# MVLWB

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

November 10, 2015

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:

Latitude:

Longitude:

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

Role/Responsibilities

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: _____

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:

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

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:

## 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.

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) | ○ | ○ | ○ | ○ | ○ | ○ |

| | | | | | | |
|---|---|---|---|---|---|---|
| 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) | ○ | ○ | ○ | ○ | ○ | ○ |
| 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?

## 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: [ ] people

Population in 10 years: [ ] 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.

○ Surveyed volume of remaining empty space: _____ $m^3$

○ 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?

○ Yes ○ 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: _____

☐ 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? _____

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

Equipment used for compaction: _____

☐ 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.)? _____ 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?

  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?

  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?

  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?

  Where are these records kept?

- A list of spills and unauthorized discharges.

  How and where is this recorded?

  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?

  Where are these records kept?

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

  How and where is this recorded?

  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?

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

| Name | Phone | Email |
|---|---|---|
| | | |

Role/Responsibilities

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

**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 | | |

| | | | | |
|---|---|---|---|---|
| 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 | n/a | 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 | n/a | n/a | | |
| Paint | n/a | n/a | | |
| Propane tanks | n/a | n/a | | |
| Residue fuel tanks, heating oil tanks, residue drums | n/a | 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)?

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

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.)

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 | ○ | ○ | ○ | ○ | ○ |
| Waste antifreeze/glycols | ○ | ○ | ○ | ○ | ○ |
| Mercury-containing equipment | ○ | ○ | ○ | ○ | ○ |
| Oily debris | ○ | ○ | ○ | ○ | ○ |
| Ozone-depleting substances (ODS), halocarbons, or refrigerants | ○ | ○ | ○ | ○ | ○ |
| 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: _____

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

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