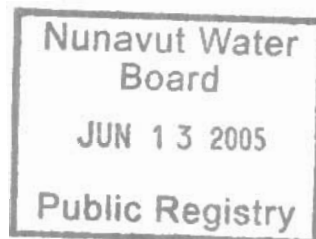


City of Iqaluit

Spill Contingency Plan

Updated: November, 2004



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1.0 INTRODUCTION

The purpose of this spill contingency plan is to outline a formal practical response system which can be implemented immediately in the event of a deleterious material, such as sewage or fuels, being spilled to the natural environment. **The scope of the document includes spills resulting from activities carried out by the City of Iqaluit or from the failure of a system component in the City's infrastructure only.** This plan is intended to promote the safe handling of potentially hazardous materials to minimize health hazards, environmental damage and clean up costs. The plan is written so it can be easily understood and be reasonably comprehensive in providing access to all information required for handling a spill.

Included with this plan is a one page "If You Discover a Spill" response sheet that is intended to be carried in City vehicles and posted in municipal work areas. In an emergency situation, prompt action is important and quick access to a response checklist may reduce the seriousness of a spill.

A sites plan has been included in Appendix A showing the existing layout of all buildings and waste handling/disposal facilities in the City.

2.0 REPORTING PROCEDURES

City of Iqaluit employees have access to mobile radios and key personnel can be reached through dispatch by pager on a 24-hour basis. The dispatch number is monitored 24 hours a day. **All spills that are determined to be the responsibility of the City and only these spills are reported to the dispatch number.**

All spills exceeding reportable quantities are to be reported immediately to the NWT 24-hour Spill Report Line (867)920-8130. Spill Report Line personnel will provide direction and will ensure that an investigation is undertaken by the appropriate government authority. Appendix C contains a listing of material and the quantities that are reportable in the event of a spill:

The following are contact numbers for municipal response personnel:

CITY OF IQALUIT			
CONTACT	PAGER #	WORK #	CELL #
Dispatch	N/A	979-5650	
Chief Administrative Officer (CAO)	N/A	979-5666	N/A
Director of Public Works	N/A	975-8509	975-1877
Operations Superintendent, Public Works	N/A	979-5653	975-1774
Director of Engineering	N/A	975-8501	N/A
Fire Chief	45	979-5657	975-1446
Chief By-Law	N/A	979-5670	975-1930
Utilidor Foreman	32	979-5648	975-1443
Garage/Roads Foreman	12	979-5638	975-1463
Truck Sewer Water Foreman	N/A	979-5612	975-1473

Equipment may be dispatched for City spill clean-up by the Director of Public Works only. As and when contracts are negotiated on a yearly basis with local contractors to provide equipment and manpower to the City of Iqaluit. See Appendix G for a list of current as and when contracts.

The 24-Hour Spill Line is currently being run by the GNWT-Resources, Wildlife and Economic Development division. Callers to the spill line **will** be provided with expert advice regarding hazardous materials spills. The personnel at the spill line will also ensure that the government agencies with jurisdiction over the spill are contacted.

EXTERAL ASSISTANCE – GOVERNMENT RESOURCES	
AGENCY	TELEPHONE #
24-Hour Spill Line	(867)920-8130

The effectiveness of this spill contingency plan will greatly depend upon the following factors:

- The proper distribution of the plan to those personnel most likely to encounter a spill or release of deleterious substance during the course of their normal work,
- Training of these same personnel as to the objectives and contents of this plan and how they should react upon encountering a spill or system failure that may result in a subsequent release of deleterious substances,
- Training of the response personnel as to what steps they are required to take in the event of the plan being put into action

2.1 Spill Finder's Response

- a. Be alert and consider your personal safety first,
- b. Assess the hazard to persons in the vicinity of the spill and where possible take action to control danger to human life. If possible, identify the material or products involved in this particular incident,
- c. If the spill creates a fire, explosion or other hazard to human life, remove all potential ignition sources, if possible, evacuate the area, contact the RCMP,
- d. If safe and practical try to take appropriate action to stop the release of material,
- e. Contact Dispatch and report the spill,
- f. Mark the spill scene to warn the public and prevent access.

2.2 Director of Public Works Response

Once notified by the Fire Department or Dispatch, the Director of Public Works shall:

- a. Proceed to the spill location.
- b. Liaise with the Fire Chief.

The Fire Chief and Director of Public Works are then responsible to ensure the following steps are carried out:

- a. Make the necessary arrangements for first aid and removal of injured personnel. Take the necessary action, where possible, to secure the site to protect human safety.
- b. If not already done and if it is safe to do so, take the appropriate action to stop the flow or release of material. If at all possible take the necessary action to contain or prevent the spread of the spilled material,
- c. Gather information on the status of the situation,
- d. Fill out as completely as possible, a spill report form (attached) and then contact the 24 Hour Spill Line at (867) -920-8130,
- e. If required, contact the CAO.

The Director of Public Works will be the overall municipal coordinator for any spill response action, and as such he will:

- Work in conjunction with the lead agency to coordinate clean up personnel,
- Be responsible for evaluating the initial situation and assessing the magnitude of the problem,
- Activate the response plan and call out the key personnel in the response team, as deemed appropriate, to meet the situation.
- Assist in developing the overall plan of action for containment and clean up of the specific incident and delegate the responsibility for implementing the plan,
- Ensure that the assigned responsibilities are carried out and that coordination exists between supervisory team members,
- Assess the requirements for men, equipment, materials and tools to contain the spill in light of what resources are immediately available. The urgency will depend on the nature and magnitude of the spill.

Additionally, it will be the Director of Public Works responsibility to ensure that all City spill response personnel receive adequate training in order to fulfill their responsibilities as part of the spill response team.

3.0 SITE INFORMATION AND FAILURE PREVENTION

3.1 Sewage Spills

It is the purpose of this section to outline possible failures of the waste handling/treatment system and the control measures in place to prevent such failures. The location of the lift stations and force main are shown in Figure 1 in Appendix A. Material that is released due to a spill will be collected and disposed of in the sewage lagoon.

3.1.1 Sewage Lift Station

There are two lift stations currently servicing the sewage system in Iqaluit. Lift Station No. 1 is located by the break water and Lift Station No. 2 is located by the sea lift beach. In the event of a pump shut down, both sewage lift stations will eventually overflow into Koojesse Inlet. The pumps are electrically powered, and will not operate if there is a power failure.

In the event of a pump shutdown, there is approximately 20 minutes storage capacity in the wet wells before the sewage will overflow. Each lift station is equipped with fluid high level alarms that trigger auto dialers which contact the 20 Hour Dispatch number. Sewage trucks are dispatched to manually pump out the wet wells. The lift stations are equipped with diesel powered pumps and piping that may be connected for manual operation during power outages.

The lift stations are physically checked on a daily basis.

3.1.2 Sewage Force Main

The sewage force main is routed entirely beneath the ground surface and is not monitored.

3.1.3 Sewage Lagoon

The sewage lagoon is located at the head of Koojesse Inlet on the southwest side of the Municipality. Sewage is conducted to the lagoon by truck and through the force main. The inlet is located on the north side of the lagoon. Outflow from the lagoon is primarily through the west dyke, which was designed to be "leaky". Seepage through the dyke provides some level of solids removal. The effluent discharges directly into Koojesse Inlet.

3.2 Fuel and Gasoline Storage

Diesel fuel and gasoline is stored in aboveground self-contained tanks at the main municipal garage. Diesel is kept in a 20,000L tank and gasoline is kept in a 4,500L tank. Spill clean-up material at the garage consists of "Absorball" pellets which are taken to the landfill and burned after use.

A 2,000L above ground self contained tank is located adjacent to the water treatment plant. It is used to store heating fuel.

The fuel storage tanks are not located near areas that are considered environmentally sensitive.

3.3 Chlorine Gas

Chlorine gas is stored at the water treatment plant. Two class A response suites, 2 Scott pack and personal chlorine detectors are stored at this location. A fixed chlorine detector is also mounted in the storage area.

3.4 Calcium Chloride

Calcium chloride for use on the roads is stored in Tyvex bags at the main garage.

3.5 Glycol

Glycol in 45 gallon drums is stored at the main garage. There are generally no more than 10 drums present at any given time.

3.6 Hydrofluosilicic Acid

Hydrofluosilicic acid for fluoridating the City water supply is stored at the water treatment plant.

3.7 Lime

A maximum of 150 – 25lb bags of lime are stored at the water treatment center for use in controlling the pH of the municipal water supply.

3.8 Sodium Hypochlorite, 12%

Up to 12-20L containers of sodium hypochlorite are stored at the entrance to the water treatment plant.

3.9 Propane

Two 40lb propane cylinders, used to fuel the Zamboni, are stored in the Zamboni room at the arena.

4.0 Sodium Hydroxide Solution

(Caustic Soda 50%) is stored at the water treatment plant.

4.1 Carus UPZ 985

(Zinc Ortho Phosphate) is stored at the water treatment plant.

4.0 SYSTEM COMPONENT FAILURE PREVENTION

4.1 Sewage Lift Station

The lift stations are physically checked on a daily basis. The wet wells are equipped with high fluid level alarms connected to an autodialed which contacts the dispatch number. In the event of pump shutdown, the wet wells have approximately 20 minutes worth of storage capacity before they overflow.

Diesel pumps and piping are located in the stations, and may be installed for emergency operations when the electrical pumps are down. Sewage trucks are on call and may be mobilized by Dispatch in case of pump shutdown.

4.2 Sewage Force Main

The sewage force main is completely buried and is not monitored.

4.3 Sewage Lagoon

The sewage lagoon is routinely checked seven days per week for levels and leaks. If problems are suspected, the frequency of monitoring would increase.

4.4 Chlorine Gas Storage

A fixed chlorine gas detector is installed in the chlorine gas storage room.

5.0 RESPONSE TEAM, ACTION AND EQUIPMENT

Key personnel have been identified for emergency spill response. They are identified below with their key role in the event of a spill:

Director of Public Works	-	Manpower, Loaders and Trucks
Chief Administrative Officer	-	Media
Fire Chief	-	Trucks, Fire Retardant Foam and Emergency Measures Organizations

The Director of Public Works and the Fire Chief work together to coordinate the mobilization of men and equipment as required to contain the spill. The Chief Administrative Officer is in charge of coordinating the information and messages flow to the media. The Fire Chief will provide men and equipment to assist in a spill response action. If the situation is deemed to require it, the Fire Chief will call out the Emergency Measures Organization (EMO).

The following details the response to be taken in case of a spill or leak at the locations outlined in section 3.

5.1 Sewage Spills

Should a sewage spill become apparent, the Director of Public Works would be responsible to:

- Ensure the public safety at all times and if required, notify the Fire Department and CAO,
- Contact the NWT 24-hour Spill Report Line (867)-920-8130,
- Mobilize staff to determine the cause of the problem, and act to stop the release of the sewage,
- Mobilize equipment as required to contain the spill through trenching, berming, etc. to prevent sewage from entering Koojesse Inlet.
- Clean up contaminated areas with suction trucks, loaders, dump trucks and absorbent materials as required.

5.2 Fuel and Gasoline Spills

In the event of a fuel or gasoline spill, the Fire Chief would be contacted by Dispatch and would be responsible to:

- Ensure the public safety at all times and notify the Director of Public Works and the CAO.

The Director of Public Works is then responsible to:

- Contact the NWT 24-hour Spill Report Line (867)-920-8130,
- Mobilize staff to determine the cause of the problem, and to act to stop the release of the product,
- Mobilize equipment as required to contain the spill through trenching, berming, etc.
- Clean up contaminated areas with hand tools, suction trucks, loaders, dump trucks and absorbent materials as required.

5.3 Chlorine Gas Leaks

In the event of a chlorine gas leak, the Fire Chief would be contacted by dispatch and would be responsible to:

- Ensure the public safety at all times and to notify the Director of Public Works and the CAO,

The Director of Public Works is then responsible to:

- Contact the 24-hour Spill Report Line (867)-920-8130,
- Mobilize staff to determine the cause of the problem and to act to contain the material, if possible to do so in a safe manner, using the available capping tools,
- If the cylinder cannot be capped, arrange for their transport to a safe area and allow the gas to escape,
- Dispose of the faulty cylinders in such a manner as to minimize the risk to human health.

5.4 Hydrofluosilicic Acid

Spills of this material less than 5L will be cleaned up by the Water Treatment Plant Operator using acid neutralizing material. The Water Treatment Plant Operator will notify the Utilidor Foreman of the spill. For spills in excess of 5L, the Water Treatment Plant Operator will evacuate the immediate area and notify Dispatch. Dispatch will contact the Fire Department. The Fire Chief will then be responsible to:

- Ensure the public safety at all times and notify the Director of Public Works and the CAO,

Upon notification by the Fire Chief or Dispatch, the Director of Public Works will be responsible to:

- Contact the 24-hour Spill Report Line, (867)-920-8130,
- Mobilize staff to determine the cause of the problem and act to contain the material if possible to do so in a safe manner,
- Dispose of the neutralized material according to GNWT regulations.

5.5 Sodium Hypochlorite

Spills of this material less than 5L will be cleaned up by the Water Treatment Plant Operator using appropriate neutralizing material. The Water Treatment Plant Operator will notify the Utilidor Foreman of the spill. For spills in excess of 5L, the Water Treatment Plant Operator will evacuate the immediate area and notify Dispatch. Dispatch will contact the Fire Department. The Fire Chief will then be responsible to:

- Ensure the public safety at all times and notify the Director of Public Works and the CAO.

Upon notification by the Fire Chief or the Dispatch, the Director of Public Works will be responsible to:

- Contact the 24-hour Spill Report Line (867)-920-8130,
- Mobilize staff to determine the cause of the problem and act to contain the material if possible to do so in a safe manner.
- Dispose of the neutralized material according to GNWT regulations.

6.0 GENERAL SPILLS

The following sections provide general information on the handling of large volume spills to a variety of receptors. In Iqaluit, sewage and petroleum products are stored in sufficient quantities that a large volume spill could occur.

6.1 Sewage Spills

6.1.1 Containment on Land

Containment of large volume sewage spills on land is generally accomplished using minor earthworks such as earth dams or dykes and trenches.

Dykes and dams may be used to contain and direct spilled materials. The dam or dyke may be lined with a synthetic liner to render it impermeable to the spilled product. The location and size of the barrier should allow for the volume of material to be contained.

When the ground is thawed, trenches may be used to intercept and collect spilled materials. A synthetic liner may be placed on the trench floor and walls to contain the contaminant in the trench. The location and size of the trench should take into account the volume of material to be contained. Trenches placed down slope of the spill may be effective in containing both surface and subsurface movement of spilled material.

6.1.2 Containment on Surface Water

As sewage will readily mix with water it may prove impossible to contain the spill once water is reached. Strong action should be taken to prevent the material from entering a water body and to stop the material discharge at the source. Care should be taken to ensure public health and safety (eg. Protect water intakes, etc.) and the long term environmental effects of the spill should be monitored.

If the water is flowing through a drainage ditch or smaller stream, a channel should be constructed to divert the water flow around the spill area. A dam should be constructed to contain the water the sewage has already entered.

6.1.3 Containment on Ice

Containment of spills on ice will be affected by the load bearing strength of the ice. If it is determined that the ice is safe to work on, containment will be achieved using dykes and dams constructed of earth or snow. The dam or dykes should be lined with plastic to make it impermeable to the sewage. Water may be sprayed on snow dams/dykes to form a impermeable ice layer. Absorbent materials may be used in conjunction with barriers to prevent further spread and seepage.

6.1.3 Containment on Snow

Snow will readily absorb liquids, which may facilitate the removal of spilled material to a recovery or disposal site. Saturated contaminated snow may be collected relatively easily and hauled away. Compacted snow can be used to create an effective physical barrier to reduce the spread of spilled materials.

Several types of snow containment structures may be constructed to contain spilled materials. Snow dykes and dams can be erected and then lined with an impermeable liner or sprayed with water to form an impermeable ice layer. Initially the snow around the perimeter of the spill can be compacted, eg. With a snowmobile, to slow the movement of contaminants. The saturated snow can be collected with hand tools or heavy equipment and removed to the sewage lagoon for disposal.

Caution should be exercised as spilled materials can migrate under snow cover for considerable distances and not be visible from above.

6.1.4 Material Removal

Removal of the spilled sewage may be accomplished using several techniques depending on the nature of the spill. Generally, methods used include suction, mechanical removal and the application of absorbent material.

Suction methods may be used initially if there is a significant quantity of free product on the ground. Equipment used to recover material in this fashion may include vacuum trucks, portable pumps or shop vacuums.

Suction screens may be required to prevent hose plugging and possible pump drainage.

Mechanical recovery using hand tools or heavy equipment should be used to collect soils or other loose material contaminated by the sewage. Caution should be exercised when using heavy equipment on a spill site as it is possible to cause a greater environmental impact from the operation of the equipment than from the spill itself.

Recovered liquids and saturated soils will be disposed of in the sewage lagoon.

6.2 Fuel and Gasoline Spills

Extreme caution should be exercised when containing and cleaning up spilled petroleum products due to high fire and explosion hazards associated with these materials.

Depending on the size of the spill and surrounding conditions, personal protective equipment such as rubber gloves (nitrile, neoprene, butyl rubber or PVC), rubber boots (neoprene or butyl rubber), chemical safety goggles and NIOSH/MSHA approved half mask respirators with organic vapor cartridges may be required. In poorly ventilated areas where there is the potential for vapors to concentrate, the use of heavy equipment should be carefully evaluated due to the potential explosion hazard.

6.2.1 Containment on Land

Containment of large volume fuel spills on land is generally accomplished using minor earthworks such as earth dams or dykes and trenches.

Dykes and dams may be used to contain and direct spilled materials. The dam or dyke may be lined with a synthetic liner to render it impermeable to the spilled product. The location and size of the barrier should allow for the volume of the material to be contained.

When the ground is thawed, trenches may be used to intercept and collect spilled materials. A synthetic liner may be placed on the trench floor and walls to contain the contaminant in the trench. This location and size of the trench should take into account the volume of material to be contained. Trenches placed down slope of the spill may be effective in containing both surface and subsurface movement of spilled material.

6.2.2 Containment on Surface Water

As diesel fuels and gasoline are less dense than water, they will float on the surface. Spills of these materials to surface water bodies may be contained using booms and their floating devices.

In standing water, booms should be deployed to contain the floating material close to the shore, thereby facilitating contaminant recovery. If the water is flowing, the booms should be stretched across the width of the water surface and angled against the current to allow for shore side collection.

If the water is flowing through a drainage ditch or smaller stream, an underpass or water bypass dam should be constructed. An earthen dam is constructed to completely stop the flow of water. Piping is then installed to allow water to flow through below the level of the floating fuel. Alternately, a channel may be constructed to divert the water flow around the spill area. A dam should be constructed to contain the water the fuel has already entered.

Weirs constructed of sheet metal, plywood, etc. may be constructed to prevent material flow through culverts or ditches. The sheet is inserted into the stream to below the level of the fuel. The water flows under the weir and spilled material will collect at the surface for removal.

If commercial booms are not readily available, improvising booms can be constructed of virtually any material that will float and form a barrier, eg. logs, inflated fire hoses, etc. These materials may be used alone or, preferably, as supports for absorbent materials.

6.2.3 Containment on or Under Ice

Containment of spills on ice will be affected by the load bearing strength of the ice. If it is determined that the ice is safe to work on, containment will be achieved using dykes and dams constructed of earth or snow. The dam or dyke should be lined with plastic to make it impermeable to the fuel. Water may be sprayed on snow dams/dykes to form an impermeable ice layer. Absorbent materials may be used in conjunction with barriers to prevent further spread and seepage.

If the spill penetrates the ice, containment becomes more difficult. If the water beneath the ice is standing, the ice will be broken to install a containment boom.

If the water is flowing slowly, ice slotting may be used. A trench is cut into the ice downstream of the spill and at an angle to the current to deflect and concentrate the spill. Spilled material that collects in the ice slot may be pumped out, absorbed or burned in place.

Vertical barriers, e.g. plywood sheets, may be inserted into the ice to deflect the movement of spilled material. Trenches should be cut in the ice at an angle to the direction of flow. The vertical barriers are inserted in the slots and allowed to freeze into place. The extent of the under ice spill may be monitored by boring observation holes into the ice with an auger.

6.2.4 Containment on Snow

Snow will readily absorb liquids, which may facilitate the removal of spilled material to a recovery or disposal site. Saturated contaminated snow may be collected relatively easily and hauled away. Compacted snow can be used to create an effective physical barrier to reduce the spread of spilled materials.

Several types of snow containment structures may be constructed to contain spilled material. Snow dykes and dams can be constructed and then lined with an impermeable liner or sprayed with water to form an impermeable ice layer. Initially the snow around the perimeter of the spill can be compacted, eg. with a snowmobile, to slow the movement of contaminants. The saturated snow can be collected with hand tools or heavy equipment and removed to the land fill for disposal or recovery.

Caution should be exercised as spilled material can migrate under snow cover for considerable distances and cannot be visible from above.

6.2.5 Fire or Explosion

The first step to be taken at a site where there is a fire or explosion risk, or if the material is on fire is to evacuate people from the surrounding area. Dykes or trenches are then constructed down slope of the spilled material to minimize spread of unburned liquids and/or the fire. The fire may then be extinguished using suitable methods and action may be taken to prevent further spillage, contain the material and begin clean-up procedures.

6.2.5 Material Removal

Removal of the spilled fuels may be accomplished using several techniques. Generally, methods used include suction, mechanical removal and the application of absorbent material.

Suction methods may be used initially if there is a significant quantity of free product on the ground or on the surface of a water body. Equipment used to recover material in this fashion may include vacuum trucks, portable pumps or shop vacuums.

Suction screens may be required to prevent hose plugging and possible dump damage.

Mechanical recovery using hand tools or heavy equipment should be used to collect soils or other loose material contaminated by the fuel. Caution should be exercised when using heavy equipment on a spill site as it is possible to cause a greater environmental impact from the operation of the equipment than from the material itself.

Absorbents may be used to soak up petroleum product. They are commonly used for final clean-up, recovery of small amounts of fuel or to remove fuel from places which are inaccessible to other spill clean up methods. Snow and soil can be used as absorbent material for a variety of petroleum products. The saturated absorbent can be collected mechanically and moved to a suitable disposal location.

Recovered liquids will be disposed of in accordance with appropriate GNWT regulations. Saturated soils and absorbents will be transported to the landfill for disposal.

6.3 Chlorine Gas Leak

Chlorine is a very toxic gas. Appropriate personal safety equipment must be worn by personnel attempting to contain a leak. Two Class A response suites with Scott packs are located at the Fire Department for use in the event of a leak.

6.3.1 Containment and Disposal

Capping tools are available for sealing leaking cylinders. If a cylinder is capped successfully, it may be returned to the supplier for disposal. If the cylinder cannot be capped, remove the cylinder to a safe location downwind of any populated area and allow the gas to escape.

7.0 SPILL EQUIPMENT INVENTORY

7.1 Spill Equipment Inventory

The following is a listing of equipment owned by the City of Iqaluit that may be used in the event of a spill emergency. The usual location of the equipment is also indicated.

MUNICIPAL SPILL EMERGENCY EQUIPMENT	
EQUIPMENT	STORAGE LOCATION
2 Cat 950 Loaders	1 at the Municipal Garage 1 at 1552 Parking Garage
1 Rubber Tired Backhoe	Municipal Garage (outside)
2 Dump Trucks	1 at the Apex Parking Garage 1 at the Municipal Garage
1 Cat 814 Wheel Dozer	1 at the Air Bas Garage
2 Road Graders	1 at 1552 Parking Garage 1 at the Apex Parking Garage
1 Cat M322 Excavator with hammer	1 at the Municipal Garage (outside)
4 Sewage Trucks	4 at the Airbase Parking Garage
5 Water Trucks	1 at the Airbase Parking Garage 4 at the Apex Parking Garage
1 Cat 966 Loader	1 at the Apex Parking Garage

7.2 Resource Contact

The following is a listing of internal and external resources that may be contacted for aid in the event of a spill.

RESOURCES		
CONTACT	CONTACT #	RESOURCE PROVIDED
Fire Department: Volunteers	979-4422	Manpower, Trucks, Foam
Fire Department: Ambulance	979-4422	Medical, Rescue Equipment
Fire Department: EMO	979-4422	Evacuation, Rescue
24-Hour Spill Report Line	(867)-920-8130	Expert Advice
External Contractors	See Appendix G for As and When Contracts	Manpower, Equipment

8.0 TRAINING EXERCISES

Training and communication exercises should be carried on an annual basis to determine the actual readiness and ability of the City to handle a spill emergency. The exercises should be served to train key personnel and determine any weaknesses in the plan prior to the occurrence of an emergency situation. A variety of scenarios should be tested, eg. sewage spills from the force main, sewage lagoon dam failures, chlorine gas leaks, fuel spills, etc. to ensure that appropriate action can be taken quickly.

The Fire Department and the Emergency Measures Organization (EMO) currently conduct disaster training exercises in the City of Iqaluit. Neither of these groups target hazardous materials scenarios specifically, but a spill situation is often included as part of the larger exercise.

The Worker's Compensation Board will provide funding for employees to participate in hazardous materials courses if contact with hazardous materials is a component of the employee's job description. Courses available include Materials Safety Data Sheets (MSDS), Workplace Hazardous Materials Systems (WHMIS) and First Aid.

9.0 REFERENCES

Guidelines for Contingency Planning, Northwest Territories Water Board, January, 1987.

Spill Containment and Clean-up Course, Renewable Resources, Pollution Control Division, 1991.

Guidelines for the Preparation of Hazardous Material Spill Contingency Plan, Environmental Protection, Conservation and Protection, Environment of Canada, Western and Northern Region, Northwest Territories District Office, Yellowknife, NT, March 1990.

Contingency Planning and Spill Reporting in the NWT, A Guide to the New Regulations, Resources, Wildlife and Economic Development, Environmental Protection Service, 1993.

Spill Contingency Planning and Reporting Regulations, Environmental Protection Act, Government of the Northwest Territories, 1993.

Emergency Planning for Industry, CAN/CSA-Z731-95, Canadian Standards Association, 1995.

Sewage System Evaluation, Frobisher Bay, Final Report, F.J. Reinders and Associates Limited, October, 1982.

Iqaluit Sewage Lagoon Investigation – Preliminary Report, Ferguson Simek Clark, January, 1998.

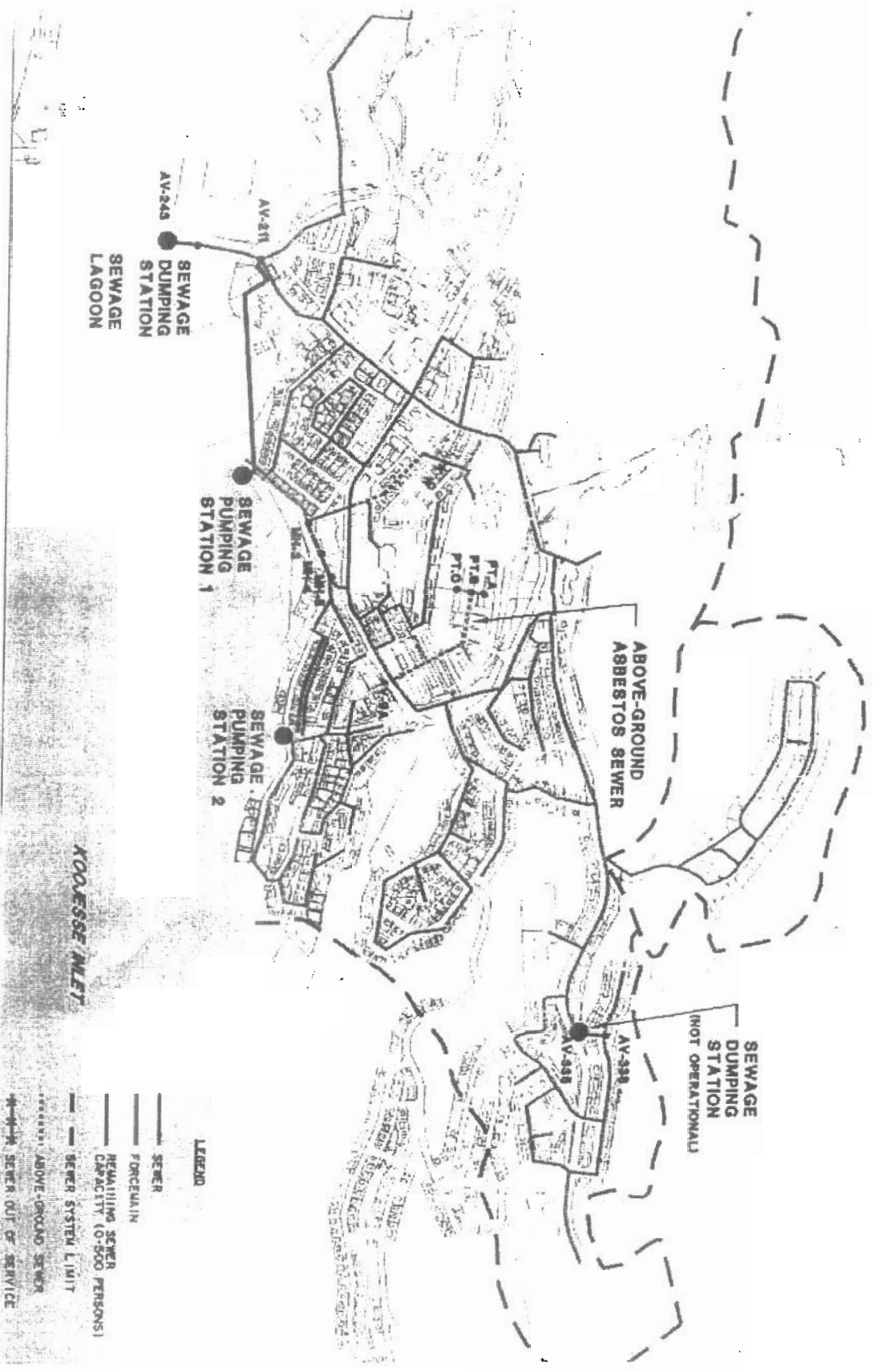
Seepage from a Sewage Lagoon, What is a Reasonable Rate? – Draft Discussion Paper, Ferguson Simek Clark, January 1998.

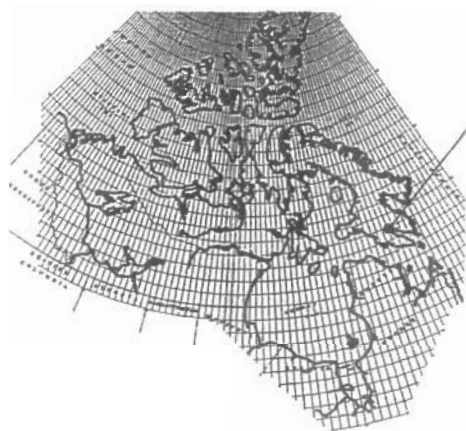
The City of Yellowknife Spill Contingency Plan, October, 1993.

APPENDIX A

City of Iqaluit Site Plan

EDIT DATE: 06/03/03 ACO FILE: 41ecp g:\cad\031338 sewer.dwg





IQALUIT



SCALE 1:10,000



KOOJESSE INLET

EDIT DATE: 06/03/03 ACAD FILE: 41cbp q:\cod\031338\location.dwg



PROJECT
SPILL CONTINGENCY PLAN, DEPARTMENT
OF PUBLIC WORKS AND SERVICES

TITLE
CITY OF IQALUIT
LOCATION PLAN

PROJECT NUMBER
03-1338

DATE
MARCH 2003

FIGURE NUMBER
FIG 1