MUNICIPALITY OF POND INLET

Operation & Maintenance Plan for Municipal Water Licence: Solid Waste Disposal Facilities

March 2025

Document Control

Date	Document Title	Author	Details
July 2014	Solidwaste Operation and Maintenance Plan	Unknown	Previous manual
March 2025	Municipality of Pond Inlet Operation & Maintenance Plan for Municipal Water Licence: Solid Waste Disposal Facilities	Government of Nunavut, Transportation and Infrastructure (GN-TIN), and Dillon Consulting Limited	Consolidated and updated information from previous manual into standardized template. Updated data includes population, contact information, leachate management plan and figures.

Table of Contents

Document Control

1.0 **Site Description** 1

1.1 Location of the Solid Waste Disposal Facility (SWDF).....1

1.2 SWDF Site Summary.....2

1.2.1 Site History.....2

2.0 Staff 3

2.1 Chief Administrative Officer 3

2.2 Foreman 3

2.3 Solid Waste Truck Drivers.....3

3.0 Health and Safety 4

4.0 Security and Control 5

5.0 **Facility Operations** 6

5.1 Municipal Waste Disposal 6

5.2 Open Burning.....7

5.3 Hazardous Waste Management 9

5.3.1 Storage 11

5.3.2 Classifications of Dangerous Goods:.....12

6.0 Maintenance 14

7.0 Monitoring 15

8.0 Surface Water Management 17

8.1 Leachate Management.....17

9.0 **Modifications and Upgrades** 19

10.0 Previous Reports 20

Figures

Figure 1: Municipality of Pond Inlet Solid Waste Disposal Facility. (Google Earth, 2025).....1

Tables

Table 1: Licence Requirements Related to O&M of the SWDF.....15
Table 2: Monitoring Program Station Description and Locations.....16

Appendices

A As-Built Drawings

B Photographs

C (Other)

1.0 Site Description

Date this plan was prepared: 2025-March-28

1.1 **Location of the** Solid Waste Disposal Facility (SWDF)

Municipality:	Pond Inlet
Latitude:	72º42'00"N
Longitude:	77º59'00"W
Proximity to Town:	1.5 km, Southeast
Landfill Size:	46,550 m^2
Metal / Hazardous Waste Area Size:	13,706 m^2

The general location of the SWDF is provided in Figure 1.



Figure 1: Municipality of Pond Inlet Solid Waste Disposal Facility. (Google Earth, 2025)

1.2 SWDF Site Summary

Year of commissioning the SWDF: 2005

Design life of the SWDF: 2025

1.2.1 Site History

The Municipality of Pond Inlet, located in the Qikiqtani Region of Nunavut, had a population of 1,976 as of 2025.. It operates four facilities under Water Licence # 3BM-PON 2025: Water Supply Facility, Sewage Disposal Facility, Solid Waste Disposal Facility, and a Landfarm.

The Solid Waste Disposal Facility, which this Operation and Maintenance Plan covers, includes the municipal dump sites for domestic waste, metal waste, and hazardous waste, as well as the landfarm.

The landfarm is no longer in use and there are no plans to resume operations.

2.0 Staff

2.1 Chief Administrative Officer

Name: David Stockley

Phone: (867) 899-8934

Email: sao@pondinlet.ca

Responsibilities:

The CAO manages the municipal staff to ensure that:

- Proper operation of the SWDF is carried out
- Sampling and inspections are completed
- Information under the water licence monitoring program is provided to the Government of Nunavut Department of Transportation and Infrastructure (GN-TIN) for Annual Report preparation

2.2 Foreman

Name: Jasper Singoorie

Phone: (867) 899-8939

Email: foreman@pondinlet.ca

Responsibilities:

- Daily operations and maintenance of the SWDF
- Managing waste collection
- Proper segregation of waste
- Compacting and burning of waste
- Completing inspections and other maintenance activities
- The leachate sampling program at the monitoring stations
- Maintaining signage at the SWDF and monitoring stations

2.3 Solid Waste Truck Drivers

Name: Various

Phone: N/A

Email: N/A

Responsibilities: The drivers collect solid waste within the municipality from storage containers and deliver it to the SWDF.

3.0 Health and Safety

All personnel working within the SWDF must follow the Nunavut Safety Act and be made aware of potential health hazards associated with working around solid waste. This is imperative so individuals make a conscious effort to perform all necessary safety procedures to protect themselves, their co-workers and family members at home. Safety precautions include:

- Ensure all equipment is kept as clean as possible
- Protective clothing such as coveralls, gloves, boots, and safety glasses are to be provided to personnel and always worn when working around waste
- Workers must always wear protective gloves
- Work clothing is not worn home
- Workers must wash their hands with soap and water on a regular basis, especially before delivering drinking water, eating, and before going home
- Workers must keep their vaccinations up to date

4.0 Security and Control

Access Control of the facility:

- Fencing
- Signage
- 450 m restricted land use development setback surrounding the SWDF

5.0 Facility Operations

5.1 Municipal Waste Disposal

Municipal Waste Collection:	Trucked pick-up
Other Waste:	Drop off
Number of days per week waste is collected:	5
SWDF Type:	Natural attenuation

Type of waste received at the SWDF:

- MSW
- Bulky metal waste
- Hazardous
- Industrial, construction and institutional

Overview of the SWDF:
The Municipality of Pond Inlet uses a non-compactor truck to collect municipal solid waste (MSW) and transfer it to the solid waste facility. A front-end loader is used to transport metal objects, like old automobiles and fridges, to the metal dump. A 1.50 km access road connects the community to the sewage lagoon, landfill, and bulky metal site, and it is well-maintained for all types of vehicles year-round.

The community follows bylaw #199 for solid waste collection. The domestic waste site covers 46,550 m², and the metal waste site covers 13,706 m². The Municipality has installed monitoring signs, conducts extensive sampling, and has begun segregating hazardous waste according to GN-DOE guidelines.

In Pond Inlet, the bulk metal/hazardous waste storage area is used for community hazardous waste storage but lacks proper berming or lining, leading to runoff into a sewage treatment wetland. The Pond Inlet solid waste disposal facility is licensed only for municipal waste disposal and household hazardous waste storage, with industrial waste management being the responsibility of the generators. Household hazardous waste (HHW) in Pond Inlet includes items like pesticides, oil filters, paint, and batteries, but certain items like ammunition and bio-hazardous waste require special disposal arrangements. Contaminated soil or snow from the Municipality's spill clean-up is the only non-HHW accepted for storage, and decisions on accepting such waste from external sources rest with the Municipality.

Generation Data:

Operations:

- The SWDF signage informs operators and residents of the correct location to dispose of or store certain wastes. At a minimum, the SWDF should have disposal/storage areas and maintain signage for:
  - Domestic non-burnable waste (for landfilling)
  - Domestic burnable waste (for burning and landfilling) – a selected Burn Area
  - Household hazardous waste (i.e., drop-off hazardous waste disposal area)
  - Bulky Metal waste – a separate bulk metal waste disposal area
  - Treated wood and wood products
  - Re-usable/recyclable material (i.e., salvage area)
  - Building/construction materials
- The waste truck driver collects municipal solid waste (MSW) from community buildings five times per week.
- The Waste Truck Driver is also responsible for ensuring collected waste is properly segregated and refusing the collection of hazardous waste if present. If properly trained, this individual may also be required to operate heavy equipment within the solid waste disposal facility

5.2 Open Burning

Operations:

- Wastes for burning are identified and separated. Burning should only occur at the designated location at the SWDF and when winds are light and blowing away from the community. To prevent incomplete combustion and/or leachate from contaminated ash residual from impacting any surrounding waters, waste that cannot be burned includes:
  - Non-wood building / construction materials (e.g. Styrofoam, roofing materials, electrical wire, insulation, plastics, asbestos, etc.)
  - Treated wood (e.g. telephone poles, pilings, cribbing, foundation wood)
  - Asphalt & asphalt products
  - Tires
  - Hazardous wastes
  - Waste paint
  - Fuel & lubricant containers
  - Aerosol cans & other compressed gas containers (e.g. propane tanks)

- Staff shall burn municipal waste in accordance with the GN's Environmental Guideline for the Burning and Incineration of Solid Waste (2012):

    - Wastes that can be safely open burned include: paper products, paperboard packing including boxboard and carboard, untreated wood including lumber and plywood, and natural fiber textiles.
    - Anything that can be done to reduce the moisture of waste burned will decrease the amount of smoke produced and increase the completeness of combustion. Waste should be covered or stored inside sheds or other secure buildings to keep rain and snow out of the waste. This will also lessen the opportunity for wildlife to access the waste. If wet waste must be burned, the wet waste should be mixed or layered with dry waste to reduce the overall moisture content of the waste burned.
    - Large quantities of dark smoke indicate problems and inefficiencies with the combustion process and the generation of pollutants.
    - If waste is to be open burned on the ground, the use of deep or steep-walled 'pits' should be avoided as this will prevent the necessary turbulent mixing of oxygen with the burnable gases.
    - Any bottom ash not meeting the criteria set out in the *Environmental Guideline for Industrial Waste Discharges into Municipal Solid Waste and Sewage Treatment Facilities* is considered to be a hazardous waste. This ash is not suitable for landfilling and its management must comply with the *Environmental Guideline for the General Management of Hazardous Waste*.
    - Keep records of when, how much and what waste was burned, how the waste was loaded into the burning device or incinerator, the amount of smoke and bottom ash generated, how the fire was started and any other information that would help remind the operator of what worked well, and what didn't.

- The Municipality will also apply for a permit to burn through the Fire Department. Controlling the open burn is extremely important to reduce the risk of uncontrolled fire and hazards to the public, employees, and the surrounding environment.

- The weather forecast must be checked prior to any burning. If heavy rain is or will be present, burning should be postponed (burning during heavy rain events may result in poor or incomplete combustion and the potential to generate harmful contaminants). Confirmation of wind speed and direction prior to any burning. If loose debris can be carried by the wind, burning should be postponed.

- The SWDF must be closed to the public during burn events

- Burning only in the designated burn area and ensuring burning does not occur in landfill piles.

- Presence of an attendant during initial stages of the burn and periodic inspection of the burn once it has been established.

- Maintaining a minimum of 5 m buffer zone around the burning area and all ensuring attendants or personnel remain upwind of the burn area.

- Confirmation the waste is no longer hot or burning prior to the addition of more waste or covering with granular material. This can be accomplished by moving around the ash and remaining materials to ensure the fire is out and material can cool.

After every burn, once the MSW is confirmed to be cold and not burning, the CAT bulldozer should push the ash and remaining material to the landfill tipping face.

5.3 Hazardous Waste Management

Hazardous wastes are those that are known to be dangerous due to their chemical, physical or biological properties, are no longer used for their original purpose, and are intended for recycling, treatment, disposal, or storage. All hazardous wastes require special handling, storage, and disposal methods to prevent human health and environmental exposure.

The Environmental Guideline for the General Management of Hazardous Waste (GN, 2010) provides information regarding the proper management of hazardous waste in Nunavut. The generator of any hazardous waste is ultimately responsible for ensuring it will be properly managed from is creation to its disposal. Generators typically use carriers to transport the hazardous waste to appropriate receivers for disposal.

Hazardous wastes, such as paint, waste fuel, mercury thermometers, batteries, antifreeze, and propane tanks, should be stored in a designated and marked area at a solid waste site. They must be kept separate from each other to prevent mixing until they can be safely transported to a disposal facility.

The bulk metal/hazardous waste storage area is used to store community hazardous wastes but lacks proper berming or lining, causing runoff to flow into a sewage treatment wetland. To continue using this area for hazardous waste storage, it is recommended to install an engineered berm and liner system to prevent hazardous leachate from contaminating the environment.

The Pond Inlet solid waste disposal facility is licensed to accept only municipal wastes for disposal and can store household hazardous wastes. It does not accept industrial hazardous wastes for storage or disposal, and industrial sources are responsible for managing their own hazardous wastes.

The following hazardous waste operations and maintenance procedures deal with household hazardous wastes (HHW) only. Typical HHW which may be found in the municipality include:

- Pesticides and herbicides
- Paint
- Solvents (e.g., paint cleaners)
- Flammable liquids
- Corrosive cleaners
- Batteries (wet and dry cell)
- Used fuel and oil
- Corrosive Explosive Flammable Poison
- Certain items considered HHW cannot be stored at the MSW disposal facility, however. These include:
    - Ammunition, flares and explosives (including fireworks) – contact the RCMP for proper disposal
    - Prescriptions, medications, and bio-hazardous wastes (includes syringes) – dispose of these at the Nursing Station and/or Health Care Centre
    - Reactive chemicals – contact the Government of Nunavut Department of Environment (GN-DOE) office for disposal options

Contaminated soil can be accepted in a designated area and is typically stored in 205 L steel drums or bags approved for contaminated soil storage and must be shipped out of the municipality. Private entities responsible for creating the contaminated soil must contact the CAO to discuss storage options and provide a plan to ship the contaminants out of the municipality. The decision to store contaminated soil from industrial sources rests with the municipality.

Operations:

- The SWDF needs to have an area set aside as a hazardous waste storage area. This area should be fenced with a lockable gate and have appropriate storage options for expected HHW. This area also needs to be properly signed as the “Hazardous Waste Storage Area”. Proper signage helps operators, as well as the general public when residents arrive to dispose of their wastes. This area is intended for storage only, not disposal.

- The bulk metal/hazardous waste storage area is intended for storage only, not disposal. It is expected that hazardous wastes will be stored for up to five years. This should be sufficient time for the community to build up enough waste to make it economical for a back haul out of the community to a licensed waste receiver.

- Since the SWDF is generally accessible to the public, residents can come and drop off HHW throughout the year. However, the general public should not have direct access to the Hazardous Waste Storage Area for health and safety reasons. A designated public drop-off area for HHW should be used. The public drop-off area should be tended to regularly by the Foreman.

- Inspection of the hazardous waste storage area should occur weekly inspections by the Foreman.

5.3.1 Storage

Hazardous waste storage containers are designed to hold, store and transport small quantities of waste. Many different types of containers are available (i.e. barrels, bottles, bags and boxes) and are made from a variety of materials (i.e. aluminum, plastic, steel, and stainless steel). Selecting the proper container requires an understanding of the properties of the waste to be stored. If transport is to be undertaken, the generator should consult the Transport Authority to confirm the container meets all legislated requirements. The following are additional general points for consideration:

- Hazardous waste should be stored in their original containers where possible or in containers specially manufactured for the purpose of storing hazardous waste. The containers must be sound, sealable and not damaged or leaking. Sea can is the best option.

- Containers should be clearly labeled to identify their contents according to requirements of the Workplace Hazardous Materials Information System (WHMIS) and the relevant Transport Authority, if transport is planned.

- Small quantities of compatible hazardous waste should be bulked into 16 gauge or equivalent metal or plastic 205 litre (45 gallon) drums for the purpose of secondary containment.

- Containers should be closed and sealed at all times, except while waste is being added or removed.

It is important to know which types of waste do not mix well when storing them. This helps prevent violent, explosive reactions and toxic fumes. To store wastes safely, different systems have been created. One example is the 'Hazardous Waste Compatibility Chart' adopted by the United States' Environmental Protection Agency.

All HHW collected needs to be properly stored in sea cans to minimize any environmental and human health hazards. The GN-DOE provides information on proper storage of specific HHW; these include:

- **Antifreeze** – use original containers where possible, or bulk-store waste antifreeze into good condition 16 gauge or lower gauge steel or plastic 205 L drums.
- **Batteries** – bulk-store waste batteries into good condition 16 gauge or lower gauge steel or plastic 205 L drums, or other form of containment away from weather; wooden pallets should be used to keep batteries and containers off the ground during storage and transport.
- Fluorescent light tubes/compact **fl**uorescent light bulbs – use original containers where possible and prevent breakage of light tubes/bulbs; keep away from weather.
- **Ozone Depleting Substances (ODS)** – do not landfill; wastes with ODS (i.e., refrigerators and refrigeration equipment, vehicle air conditioners, ODS-containing fire extinguishers (typically purchased before 1997) should be diverted to the bulk metal waste disposal area. The Municipality can hire technicians to remove ODS from stored equipment.
- Paint – use original containers where possible, or bulk-store compatible paints into good condition 16 gauge or lower gauge steel or plastic 205 L drums; do not mix different types of paint (i.e., alkyd and latex).
- Solvent – use original containers where possible, or bulk-store compatible waste solvents into good condition 16 gauge or lower gauge steel or plastic 205 L drums.

As the Municipality currently stores waste oil in drums at the bulk metal/hazardous waste storage area (if not burned within BLCS' waste oil burners), it is recommended they register the site as a hazardous waste storage facility with the GN-DOE Environmental Protection Services (R. Eno, pers. comm.).

5.3.2 Classifications of Dangerous Goods:

Class 1 – Explosives

Class 2 – Compressed Gases
- Division 2.1 – Flammable Gases
- Division 2.2 – Non-flammable and Non-toxic Gases
- Division 2.3 – Poison Gases

Class 3 - Flammable Liquids

Class 4 – Flammable Solids

- Division 4.1 – Flammable Solids
- Division 4.2 – Spontaneously Combustible
- Division 4.3 – Water Reactive

Class 5 - Oxidizing Substances and Organic Peroxides

- Division 5.1 – Oxidizing Substances
- Division 5.2 – Organic Peroxides

Class 6 - Toxic and Infectious Substances

- Division 6.1 – Toxic Substances
- Division 6.2 – Infectious Substances

Class 7 - Radioactive Materials 2

Class 8 - Corrosives

Class 9 - Miscellaneous

1. Class 1 substances (Explosives) are regulated by Natural Resources Canada under the Explosives Act.
2. Class 7 substances (Radioactive Materials) are regulated by the Canadian Nuclear Safety Commission under the *Nuclear Safety and Control Act and Nuclear Liability Act.*

6.0 Maintenance

Overview of Maintenance Activities:

- Annual inspections will be undertaken by Crown Indigenous Relations and Northern Affairs Canada (CIRNAC) accompanied by a licensee and/or a licensee representative from GN-TIN. The inspection report and recommendations will be reviewed by a GN-TIN municipal engineer and submitted in the Annual Report submitted to the Nunavut Water Board (NWB).
- Regular visual inspections by municipal staff of the:
  - Berms
  - Fence
  - Signage
  - Presence of water runoff in the SWDF

Any issues identified by municipal staff must be reported to the regional municipal engineer. Follow-up actions will be undertaken by the municipality with technical support from the GN-TIN.

7.0 Monitoring

Regulatory Inspection:

The annual Crown Indigenous Relations and Northern Affairs Canada (CIRNAC) inspection will take place accompanied by the licensee from the Municipality and/or with a licensee representative from GN-TIN. The inspection will be reviewed by a GN-TIN municipal engineer and submitted with the annual report.

Table 1: Licence Requirements Related to O&M of the SWDF

Requirements	Reported
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: d. the monthly and annual quantities in cubic metres of each and all waste discharged; including the hazardous and non-hazardous waste accepted at the Solid Waste Disposal Facilities;	Annual Report
PART D: CONDITIONS APPLYING TO WASTE DISPOSAL 9. The Licensee shall dispose of and permanently contain all Solid Wastes at the Solid Waste Disposal Facilities or as otherwise approved by the Board in writing. 10. The Licensee shall segregate and store all hazardous materials and/or hazardous waste within the Solid Waste Disposal Facilities in a manner as to prevent the deposit of deleterious substances into any water until such a time as proper disposal arrangements are made.	Annual Report

Requirements	Reported
11. The Licensee shall implement measures to control hazardous materials, surface runoff, and/or leachate from the Solid Waste Disposal Facilities and prevent it from entering water.	
PART H: CONDITIONS APPLYING TO THE MONITORING PROGRAM 11. The Licensee shall measure and record the annual quantities of sewage sludge and solids removed from the Sewage Disposal Facilities.	Annual Report

Table 2: **Monitoring Program Station Description and Locations**

Station	Description	Latitude	Longitude
PON-2	Runoff from the Solid Waste Disposal Facilities.	72°41'41.40"	-77°53'33.42"
PON-8	Discharge from the Landfarm Facility at the controlled point of release	72°41'49.92"	-77°53'52.14"

8.0 Surface Water Management

At some point, for a variety of reasons, impacted water may accumulate in the landfill, hazardous waste storage area, or the bulky metals area. The water may or may not be impacted by leachate, hazardous wastes, or contaminants from land farmed soil. In the event this occurs, the following procedures will be followed:

- Collect samples from the water licence monitoring program at stations as outlined in the Environmental Monitoring Program and QA/QC Plan. It is recognized that it may take some time for results to be received from the accredited laboratory.
- Analyze samples for parameters of concern and compare the results to the relevant Canadian Water Quality Guidelines.
- Water should be inspected for odours, stain, or signs of visible impact (sheens, floating scum).
- Consult with the GN-TIN municipal engineer and CIRNAC on discharge options.

8.1 Leachate Management

Effective monitoring programs are essential for ensuring the correct operation of all systems. They provide crucial feedback to operators, enabling them to track system progress and receive timely warnings of potential issues. These programs also verify compliance with water quantity and quality requirements, typically outlined in the community's water license. As an integral component of facility Operations and Maintenance (O&M), the successful execution of monitoring programs is paramount.

The Hamlet's Water License mandates a monitoring station downstream of the solid waste disposal facility. Data from this station will inform operators and regulators about water quality, assess leachate quality entering the sewage treatment, evaluate the performance of the sewage treatment wetland in treating leachate, and indicate the effectiveness of waste segregation efforts. Table 2 details the description and location of this station.

Leachate at the PON-2 sampling station should be sampled monthly when flow is present. All samples from PON-2 will undergo analysis for the following parameters:

- Biochemical Oxygen Demand (BOD5),
- Carbonaceous Biochemical Oxygen Demand (cBOD),

- Total Metals (including aluminum, arsenic, cadmium, cobalt, chromium, copper, iron, lead, nickel, manganese, mercury, and zinc),
- Total Alkalinity,
- Total Suspended Solids (TSS),
- Conductivity,
- Total Organic Carbon (TOC),
- Fecal Coliforms,
- Polycyclic Aromatic Hydrocarbons (PAHs),
- Ammonia Nitrogen,
- Nitrate-Nitrite,
- Anions and Cations (including calcium, chloride, magnesium, potassium, sodium, and sulphate),
- Total Hardness,
- pH,
- Total Phenols,
- Oil and Grease (visual),
- Total Petroleum Hydrocarbons (TPHs), and
- Benzene, Toluene, Ethylbenzene, and Xylene (BTEX)

Two groundwater monitoring wells were partially installed: PON-6 upgradient and PON-7 downgradient of the Solid Waste Disposal Facility. Construction remains incomplete, and no groundwater samples have been collected to date.

9.0 Modifications and Upgrades

Planned modifications or upgrades:

N/A

10.0 Previous Reports

- Solidwaste Operation and Maintenance Plan, Unknown, 2014

Appendix A

As-Built Drawings


Bulky Metals/ End of Life Vehicles
Sewage Disposal Facility
Landfarm
Solid Waste Disposal Facility
Google Earth
Image © 2025 Maxar Technologies
N
100 m

Appendix B

Photographs



Fig. 3: Picture of Domestic Metal Waste site