Operations and Maintenance Manual

for the

Wastewater Treatment Facility

Hamlet of Clyde River

Chapter 7 – Spill Contingency Plan

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Spill Response Plan
Wastewater Treatment Facility
Clyde River, Nunavut

Prepared for:

Hamlet of Clyde River, Nunavut
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1.0 Introduction

Trow Associates Inc. was retained by Hamlet of Clyde River (Hamlet) in Nunavut to prepare a Spill Response Plan (SRP) as part of the permitting process for the ongoing management of the Hamlet's wastewater treatment facility. This SRP also demonstrates the Hamlet's stewardship in environmental management.

The purpose of the SRP is to address potential environmental spill incidents that may occur during the routine operation of wastewater facility. The SRP is designed to be protective of the local natural environment.

The SRP includes a review of appropriate government acts and regulations, the identification of foreseeable spill scenarios, spill response procedures and general health, safety and emergency response requirements necessary when conducting activities that may require contact with the subsurface materials. The SRP does not replace any Health & Safety protocols, procedures, etc. already established by the Hamlet but rather is intended to be complimentary to existing protocols.

Situations may arise during the site work that are beyond the scope of the safety procedures stated in this document. In such a situation, it may be necessary to stop on-site work until a revised procedure or SRP is prepared to reflect the changing conditions.

It is recommended that all persons involved with on-site operations read the SRP. If there are any questions regarding any aspect to this document, individuals are encouraged to contact Trow for additional information or clarification.

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2.0 Site Description

The wastewater treatment system for the Hamlet of Clyde River includes two sewage lagoon cells and a natural wetland leading to Patricia Bay.

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3.0 Regulations

The Environmental Protection Act (R-068-93) requires that all spill response plans include:

- The name, address and job title of the owner or person in charge, management or control of the facility;
- The name, job title and 24-hour telephone number for the person(s) responsible for activating the spill response plan;
- A description of the facility, a description of the type and amount of contaminants normally stored at the facility and a site map of the facility;
- The steps to be taken to report, contain, clean up and dispose of contaminants in the case of a spill;
- The means by which the spill response plan is activated;
- A description of the training provided to employees to respond to a spill;
- An inventory of and the location of response and clean-up equipment available to implement the spill response plan;
- The date the spill response plan was prepared.

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4.0 Contacts & Regulatory Authorities

The following table includes the contact information for the persons responsible for the facilities. The persons listed below should be contacted in the event of a spill at any of the facilities under their supervision.

Table 1: Municipal Contacts

Name	Job Title	24-Hour Telephone #
Joe Smith	(eg. Facility Manager)	867-
John Smith	(eg. Facility Owner)	867-

In each instance that a spill is identified, the Hamlet of Clyde River and the Emergency Spill Hotline should be contacted as soon as possible. A NT-NU Spill Report Form (Appendix B) should also be completed and faxed to the Emergency Spill Hotline. The necessity to contact the other agencies will be contingent upon direction from the Emergency Spill Hotline.

Hamlet of Clyde River: Phone: 867-934-8830

Emergency Spill Hotline: Phone: 867 920-8130, Fax 867 873-6924

In addition to the local contacts described above, the following table summarizes the additional regulatory authorities that have a vested interest in the event of a spill.

Table 1 Additional Agencies

Agency	Legislation	Contact Phone #
Nunavut Water Board	Nunavut Waters and Surface Right Tribunal Act	(867) 360-6338 Fax: (867) 360-6369
Nunavut Impact Review Board	Nunavut Land Claims Agreement Act	(867) 983-2593
Environment Canada	Canadian Environmental Protection Act, 1999	(867) 975-4464
Transport Canada (Coast Guard)	Transportation of Dangerous Goods Act	(867) 979-5269 Officer in charge: (876) 979-5260 Fax: (867) 979-4260
Department of Fisheries and Oceans	Fisheries Act	(867) 645-2871

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5.0 Potential Contaminants and Spill Scenarios

Potential spill scenarios are dependant on the types and volumes of materials that are being used on the sites and the activities being carried out. For the purpose of this SRP, spill sizes are described as small (<10 litres), medium (>10 litres and <100 litres) or large (>100 litres).

- The materials (potential contaminants) that are anticipated to be used on the site include gasoline, diesel fuel, hydraulic oil, motor oil and other lubricants, antifreeze and coolants.

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6.0 Reportable Spill Quantities

In the event of a spill, the following table is to be used as a guide to determine if the spill should be reported to the proper authorities. Any spilled quantities that exceed the specified amounts must be reported to the **Emergency Spills Hotline**. Spills of any quantity that occur near or into fish-bearing waters or sensitive environment, wildlife or habitat must be reported. In addition, spills of any quantity that pose an immanent threat to human health or life or listed species at risk or critical habitat must also be reported. It is recommended that any spill of significant size be reported and the advice received should be followed.

Table 2
Reportable Quantities[1]

Item	TDGA[2] Class	Contaminant	Amount Spilled
1	2	Explosives	Any amount
2	2.1	Compressed Gas (flammable)	Any amount of gas from containers with capacity greater than 100 kg
3	2.2	Compressed Gas (non-corrosive, non-flammable)	Any amount of gas from containers with capacity greater than 100 kg
4	2.3	Compressed Gas (toxic)	Any amount
5	2.4	Compressed Gas (corrosive)	Any amount
6	3.1, 3.2, 3.3	Flammable Liquid	100 L
7	4.1	Flammable Solid	25 kg
8	4.2	Spontaneously Combustible Solids	25 kg
9	4.3	Water Reactant Solids	25 kg
10	5.1	Oxidizing Substances	50 L or 50 kg
11	5.2	Organic Peroxides	1 L or 1 kg
12	6.1	Poisonous Substances	5 L or 5 kg
13	6.2	Infectious Substances	Any amount
14	7	Radioactive	Any amount

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Item	TDGA Class	Contaminant	Amount Spilled
15	8	Corrosive Substances	5 L or 5 kg
16	9.1(in part)	Misc. products or Substances Excluding PCB Mixtures	50 L or 50 kg
17	9.2	Environmentally Hazardous	1 L or 1 kg
18	9.3	Dangerous Wastes	5 L or 5 kg
19	9.1(in part)	PCB Mixtures of 5 or More Parts Per Million	0.5 L or 0.5 kg
20	None	Other Contaminants	100 L or 100 kg

Notes:

1) Environmental Protection Act, Consolidation of Spill Contingency Planning and Reporting Regulations

2) TDGA Class – Transportation of Dangerous Goods Class under the *Transportation of Dangerous Goods Act*.

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7.0 Spill Response Procedures

The following section describes the appropriate spill response procedures that should be followed in the event of a spill to various media (bedrock, gravel, soil, water, ice or snow).

7.1 Spills on Land

For spills on land (soil, gravel, sand, rock, and vegetation), the following procedure should be followed;

1. Extinguish all sources of ignition (i.e., shut off engines, no smoking).
2. If possible, identify the spilled material.
3. Make sure the area is safe for entry and the spill does not represent a threat to the health or safety of the responder or others at the spill site.
4. Assess whether the spill can be readily stopped or brought under control and if safe and possible, stop the source of the spill (i.e., plug hole, close valve, install upright container) or place tarp under spill source and build up tarp edges to contain spill.
5. If the spill is sufficiently large that it cannot be controlled with the materials at hand, the spill should be reported immediately.
6. Stop spilled liquids from spreading or entering waterways using absorbent materials or a soil dyke down slope from the spill.
7. Contact facility supervisor and report the spill.
8. If possible with materials at hand, clean up remaining spilled material and store in a secure container for disposal. Do not flush area with water.
9. If possible, pump any contained liquid into drums.
10. Complete a Spill Reporting Sheet.
11. **Contact: Emergency Spill Hotline: Phone: 867 920-8130, Fax 867 873-6924** for additional advice.

7.2 Spills on Water

For spills on water, the following procedure should be followed

1. Extinguish all sources of ignition (i.e., shut off engines, no smoking).
2. If possible, identify the spilled material.

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3. Make sure the area is safe for entry and the spill does not represent a threat to the health or safety of the responder or others at the spill site.

4. Assess whether the spill can be readily stopped or brought under control and if safe and possible, stop the source of the spill (i.e., plug hole, close valve, upright container).

5. If the spill is sufficiently large that it cannot be controlled with the materials at hand, spill report the spill immediately.

6. Use sorbant booms to contain spill for recovery, place sorbant sheets on water within boomed perimeter. For narrow waterways, place one or more booms across the waterway, down stream of the spill location and anchor boom ends on each bank. Store saturated sorbant sheets and booms in drums for disposal.

7. Contact facility supervisor and report the spill.

8. If possible with materials at hand, clean up remaining spilled material and store in a secure container.

9. Complete a Spill Reporting Sheet.

10. **Contact: Emergency Spill Hotline: Phone: 867 920-8130, Fax 867 873-6924** for additional advice.

7.3 Spills on Snow and Ice

Spills on ice present the potential for immediate access of the contaminants to water therefore, immediate response to the spill is essential. For spills on snow and ice, the following procedure should be followed:

1. Extinguish all sources of ignition (i.e., shut off engines, no smoking).

2. If possible, identify the spilled material.

3. Make sure the area is safe for entry (i.e., ice thickness) and the spill does not represent a threat to the health or safety of the responder or others at the spill site.

4. If the spill is sufficiently large that it cannot be controlled with the materials at hand, the spill should be reported immediately.

5. Assess whether the spill can be readily stopped or brought under control and if safe and possible, stop the source of the spill (i.e. plug hole, close valve, install upright container) or place tarp under spill source and build up tarp edges to contain spill.

6. Stop spilled liquids from spreading or entering waterways using absorbent materials or a snow/soil dyke.

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7. Contact facility supervisor and report the spill.

8. If possible with materials at hand, clean up remaining spilled material and store in a secure container (i.e., drum, polyethylene bags). Store impacted snow in drums for disposal.

9. **Contact: Emergency Spill Hotline: Phone: 867 920-8130, Fax 867 873-6924** for additional advice.

7.4 Additional Spill Delineation/Monitoring

As a result of a large spill in which not all of the spilled material can be readily recovered as described above, additional delineation in the form of a subsurface investigation (i.e., test pits, boreholes, monitoring wells) may be required to determine the lateral and vertical extents of the impacts to the subsurface soil and/or groundwater. The additional delineation/monitoring information will be used to develop an appropriate remediation plan. In such cases, a qualified environmental consultant should be retained to provide advice with respect to how to proceed with the additional assessment.

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8.0 Spill Kit and Training Requirements

The following section presents the recommended minimum requirements for the content and number of spill kits that should be present.

8.1 Spill Kit

Each spill kit should be inspected regularly to ensure that it contains, as a minimum, the following:

- 1 – 205 litre, open top steel drum with a lid, bolting ring and gasket;
- 1 Spark proof shovel;
- 1 package of 10 disposable 5 mil polyethylene bags (approx. 65 cm x 100 cm);
- 4 – 12.5 cm (approx. 5”) x 3 m (approx. 10’) sorbant (oil-absorbing) booms;
- 10 kg bag of sorbant particulate;
- 1 bail of 50 cm x 50 cm (approx.) sorbant sheet (100 Sheets/bail);
- 1 x 5m x 5m approx. plastic tarp;
- 2 pairs of oil resistant gloves; and,
- 2 pairs of splash protective goggles.

8.2 Additional Spill Response Supplies

In addition to the materials contained in the spill kits, an inventory of the following supplies should be available for use if required.

- 10 – 205 litre, open top steel drum with a lid, bolting ring and gasket;
- 2 Spark proof shovels;
- 5 packages of 10 disposable 5 mil polyethylene bags (approx. 65 cm x 100 cm);
- 10 – 12.5 cm x 3 m sorbant (oil-absorbing) booms;
- 5 x 10 kg bags of sorbant particulate;
- 5 bails of 50 cm x 50 cm (approx.) sorbant sheet (100 Sheets/bail);

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- 2 pairs of oil resistant gloves; and,
- 2 pairs of splash protective goggles.

8.3 Spill Kit Locations

The spill kit, with the exception of the shovel, can be contained within the 205 L drum which should be sealed securely to protect the contents. The drum should also be accessible without the use of tools (i.e., bolt ring only finger tight). The bolt ring should be inspected regularly to ensure that it turns freely and lubricated if it does not.

8.4 Training

To ensure the effectiveness of the SRP the following actions should be followed:

1. The SRP should be up dated as required and reviewed, as a minimum, on an annual basis.
2. The SRP should be distributed to the personnel on the site.
3. The personnel should be informed of the locations of all potentially hazardous materials and their associated Material Safety Data Sheets (MSDS).
4. The personnel should be trained in the use of the MSDS and the techniques and materials used to contain and remediate spilled materials.
5. The personnel should be informed as to the importance of first response with respect to the protection of human health and safety, the environment, property, wildlife and the ecosystem by reducing the impact of spills.

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9.0 General Safety Practices and Site Rules

The following is a list of site rules that should be followed to maintain safe working conditions during a spill response:

1. Eating, drinking, chewing gum and smoking are prohibited in contaminated or potentially contaminated areas, or where the possibility for the transfer of contamination exists. This would include areas of active excavation.

2. Personnel who have worked on-site shall wash their hands and face thoroughly with soap and water and remove themselves from the spill area prior to eating, drinking or smoking.

3. All field crew workers should be aware of potentially dangerous situations that they should avoid (i.e. the presence of strong, irritating or nauseating odours). Field crew workers should also be familiar with the physical characteristics of the site including:

    - wind direction in relation to areas of known contamination;
    - accessibility to equipment and vehicles;
    - communications; and,
    - site access.

Table 3
Outside Emergency Contacts

Agency	Function	Phone Number
Ambulance	medical emergency	(867) 979-4422
Hospital	medical emergency	(867) 979-7350
Fire	fire, accident or rescue	(867) 979-4422
Police	security, vandalism	(867) 979-5211
Hamlet of Clyde River	On-site Supervisor	(867) 975-8502

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10.0Closure

This Spill Response Plan has been prepared for information purposes for the use of the Hamlet of Clyde River. It does not replace, nor is intended to replace, the general provision of the applicable Federal and Territorial statutes regarding workplace safety or any protocols previously established by Hamlet of Clyde River. Instead, it may be used to augment any existing Spill Response Plans.

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