., Environmental Specialist
Directorate of Contaminated and Legacy Sites Project Delivery
Department of National Defence
101 Colonel By Drive Ottawa, Ontario K1A 0K2

Email: laura.dcosta@forces.gc.ca
alison.street@forces.gc.ca

RE: Replacement – Amendment Licence No. 1BR-SHE1733

Dear Ms. D'Costa and Ms. Street:

Please find attached **Licence No. 1BR-SHE1733** issued to the Department of National Defence (DND) 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 Agreement)*. The terms and conditions of the attached Licence, related to the use of waters and the deposit of waste 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 the use of water and deposit of waste must cease, or the Licensee may be in contravention of the *Nunavut 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 (3) months prior to the Licence expiry date. It should be noted that in accordance with s. 75 (1) (a) of the *Nunavut Planning and Project Assessment Act* (NuPPAA), the Board is not allowed to issue a permit or authorization for a project proposal that has not been submitted to the Nunavut Planning Commission (NPC) for its determination.

If the Licensee contemplates or requires an amendment to this licence, the NWB may decide, in the public's interest, to hold a public hearing. The Licensee should submit applications for amendments 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 from interested persons on issues identified. This information is attached for your consideration.¹

Sincerely,

Lootie Toomasie
Nunavut Water Board
Chair

LT/sj/rd

Enclosure: Licence No. **1BR-SHE1733**
Comments – INAC and ECCC

Cc: Kitikmeot Distribution List

¹ Indigenous and Northern Affairs Canada (INAC), September 18, 2017; and Environment and Climate Change Canada (ECCC, September 12, 2017.

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I Introduction

The site of the former CAM-3, Shepherd Bay Distant Early Warning (DEW) Line site is situated approximately seventy-five (75) kilometres east of Kugaaruk and approximately sixty (60) kilometres south of Taloyoak in the Kitikmeot Region, Nunavut. The CAM-3 site was constructed in the 1950s as an auxiliary radar station for the Distant Early Warning (DEW) System. Several decades following its construction, the site was downsized in 1989 to a Long-Range Radar (LRR) station.

Environmental assessments of the site to support its new function were conducted during the period 2002 – 2007. Clean-up activities of the site included but was not limited to remediation of five (5) existing landfills. Additionally, a non-hazardous wastes landfill to manage the waste generated during clean-up activities and a Tier II disposal facility to manage hydrocarbon impacted soil were constructed. Long-term monitoring of the site commenced in 2008 and is expected to continue until 2032 or potentially longer. The objective of the landfill monitoring program is to collect sufficient information to assess the landfills performances from environmental and geotechnical perspectives. The monitoring program for the landfill involves visual inspections, as well as chemical and thermal monitoring.

The Existing Licence under which the Licensee commenced the monitoring program expired in 2016; and so, the licensee has applied to the NWB to renew the Licence to allow for continuation of the monitoring program.

II. File History

The NWB has issued two (2) Licences to the Project in the past. The first being Licence No NWB5SHE0510, which was issued to the project on February 17, 2005 and expired on February 28, 2010. The Licence allowed for the use of fifty (50) cubic metres of water per day and the deposit of waste in support of remediation and construction activities at the Shephard Bay Remediation Project. The second licence issued to the project is Licence No. 1BR-SHE1016. This Licence was issued on December 6, 2010 and expired on December 30, 2016 and it allowed for the use of five (5) cubic metres of water per day and the deposit of waste in support of a post-construction landfill, monitoring program for an industrial undertaking at the former CAM-3, Shepherd Bay site

III Application Procedural History

The Nunavut Water Board (NWB or Board) received, on July 13, 2017, from the Department of National Defence (DND) the above-mentioned application and supporting information (the Application) for the renewal and amendment of Type “B” water Licence No. 1BR-SHE1016, which included the following documents:

- NIRB Screening Decision, October 14, 2003;
- NIRB Screening Exemption Decision, August 30, 2007;
- Application cover letter, August 11, 2017;
- Monitoring Program CAM-3-ILAE;
- Application for Water Licence Renewal CAM-3;
- Executive Summary English CAM-3;
- Executive Summary Inuktitut CAM-3; and
- NWB Remote Camp Questionnaire CAM-3;

- Spill Contingency Plan CAM-3-ILAE;
- Topographic Map (NTS 057B15); and
- Application Cover Letter.

Following receipt and internal review, the NWB distributed the Application on August 16, 2017 for a thirty (30) day public review and comment period with the deadline for submissions set for September 16, 2017. Prior to the comment deadline, submissions were received from Indigenous and Northern Affairs Canada (INAC) and Environment and Climate Change Canada (ECCC). INAC in its submission provided recommendations regarding the licence term, improvements to management plans and monitoring of waste management facilities. ECCC provided recommendations regarding monitoring parameters and Quality Control / Quality Assurance (QA/QC) requirements associated with monitoring. The Licensee was requested to and provided its responses² to INAC's and ECCC's comments, which were received on September 22, 2017 and September 27, 2017, respectively.

With respect to pre-licensing consideration, the NWB received on August 15, 2017, confirmation from the Nunavut Planning Commission (NPC) that the project proposal is located outside of the areas of the two approved land use plans currently in place and that the project is exempt from screening and from section 235 of the *Nunavut Planning and Project Assessment Act* (NUPPAA). Further, the NPC confirmed that the current proposal does not change the scope of the original and or previously amended project activities and, therefore, the exception noted in section 12.4.3 (a) and (b) of the Nunavut Agreement does not apply.

All information received for the above-referenced Application can be accessed through the NWB's public registry and ftp site using the following link:

<ftp://ftp.nwb-oen.ca/registry/1%20INDUSTRIAL/1B/1BR%20-%20Remediation/1BR-SHE1733%20CAM%203/>

IV Application Scope

The scope of the above-mentioned Application, as proposed by the Licensee, includes renewal of the Licence for a term for a period of twenty-one (21) years thereby allowing for the continuation of a long-term, landfill monitoring program initiated at the project site in 2008. Additionally, the Licensee requested that the quantity of water allocated to the project be reduced from five (5) cubic metres per day to one (1) cubic metre per day and the establishment of an accommodation camp to support monitoring requirements.

Given the extent of the time that had elapsed between the expiry of the licence and receipt of the renewal application, the NWB has decided to treat the application as a Replacement-Amendment rather than a Renewal-Amendment application.

V General Consideration

The following sections provide an overview of the rationale for the Board's inclusion of certain terms and conditions in the Replacement-Amendment Licence.

² Letter from DND to the NWB, Re: Response to ECCC's Letter Dated September 12, 2017, Titled "1BR-SHE1016 – Defence Construction Canada – CAM-3 Shephard Bay Project – Long Term Monitoring Program, September 22, 2017; and Letter from DND to NWB: Re: Indigenous and Northern Affairs Canada's (INAC) Review of Defence Construction Canada's Renewal Application for Water Licence #1BRSHE1016 – Shepherd Bay Project, September 18, 2017.

A. Term of the Licence

In accordance with s. 45 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, the NWB may issue a licence for a term not exceeding twenty-five (25) years. The Applicant requested a twenty-five (25) year term for the replacement –amendment Licence to allow for the continuation of the Project’s Landfill Monitoring Program. INAC in its comments indicated that it supports a Licence term of 15 years that is consistent with the schedule for Phase II monitoring.

The Board has reviewed the Licensee’s request and considered INAC’s comments in determining that a fifteen (15) year term for the licence, as recommended by INAC, is appropriate as it will allow the Licensee to complete Phase II monitoring and evaluate the results before determining whether Phase III monitoring is required under a future licence renewal. The Board is of the understanding that there are only two monitoring events left under Phase II monitoring and they are expected to occur in 2022 and 2032. Follow those two monitoring events, a determination will be made regarding the need for Phase III monitoring. Consequently, the term granted is intended to reflect this factor.

B. Annual Report

In accordance with s. 14 (1) of the *Nunavut Waters Regulations*, requirements have been included under Part B, Item 1 of the Licence for submission of annual reports detailing the activities carried out under the Project for the year preceding the one in which the report is filed. Annual reporting information is kept in the NWB’s public registry as well as made available to interested persons upon request. The NWB has included on its website (ftp access site) a standardized form for annual reporting that licensees can use to submit annual reporting information, supplemented by other relevant details that may be specific to their projects. Copies of the NWB’s generic Annual Reporting form can be obtained from its FTP site using the following Link:

<ftp://ftp.nwb-oen.ca/other%20documents/Standardized%20Forms/>

C. Water Use

The Licensee requested in its Application a reduction in water use from five (5) to one (1) cubic metre per day in support of the monitoring activities proposed, which the Board considers reasonable and has granted under Part C, Item 1 in the Licence.

D. Waste Deposit

As the Project is going through the monitoring phase, it is expected that minor quantities of sewage, greywater, solid waste and empty barrels / fuel drums will be generated: The sewage and greywater will be disposed of in sumps while solid waste and empty barrels will be backhauled to an approved facility for disposal. Terms and conditions have been included under Part D in the Licence to ensure that the Licensee accordingly manages and tracks all waste generated by the project.

E. Spill Contingency Planning

A Spill Contingency Plan was submitted as additional information with the Application, which the Board has approved under Part I, Item 1 of the Licence. Notwithstanding approval of the aforementioned plan, the Licensee is required, under Part I, Item 2 of the Licence, to submit, for the Board's review and acceptance, an addendum to the Plan at least thirty (30) days prior to commencing the next monitoring event scheduled for 2022. The addendum must address minor deficiencies identified by intervening parties during the review process.

F. Closure and Reclamation

As the clean-up and remediation components of the site have been completed, the Licensee did not submit a closure and reclamation plan. However, the Licensee is required to restore the site to near pre-disturbed state following completion of the current stage of the project. Condition related to closure and reclamation of the site are included under Part J in the Licence.

G. Monitoring

The Licensee submitted an updated monitoring Plan to the Board for consideration, which is approved under Part K, Item 1 in the Replacement-Amendment Licence. The Board expects the Licensee to undertake the remaining monitoring components of the project in accordance with the approved Plan or variations thereof that has been approved.

Detail contained in the plan indicates that the Monitoring Program consist of four (4) main components:

- Visual Monitoring
- Soil Monitoring
- Groundwater Monitoring,
- Thermal Monitoring

The visual component is intended to assess the physical integrity of the landfills as well as examine the areas of concern for evidence of settlement, erosion, lateral movement and other factors. Soil and ground water components are intended to assess departure from background or baseline conditions. The thermal monitoring component is intended to examine ground temperatures for areas of concern.

The three (3) phases associated with the monitoring program are as follows:

- Phase I
- Phase II
- Phase III

Phase I, which was started in 2008 and completed 2012, occurred annually and consisted of monitoring site conditions to confirm whether equilibrium is achieved. Phase II monitoring, which started in 2014 is scheduled to be carried out at years 7, 10, 15, and 25 of the monitoring program, and it is designed to verify equilibrium conditions established during Phase I. Currently, the monitoring events scheduled to be conducted during years 7 and 10 have been completed; consequently, the replacement-amendment licence is intended to cover the monitoring events scheduled for years 15 and 25. Phase III Monitoring, if required, is expected to be conducted following Phase II monitoring at ten (10) year intervals, and while its scope has not been determined as yet, it is likely to involve identifying long-term issues such as liner integrity and permafrost stability.

To ensure that the monitoring program achieves its desired objectives, an Environmental Working Group (EWG), comprised of qualified engineering and environmental scientists with expertise in remediation and cleanup activities in northern environments, has been established to provide technical support and recommendations. The EWG will review the results of the monitoring program based on predetermined methodologies and provide recommendations accordingly.

QA/QC Plan

Under Part K, Item 4 of the Licence, the Licensee is required to submit to the Board for review and acceptance, at least thirty (30) days prior to the 2022 monitoring event, a Quality Assurance / Quality Control (QA/QC) Plan along with a letter of acceptance from an accredited laboratory stating that the plan is acceptable.

DECISION

LICENCE NUMBER: 1BR-SHE1733

This is the decision of the Nunavut Water Board (NWB) with respect to an Application dated July 13, 2017 for the Replacement – Amendment of a Water Licence made by the:

DEPARTMENT OF NATIONAL DEFENCE (DND)

to allow for the use of waters and the deposit of waste for the continuation of Landfill Monitoring Program at the CAM-3, Shepherd Bay Former Distant Early Warning (DEW) Line site, located in the Kitikmeot Region of Nunavut, generally at the following geographical coordinates:

Project Location

Latitude: 68° 48' 38" N to 93° 26' 01" W

Camp

Coordinates to be provided at least ten (10) days prior to establishment.

DECISION

After having been satisfied that the Application was for a location that falls outside of an area with an approved Land Use Plan and that the project proposal is exempt from screening and section 235 of the *Nunavut Planning and Project Assessment Act* (NUPPAA) as determined by the Nunavut Planning Commission (NPC)³, 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 *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada* (Nunavut Agreement), 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 *Nunavut Agreement* and the *Act*, waived the requirement to hold a public hearing, and determined that:

Licence No. 1BR-SHE1016 be replaced and amended by Licence No. 1BR-SHE1733 subject to the terms and conditions contained therein (Motion #: 2017-B1-035).

Signed this 4th day of December 2017 at Gjoa Haven, NU.

Lootie Toomasie
Nunavut Water Board, Chair

LT/sj/rd

³ Nunavut Planning Commission (NPC) Determination, January 10, 2017.



NUNAVUT WATER BOARD
WATER LICENCE – REPLACEMENT – AMENDMENT

Licence No. 1BR-SHE1733

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

DEPARTMENT OF NATIONAL DEFENCE (DND)

(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-SHE1733 / TYPE “B”**

Water Management Area: **RASMUSSEN – LARSEN SOUND WATERSHED (# 33)**

Project / Location: **DEW LINE CLEAN-UP PROJECT, CAM-3 – SHEPHERD BAY, KITIKMEOT REGION, NUNAVUT**

Classification: **INDUSTRIAL UNDERTAKING**

Purpose: **DIRECT USE OF WATER AND DEPOSIT OF WASTE**

Quantity of Water use not to Exceed: **ONE (1) CUBIC METRE PER DAY**

Date of Licence Issuance: **DECEMBER 4, 2017**

Expiry of Licence: **DECEMBER 3, 2033**

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

Lootie Toomasie,
Nunavut Water Board, Chair

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

This Licence allows for the use of water and the deposit of waste for an Industrial Undertaking classified as per Schedule 1 of the *Regulations* at the DEW Line Project, CAM-3 – Shepherd Bay, located approximately 80 kilometres south of Taloyoak in the Kitikmeot Region, Nunavut.

- 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

In this Licence: **1BR-SHE1733**

“**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;

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

“**Applicant**” means the Licensee

“**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;

“Beach Landfill” comprises of the landfill, monitoring stations and associated structures identified in the Plan entitled “Shepherd Bay Landfill Monitoring” Plan dated February 2010 and subsequent iterations of the plan.

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

“Environmental Working Group” means the group established to provide technical support to the Steering Committee comprised of qualified engineering and environmental scientists with expertise in environmental remediation and clean up in northern climates as described in the document “Shepherd Bay Landfill Monitoring” Plan dated February 2010.

“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*;

“Grab Sample” means a single Water or wastewater sample taken at a time and place representative of the total discharge;

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

“Hazardous waste” means waste classified as “hazardous” by Nunavut Territorial or Federal Legislation, or as “dangerous goods” under the *Transportation of Dangerous Goods Act* at the time of clean-up;

“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*;

“Landfarm” means an area designed to biologically treat Type B soils, as described in the Application for Water License filed by the Applicant on August 24, 2004 and illustrated in Drawing H-S123/2-9101-116.

“Licensee” means the holder of this Licence;

“Long Term Monitoring Program” means a program established to collect data on surface water and groundwater quality to assess impacts to the environment of an

appurtenant undertaking.

“**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;

“**Non-Hazardous Waste Landfill**” comprises the landfill, adjacent monitoring wells and associated structures designed to contain non-hazardous solid waste as described in the Plan entitled “Shepherd Bay Landfill Monitoring Plan, dated February 2010

“**Northeast Landfill**” comprises of the landfill, monitoring stations and associated structures as described in the Plan entitled “Shepherd Bay Landfill Monitoring” dated February 201

“**Nunavut Agreement**” 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;

“**NWS Landfill**” comprises the landfill, monitoring stations and associated structures located immediately adjacent to the northwest edge of the USAF Landfill as described in the Plan entitled “Shepherd Bay Landfill Monitoring” Plan dated February 2010

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

“**Secondary Containment**” means an impermeable structure, external to and separate from primary containment, which prevents unplanned spills of hazardous materials and provides a minimum capacity of 110% of the original vessel. Where multiple vessels are stored within the containment, it must provide a minimum capacity equal to the sum of the largest vessel and 10% of the aggregate volume of all other vessels located in the containment. This structure shall also provide containment and control of hoses and nozzles

“**Sewage**” means all toilet wastes and greywater;

“**Solid Waste**” means non-hazardous waste, Type A soil, Tier I soil and Tier II soil;

“**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 or Sumps**” A structure or depression that collects, controls, and filters liquid waste before it is released to the environment. This structure should be designed to prevent erosion while allowing percolation of liquid 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 No.1);

“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 No.1);

“Tier II Disposal Facilities” means the relevant facilities designed and constructed to contain and/or treat Tier II contaminated soil described in the Monitoring Plan;

“Type A Soil” means soil contaminated with hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of lubricating oil and grease (F3 – F4 Fractions);

“Type B Soil” means soil contaminated with hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of fuel oil and/or diesel fuel and /or gasoline (F1 – F2 Fractions);

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

“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 Beach Landfill, Non Hazardous Waste Landfill, Northeast Landfill, NWS Landfill, Station Landfill, Tier II Soil Disposal Facility, USAF Landfill, and Landfarm;

“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 the 31st of March of the year following the calendar year being reported, containing the following information:

- a. Tabular summaries for all data and information generated under the “Landfill Monitoring Program”;
 - b. A review and analysis of data collected during the “Landfill Monitoring Program” and a brief description of any future studies planned by the Licensee;
 - c. A summary of any abandonment and restoration work undertaken during the year and an outline of any work anticipated for the next year;
 - d. The results of any review conducted and any recommendations regarding any changes to the Monitoring Program;
 - e. A summary of any studies requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned;
 - f. A list of unauthorized discharges and summary of follow-up actions taken;
 - g. If applicable, a description of any trenches and sumps excavated, including but not limited to the following: GPS coordinates, dimensions, depth below active layer, and secondary containment features;
 - h. A public consultation/participation report describing consultation with local organizations and the residents of the nearby communities;
 - i. A brief summary of work done to address concerns or deficiencies listed in the inspection reports and/or compliance reports prepared by an Inspector;
 - j. An executive summary in English and Inuktitut of all plans, reports, or studies conducted under this Licence; and
 - k. Any other details on water use or waste disposal requested by the Board by the 1st of November 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. 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 shall become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.
 6. 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.

7. The Licensee shall, during the next monitoring scheduled for 2022, post signs in the appropriate areas identifying the locations of the Waste Management facilities, and the “Monitoring Program Stations”. All postings shall be in the Official Languages of Nunavut.
8. 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@nwb-oen.ca
 - (b) **Inspector Contact:**
Manager of Field Operations, INAC
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445
9. 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.
10. 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.
11. This Licence is assignable as provided for in section 44 of the *Act*.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee is authorized to withdraw up to one (1) cubic metre of water per day for sampling and related purposes. Total quantity of water for all purposes under this Licence shall not exceed one (1) cubic metre per day.
2. Streams cannot be used as a water source unless authorized and approved by the Board in writing.
3. The Licensee shall not remove any material from below the ordinary High Water Mark of any water body unless authorized.

4. The Licensee shall implement sediment and erosion control measures to prevent the deposition of dust and/or sediment into water bodies, arising from contractor activities or on-site vehicular travel.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. Licensee shall backhaul to an approved waste disposal facility any waste generated by the project, that is not authorized for on-site disposal.
2. The Licensee shall maintain records of all waste backhauled and records of confirmation of proper disposal of backhauled waste and include this information within the Annual Report under Part B, Item 1. These records shall be made available to an Inspector upon request.
3. The Licensee shall not transport any hazardous wastes prior to registering with the Government of Nunavut as a waste generator and utilizing the prescribed manifests.
4. The Licensee shall provide notice to an Inspector, at least ten (10) days prior to initiating any decant or discharge from the Waste Disposal Facilities.
5. The Licensee shall provide to the Board for, review, documented authorization from all communities in Nunavut receiving wastes from the Dew Line Clean-Up Project, Cam-3 – Shepherd Bay Project prior to the backhauling and disposal of any wastes to those communities.
6. 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 APPLYING TO THE UNDERTAKING

1. The Licensee shall, if any constructed facilities designed to contain waste were to fail, repair such facilities immediately to the satisfaction of an Inspector.
2. The Licensee shall minimize disturbance to terrain, permafrost and drainage during movement of contractor's equipment and personnel around the site during post-closure monitoring activities.
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. All sites affected by sampling activities shall be stabilized, landscaped as necessary, and suitable erosion control measures implemented to minimize sediment deposition into watercourses located on or adjacent to the site, to the satisfaction of an Inspector

PART F: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURE AND OPERATIONS

1. The Licensee is authorized to establish a camp in support of the project.
2. The Licensee shall provide the Board and an inspector at least ten (10) day's notice prior to establishing the camp authorized under Part F, Item 1 in the licence
3. All activities shall be conducted in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage.
4. Winter lake and stream crossings, including ice bridges, shall be constructed entirely of water, ice or snow, and shall be removed prior to spring break-up.
5. With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into any water body is prohibited. These materials shall be disposed of above the ordinary high water mark in such a fashion that they do not enter the water.

PART G: CONDITIONS APPLYING TO DRILLING OPERATIONS

1. The Licensee is authorized to drill for the purpose of installing monitoring wells and related instrumentation.

PART H: CONDITIONS APPLYING TO CONSTRUCTION AND MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out Modifications to any Water and Waste management facilities or infrastructure authorized under the licence 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. 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
 - d. the Board has not rejected the proposed Modifications.

2. Modifications, for which all of the conditions referred to in Part H, 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 signed and stamped by an Engineer

PART I: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Board has approved the plan entitled *Spill Contingency Plan*, received on July 17, 2017, as additional information with the Application.
2. The Licensee shall submit to the Board for review and acceptance, at least thirty (30) days prior to the next monitoring event that is scheduled for 2022, an addendum to the Plan that includes or addresses the following:
 - a. Undated contact information for INAC's Manager of field operations; and
 - b. Detailed regarding the contents and locations of spill kits and other spill response equipment associated with the project.
3. All sumps and fuel caches shall be located a minimum of thirty-one (31) metres above the ordinary High Water Mark of any adjacent water body and inspected on a regular basis. The Licensee is encouraged to use some form of secondary containment on fuel and chemical storage facilities associated with this undertaking.
4. 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 fluids, waste and contain potential spills.
5. 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 INAC Water Resources Inspector at (867) 975-4295; and
 - c. Submit to the INAC Water Resources Inspector on each occurrence, a detailed report including the GPS location, no later than thirty (30) days after initially reporting the event.
6. The Licensee shall, in addition to Part I, Item 5, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line if the release is near or into a Water body.

PART J: CONDITIONS APPLYING TO CLOSURE AND RECLAMATION

1. The Licensee shall complete all restoration work pertaining to the undertaking prior to the expiry of this Licence.
2. The Licensee shall backfill and restore, all temporary containment sumps, to the pre-existing natural contours of the land.
3. All disturbed areas shall be stabilized and re-vegetated as required, upon completion of work, and restored as practically as possible to a pre-disturbed state.

PART K: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Board has approved the Plan entitled *CAM-3, Shepherd Bay Landfill Monitoring Program*, dated January 2016. Licensee shall undertake the Landfill monitoring program in accordance with this approved Plan.
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 in writing.
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 submit to the Board for review and acceptance a Quality Control / Quality Assurance (QA/QC) Plan at least thirty (30) days prior to conducting the next monitoring event scheduled for 2022. The Plan shall include a letter from an analyst conforming that the plan is acceptable for achieving the monitoring proposed.
5. An Inspector may impose additional monitoring requirements.
6. The Licensee shall include in the Annual Report, required under Part B, Item 1, all monitoring results and information required by this Part.