MVLWB

Operation and Maintenance Plan Templates for Municipal Water Licences: Wastewater (Sewage) Treatment System

June 2017

Mackenzie Valley Land and Water Board

Operation & Maintenance Plan Template – Wastewater (Sewage) Treatment System (WWTS)
General Questions – All System Types

If you have any questions about this document, please contact your regional Manager of Community Infrastructure Planning.

1. Site Description

Definitions:

- **Mechanical Plant:** a constructed system with mechanical parts such as tanks, pumps, blowers, screens, and grinders.
- **Natural Lake Lagoon:** a natural lake being used as a lagoon, including lakes with minor modifications or added control structures.
- **Engineered Lagoon:** any type of constructed or artificial lagoon that is decanted at a specific point or flows continuously through a weir or other discharge structure, including all lined lagoons.
- **Exfiltration System:** a pit, trench, or lagoon that is designed to allow effluent to seep continuously through gravel, sand, or another material.

Identify the type of treatment system. Note that each type of system requires a separate additional document to be completed. Schedules A through D have questions specific to each system type.

- ○ Mechanical Plant - complete and attach Schedule A.
- ◉ Natural Lake Lagoon - complete and attach Schedule B.
- ○ Engineered Lagoon - complete and attach Schedule C.
- ○ Exfiltration System - complete and attach Schedule D.

Where is the wastewater treatment system (WWTS) located?

Community:	Sachs Harbour
Latitude:	71*59'41"N
Longitude:	125*19'25"W

Which coordinate system was used for these coordinates?

- ○ Decimal Degrees
- ◉ Degrees, Decimal Minutes
- ○ Universal Transverse Mercator (UTM)

☑ Location map attached.
Map to include scale, north arrow, roads/access, and location of groundwater monitoring wells.

Date of Commissioning of WWTS: 1991 yyyy/mm/dd (if date is unknown, estimate year)

What are the ground conditions relating to permafrost in and around the community in which the WWTS is located?

Definitions:

- **Permafrost** – Ground that stays frozen through the summer. There is a surface layer that thaws, but underneath the ground stays frozen. (There are other definitions, but for the following question, use this one.)
- **Continuous permafrost** – There is permafrost everywhere in the area.
- **Discontinuous permafrost** – (a) There is permafrost but some areas thaw in the summer, or (b) there are some patches of permafrost, but most of the ground thaws in the summer.

⊙ Continuous permafrost

○ Discontinous permafrost

○ No permafrost in area.

2. WWTS Staff

Provide the name, contact information, and role for each staff member.

Name	Phone	Email
Darren Nasogaluak	786-0126	hamlet_finance@northwestel.net

Role/Responsibilities: Foreman

Name	Phone	Email

Role/Responsibilities:

Name	Phone	Email

Role/Responsibilities:

3. Security and Control

How is public access to the system controlled? (Check all that apply.)

- ☑ No control
- ☐ Front gate locked when facility is closed
- ☐ Perimeter chain-link fence around entire facility
- ☐ Locked man-door
- ☐ Other: _____

Is the following signage posted at the WWTS? (Check all that apply.)

- ☑ Name of facility
- ☐ Notification of restriction of public access
- ☐ Warning signage regarding chemicals used in the treatment process
- ☐ Sign at each Surveillance Network Program (SNP) monitoring site

4. Wastewater Generation and Conveyance

Is wastewater collection done with trucks, or a sanitary sewer system (either underground pipes or utilidor)?

- ⊙ Trucked ○ Sanitary Sewer ○ Combination of sanitary sewer and trucked
- ○ Other: _____

If both a sanitary sewer and trucks are used, please answer both sets of questions below.

For **sanitary sewer systems**, attach a map indicating locations of lift stations and force mains including design flow rates and control points (valves).

☐ Map attached

Annual volume of wastewater collected in piped system: _____ m^3/year

For trucked systems, provide the following information:

Describe the group responsible for the collection and transport of wastewater to the WWTS (e.g., community staff, private contractor) and scope of service (e.g., vehicles, equipment, fuel etc.):

Community Staff

How many days per week is wastewater collection done?	3	days per week
Number of wastewater trucks available:	3	Truck(s)
Wastewater truck volume:	10000	Litres
Number of truckloads delivered to lagoon per week:	12	trips per week
Annual volume collected by all trucks (if known):		m^3/year

Are honeybags accepted at the WWTS?

○ Yes ⊙ No

If yes,

Estimated annual volume of honeybags: _____ m^3/year

Where are honeybags stored/disposed of?

How are hazardous wastes and other unacceptable substances kept out of the WWTS?

only sewage is deposited in lagoon

5. Influent Wastewater Quality

Influent wastewater quality refers to the composition of the raw wastewater to be treated at the WWTS.

Are water quality results available for influent (raw) wastewater quality?

○ Yes ⊙ No

If **no**, skip this section.

If **yes**, attach the results of the sampling program.

☐ Results attached

6. System Capacity and Design Data

Indicate the **Design Flows** for which the system was designed. If this is an existing system and **design information** (such as an engineering report) is not available, skip this question.

Monthly **design** flow: _____ m^3

Annual (yearly) **design** flow: _____ m^3

Indicate the Effluent Quality Criteria for which the **system was designed**. Add any additional criteria listed in the water license for the system. Skip any that don't apply. If this is an existing system and **design information** (such as an engineering report) is not available, skip this question.

pH:	
Biochemical Oxygen Demand (BOD5):	mg/L
Carbonaceous Biochemical Oxygen Demand (CBOD):	mg/L
Total Suspended Solids (TSS):	mg/L
Oil and Grease:	mg/L
Fecal Coliforms:	CFU/100 ml
Ammonia-N (NH3-N):	mg/L
Phosphorus:	mg/L
Acute Toxicity - Rainbow Trout	% survival
Acute Toxicity - Daphnia magna	% survival

Additional criteria from water license:

7. Effluent Discharge

Is treated wastewater discharged/decanted at specific times (seasonal), or does it flow all the time except when frozen (continuous)?

○ Seasonal ⊙ Continuous

If Seasonal, indicate the duration of discharge (or decant):

_____ Days OR _____ Weeks

What time of year is seasonal discharge typically done?

Indicate the average discharge flow rate: _____ m^3/day

Indicate which of the following activities are done. Your water licence will specify which requirements apply to your system. Check all that apply.

☐ The Land and Water Board is advised at least ten days prior to discharge of treated sewage.

☐ The Water Resource Officer is advised at least ten days prior to discharge of treated sewage.

☐ Land and Water Board approval is obtained prior to discharge of treated sewage

☐ Water Resource Officer approval is obtained prior to discharge of treated sewage

☐ Discharged effluent is sampled at the SNP station prior to and/or during discharge.

Where is the treated wastewater discharged?

○ Surface Waterbody ⊙ Natural Wetland

If discharged to surface water, provide the following information:

Name of waterbody: _____

Average annual flow rate of waterbody (if known): _____ m^3/sec

Attach water quality data for the waterbody upstream of the discharge point, if available.

☐ Data attached

If discharged to a natural wetland, provide as much of the following information as possible. If this is an existing system and design information (such as an engineering report) is not available, skip any that are unknown.

Average annual discharge flow rate out of the wetland system: _____ m^3/sec

Wetland Area: _____ hectares

Wetland Length: _____ m

Wetland Operating Depth: _____ m

List the types of plants in the wetland:

Estimated Hydraulic Loading Rate: _____ cm/day

Estimated Hydraulic Retention Time: _____ days

8. Sludge Management

Has sludge from the treatment system ever been removed for disposal?

O Yes ⊙ No

How frequently is the sludge level checked?

O Annually O Other:

How often is sludge removal done?

Every _____ years.

Estimated annual sludge production: _____ m^3

Briefly explain how sludge removal is done.

How is the sludge disposed of?

O On-site Land Application

O Off-site Land Application

O Landfill

O Other:

Identify/name and describe the location or facility where the sludge is disposed of.

9. Surface Water Management

Are there perimeter ditches surrounding the site to manage run-on?

○ Yes ◉ No

Is the site constructed with positive site drainage (minimum 1%) to minimize ponding?

○ Yes ◉ No

What is the distance to the nearest fish-bearing water body (lake, river, etc.)? 1000 m

Describe any other surface water mangement at the site:

10. Record-Keeping

The following are record keeping requirements related to O&M of the Wastewater Treatment System and should be filed as an annual report with the MVLWB no later than the date stipulated in the water license for the previous year. The annual report should include the following:

- Monthly and annual quantities of all wastewater discharged to wastewater treatment system, reported in cubic metres.

  How and where is this recorded? Quantity estimated based on water usage

  Where are these records kept? Hamlet Office

- A summary of volumes of effluent discharge to the environment.

  How and where is this recorded? Quantity estimated based on water usage

  Where are these records kept? Hamlet Office

- A summary of volume of sludge removed from the system.

  How and where is this recorded? No sludge removal

  Where are these records kept? no records kept

- A summary of modifications and/or major maintenance work carried out on the wastewater treatment system, including all associated structures. Check your water licence for specific requirements regarding modifications.

  How and where is this recorded? No modifications

  Where are these records kept? no records kept

- A list of spills and unauthorized discharges.

  How and where is this recorded? None

  Where are these records kept?

- A summary of any closure and reclamation work completed during the year and outline of any work anticipated for the next year.

  How and where is this recorded? None

  Where are these records kept?

- A summary of any studies requested by the MVLWB that relate to waste disposal or reclamation, and a brief description of any future studies planned.

  How and where is this recorded? None

  Where are these records kept?

- An outline of any spill training and communication exercises carried out.

  How and where is this recorded? None

  Where are these records kept?

Are records of repairs kept?

○ Yes ○ No

Are records of upgrades kept?

○ Yes ○ No

11. Water Quality Monitoring

The "**final discharge point**" is the point where the treated wastewater leaves the treatment system and enters the environment. What type of final discharge point does the WWTS have? (Choose one.) *Note this is at the end of the treatment system, which may be different from the lagoon decant point.*

○ Exfiltration through berm or substrate

◉ Natural channel outflow (i.e. discrete stream from natural lake lagoon)

○ End of wetlands (natural or engineered)

○ Engineered berm - water pumped or siphoned over berm

○ Engineered berm - outfall structure built into berm (gate with stop logs/pipe/spillway/notch)

○ Pipe outflow

○ Other (specify):

What are the coordinates of the final discharge point?

Latitude: 71*59'47.23" N

Longitude: 125*19'50.49" W

Which coordinate system was used for these coordinates?

- ○ Decimal Degrees
- ⊙ Degrees, Decimal Minutes
- ○ Universal Transverse Mercator (UTM)

The **"receiving environment"** is the environment or area where the treated wastewater ends up after passing through the entire treatment system. What is the receiving environment located after the final discharge point? (Choose one.)

- ○ **River/stream**
- ○ **Lake/pond**
- ○ **Ocean** (i.e. water goes directly from the treatment system to the ocean, with nothing else in between)
- ⊙ **Wetland** (that is not part of the treatment system)
- ○ **Land - subsurface (exfiltration)**
- ○ **Land - surface (overland)** (e.g. a field)
- ○ **Other (specify):**

Name of waterbody or area, if applicable:

If the receiving environment is water (river/stream/lake/pond/ocean or similar), estimate the size of the waterbody:

What types of plants or trees are in the receiving environment? (Choose all that apply.)

☐ Wildflowers (e.g. Butterwort, Cloudberry, Common Plantain, Common Yarrow, Fireweed, Indian Paintbrush, Mountain Avens, Prickly Saxifrage, Red Baneberry, Silverweed, Twinflower, Wild Mint, Yellow Lady's Slipper)

☐ Aquatic plants (e.g. Cat-tail, Duckweed, Rat Root, Water-arum, Yellow Pond-lily)

☐ Horsetails (e.g. Common Horsetail)

☐ Sedges (e.g. Cotton-grass)

☐ Shrubs (e.g. Black Currant, Bog Rosemary, Crowberry, Ground Juniper, Labrador Tea, Mountain Cranberry and Kinnikinnick, Prickly Wild Rose, Silverberry, Soapberry, Willow)

☐ Trees (e.g. Black Spruce and White Spruce, Jack Pine, Paper Birch and Dwarf Birch, Tamarack, Trembling Aspen and Balsam Poplar)

☑ Other (specify): Tundra

Has a study or sampling program been done to determine **background water quality** at the final discharge point (i.e. a study of the water in the environment before the WWTS started discharging there, or at a distance from the discharge point)?

○ Yes ⊙ No

If **yes**, provide the following information on the study.

Title of document:

Name of company or person who did the study:

Date study was completed (yyyy/mm/dd):

Attach the results of the study if available.

☐ Background water quality results attached

Has a study or sampling program been done to assess **effluent quality** at the final discharge point (i.e. a study or sampling of the water coming out the end of the treatment system)?

○ Yes ⊙ No

If **yes**, provide the following information on the study.

Title of document:

Name of company or person who did the study:

Date study was completed (yyyy/mm/dd):

Attach the results of the study if available.

☐ Effluent quality results attached

12. Additional Information Required

For **Mechanical Plants**, complete and attach Schedule A.
For **Natural Lake Lagoons**, complete and attach Schedule B.
For **Engineered Lagoons**, complete and attach Schedule C.
For **Exfiltration Systems**, complete and attach Schedule D.

The Mackenzie Valley Land and Water Board

www.mvlwb.com

Box 2130
7th Floor - 4922 48th Street
Yellowknife, NT X1A 2P6

Phone: (867) 669-0506
Fax: (867) 873-6610

MVLWB

Operation and Maintenance Plan Templates for Municipal Water Licences: Solid Waste Facility

June 2017

Mackenzie Valley Land and Water Board

SAHTU LAND & WATER BOARD

GWICH'IN LAND AND WATER BOARD

Wek'èezhìi Land and Water Board

Government of Northwest Territories

Mackenzie Valley Land and Water Board

Operation & Maintenance Plan Template - Solid Waste Facility (SWF)

If you have any questions about this document, please contact your regional Manager of Community Infrastructure Planning.

1. Site Description

Where is the solid waste facility (SWF) located?

Community:	Sachs Harbour, NT
Latitude:	71*59'10" N
Longitude:	125*27'03" W

Which coordinate system was used for these coordinates?

- ○ Decimal Degrees
- ⊙ Degrees, Decimal Minutes
- ○ Universal Transverse Mercator (UTM)

☑ Location map attached.

Map to include scale, north arrow, roads/access, and location of groundwater monitoring wells.

What are the ground conditions relating to permafrost in and around the community in which the SWF is located?

Definitions:

- **Permafrost** – Ground that stays frozen through the summer. There is a surface layer that thaws, but underneath the ground stays frozen. (There are other definitions, but for the following question, use this one.)
- **Continuous permafrost** – There is permafrost everywhere in the area.
- **Discontinuous permafrost** – (a) There is permafrost but some areas thaw in the summer, or (b) there are some patches of permafrost, but most of the ground thaws in the summer.

- ⊙ Continuous permafrost
- ○ Discontinous permafrost
- ○ No permafrost in area

2. SWF Staff

Provide the name, contact information, and role for each staff member.

Name	Phone	Email
Darren Nasogaluak	867-690-3026	hamlet_finance@northwestel.net

Role/Responsibilities: Hamlet Foreman

Name	Phone	Email

Role/Responsibilities:

Name	Phone	Email

Role/Responsibilities:

Staff Training:
Please indicate if any of the SWF staff have the following training (current or expired):
(Check all that apply.)

☐ Ozone Depleting Substances (halocarbons, refrigerants) technician

Definition: A technician who is otherwise qualified to service refrigerant equipment and has successfully completed the environmental awareness training course for refrigerants offered by the Heating, Refrigeration and Air Conditioning Institute of Canada. (1-day classroom course in addition to being a qualified technician)

This is required for draining refrigerants from vehicles, air conditioners, fridges, and other equipment. Refer to ENR's document *Environmental Guideline for Ozone Depleting Substances (ODS's) and Halocarbon Alternatives*.

☑ Transportation of Dangerous Goods (TDG)

Everyone who handles, prepares for transport or carries dangerous goods must be trained and certified. Some of the common hazardous materials that may come into a SWF are also dangerous goods. (Can be done online)

☑ Workplace Hazardous Materials Information System (WHMIS)

WHMIS training is required for any employee that requires this information to protect themselves from the hazards of the controlled products they handle at their workplace. (Can be done online)

☑ Waste Management

Training on municipal solid waste, solid waste collection, alternatives to solid waste, landfill operations and maintenance, regulatory requirements and occupational health and safety, such as the MACA School of Community Government Solid Waste Management course or through organizations such as Northern Alberta Institute of Technology (NAIT) and Solid Waste Association of North America (SWANA). (Classroom course)

☑ First Aid

First Aid training is recommended as a best practice for SWF staff due to the inherent hazards of working at a solid waste site. (Standard First Aid is a 2-day classroom course)

☐ Hazardous Waste Operations and Emergency Response (HAZWOPER)

HAZWOPER training is recommended for larger sites, wherever practical. (40-hour classroom course)

☐ Other relevant courses:

3. Security and Control

How is public access to the facility controlled? (Check all that apply.)

☐ No control

☐ Front gate locked when facility is closed

☐ Perimeter chain-link fence (around entire facility)

☐ Locked man-door

☑ Other: Partial fence

Is the following signage posted at the SWF? (Check all that apply.)

☑ Sign near the site entrance indicating that waste screening is completed on site

☐ Telephone numbers for facility manager and local fire protection services.

☑ Sign at each waste, recycling, and reuse stockpile showing the items that should be placed there

☐ Hours of operation

☑ "No burn" restrictions

☐ Tipping fee information

☐ Location of Surveillance Network Program (SNP) monitoring sites

☐ List of materials that are not accepted

What fencing is installed at the site (aside from perimeter fencing identified above)? (Check all that apply.)

☑ Wind fence down-wind of the active face to control litter

☐ Electric fence around areas that may attract animals, including decomposable waste storage

When is the electric fence typically activated?

From Month to Month

☐ Other:

4. Facility Operations

Hours/days of operation: 24/7

Year landfilling began at the facility (estimate if not known): 1991

Is a weigh scale used at the facility?

○ Yes ⊙ No

Hazardous waste receivers are registered for the type of hazardous waste they are receiving (e.g., asbestos, batteries, contaminated soil, used oil). If you are unsure if your facility is registered as a hazardous waste receiver, please contact the GNWT Department of Environment and Natural Resources at (867) 873-7654.

Is the facility registered to receive any hazardous wastes?

○ Yes ⊙ No

Is there a specific Site Operator?

○ Yes ⊙ No

If yes, number of days per week operator is onsite: Hours per day:

If no, how often does staff visit the facility?

Is heavy equipment used onsite (e.g. loader, excavator)?

⊙ Yes ○ No

If yes, list equipment:

Loader, Cat, Dump Truck

5. Facility Design

Attach one of the following drawing options with the documents you are submitting. As-built drawings are preferred, if available. All drawings are required to have scales and north arrows (for plan views).

○ As-built drawings of the facility prepared by a Professional Engineer or Geoscientist registered with NAPEG, who has expertise in the subject area.

○ Design drawings stamped by a Professional Engineer or Geoscientist registered with NAPEG, who has expertise in the subject area.

⊙ Scaled site plan with an air photo.

Provide a general description of the facility design or indicate these items on the drawing. Identify locations of public drop-off areas, material stockpiles, and landfill cells. List compactors and balers. Describe buildings on site.

Attached drawing of Garbage Dump Fencing

Leachate is defined as water that percolates (flows) through the landfill. It picks up toxic chemicals on its way through the waste.

What systems are in place for leachate?

○ Active leachate collection and treatment (i.e., engineered liners/covers)

⊙ Facility relies solely on natural attenuation of landfill leachate

○ Other:

If the facility has a liner, please indicate which types of liner are present:
(Check all that apply.)

☐ HDPE/PVC/geomembrane/plastic liner

☐ Geosynthetic Clay Liner (GCL)

☐ Other:

How is the liner monitored for leaks?

6. Accepted Materials

Identify the materials accepted at the SWF and the disposal method for each.

Notes:

- **Segregated for reuse** means that items that are still in usable condition are set aside in a safe area for the public to search through and take home.
- **Shipped out for recycling or disposal** includes items that are stockpiled and backhauled when a large enough quantity has been built up. These items may be intended for recycling or to be landfilled, incinerated or otherwise disposed of offsite.
- **Burning** should be done in accordance with ENR's document *Municipal Solid Wastes Suitable for Open Burning*, which provides specific conditions under which paper products, paperboard packaging and untreated, unpainted wood wastes may be burned. Other materials are not suitable for burning.

	Not accepted	Landfilled at site	Segregated for reuse	Shipped out for recycling or disposal	Burned	Composted
Municipal Solid Waste (waste generated in the community with the exception of industrial process waste and agricultural waste)	○	⊙	○	○	○	○
Construction, renovation, and demolition waste (waste generated in the community from construction, renovation and demolition activities with the exception of hazardous waste including asbestos)	○	⊙	○	○	○	○

	Not accepted	Landfilled at site	Segregate for reuse	Shipped out	Burned	Compost
Scrap metal	○	⊙	○	○	○	○
White goods (appliances such as refrigerators, stoves, microwaves, etc.) NOTE: Refrigerants must be removed. See Hazardous Materials.	○	⊙	○	○	○	○
Tires	○	⊙	○	○	○	○
Electronic waste	○	○	⊙	○	○	○
Recyclables – Plastics	○	⊙	○	○	○	○
Recyclables – Tin Cans	○	⊙	○	○	○	○
Recyclables – Returnable Beverage Containers	○	○	⊙	○	○	○
Recyclables – Cardboard	○	⊙	○	○	○	○
Recyclables – Mixed Paper/Newspaper	○	⊙	○	○	○	○
Recyclables – Glass	○	⊙	○	○	○	○
Household hazardous waste (typical items include paint, batteries, leftover chemicals from households; see attached list)	○	○	⊙	○	○	○
Non-hazardous waste from the industrial sector within the community.	○	○	○	⊙	○	○
Non-hazardous waste from the commercial sector within the community.	○	○	⊙	○	○	○
Non-hazardous waste from the institutional sector within the community.	○	○	⊙	○	○	○
Reusable goods (items that can be removed by the public for reuse, such as furniture)	○	○	⊙	○	○	○

	Not accepted	Landfilled at site	Segregate for reuse	Shipped out	Burned	Compost
Clean wood and tree trimmings	○	⊙	○	○	○	○
Mixed paper and cardboard	○	⊙	○	○	○	○
Mixed solid waste	○	⊙	○	○	○	○
Food and yard waste	○	⊙	○	○	○	○
Animal carcasses	⊙	○	○	○	○	○
Biosolids (nutrient-rich organic materials resulting from the treatment of domestic waste at a wastewater treatment system; aka sewage sludge)	⊙	○	○	○	○	○

Other:

If any items are shipped out of the community, how frequently is this done?

Infrequently

7. Waste Generation and Site Capacity

This section provides an estimate of the amount of waste and recyclable materials being generated in the community, and the amount of space required at the SWF to transfer and store these materials.

Is waste being accepted from outside the community?

○ Yes ⊙ No

If yes, describe outside sources of waste:

Choose one of the following methods to estimate the amount of waste generated in the community. Data from a study or other calculation is preferred. Weigh scale data can be used if no calculated value is available. The third option should only be used if no other data is available.

Ensure the numbers you enter are in the correct units; they will be used to automatically calculate answers.

○ Enter a number in kg/capita/day from a study, calculation, or typical value

[ ] kg/capita/day

Where did you get this number? Include title, author/consultant or other source name:

[ ]

○ Calculate from weigh scale data

Enter annual metric tonnage of waste received at facility: [ ] tonnes/year

Enter population of geographical area described above: [ ] people

Calculated rate: NaN kg/capita/day

⊙ No data available: Assume per capita waste generation rate of 2.5 kg/capita/day.

The following questions will calculate the space required for waste over the next 10 years of the facility's life, based on assumptions about the level of compaction, the ratio of cover material to waste (assumed to be 1:5), and the projected population.

Is waste compacted on site?

⊙ Yes - Assume MSW density is 300 kg/m³

○ No - Assume MSW density is 150 kg/m³

Go to http://www.statsnwt.ca/ In the menu, find Population. Click Population Estimates. Find the link for Community Totals and look up the current population for your community. Next, click Population Projections. Find the population projection for your community **10 years from now**. (If the exact year you need is not listed, use the closest year.)

Current year population: 117 people

Population in 10 years: 112 people

Calculated space required for the next 10 years: NaN m^3

How much empty space is left in the facility (volume in m^3)? Either enter a volume from a topographical survey, or enter measured dimensions of the empty space.

O Surveyed volume of remaining empty space: _____ m^3

O Enter dimensions of empty space in meters:

Length	_____ m	NOTE: If your measurements are in feet,
Width	_____ m	multiply by 0.305 to get meters.
Depth/Height	_____ m	e.g. 50 ft x 0.305 = 15.2 m
Calculated Volume	0 m^3	

Is the remaining empty space larger than the space required for the next 10 years?

O Yes O No

If there is not enough space for the next 10 years, what is the plan to deal with this?

8. Community Waste Collection and Handling

What types of waste collection are done in the community? (Check all that apply.)

☑ Door-to-door collection of MSW

Frequency of collection: Twice a week

☐ Collection of recyclables (door-to-door or centralized bins)

Frequency of collection: _____

☐ Collection of compost (door-to-door or centralized bins)

Frequency of collection: _____

☐ Bins for commercial/industrial waste

Frequency of collection: _____

Other waste collection (describe):

9. Waste Screening

Waste types that are not accepted at the SWF need to be screened at the facility entrance. Unacceptable waste may include hazardous waste, or waste generated from the Industrial, Commercial, Institutional sector or by residents outside the community.

The following questions are about the waste screening methods used at the facility.

Does someone look at each load that comes in to the facility?

○ Yes ⊙ No

If yes, when is this done? (Check all that apply.)

☐ At the entrance gate ☐ During dumping ☐ While waste is on the ground

☐ Other:

What other screening methods and policies are used to prevent unacceptable waste entering the facility? (Check all that apply.)

☐ More detailed investigations are done on random loads.

☐ Written policy and procedures outlining frequency and steps taken for random load inspections.

☐ There is a designated location for load inspection.

☐ Method for removing and storing unacceptable waste from piles is defined.

☐ The SWF operator has the ability to check any suspicious loads at any time.

☐ Other:

10. Unacceptable Wastes

Once unacceptable waste has been encountered it is important to identify the generator. Industrial/commercial/institutional generators are required to transport their hazardous waste to registered receiving facilities according to the guideline for the *General Management of Hazardous Waste in the NWT*.

It is not suitable to have the hauler (carrier) remove the unacceptable waste if the,

- Original generator cannot be identified;
- Generator refuses to take responsibility; or
- Waste cannot be transported according to Department of Transport regulations (Transportation of Dangerous Goods Regulations).

If the generator is identified and refuses to take responsibility of the hazardous waste, they may be charged for the clean-up and proper management of the waste at the facility. It is important to keep good records of correspondence as well as the situation in which the unacceptable waste was encountered.

The hauler may not be responsible unless it can be demonstrated they knowingly transported the unacceptable waste to the SWF. It is important to work with the hauler (carrier) to identify the generator. For advice in dealing with unacceptable or hazardous waste issues, contact your local or regional ENR office. If the local or regional office is not available, ENR Environmental Protection may be able to assist (call 867-873-7654).

The following methods for management of unacceptable waste are employed at the SWF:
(Check all that apply.)

☑ Notify appropriate municipal, territorial, or federal agencies.

☐ Secure the waste to prevent contamination and disturbance.

☐ Maintain records of date/time, conversations, and conditions of the incident.

☐ Cooperate with other regulatory agencies to handle the incident.

☐ Other: _____

Most municipal water licences do not authorize a community to accept waste from **outside of municipal boundaries** from industrial/commercial/institutional generators. Some licences may require written authorization from the inspector in order to accept this type of waste. (Check all that apply.)

☐ Does your community accept any waste from outside of municipal boundaries from the industrial/commercial/institutional sector?

☐ Does your community have written authorization from the Inspector to accept this waste?

☐ Does your community have a written agreement with the generator(s) regarding types and volume of waste accepted and tipping fees?

11. Record-Keeping for Unacceptable Wastes

Are records kept for unacceptable waste that arrives at the facility?

○ Yes ○ No

If yes, where are these records kept? _____

The following records are maintained:
(Check all that apply.)

- ☐ Date and time of inspection
- ☐ Hauler (carrier) name and company
- ☐ Type and quantity of waste detected
- ☐ Generator of the waste
- ☐ Actions taken to manage unacceptable waste
- ☐ Name of personnel in charge of waste screening

12. Landfilling Operations

Typical landfilling operations include placement of waste, compaction of waste, and placement of intermediate and final cover. Indicate which operations take place at this facility:
(Check all that apply.)

☑ Compaction of landfilled waste

How often is compaction done? Once a year

Lift thickness of waste compacted: 2 m
(i.e. how deep is the waste usually piled up before compacting?)

Equipment used for compaction: Cat, Loader and Dumptruck

☐ Placement of Intermediate Cover
(to limit wind-blown litter, potential for fires, wildlife access and to improve aesthetics)

Borrow source for intermediate cover:

How often is intermediate cover placed?

Thickness of intermediate cover placement: m

Intermediate cover soil type (e.g. sand and gravel):

Select the months when intermediate cover is placed: From Month to Month

☐ Placement of Final Cover
(Placed when cells are no longer in use in order to limit infiltration, encourage re-vegetation, and limit burrowing animals).

Borrow source for final cover (if identified):

Final cover material (e.g. clay or synthetic material):

Thickness of final cover material to be placed: m

13. Litter and Wildlife Control

What strategies (other than cover placement and fencing) are used to reduce litter and manage wildlife at the facility? (Check all that apply.)

☐ Routine litter cleanup

☐ Bird deterrents

☐ Other:

14. Surface Water Management

Surface water management is typically required at SWFs to minimize surface water contact with waste and to reduce the potential for erosion and ponding. Please indicate which surface water management practices are used at the facility:
(Check all that apply.)

☐ Perimeter ditches surrounding site to manage run-on.

☐ Interior ditches and culverts to manage run-off.

☑ Positive site drainage (1 to 2%) to minimize ponding.

Describe the following, or show these items on a sketch or drawing:

- Locations of ditches or other surface water drainage structures
- Where surface water from drainage structures ends up (discharge location)
- Any locations where water collects as puddles or temporary ponds
- Where any water that isn't collected in drainage structures ends up

(Check all that apply.)

☑ Drawing attached

☐ Description (for items not on drawing):

What is the distance to the nearest fish-bearing water body (lake, river, etc.)? 675 m

15. Record-Keeping

The following are record keeping requirements related to O&M of the Solid Waste Facility and should be filed as an annual report with the MVLWB no later than the date stipulated in the water license for the previous year. The annual report should include the following items:

- A summary of monthly and annual quantities of MSW received and landfilled.

  How and where is this recorded? Hamlet Office

  Where are these records kept?

- A summary of monthly and annual quantities of hazardous waste stored on-site and transported off-site.

  How and where is this recorded? Not accepted

  Where are these records kept?

- A summary of modifications and/or major maintenance work carried out on the solid waste disposal facilities, including all associated structures.

  How and where is this recorded? Hamlet Office

  Where are these records kept?

- Tabular summaries of all data generated under the Surveillance Network Program and a copy of original lab results.

  How and where is this recorded? Hamlet Office

  Where are these records kept?

- A list of spills and unauthorized discharges.

  How and where is this recorded? n/a

  Where are these records kept?

- A summary of any closure and reclamation work completed during the year and outline of any work anticipated for the next year.

  How and where is this recorded? n/a

  Where are these records kept?

- An outline of any operator training and communication exercises carried out.

  How and where is this recorded? Hamlet Office

  Where are these records kept?

Are records of repairs kept?

⊙ Yes ○ No

Are records of upgrades kept?

⊙ Yes ○ No

16. Inspection and Monitoring

Indicate how often the following items are inspected or monitored:

	Not Applicable	Never	Daily	Weekly	Other (specify)
Hydrocarbon contamination (e.g. oily sheen in surface water, visible stains and hydrocarbon odour near disposal areas)	○	○	○	⊙	○
Signs of burrowing animals (e.g. droppings, holes around active or previous cells, animal sightings)	○	○	○	⊙	○
Signs of large mammals/birds (e.g. droppings, animal tracks, animals sightings)	○	○	○	⊙	○
Access road condition (e.g. potholes, erosion, rutting, ponding)	○	○	○	⊙	○
Groundwater monitoring wells (e.g. condition of protective casing, protection from snow clearing activities, comparison of installation depth to current depth, ground subsidence surrounding protective casing)	⊙	○	○	○	○
Ponded water throughout site	○	○	○	⊙	○

Access control structure condition (e.g. damaged jersey barriers, damaged entrance gate)	○	○	○	⊙	○
Dead plants or other changes to vegetation near active and historical landfill cells.	○	○	○	⊙	○
Signage (vandalism, general condition)	○	○	○	⊙	○
Voltage of electric fence, if applicable (i.e. significant changes in voltage from intended design)	⊙	○	○	○	○
Vegetation growth and litter around electric fence, if applicable (may cause a short in the current flow)	⊙	○	○	○	○
Erosion on side slopes of active and closed cells and within surface water conveyance structures	○	○	○	⊙	○
Sedimentation and vegetation of drainage structures (e.g. blockage of culverts with gravel, plant growth in ditches)	○	○	○	⊙	○
Other monitoring activities (describe):	○	○	○	○	○

17. Hazardous Waste Management

There are two main sources of hazardous waste generated in a community:

I. Hazardous waste from the Industrial, Commercial, and Institutional Sector; and
II. Household hazardous waste from residents.

Communities are not required to accept hazardous waste from the industrial/commercial/institutional sector. The industrial/commercial/institutional sector is required to transport their hazardous waste to a registered receiving facility. **Community disposal facilities are cautioned to register as hazardous waste receivers with ENR prior to accepting hazardous waste from the industrial/commercial/institutional sector.** Note that some water licences do not allow for municipalities to accept hazardous waste from the industrial/commercial/institutional sector that is generated outside of municipal boundaries.

Any spill of hazardous waste or other hazardous materials, such as fuel, must be immediately reported to the 24-Hour Spill Report Line at (867) 920-8130, or by fax, email, or by filling out a form online. Additional information can be found on ENR's website: http://www.enr.gov.nt.ca/programs/hazardous-materials-spills/reporting-spills (or from http://www.enr.gov.nt.ca, click Programs, then Hazardous Materials Spills).

In the event of an **emergency involving dangerous goods**, call the Spill Report Line first. If there is no answer and you need help, you can call CANUTEC at 613-996-6666 or *666 on a cellular phone. For regulatory questions about Transportation of Dangerous Goods, you can find general contact information for CANUTEC and Transportation of Dangerous Goods regional offices online at: https://www.tc.gc.ca/eng/canutec/menu.htm

Household hazardous waste typically includes, but is not limited to, items such as used oil, paint, batteries, leftover cleaners, solvents, pesticides, thermostats, waste fuel, and aerosol cans that are generated by residents in their homes (see attached list).

How does the community collect and safely dispose of household hazardous wastes?

We don't accept hazardous waste

Who is the contact for inspections and record-keeping for hazardous waste at the SWF?

Name	Phone	Email
Darren Nasogaluak	8670690-3026	hamlet_finance@northwestel.net

Role/Responsibilities

Hamlet Foreman

Describe the frequency of inspections and how records of inventories are maintained.

Not recorded in detail

Hazardous waste information

Asbestos: Exposed asbestos fibres from construction and demolition debris present a risk to human health. The risks to human health are lowered to safe levels when asbestos is properly packaged according to the conditions set by the Worker Safety and Compensation Commission. Once this has taken place, a hole must be dug in advance of acceptance and the asbestos needs to be buried immediately. The location needs to be documented to prevent future disturbance. Further details can be found in ENR's document *Guideline for the Management of Waste Asbestos* (attached).

Lead-acid batteries are commonly found in vehicles. Both the lead and the acid are contaminants. Batteries in good condition can be stacked on pallets and banded or shrink-wrapped for transportation when enough have been collected to make shipping worthwhile. Store broken batteries in a pail or other container to prevent spills and avoid contact with battery acid. Further details can be found in ENR's document *Guideline for the Management of Waste Batteries* (attached).

Glycols: Waste antifreeze (Ethylene Glycol) is generated from vehicle maintenance. Propylene glycol is more common to the industrial/commercial sector where it is used for heating larger buildings. Glycols can be stored in pails or drums until the quantity warrants shipping. Further details can be found in ENR's document *Guideline for the Management of Waste Antifreeze* (attached).

Hydrocarbon-contaminated soil, snow, and water that result from spills or contaminated sites are managed as a hazardous waste in the NWT. Hydrocarbons include diesel, heating oil, gasoline, and other petroleum products. Communities wanting to store or treat contaminated soil, snow, or water may need to amend their water licence. Contact ENR for guidance on developing appropriate facilities.

Mercury is a severely toxic contaminant. Disposal needs to be reduced to levels as low as reasonably achievable. Thermostats, thermometers, mercury switches and fluorescent lamps all contain mercury. They can be safely stored in clearly marked pails. Drum-top crushing equipment can be used to remove the mercury from fluorescent bulbs. Other types of mercury-containing lights (i.e. street lamps or high intensity discharge lamps from the industrial/commercial sector) require specialized disposal methods and usually need to be transported to southern receiving facilities. For further information, see ENR's document *Guide to Recycling Mercury-Containing Lamps* (attached).

Oily debris can consist of rags, sorbent material, or containers used to store or clean up oil. These materials are contaminants that cannot be added to a typical soil treatment facility, but need to be kept segregated from other waste.

Ozone depleting substances (ODS), also referred to as halocarbons, are chemicals mainly used in air conditioning and refrigeration equipment. The release of these substances depletes the ozone layer and is prohibited. Refrigerants need to be recovered by a trained technician prior to disposal of items containing refrigerants, including refrigerators, freezers and vehicles. Specific training is required for anyone servicing equipment containing ODSs and halocarbon alternatives. For more information, see ENR's document *Environmental Guideline for Ozone Depleting Substances (ODS's) and Halocarbon Alternatives* (attached).

Paint: Paint can contain a number of hazardous chemicals, including lead. Whenever possible, paint should be used rather than disposed of. If it can't be used, the disposal method depends on the type of paint (check the label). Oil-based paint should be stored in approved 205 litre drums, ready for shipping. Latex paints can be landfilled after they are completely dried out (they can be spread out on a board or sheet to dry). Industrial/commercial paints usually need specialized treatment methods and should not be collected at the community SWF. Check ENR's document *Guideline for the Management of Waste Lead and Lead Paint* (attached) for more information.

Propane tanks and aerosol cans are regulated as a dangerous good and are a potential explosion hazard at all times. Propane tanks can be returned to the retailer or supplier for safe storage and transport. Trained staff can safely evacuate the propane gas, making the tanks safe for scrap metal. Large propane tanks and other compressed gas canisters from the industrial/commercial sector should not be collected at the community SWF.

Residue Fuel Tanks / Heating Oil Tanks / Residue Drums: Fuel storage tanks and drums often contain residue (e.g. sludge at the bottom), or may still contain flammable vapours. Tanks must be properly emptied prior to disposal as scrap metal. Empty drums need to be stored on their sides to prevent water from accumulating.

Used oil can be used as feedstock for a used oil furnace if the testing and other conditions in the *Used Oil and Waste Fuel Management Regulations Plain Language Guide* (attached) are met. Used oil can be stored in clearly labelled good quality tanks or drums. Do not let drums or pails be contaminated with glycol or solvents. Do not accept excessive volumes from the industrial/commercial sector.

Waste Fuel: Residents generate waste fuel from the use of gas-powered equipment and need a local disposal option. Waste fuel from residents can be bulked into UN-approved steel drums at Household Hazardous Waste collection events, or on a daily basis. The decision to accept waste fuel from residents on a daily basis requires appropriate screening methods to screen out incompatible materials from residents and excessive volumes of fuel or solvents from the industrial/commercial/institutional sector.

Vehicles: End-of-life vehicles contain antifreeze, batteries, fuel, mercury switches and other lubricating fluids that are considered hazardous waste and need to be removed. Once the hazardous materials are removed, the rest of the vehicle can be treated as scrap metal. Refrigerants from air conditioning systems will need to be removed by a trained technician.

Indicate which hazardous wastes are accepted at the facility:
(Check all that apply.)

In the "maximum quantity stored onsite" column, indicate how much of each material is allowed to accumulate before the material is shipped out.

	Accepted from the residential sector	Accepted from the industrial or commercial sector	Maximum quantity stored onsite	If there are alternate facilities available for residential disposal, specify the name and location of the facility:
Asbestos	☐ Yes	☐ Yes	n/a	
Lead-acid batteries (e.g. car batteries)	☑ Yes	☐ Yes		
Waste antifreeze/glycols	☐ Yes	☐ Yes		
Hydrocarbon-contaminated soil, snow, and water	☐ Yes	☐ Yes		
Mercury-containing equipment	☐ Yes	☐ Yes		
Oily debris	☐ Yes	☐ Yes		
Ozone-depleting substances (ODS), halocarbons, or refrigerants	☑ Yes	☐ Yes		
Paint	☐ Yes	☐ Yes		

	Accepted from the residential sector	Accepted from the industrial or commercial sector	Maximum quantity stored onsite	If there are alternate facilities available for residential disposal, specify the name and location of the facility:
If paint is accepted:	Describe methods used to screen out paint types that are not accepted:			
	Describe methods used to segregate (keep separate) different types of paint (e.g. acrylic (latex), oil-based, and lead-amended):			
Propane tanks	☐ Yes	☐ Yes		
Residue fuel tanks, heating oil tanks, residue drums	☑ Yes	☐ Yes		
If tanks and drums are accepted:	Describe conditions for acceptance (e.g. do they have to be punctured, drained, sludge removed, etc. before the facility will take them?)			
Used oil	☐ Yes	☐ Yes		
Waste fuel	☐ Yes	☐ Yes		
Vehicles (from which batteries, fluids and mercury switches have not been removed)	☐ Yes	☐ Yes		

How is hazardous waste stored to prevent spills and leaks? How is it secured to keep people from coming in contact with it and ensure public safety?

Primary containment is the container in which materials are stored, such as a drum, bag, bin, box, tote, or pallet.
Secondary containment may include a lined berm/dyke, metal box, concrete box or other physical barrier surrounding the primary containment.
Other methods to prevent spills and leaks may include storage arrangements such as "stored upright on pallets", handling procedures, or other ways of preventing spills.
Security measures may include separately fenced areas, locked structures, or other methods.

If a material is not accepted at the facility, skip that line.

	Primary containment	Secondary containment	Other method to prevent spills and leaks (specify):	Security measures:
Lead-acid batteries	None	n/a		
Waste antifreeze/glycols	n/a	n/a		
Mercury-containing equipment	n/a	n/a		
Oily debris	n/a	n/a		
Ozone-depleting substances (ODS), halocarbons, or refrigerants	None	n/a		
Paint	n/a	n/a		
Propane tanks	n/a	n/a		
Residue fuel tanks, heating oil tanks, residue drums	None	n/a		
Used oil	n/a	n/a		

Waste fuel	n/a	n/a		
Vehicles	n/a	n/a		

Skip any questions for materials that are not accepted at the SWF.

Describe the location of **asbestos** burial within the facility.

Describe the plan for record-keeping and mapping of **asbestos** disposal.

Describe what measures are taken to ensure that **fluorescent bulbs** are stored in dry conditions.

Describe what measures are taken to prevent breakage of **mercury-containing equipment**.

Describe procedures for removal of **ozone-depleting substances (refrigerants)** from refrigerators, air-conditioners, and other items. Indicate how frequently this work is done.

Describe methods used to clean **fuel tanks and drums containing fuel residues** prior to disposal.

Describe methods used to remove hazardous materials (batteries, fluids and mercury switches) from **vehicles**. Indicate how frequently this work is done.

How are regular inspections of hazardous materials done, and how frequently are inspections done (e.g. daily, weekly, monthly)?

Weekly with garbage drop off

How are records of inspections and inventories of materials maintained? Who (i.e. which staff position) is responsible for inspections?

Records not kept

Is there any existing documentation that outlines the engineering details and operation of the **hydrocarbon-contaminated soil, snow, and water** treatment/storage facility?

○ Yes ⊙ No

If yes, provide details on existing documentation:

Prepared by (name of company or person that wrote the document):

Title of document:

Location of document (where is the plan kept, or where can a copy be obtained?):

If no, describe the criteria for accepting **hydrocarbon-contaminated soil, snow and/or water** (e.g., laboratory analysis, movement documents, etc.)

Not accepted

How are the following hazardous materials ultimately disposed of?

	Not applicable	Landfilled at site	Managed at site (but not landfilled)	Shipped out for recycling or disposal	Other (specify)
Asbestos	⊙	○	○	○	○
Lead-acid batteries	○	○	○	○	⊙ Stored for future recycling
Waste antifreeze/glycols	⊙	○	○	○	○
Mercury-containing equipment	⊙	○	○	○	○
Oily debris	⊙	○	○	○	○
Ozone-depleting substances (ODS), halocarbons, or refrigerants	○	○	○	○	⊙ Stored for future recycling
Paint	⊙	○	○	○	○
Propane tanks	⊙	○	○	○	○
Residue fuel tanks/drums	○	⊙	○	○	○
Used oil	⊙	○	○	○	○
Waste fuel	⊙	○	○	○	○
Vehicles	⊙	○	○	○	○

18. Tipping Fees

Indicate the waste categories for which tipping fees are charged:
(Check all that apply.)

- ☐ General MSW
- ☐ Household hazardous waste (see list in Appendix A)
- ☐ Industrial/commercial waste (e.g. from contractors or businesses) not including hazardous waste
- ☑ Other: No tipping fees

Indicate the hazardous materials for which tipping fees are charged:
(Check all that apply.)

- ☐ Asbestos
- ☐ Lead-acid batteries
- ☐ Glycols
- ☐ Hydrocarbon-contaminated soil, snow, or water
- ☐ Mercury-containing equipment
- ☐ Oily debris
- ☐ Ozone-depleting substances (refrigerants)
- ☐ Paints
- ☐ Propane tanks
- ☐ Fuel tanks and drums containing fuel residues
- ☐ Vehicles Containing Batteries, Fluids and Mercury Switches

19. Closure and Post-Closure Plan

When the SWF reaches capacity or the community decides to stop using the SWF, it is necessary to complete a closure and post-closure plan for the facility. A closure plan is a detailed document that describes how the facility would be shut down and designed to prevent or minimize impacts to the receiving environment. Typically, a closure plan includes placing final cover over the landfill to prevent water (surface water and precipitation) from infiltrating through the waste, diverting surface water away from the landfill cell, re-vegetating the landfill cover and decommissioning any buildings and facilities. A post-closure plan describes a long-term plan to maintain and monitor the closed site to verify whether the design features are working as designed and protecting the environment. Some aspects of closure and

post-closure, such as groundwater and landfill gas monitoring, may be incorporated into the design or operation of a facility.

Typically, these plans need to be submitted for review by the Land and Water Board a minimum of six months prior to carrying out the work outlined in the plan, but your water licence may specify a different requirement.

Has an **interim closure and reclamation** plan been completed for the SWF? (This plan may be required for closure activities prior to final closure of the entire site.)

○ Yes ⊙ No

If yes, please provide the following information for the plan:

Prepared by (name of company or person that wrote the plan):

Title of document:

Completion date:

Location of document (where is the plan kept, or where can a copy be obtained?):

Has a **final closure and reclamation** plan been completed for the SWF? (This plan is required prior to final closure of the facility.)

○ Yes ⊙ No

If yes, please provide the following information for the plan:

Prepared by (name of company or person that wrote the plan):

Title of document:

Completion date:

Location of document (where is the plan kept, or where can a copy be obtained?):

The Mackenzie Valley Land and Water Board

www.mvlwb.com

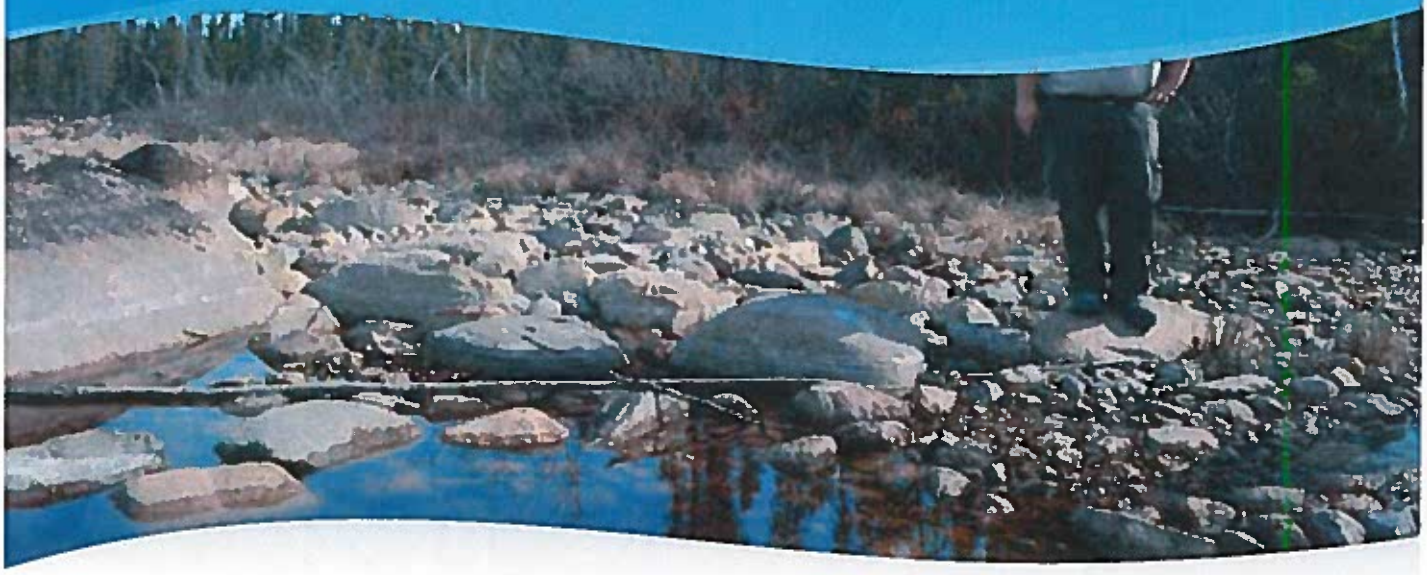
Box 2130
7th Floor - 4922 48th Street
Yellowknife, NT X1A 2P6

Phone: (867) 669-0506
Fax: (867) 873-6610

MVLWB / GNWT

Operation and Maintenance Plan Templates for Municipal Water Licences: Spill Contingency Plan

November 10, 2015



Mackenzie Valley Land and Water Board

SAHTU LAND & WATER BOARD

Wek'èezhìi Land and Water Board

Northwest Territories

Operation & Maintenance Plan Template – Spill Contingency Plan

If you have any questions about this document, please contact your regional Manager of Community Infrastructure Planning.

1. Site & Systems Description

Community: Sachs Harbour

Which facilities do these plans cover? Include only facilities where the community would be responsible for responding to a spill. (Check all that apply.)

- ☑ Water Treatment Plant (WTP)
- ☑ Solid Waste Facility (SWF)
- ☑ Wastewater Treatment System (WWTS), specify type:
  - ○ Mechanical Plant ○ Natural Lake Lagoon ○ Engineered Lagoon ⊙ Exfiltration System
- ☐ Bulk Fuel Storage Facility
- ☑ Community Garage
- ☐ Swimming Pool
- ☐ Landfarm at separate location from SWF
- ☐ Other (specify):

Attach a map showing the **location of each facility** (multiple facilities can be shown on one map, or you can use separate maps). Include any additional community fuel storage locations, such as an airport fuel facility. Show the **municipal boundaries** on each map. Show the **location of fuel and other hazardous materials** stored at each site. If applicable, show the location of the **fuel and pump for a seasonal reservoir fill**.

☐ Map(s) attached

2. Spill Contingency Plan (SCP)

2.1 SCP – Introduction

What is the Effective Date of the Spill Contingency Plan? 2011 02 11 (yyyy/mm/dd)

This Spill Contingency Plan is effective from the date shown above until such time that an updated contingency plan is in place. Updated plans should include a list of all revision dates and a brief summary of the changes made to the plan. In the event of a spill during a period of review this plan shall take precedence. This plan applies to all operations and activities conducted within the municipal boundaries of Sachs Harbour . This Spill Contingency Plan was developed to comply with the Environmental Protection Act. R.R.N.W.T. 1990,c.

2.2 SCP – Revisions

The Spill Contingency Plan should be updated annually, at a minimum, to reflect changes such as fuel storage locations, new hazardous materials on site, new construction and new personnel and contact information. **Use the following table to record a summary of revisions each year.** Add new pages as needed.

Date of Revision (yyyy/mm/dd)	Title, Section Number, or Page Number of Revised Sections	Summary of Changes

2.3 SCP – Purpose

The purpose of this plan is to outline response actions for potential spills of any size, including a worst case scenario, for the Sachs Harbour . The plan identifies key response personnel and their roles and responsibilities in the event of a spill, as well as the equipment and other resources available to respond to a spill. It details spill response procedures that will minimize potential health and safety hazards, environmental damage, and clean-up efforts. The plan has been prepared to ensure quick access to all the information required in responding to a spill.

It is the policy of the Sachs Harbour :

- To comply with existing regulations
- To provide such protection of the environment as it is technically feasible and economically practical
- To cooperate with other groups on the protection of the environment
- To keep employees, government officials, and the general public informed

2.4 SCP – Contact Information & Responsibilities

An **immediately reportable spill** is defined as a release of a substance that is likely to be an imminent environmental or human health hazard or meets or exceeds the volumes shown in the attached table. These spills **must be reported** to the NWT 24-hour Spill Report Line at (867) 920-8130.

NWT 24-Hour Spill Line: **867-920-8130**

Provide contact information for spill response personnel. Where possible, provide additional phone numbers to ensure contacts can be reached 24 hours a day in the event of a spill.

Band Manager:

Name:	
Phone:	
Second phone:	

Senior Administrative Officer (SAO):

Name:	Stephen Wylie
Phone:	(867)690-4351
Second phone:	(867)690-3501

Maintenance Foreman:

Name:	
Phone:	(867)690-3026
Second phone:	(867)690-4351

Works Foreman:

Name:	Darren Nasogaluak
Phone:	(867)690-3026
Second phone:	(867)786-0126

Additional copies of the Spill Contingency Plan may be obtained by contacting:

Name:	Stephen Wylie	
Position:	Senior Administrative Officer	(normally SAO or Band Manager)
Phone:	(867)690-4351	
Email:	hamlet_CEO@northwestel.net	
Fax:	(867)690-4802	

Media inquiries should be directed to:

Name:	Stephen Wylie
Position:	Senior Administrative Officer
Phone:	(867)690-4351
Email:	hamlet_CEO@northwestel.net
Fax:	(867)690-4802

Who is responsible for activating the Spill Contingency Plan at each facility in the event of a spill?

	Name	Job Title	24-hour telephone number(s)
WTP			
WWTS			
SWF			
Bulk Fuel Storage Facility			
Community Garage			
Other			
Other			

2.5 SCP – Off-Site Resources

Off-site resources for assistance in the event of a spill are listed below. Assistance from outside the community may not be able to reach the site until at least the next business day.

- NWT 24-Hour spill line ..... (867) 920-8130
- GNWT Environmental Protection Division ..... (867) 873-7654
- ENR Inspector ..... Inuvik Region (867) 678-0590
- AANDC Northwest Territories Region ..... (867) 669-2440
- Environment Canada (Emergency) Yellowknife ..... (867) 669-4725
- GNWT Environmental Health Officer ..... (867) 669-8979
- RCMP (Yellowknife) ..... (867) 669-1111
- Stanton Territorial Health Authority ..... (867) 669-4111
- Dehcho Health & Social Services Authority ..... (867) 695-3815
- Medivac (Yellowknife) ..... (867) 669-4115
- Great Slave Helicopters (Yellowknife) ..... (867) 873-2081
- Matrix Helicopters (Yellowknife)..... (867) 766-3134
- Trinity Helicopters (Yellowknife)..... (867) 669-7031
- Remote Helicopters (Hay River) ..... (867) 874-6999
- Thebacha Helicopters (Fort Smith) ..... (867) 872-4354
- Air Tindi (Yellowknife) ..... (867) 669-8218 or 669-8200
- Arctic Sunwest Charters (Yellowknife) ..... (867) 873-4464

2.6 SCP – Emergency Phone & Radio Locations

Where are Emergency telephones and/or radios located?

- ☐ Water Treatment Plant
- ☐ Wastewater Treatment System
- ☐ Solid Waste Facility
- ☐ Bulk Fuel Storage Facility
- ☐ Community Garage
- ☐ Community's main office
- ☐ Other (specify):

2.7 SCP – Distribution & Storage of Spill Contingency Plan

A copy of this Spill Contingency Plan should be kept on site at each facility at all times and at the Community's main office. Indicate which locations have a copy of the Spill Contingency Plan (check all that apply):

- ☐ Water Treatment Plant
- ☐ Wastewater Treatment System
- ☐ Solid Waste Facility
- ☐ Bulk Fuel Storage Facility
- ☑ Community's main office
- ☐ Other (specify):

Which offices have received a copy of the Spill Contingency Plan as part of the formal distribution of the plan? Choose the applicable office from each menu. The address and contact information will automatically be filled in below.

Choose **Regional Land and Water Board:**	Inuvialuit Water Board
Choose **Municipal and Community Affairs** (MACA) regional office:	Inuvik
Choose **Public Works and Services** (PWS) office:	Inuvik
Choose **Health & Social Services Authority:**	Beaufort-Delta Health and Social Services Authority

Formal distribution of the Spill Contingency Plan has been made to the following offices:

Inuvialuit Water Board
P.O. Box 2531
125 Mackenzie Road
Suite 302, Professional Building
Inuvik, NT X0E 0T0
Phone: 867-678-2942
Fax: 867-678-2943

MACA Inuvik Regional Office
Bag Service No. 1
43 Distributor Street
Inuvik, NT X0E 0T0
Phone: 867-777- 7121
Fax: 867-777-7352
Toll-Free Number: 1-877-777-3322

PWS Inuvik Regional Office
Bag Service 1
Inuvik, NT X0E 0T0
Phone: 867-777-7140
Fax: 867-777-3463

Beaufort-Delta Health and Social Services Authority
Bag Service #2
285 - 289 Mackenzie Road
Inuvik, NT X0E 0T0
Phone: 867-777-8000

2.8 SCP – Community Environmental Policy

The Sachs Harbour is committed to operating in an environmentally sensitive manner, and complying with requirements of the Inuvialuit Water Board .

2.9 SCP – Potential Spill Materials Inventory

In this section, you will create a **Potential Spill Materials Inventory** by listing the hazardous materials stored at each site that could lead to a spill.

The following tables list hazardous materials on-site for each facility that may pose a spill risk, the type of storage container, the average and maximum quantities stored and their storage location. Tables are provided for the most common facilities. Use the two "Other Location" tables at the end of the section to add additional facilities such as a community pool, landfarm (other than one that is part of the Solid Waste Facility), or other facilities with chemical storage. Do not include sewage or fuel tanks installed at individual buildings or households.

Materials commonly found at each type of facility have been listed as a starting point. Skip any materials that are not used at your facility. Add any additional materials at the end of the list for each facility.

Water Treatment Plant (Do not list small quantities of reagents or calibration standards used for in-plant water testing.)

Material	Type of Storage Container	Quantity Normally Onsite (L/drums/gallons)	Maximum Quantity Onsite (L/drums/gallons)	Storage Location and Uses
Sodium Hypochlorite (liquid) and/or household bleach	pails	8 x 20L pail	12 x 20L	Water Treatment Plant, Garage
Sodium Hypochlorite (powder)				
Sodium Hydroxide (Caustic Soda)				
Vita-D-Chlor (Ascorbic Acid)				
Diesel or heating fuel	fuel tank	1000L	1000L	outside building used for heating
Aluminium sulfate or alum				
Coagulant-aid polymer				

Wastewater Treatment System

Material	Type of Storage Container or Containment	Quantity Normally Onsite (L/drums/gallons)	Maximum Quantity Onsite (L/drums/gallons)	Storage Location and Uses
Sewage or wastewater	lagoon	~5,200,000L	~5,200,000L	71*59'41"N, 125*19'25"W
Diesel or heating fuel				

Solid Waste Facility (For additional information on the hazardous waste materials listed in this section, please refer to the "Hazardous waste information" pages appended to this document.)

Material	Type of Storage Container	Quantity Normally Onsite (L/drums/gallons)	Maximum Quantity Onsite (L/drums/gallons)	Storage Location and Uses
Diesel or heating fuel	none			71*59'10"N 125*27'03'W
Household Hazardous Waste				71*59'10"N 125*27'03'W
Asbestos	none			71*59'10"N 125*27'03'W

Lead-acid Batteries				
Antifreeze or glycol				
Hydrocarbon-contaminated soil, snow, or water				
Mercury				
Oily Debris				
Halocarbons or Refrigerants				
Paint				
Propane Tanks				
Residue Fuel Tanks, Heating Oil Tanks, Drums				
Used oil				
Waste fuel				
Vehicles				

Bulk Fuel Storage Facility (If the community has additional fuel storage at the airport or elsewhere, add additional lines for the second location. For example, if you have diesel stored at two separate facilities, you will have two lines in the table for diesel.)

Material	Type of Storage Container	Quantity Normally Onsite (L/drums/gallons)	Maximum Quantity Onsite (L/drums/gallons)	Storage Location and Uses
Gasoline				
Diesel or LSDL fuel				
Jet-A				
Propane				

Community Garage

Material	Type of Storage Container	Quantity Normally Onsite (L/drums/gallons)	Maximum Quantity Onsite (L/drums/gallons)	Storage Location and Uses
Diesel or heating fuel	fuel tank	2000L	2000L	outside building heating fuel
Glycol or antifreeze	4l	50	50	LOCKED IN COLD STORAGE
Engine oil	20 l PAIL	80 PAILS	80 PAILS	SEA-CAN
Transmission fluid	20 l PAIL	10 PAILS	15 PAILS	SEA-CAN
Brake fluid	1 l	15 CONTAINERS	15 CONTAINERS	LOCKED CABINET
HYDRAULIC FLIUD	20 l PAIL	50 PAILS	50 PAILS	SEA-CAN

Other Location 1 (specify):

Material	Type of Storage Container	Quantity Normally Onsite (L/drums/gallons)	Maximum Quantity Onsite (L/drums/gallons)	Storage Location and Uses

Other Location 2 (specify):

Material	Type of Storage Container	Quantity Normally Onsite (L/drums/gallons)	Maximum Quantity Onsite (L/drums/gallons)	Storage Location and Uses

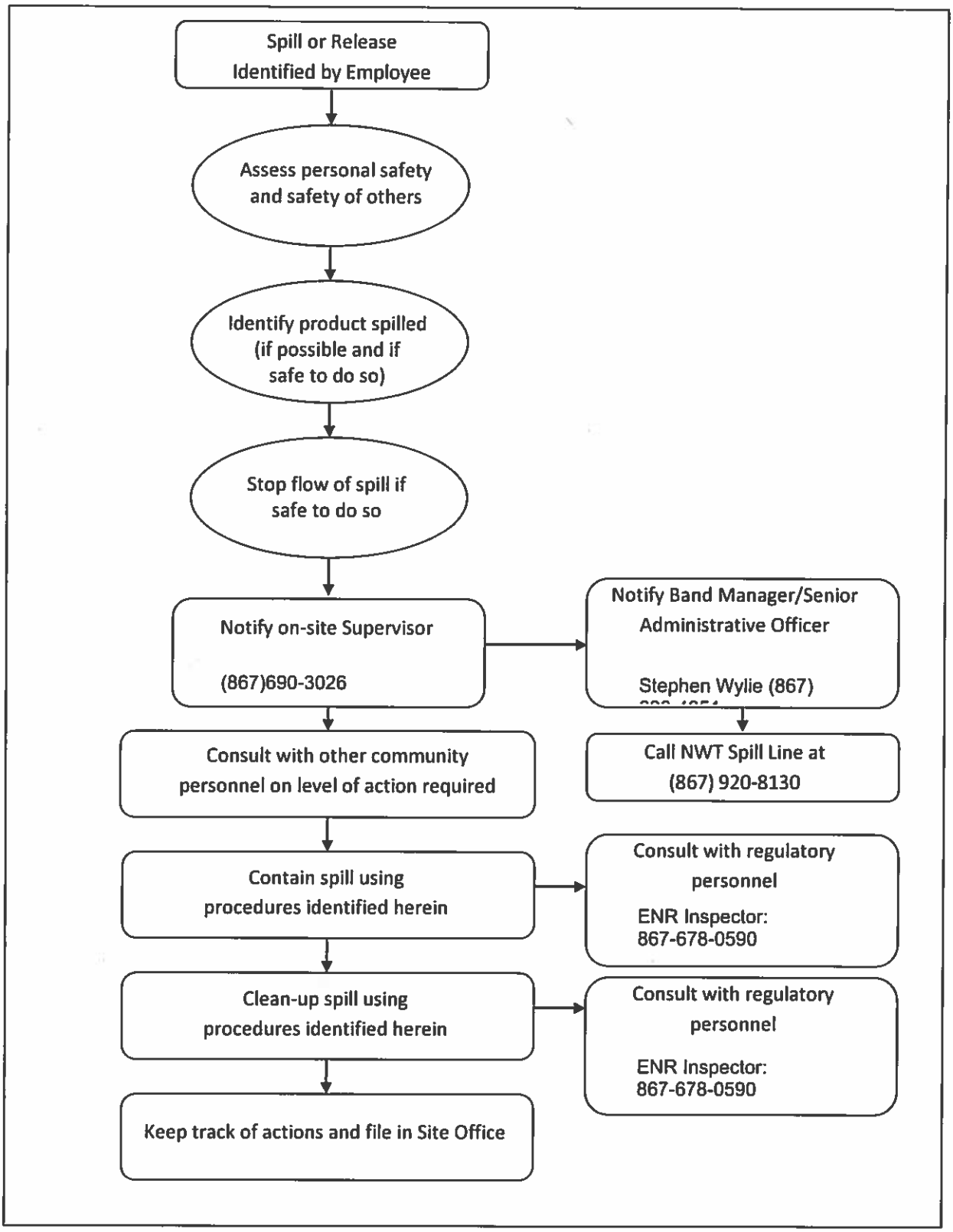
2.10 SCP – Response Flowchart

The flow chart on the following page identifies the response organization and the chain of command for responding to a spill or release.

Maintenance foreman

If Other, name:

If Other, phone:


Spill or Release Identified by Employee
Assess personal safety and safety of others
Identify product spilled (if possible and if safe to do so)
Stop flow of spill if safe to do so
Notify on-site Supervisor
(867)690-3026
Notify Band Manager/Senior Administrative Officer
Stephen Wylie (867)
Consult with other community personnel on level of action required
Call NWT Spill Line at (867) 920-8130
Contain spill using procedures identified herein
Consult with regulatory personnel
ENR Inspector: 867-678-0590
Clean-up spill using procedures identified herein
Consult with regulatory personnel
ENR Inspector: 867-678-0590
Keep track of actions and file in Site Office

2.11 SCP – Action Plan

Reservoir Fill Operation and Flammable Liquids

Is there a seasonally-filled water reservoir in the community?

○ Yes ⊙ No

If yes, which fuels, oils and chemicals are used in the filling operation? Indicate the maximum quantity stored on or adjacent to the ice, in Litres. (If no, skip this section.)

☐ Diesel fuel	Max quantity on ice:		Litres
☐ Engine oil	Max quantity:		Litres
☐ Gasoline	Max quantity:		Litres
☐ Antifreeze	Max quantity:		Litres
☐ Automatic Transmission Fluid	Max quantity:		Litres
☐ Other (specify):	Max quantity:		Litres

Where is the reservoir refill pump located?

Distance from reservoir: ☐ m

Direction from reservoir: Choose dire of reservoir

Sachs Harbour currently conducts seasonal reservoir fills. The location of the reservoir refill pump is approximately m of the reservoir. The quantity of fuel on the ice at any one time shall be limited to 205 litres in the pumps fuel tank and fuel that is in a mobile tidy tank that will only be on the ice during refueling. Fuel will be transferred from a tidy tank that is situated in the back of a truck into the tank required to operate the pump as required.

During seasonal pumping operations, the fluids listed above will be stored in close proximity to the Mackenzie River. No storage or staging of fluids other than those listed above is a part of the operation; the amount of fuel on the ice at any given time will be minimized. This will significantly reduce the size of a potential spill. All other flammable liquid spills within municipal boundaries and of municipal responsibility will be dealt with in the same manner.

Defensive Position- Reservoir Fill Operation Only

- Retain Sufficient Spill Recovery supplies onsite during pumping operations.
- Train on site personnel in spill containment and clean up.
- Provide communications during operations.
- Storage of fluids not exceeding the amounts listed above.

- Ensure that the ice is able to support the types of vehicles and equipment used in the filling operation. The GNWT Department of Transportation has published "A Field Guide To Ice Construction Safety", which is a good reference for working on ice and provides guidance on determining a safe thickness of ice for a given load. The following paragraph is from the Field Guide, Section 3.4.

"The ability of ice to support a load is dependent on a number of factors, including ice thickness, the pressure of the water below the ice as deflection develops, the way the ice formed initially, snow cover, vehicle speed and the kinds of load placed on the ice cover. The strength is different for sea and freshwater ice and is affected by the presence of cracks and sudden or extreme temperature changes. It should also be remembered that ice thickness can vary considerably from place to place and until a margin of safety is achieved, extreme caution must be exercised."

The Field Guide is available on DOT's website and should be used as guidance to determine if the ice thickness is sufficient for reservoir filling activities. People in the community who are familiar with the source waterbody should also provide information on site-specific dangers such as known areas of thin ice, which can't be predicted in a general guideline. Additional caution is needed when working with vibrating loads such as pumps, which can cause damage to the ice. If possible, these loads should be kept on shore. If this is not possible, the ice may need to be thicker, and should be monitored for damage such as cracks that may weaken it. The Field Guide provides information on cracked ice.

Response Strategy

In the event of a spill:

- **Be alert and consider safety first. If possible, identify the product spilled and the source of the spill.**
- **Assess the fire and safety hazard to human life; warn people in and around the spill area to vacate the area if necessary**
- **Shut off the source of the spill, if safe to do so.**
- **Shut off all machinery or equipment, for example: lights, motors, furnaces, truck engines that may cause sparks, etc. to start a fire, no smoking.**
- **Tend to the injured, if any.**
- **Secure the area by not letting any vehicles or persons enter the area.**
- **Use good judgment to safely stop the spill product from spreading, if possible, by creating a barrier to keep the area of spill from getting larger**
- **Notify the SAO / Acting SAO that a spill has occurred. The SAO will follow these steps:**
  Step 1: Activate the Spill Recovery Plan.
  Step 2: Consult with on-site staff and determine appropriate level of response.
  Step 3: Notify all relevant government departments using the 24-hour Spill Line.
  Step 4: Deploy appropriate staff resources, including Rubber Tire Loader, Municipal Works staff, Spill Containment Kit located as listed in section 2.13.
  Step 5: Commence spill containment and collection activities.
  Step 6: See that the contaminated materials are disposed within the solid waste disposal area.
  Step 7: Complete spill report.

Sewage Spills

The main source for a sewage spill in Sachs Harbour would be the sewage truck and/or sewage holding tanks in a home or community building. The maximum size of a sewage spill is most likely limited to the capacity of the sewage truck.

Response Strategy

In the event of a spill:

- Be alert and consider safety first. If possible, identify the product spilled and the source of the spill.
- Shut off the source of the spill, if safe to do so.
- Tend to the injured, if any.
- Secure the area by not letting any vehicles or persons enter the area.
- Use good judgment to safely stop the spill product from spreading, if possible, by creating a barrier to keep the area of spill from getting larger
- Notify the SAO / Acting SAO that a spill has occurred. The SAO will follow these steps:
  Step 1: Activate the Spill Recovery Plan.
  Step 2: Consult with on-site staff and determine appropriate level of response.
  Step 3: Notify all relevant government departments using the 24-hour Spill Line.
  Step 4: Deploy appropriate staff resources, including Rubber Tire Loader, Municipal Works staff, Spill Containment Kit located as listed in section 2.13.
  Step 5: Commence spill containment and collection activities preferably using the backup sewage truck. Use of the municipal loader is preferred for the creation of a containment berm and the collection of contaminated soil. The spill contact area is to be treated with lime and covered with soil.
  Step 6: See that the contaminated materials are disposed of within the solid waste disposal area.
  Step 7: Complete Spill Report.

General Community Operations

On a daily basis the community conducts operations that have the potential to be a small spill situation. Reporting for these spills will be in accordance with the Environmental Protection Act and the volumes outlined in the list of Immediately Reportable Spill Quantities appended to this document.

Defensive Spill Position

General community operations include:

- Retain sufficient supplies (sorbent) in community-owned vehicles and potential spill locations to contain potential spill volumes. Such as motor oil generated from servicing vehicles, gasoline and diesel from the fuelling of equipment.
- Using Storage tanks that meet the fire code and Fire Marshal's recommendations (Dyked tanks or double-walled).
- Training personnel in safe, sensible operational procedures.
- Retain minimum economic volumes of chlorine and other chemicals in the community's

possession to reduce the size of a potential spill.
- Retain Safety Data Sheets (SDS) for all chemicals in use.

Response Strategy

The response strategy would be the same as the Reservoir Fill Operation and Flammable Liquids section above, incorporating the information from the appropriate SDS.

Note: Specific chemicals have specific spill containment requirements; the SDS for these chemicals identify the procedure for its collection.

Attach SDS (or MSDS) for all chemicals, fuels, and oils used in community operations.

☐ SDS attached.

Hazardous Material Spills On-site

Indicate which of the following materials are generated or stored in your community (check all that apply):

☑ Gasoline

☑ Diesel

☑ Waste Oil and Miscellaneous Oils and Grease

☑ Sewage

Potential Environmental Impacts of Spill

Generally, for the hazardous materials discussed below, environmental impacts are lower during the winter, as snow is a natural sorbent and ice forms a barrier lining for eliminating soil or water contamination. Spills can be more readily recovered when identified and reported.

Gasoline:

Environmental Impacts:

- Harmful to wildlife and aquatic life
- Not readily biodegradable
- Has potential to bioaccumulate in environment
- Volatilizes easily
- Runoff into water bodies must be avoided

Worst Case Scenario: Fuel truck spill and contents pour onto ground and surrounding environment.

Diesel:

Environmental Impacts:

- Harmful to wildlife and aquatic life
- Not readily biodegradable
- Has potential to bioaccumulate in environment
- Burns slowly, more readily contained than volatile fuels
- Runoff into water bodies must be avoided

Worst Case Scenario: Fuel truck spill and contents pour onto ground and surrounding environment.

Waste Oil and Miscellaneous Oils and Grease:

Environmental Impacts:

- Harmful to wildlife and aquatic life
- Not readily biodegradable
- Has potential to bioaccumulate in environment
- Runoff into water bodies must be avoided

Worst Case Scenario: All oil and waste oil containers simultaneously spill and contents pour onto ground and surrounding environment.

Sewage:

Environmental Impacts:

- Human health hazard and unsightly appearance
- High nutrient concentrations could negatively impact water bodies and runoff into water bodies must be avoided

Worst Case Scenario: All oil and waste oil containers simultaneously spill and contents pour onto ground and surrounding environment.

Procedures for Initial Actions

The following list of actions should be followed by the first person on the scene:

- Ensure safety of all personnel
- Identify the product spilled
- Assess the hazards and risks to persons in the vicinity of the spill
- Remove all sources of ignition
- If possible, without further assistance, control the danger to human life
- If it is safe to do so, and if possible, stop the spill (i.e. shut off pump, replace cap, tip drum upward, etc.)
- Gather information on the status of the situation, including:
  - Estimated size of spill
  - Estimated migration route
- Contact on site Supervisor.

Spill Reporting Procedures

Spills should be reported immediately to the onsite Supervisor, who will notify the SAO and Band Manager. Together they will determine if the spill is to be reported to the NWT 24-Hour Spill Line at 867-920-8130, based on the volumes in the Immediately Reportable Spill Quantities table at the end of this document.

Copies of the Spill Report form are available in each spill kit and at the end of this document. The form will be filled out by the onsite Foreman (or designate), and faxed or emailed to the NWT Spill Line. Contact information is as follows:

NWT 24-Hour Spill Line
Phone: (867) 920-8130
Fax: (867) 873-6924
Email: spills@gov.nt.ca

Procedures for the Protection of Human Health and Safety

Following a spill, the health and safety of workers as well as the general public is a priority. Actions taken will depend on the type of spill.

- In the event of a chemical spill: Restrict public access to the spill area. Workers involved in the clean-up of the spill should wear personal protective equipment (PPE).
- In the event of a flammable or combustible material spill: Disconnect electrical equipment, evacuate adjacent buildings and restrict public access to the spill area. Only spark-arresting equipment should be used during clean-up of the spill. PPE should also be worn by workers involved in the clean-up.
- In the event of a sewage spill: Restrict public access (including pets and animals) to the spill area.

Procedures for Containing and Controlling Spills

General procedures noted below will be used to contain and control all spills. Specific procedures for spills on land, water, snow and ice follow.

- First anticipate what will be affected by the spill.
- Assess direction and speed of spill, and any factors that could affect these (water, wind and slope).
- Determine best location for containing spill, avoiding any water bodies.

Containment of Spills on Land:
Dykes and trenches can be constructed to contain spills on land. Soil surrounding the spill area can be dug out, and piled up, to create a barrier for the spill. A plastic tarp can be placed at the base of the dyke, so that the pooled material can be removed with sorbent materials. Conversely, trenches can be excavated to permafrost, which will provide a natural containment of the spill. Once the material is contained, it can be pumped out, or removed by using sorbent materials. If the spill is moving very slowly, such structures

may not be necessary and the material can be removed before migrating away from the spill location.

Containment of Spills on Water:
Spills on water are considered the most serious types of spills, as there is often no containment of the spilled material and water quality and aquatic life are negatively impacted. Booms, weirs, sediment curtains and fencing can be installed to contain the spill. Booms are designed to float, and are made of absorbent material to soak up the spilled fuel. They are deployed from the shore or a boat, to create a circle around the spill or to contain a spill from migrating further into the receiving water bodies. Weirs are installed across creeks/drainages, to prevent further migration. Plywood or other materials found onsite can be used. Barriers made of fence or netting can be used as well, with sorbent material placed at the base of the barrier. Once contained, the fuel can be removed by absorbent materials, pumped out or allowed to volatilize.

Containment of Spills on Snow:
Snow acts as a natural sorbent for spilled fuel. Impacted snow is easily visible, and can be shoveled into empty drums or barrels for proper disposal. If the spill is migrating down a hill, a snow dyke can be constructed to contain the spill. A plastic tarp can be placed at the base of the dyke, where spilled fuel is expected to pool. The collected fuel and impacted snow can be removed with absorbent materials, pumped out, or shoveled into barrels for disposal.

Containment of Spills on Ice:
Ice is considered impermeable to fuel, so these spills are generally easy to clean up. Small spills can be cleaned up by placing absorbent materials on top of the ice. Impacted snow and slush can then be removed by shovels, and placed in barrels for disposal. For larger spills, dykes of snow and trenches can be constructed to contain the spill. Pooled fuel can then be removed by absorbent materials or pumped out. Impacted snow and slush can be shoveled into barrels for disposal.

Worst Case Scenarios:
Worst case scenarios include a dyke or trench overflowing and a large spill on water that cannot be contained with materials available in the community. In the first case, a trench or collection pit could be constructed downstream to collect the fuel. In the second case, an emergency response team would need to be called, with appropriate equipment to deal with the spill.

Procedures for Transferring, Storing and Managing Spill Related Wastes

Spills are generally cleaned up starting at the outer limit of the spill, and working towards the point of the spill. Sorbent materials and hand tools such as cans and shovels are used for smaller spills. Larger spills can be contained with the use of a pump and/or heavy equipment.

Spill wastes include used absorbent materials and containers of impacted water and snow. Sorbent materials should be placed in plastic bags for proper disposal. The containers of impacted water and snow should be sealed and stored until disposal at an approved facility can be arranged. For most of the containment procedures, spilled petroleum products and materials used for containment will be placed into empty waste oil containers and sealed for proper disposal at an approved disposal facility.

Following a spill, all used materials need to be properly washed and/or replaced.

Procedures for Restoring Affected Areas

Once a spill has been contained, community personnel will consult with the Inspector assigned to the file to determine the level of clean-up required. The Inspector may request that a site specific study be conducted, to ensure appropriate clean-up levels are met.

After clean-up has been completed, the community should follow up with the NWT 24-hour Spill Line to ensure that the spill report file has been closed. Closure of the spill file provides evidence that the spill was cleaned up to the regulator's satisfaction. This will help prevent the spill from being considered an environmental liability for the community in the event of a change of ownership, refinancing, or closure of the site. A copy of the spill report marked "Closed" can be provided on request for the community's files. The Spill Line also keeps copies of these reports on file.

2.12 SCP – Resource Inventory

In this section, you will create a **Resource Inventory** by identifying the supplies and equipment available for spill response at each facility.

What earth-moving and other equipment is available in the community for spill cleanup (for any or all facilities)? (Check all that apply, list any additional equipment.)

☑ Loader ☑ Excavator ☑ Backhoe ☑ Bobcat

☑ Bulldozer ☑ Dump truck ☑ Fuel truck

☑ Shovels or other hand tools

☐ Other (specify):

Which facilities have spill kits? (Check all that apply.) Indicate where the spill kit is stored at each facility. Give enough detail for a person to find the spill kit if they don't know where it is. How many litres of spilled oil/fuel are the spill kits designed to contain and collect?

☑ Water Treatment Plant	Location:	generator room	Volume:	350 L
☐ Wastewater Treatment System	Location:		Volume:	L
☐ Solid Waste Facility	Location:		Volume:	L
☐ Bulk Fuel Storage Facility	Location:		Volume:	L

☑ Community Garage Location: boiler room Volume: 350 L

☐ Other (specify):

Additional volumes will be accommodated with the use of absorbent products that will be maintained in inventory in sufficient quantities.

What is included in the spill kit for each facility? Check all materials that apply for each facility. (The typical quantity is shown for information only and all kits should have sufficient material for expected spill volumes at each site.)

Item	Typical Quantity	Qty at WTP	Qty at WWTS	Qty at SWF	Qty at Bulk Fuel Storage Facility	Qty at Community Garage	Other (specify): Hamlet Office	Other (specify):
Tyvek splash suits	4	☐	☐	☐	☐	☑	☐	☐
Chemical master gloves	4	☑	☐	☐	☐	☑	☐	☐
Large bags with ties for temporary use	10	☐	☐	☐	☐	☑	☐	☐
Oil-only booms (5 in by 10 ft)	2	☑	☐	☐	☐	☑	☐	☐
Oil-only mats (6 in x 20 in)	50	☑	☐	☐	☐	☑	☐	☐
Sorbent socks	5	☑	☐	☐	☐	☑	☐	☐
Sorbent pads	10	☑	☐	☐	☐	☑	☐	☐
Large tarps	2	☐	☐	☐	☐	☑	☐	☐
Duct tape (roll)	1	☐	☐	☐	☐	☑	☐	☐
Utility knife	1	☐	☐	☐	☐	☑	☐	☐

Field notebook and pencil	1	☑	☐	☐	☐	☑	☐	☐
Rake	1	☐	☐	☐	☐	☑	☐	☐
Pick axe	1	☐	☐	☐	☐	☑	☐	☐
Aluminum scoop shovels	3	☐	☐	☐	☐	☑	☐	☐
Instruction binder	1	☑	☐	☐	☐	☑	☐	☐
Copies of the NWT Spill Report form to be completed in the event of a spill	1 or more	☐	☐	☐	☐	☐	☑	☐

2.13 SCP – Training

The Department of Environment and Natural Resources schedules a few training sessions each year for spill contingency. Selected members from the community works department can attend these training sessions. Once key personnel have the fundamental information, training sessions will be conducted as a part of the normal operation of the community.

Training will be conducted on an as-needed basis.

Where are training records kept? Hamlet Office

For each facility, indicate the training items that are done. (Check all that apply.)

Training	WTP	WWTS	SWF	Bulk Fuel Storage Facility
All individuals working at the facility are required to participate in an orientation session.	☑	☑	☑	☐
During the orientation, all locations of the Spill Contingency Plan and spill kits are indicated.	☐	☐	☐	☐
During the orientation, an overview of the Spill Contingency Plan is provided.	☐	☐	☐	☐

Specific training sessions, including mock spill exercises, are scheduled for individuals directly involved with handling hazardous materials.	☐	☐	☐	☐
All facility operators are required to have their basic first aid training, as well as WHMIS training, before working on the site.	☑	☑	☑	☐
A spreadsheet is kept by the Band Manager or Senior Administrative Officer at the Community head office indicating the training undertaken by the facility operator, and expiry dates for specific training.	☑	☑	☑	☐

Hazardous waste information

Asbestos: Exposed asbestos fibres from construction and demolition debris present a risk to human health. The risks to human health are lowered to safe levels when asbestos is properly packaged according to the conditions set by the Worker Safety and Compensation Commission. Once this has taken place, a hole must be dug in advance of acceptance and the asbestos needs to be buried immediately. The location needs to be documented to prevent future disturbance. Further details can be found in ENR's document *Guideline for the Management of Waste Asbestos* (attached).

Lead-acid batteries are commonly found in vehicles. Both the lead and the acid are contaminants. Batteries in good condition can be stacked on pallets and banded or shrink-wrapped for transportation when enough have been collected to make shipping worthwhile. Store broken batteries in a pail or other container to prevent spills and avoid contact with battery acid. Further details can be found in ENR's document *Guideline for the Management of Waste Batteries* (attached).

Glycols: Waste antifreeze (Ethylene Glycol) is generated from vehicle maintenance. Propylene glycol is more common to the industrial/commercial sector where it is used for heating larger buildings. Glycols can be stored in pails or drums until the quantity warrants shipping. Further details can be found in ENR's document *Guideline for the Management of Waste Antifreeze* (attached).

Hydrocarbon-contaminated soil, snow, and water that result from spills or contaminated sites are managed as a hazardous waste in the NWT. Hydrocarbons include diesel, heating oil, gasoline, and other petroleum products. Communities wanting to store or treat contaminated soil, snow, or water may need to amend their water licence. Contact ENR for guidance on developing appropriate facilities.

Mercury is a severely toxic contaminant. Disposal needs to be reduced to levels as low as reasonably achievable. Thermostats, thermometers, mercury switches and fluorescent lamps all contain mercury. They can be safely stored in clearly marked pails. Drum-top crushing equipment can be used to remove the mercury from fluorescent bulbs. Other types of mercury-containing lights (i.e. street lamps or high intensity discharge lamps from the industrial/commercial sector) require specialized disposal methods and usually need to be transported to southern receiving facilities. For further information, see ENR's document *Guide to Recycling Mercury-Containing Lamps* (attached).

Oily debris can consist of rags, sorbent material, or containers used to store or clean up oil. These materials are contaminants that cannot be added to a typical soil treatment facility, but need to be kept segregated from other waste.

Ozone depleting substances (ODS), also referred to as halocarbons, are chemicals mainly used in air conditioning and refrigeration equipment. The release of these substances depletes the ozone layer and is prohibited. Refrigerants need to be recovered by a trained technician prior to disposal of items containing refrigerants, including refrigerators, freezers and vehicles. Specific training is required for anyone servicing equipment containing ODSs and halocarbon alternatives. For more information, see ENR's document *Environmental Guideline for Ozone Depleting Substances (ODS's) and Halocarbon Alternatives* (attached).

Paint: Paint can contain a number of hazardous chemicals, including lead. Whenever possible, paint should be used rather than disposed of. If it can't be used, the disposal method depends on the type of paint (check the label). Oil-based paint should be stored in approved 205 litre drums, ready for shipping. Latex paints can be landfilled after they are completely dried out (they can be spread out on a board or sheet to dry). Industrial/commercial paints usually need specialized treatment methods and should not be collected at the community SWF. Check ENR's document *Guideline for the Management of Waste Lead and Lead Paint* (attached) for more information.

Propane tanks and aerosol cans are regulated as a dangerous good and are a potential explosion hazard at all times. Propane tanks can be returned to the retailer or supplier for safe storage and transport. Trained staff can safely evacuate the propane gas, making the tanks safe for scrap metal. Large propane tanks and other compressed gas canisters from the industrial/commercial sector should not be collected at the community SWF.

Residue Fuel Tanks / Heating Oil Tanks / Residue Drums: Fuel storage tanks and drums often contain residue (e.g. sludge at the bottom), or may still contain flammable vapours. Tanks must be properly emptied prior to disposal as scrap metal. Empty drums need to be stored on their sides to prevent water from accumulating.

Used oil can be used as feedstock for a used oil furnace if the testing and other conditions in the *Used Oil and Waste Fuel Management Regulations Plain Language Guide* (attached) are met. Used oil can be stored in clearly labelled good quality tanks or drums. Do not let drums or pails be contaminated with glycol or solvents. Do not accept excessive volumes from the industrial/commercial sector.

Waste Fuel: Residents generate waste fuel from the use of gas-powered equipment and need a local disposal option. Waste fuel from residents can be bulked into UN-approved steel drums at Household Hazardous Waste collection events, or on a daily basis. The decision to accept waste fuel from residents on a daily basis requires appropriate screening methods to screen out incompatible materials from residents and excessive volumes of fuel or solvents from the industrial/commercial/institutional sector.

Vehicles: End-of-life vehicles contain antifreeze, batteries, fuel, mercury switches and other lubricating fluids that are considered hazardous waste and need to be removed. Once the hazardous materials are removed, the rest of the vehicle can be treated as scrap metal. Refrigerants from air conditioning systems will need to be removed by a trained technician.

Immediately Reportable Spill Quantities

TDG Class	Substance for NWT 24 Hour Spill Line	Immediately Reportable Quantities
1	Explosives	Any amount
2.3	Compressed gas (toxic)	
2.4	Compressed gas (corrosive)	
6.2	Infectious substances	
7	Radioactive	
None	Unknown substance	
2.1	Compressed gas (flammable)	Any amount of gas from containers with a capacity greater than 100 L
2.2	Compressed gas (non-corrosive, non-flammable)	
3.1	Flammable liquids	> 100 L
3.2		
3.3		
4.1	Flammable solids	> 25 kg
4.2	Spontaneously combustible solids	
4.3	Water reactant	
5.1	Oxidizing substance	> 50 L or 50 kg
9.1	Miscellaneous products or substances excluding PCB mixtures	
5.2	Organic peroxides	> 1 L or 1 kg
9.2	Environmentally hazardous	
6.1	Poisonous substances	> 5 L or 5 kg
8	Corrosive substances	
9.3	Dangerous wastes	
9.1	PCB mixtures of 5 or more ppm	> 0.5 L or 0.5 kg
None	Other contaminants (e.g., crude oil, drilling fluid, produced water, waste or spent chemicals, used or waste oil, vehicle fluids, waste water, etc.)	> 100 L or 100 kg
None	Sour natural gas (i.e., contains H2S), sweet natural gas	Uncontrolled release or sustained flow of 10 min or more

Note: In addition, all releases of harmful substances, regardless of quantity, are to be reported to the NWT spill line if the release is near or into a water body, is near or into a designated sensitive environment or sensitive wildlife habitat, poses imminent threat to human health or safety, poses imminent threat to a listed species at risk or its critical habitat, or is uncontrollable.

Source: AANDC, *Guidelines for Spill Contingency Planning*. April 2007

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
Tel: (867) 920-8130 • Fax: (867) 873-6924 • Email: spills@gov.nt.ca

REPORT LINE USE ONLY

A	Report Date: MM / DD / YY	Report Time:	☐ Original Spill Report OR ☐ Update # _____ to the Original Spill Report	**Report Number:**
B	Occurrence Date: MM / DD / YY	Occurrence Time:		
C	Land Use Permit Number (if applicable):		Water Licence Number (if applicable):	
D	Geographic Place Name or Distance and Direction from the Named Location:		Region: ☐ NT ☐ Nunavut ☐ Adjacent Jurisdiction or Ocean	
E	Latitude: _____ Degrees _____ Minutes _____ Seconds		Longitude: _____ Degrees _____ Minutes _____ Seconds	
F	Responsible Party or Vessel Name:		Responsible Party Address or Office Location:	
G	Any Contractor Involved:		Contractor Address or Office Location:	
H	Product Spilled: ☐ Potential Spill	Quantity in Litres, Kilograms or Cubic Metres:	U.N. Number:	
I	Spill Source:	Spill Cause:	Area of Contamination in Square Metres:	
J	Factors Affecting Spill or Recovery:	Describe Any Assistance Required:	Hazards to Persons, Property or Environment:	
K	Additional Information, Comments, Actions Proposed or Taken to Contain, Recover or Dispose of Spilled Product and Contaminated Materials:			

L	Reported to Spill Line by:	Position:	Employer:	Location Calling From:	Telephone:
M	Any Alternate Contact:	Position:	Employer:	Alternate Contact Location:	Alternate Telephone:

REPORT LINE USE ONLY

N	Received at Spill Line by:	Position:	Employer:	Location Called:	Report Line Number:

Lead Agency: ☐ EC ☐ CCG/TCMSS ☐ GNWT ☐ GN ☐ ILA ☐ AANDC ☐ NEB ☐ Other: _____

Significance: ☐ Minor ☐ Major ☐ Unknown

File Status: ☐ Open ☐ Closed

Agency:	Contact Name:	Contact Name:	Remarks:
Lead Agency:			
First Support Agency:			
Second Support Agency:			
Third Support Agency:			

The Mackenzie Valley Land and Water Board

www.mvlwb.com

Box 2130
7th Floor - 4922 48th Street
Yellowknife, NT X1A 2P6

Phone: (867) 669-0506
Fax: (867) 873-6610