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NUNAVUT WATER BOARD

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I. GENERAL

1. Date: October 3, 2001
2. Applicant: Hamlet of Rankin Inlet
Municipality and Region
3. Contacts: Ron Roach
Name of Contact

SAO
Position

(867) 645-2895 (867) 645-2146
Telephone # Fax #
4. Community Status: ☐ Village ☐ Town ☐ City
☒ Hamlet ☐ Settlement Corporation
5. Indicate the status of the municipality's license on the date of the application.
☐ New Application
☒ Renewal - Water License # No. N6L4-0779

II. ATTACHMENTS

1. Attach current or up-to-date detailed map(s) showing the locations of the:
 - a. raw water intake;
 - b. water storage and treatment facilities;
 - c. fuel and chemical storage;
 - d. sewage treatment facilities (lagoon, honey bag pit, wetland);
 - e. wastewater treatment area and discharge outlets;
 - f. solid waste disposal areas and drainage patterns;
 - g. hazardous waste disposal area;
 - h. transportation access routes;
 - i. existing water bodies/courses and any changes to these water bodies/courses that have or may occur as a result of water use or waste disposal facilities, locations of environmental monitoring sites. (Outline drainage basin);
 - j. Traditional use areas outlined on site map and areas around the community used for recreation, camping, fishing, etc.
 - k. abandoned and/or restored water treatment, sewage, and solid waste disposal facilities.

Are maps attached? ☐ Yes ☒ No

If no, please indicate when they will be available.

I am assuming that you already have a copy of the map, if not I will contact DPW for a copy.

Indicate which organization has provided the various maps or diagrams.

III. WATER SUPPLY

Water Source

1. Type of source: ☒ Lake ☐ River ☐ Well ☐ Other _____
2. Name of water source and alternative, if any.
 3. Nipisar Lake
Primary Source Secondary Source
3. Usual break-up & freeze-up period: June October
Break-up Freeze-up

Water Intake

1. Please provide short descriptions for the following:

a. Freshwater intake facility

Waiting for a response from DPW

b. Operating capacity of pumps used

Waiting for a response from DPW

c. Intake screen size

Waiting for a response from DPW

Water Storage

1. Type of water storage facility. (check where applicable)
☐ Reservoir/Pond ☐ Storage tank ☒ None ☐
☐ Other _____ Description: _____
2. If "reservoir" checked:

Is the reservoir lined? ☐ Yes ☒ No

What type of liner? _____ When was it installed? _____

Water Treatment

1. Indicate the quality of the water.

Summer:	<input checked="" type="checkbox"/> good	<input type="checkbox"/> fair	<input type="checkbox"/> poor
Fall:	<input checked="" type="checkbox"/> good	<input type="checkbox"/> fair	<input type="checkbox"/> poor
Winter:	<input checked="" type="checkbox"/> good	<input type="checkbox"/> fair	<input type="checkbox"/> poor
Spring:	<input checked="" type="checkbox"/> good	<input type="checkbox"/> fair	<input type="checkbox"/> poor

2. Describe.

3. Type of water treatment.

☐ Filtration and chlorination
☐ Chlorination only
☐ None
☐ Other Fluoridation

Description

Water Use And Distribution

1. Volume of water use:

Distribution	Estimated number of people on the system	Estimated average water consumption (Litres/capita/day)	Total water consumption (Litres/day)
	A	B	A x B
PIPED			
TRUCKED	20		
TOTAL			

General Condition of the water supply facilities

1. General condition of the:

- a. Water supply facility
☒ Satisfactory ☐ Unsatisfactory

If unsatisfactory, explain.

- b. Storage facility
☒ Satisfactory ☐ Unsatisfactory

If unsatisfactory, explain.

- c. Distribution system
☒ Satisfactory ☐ Unsatisfactory

If unsatisfactory, explain.

Modifications

1. Are there any changes *planned* for the water supply system?
☒ No ☐ Yes

If yes, please attach a copy of the plan, or describe changes. Provide information on the implementation schedule.

2. Does the community believe changes needed to the water supply, storage or treatment facilities? Describe.
No

Identification

Are there signs identifying drinking water sources presently used by the municipality ?

☒ Yes ☐ No

IV. SEWAGE DISPOSAL

1. What type(s) of sewage treatment does the community have?

☐ Lagoon

☒ Mechanical system

☐ Wetland

☐ Honey bag

☐ Combination/Other: describe

Lagoon (if applicable)

1. Has there been any operating problems with the lagoon?

☐ Yes ☐ No

If yes, describe

Mechanical System (if applicable)

1. Describe (type, specifications, operation and maintenance program for the mechanical wastewater treatment system).

Waiting for a response from DPW

2. Are sludges produced ?

☒ Yes ☐ No

If yes, describe how the sludges are disposed of:

It is take to the municipal dump and put into a landfill site.

Wetland(if applicable)

1. Describe the Wetland wastewater treatment system.

Honey Bag Pit

1. Does the municipality use a honey bag pit?

☐ Yes ☒ No

If yes, describe the location, drainage, and operation/maintenance of the site:

Commercial, Industrial and/or Hazardous Wastes

1. Are there any sources of commercial or industrial *liquid* waste being discharged or deposited to the wastewater treatment system that may affect the quality of the effluent or leachate produced? *(The municipality should be aware that any commercial or industrial discharge has to be approved by the municipality)*

☐ Yes ☒ No

If yes, indicate sources, types and quantities.

Sewage Discharge

1. Are fish, shell fish and other wildlife harvested in or near the discharge area ?

☐ Yes ☒ No

If yes, indicate species harvested, and level of harvest.

General Condition of the sewage treatment facilities

1. General condition of the:

- a. Sewage collection system

☒ Satisfactory ☐ Unsatisfactory

If unsatisfactory, explain.

- b. Discharge control system
☒ Satisfactory ☐ Unsatisfactory
If unsatisfactory, explain.

- c. Dams, diversion dykes, berms
☐ Satisfactory ☐ Unsatisfactory
If unsatisfactory, explain.

Modifications

1. Are there any changes *planned* in the sewage treatment facilities?
☒ No ☐ Yes
If yes, please attach a copy of the plan, or describe changes. Provide information on the implementation schedule.

2. Does the municipality or residents believe changes are needed to the sewage treatment facilities?
Describe.

Hamlet Council concerned that raw sewage is discharged to the ocean, but the Department of Public Works has told the Council it done at acceptable rates.

Abandonment and Restoration

1. List and describe abandoned or restored sewage treatment facilities.
Refer to original attachment maps.

Identification

Are there signs identifying past and present sewage disposal sites ?

☒ Yes ☐ No

V. SOLID WASTE DISPOSAL

1. Briefly describe how solid wastes are collected and delivered to the disposal area.

Hamlet has two garbage trucks that work on a schedule and collect and bring the garbage to the dump.

2. Is the solid waste site fenced? ☒ Yes ☐ No

3. Is the fence adequate? ☐ Yes ☒ No

If no, describe

Fence is being to fall down.

Waste Reduction

1. Does the municipality burn garbage ?

☐ Yes ☒ No

If yes, describe how and when this is done.

2. Has the municipality considered measures for waste reduction such as recycling or reuse?

☐ Yes ☒ No

If yes, describe

Animal Carcasses Pit

1. Does the municipality have an area for the disposal of animal carcasses ?

☒ Yes ☐ No

If yes, describe the location, drainage and operation/maintenance of the site

The spot is located at the back of the dump. When an animal is disposed of it is covered in dirt.

Waste Oil Pit

1. Describe the waste oil storage area.

Do not have an area for this. Almost all waste oil is used by a local contractor to burn in his waste oil furnace.

Bulky Scrap Metal Waste Disposal Area

1. Does the municipality have a scrap metal or bulky waste disposal area?

☒ Yes ☐ No

If yes, briefly describe its location and operation plan.

There is an area set aside for metal, but no operation plan in place.

Commercial, Industrial and/or Hazardous Wastes Disposal Area

1. Are there any commercial or industrial waste being discharged or deposited in the solid waste disposal area? *(The municipality should be aware that any discharge of commercial or industrial waste has to be approved by the municipality)*

☐ Yes ☒ No

If yes, please indicate sources, types and quantity.

2. Will the municipality use a hazardous waste disposal area?

☐ Yes ☒ No

If yes, describe its:

a. Location

b. Structure

c. Operation and maintenance (describe special handling/disposal methods for these wastes)

General Condition of the Solid Waste Disposal Area

1. Comment on the general conditions of the:

a. Solid waste disposal area

☐ Satisfactory ☒ Unsatisfactory

If unsatisfactory, explain.

The dump site has not been maintained since it was opened about fifteen to twenty years ago.

Modifications

1. Are there any changes planned for the solid waste disposal area?

☐ No ☒ Yes

If yes, attach a copy of the plan, or describe changes. Provide information on the implementation schedule.

The Hamlet is looking to open a new dump within the next two years. A study was done in 1997 by Stanley and Northtech Consulting that identified a spot for the dump. The community was consulted about the site. The Hamlet will be doing an RFP to hire a consultancy to review this plan with the community again and to ensure that the Nunavut Water Board and NIRB licences are filled out and approval is received before any work is done.

2. Are changes needed to the solid waste disposal area? Describe.

Abandonment and Restoration

1. List and describe abandoned or restored solid waste facilities.

Indicate their location on a map.

none

Identification

Are there signs identifying past and present solid waste disposal sites ?

☒ Yes ☐ No

VI. INSPECTION AND MONITORING

1. When were municipal facilities inspected by:

☒ Indian and Northern Affairs Inspector

☐ Municipal and Community Affairs

☐ Other:

Date: 2000/07/27 _____

Date: _____

Date: _____

2. Is there a system in place for reporting spills?

☒ Yes ☐ No

If yes, describe.

If anybody sees a spill it is reported to the Hamlet who would they go and investigate it with the Department of Sustainable Development.

3. Is there a contingency plan for clean up of spills?

☒ Yes ☐ No

If yes, describe.

Spill kits are available in the community. Would contain spill and remove contaminated soil and spread lime onto ground.

4. Have any spills occurred in the past five years?

☐ Yes ☒ No

If yes, describe and show on a map the locations of the spills. What action has been taken to clean the affected areas?

Monitoring Program

1. Is water sampling and analysis done ?

☒ Yes ☐ No

If Yes, answer the questions a to e

a. Briefly describe how samples are taken and sent to the laboratory.

Information provided by DPW.

b. Briefly describe any monitoring done for wastewater effluent and leachate.

Information provided by DPW.

c. Who is responsible for water sampling ?

Name: Amil Lindsay

Position: _Utilidor Systems Manager_____

Telephone #:_(867) 645-8158_____

Fax # :_(867) 645-8197_____

Level of training:_____

- d. Recognized laboratory performing analysis of samples.

Name: Taiga Environmental Laboratory_____

Address: _4601-52 Avenue, Yellowknife, NWT_____

Telephone #: _(867) 669-2788_____

Fax #: _(867) 669-2718_____

- e. Are any changes planned in the water quality monitoring program?

___ Yes _x_ No

If yes, describe.

VII. PUBLIC CONCERNS

1. What concerns does the municipality or residents have regarding the municipal water supply or waste disposal facilities? List the concerns and describe what steps have been taken to address those concerns.

The Hamlet and the community has a major concern with the location of the present dump. It is located to close to town and security is very weak. People are constantly going through the dump and ripping open garbage bags and making a mess. The fencing is falling down and the dump is the first thing you see flying into the community.

VIII. PUBLIC HEALTH *(Help may be obtained from the Regional Environmental Health Officer if you have difficulty with this section.)*

1. Date:
2. Municipality:
3. Contact: (Environmental Health Officer Contact)

Telephone #:_____

Fax # : _____

4. Have there been any problems or health/environmental concerns with drinking water ?
____ Yes ☒ No

If yes, describe

5. Have there been any problems or health/environmental concerns with sewage disposal/treatment?
____ Yes ☒ No

If yes, describe

6. Have there been any problems or health/environmental concerns with solid waste disposal?
☒ Yes ____ No

If yes, describe

Same as stated earlier.

Monitoring Program

1. Does the Regional Health Board perform water quality sampling?
____ No ☒ If Yes, answer questions (a) to (e)

- a. Briefly describe the sampling methodology.

DPW takes the samples and the Health Board does the testing.

- b. Briefly describe any monitoring of wastewater effluent and leachate.

c. Who is responsible for sampling ?

Name:

Position:

Telephone #:

Fax # :

Level of training:

d. Recognized laboratory performing analysis of samples.

Name:

Address:

Telephone #:

Fax # :

e. Are any changes planned in the water quality monitoring program?

☐ Yes ☐ No

If yes, describe.

IX. TECHNICAL INFORMATION *(Assistance may be obtained from the Regional Community Government (CG&T) office if you have difficulty with this section).*

1. Date:

2. Municipality:

3. Contact:

(Community Government and Transportation Representative)

Telephone #

Fax #

4. Population (according to most recent census results):
5. Estimated growth rate over next 5 years:
6. Has any baseline data collection and evaluation been undertaken with respect to the physical, biological, and chemical characteristics of the main water bodies in the area?
☐ Yes ☐ No

If yes, provide a summary of program details or site title, authors, cities, and dates:

Prepared by

Title

Completion Date

If no, are such studies being planned?

☐ No ☐ Yes (If yes, when and by whom):

7. Have Elders been consulted in the collection of baseline data on main water bodies in the area?
☒ No ☐ Yes

If yes, specify.

8. Has any baseline data collection and evaluation been undertaken with respect to the various biophysical components of the environment potentially affected by the project?
☒ No ☐ Yes

If yes, provide details below.

Prepared by

Title

Completion Date

If no, are such studies being planned?

☒ No ☐ Yes.

If yes, specify:

Attachments

1. Attach detailed plan or drawing(s) of the present *solid waste disposal area*. Include the following information:
 - a. details of pond size and elevation;
 - b. details of all retaining structures (dimensions, materials of construction, etc.);
 - c. details of the drainage basin, and existing and proposed drainage modifications;
 - d. details of all decant, siphon mechanisms etc., including sewage treatment facilities;
 - e. details regarding direction and path of wastewater flow from the area;
 - f. distance from watercourses and fish bearing waters;
 - g. location and construction of liners;
 - h. leachate and groundwater collection systems; and
 - i. control structures.
2. Attach detailed plan or drawing(s) of the present *sewage treatment system*. The drawing(s) should include the following:
 - a. details of all retaining structures (dimensions, materials of construction, etc.);
 - b. details of the drainage basin, and existing and proposed drainage modifications;
 - c. details regarding direction and path of wastewater flow from the area;
 - d. indications of the distance from watercourses and fish bearing waters;
 - e. all sources of seepage presently encountered near these areas, including volumes (m^3/day) and directions.
 - f. The volume of seepage flow (m^3 / day); and
 - g. The direction of each flow.

3. Are drawings for the solid waste disposal area and sewage treatment system attached?
☐ Yes ☒ No

If Yes, who has provided them ?

If no, indicate when they will be available.

Hydrology

1. Effects on surface water flow:
Are any stream channels altered? ☐ Yes ☒ No
Is the natural storage or water level of any lake or pond changed? ☐ Yes ☒ No
Are there changes in water flow downstream of the project? ☐ Yes ☒ No

Is a storage reservoir created in a natural channel? ☐ Yes ☒ No

If yes to any of the above, briefly describe the expected change in flow or storage:

2. Drainage Area:
What is the drainage area? _____ km²
What is the average elevation of the drainage basin? _____ metres
Is the drainage basin outlined on an attached map? ☐ Yes ☐ No

Describe the drainage basin characteristics, (vegetation, general soil type, lakes, swamps and permafrost areas, etc.)

3. Channel characteristics:
Is the course of any channel changed? ☐ Yes ☒ No

If yes, describe measures to maintain stream bed and bank stability.

4. Will the cross-section of any watercourse be changed? ☐ Yes ☒ No

If yes, describe the change and its effect on the flow capacity of the channel.

Water Supply

1. What is the rate of withdrawal from the source? 806 m³/day.
2. Is water drawn from the source intermittently x continuously
3. If it is drawn intermittently, during what month(s) is it drawn?
4. For what period is it drawn (days/weeks/months)? 365 days
5. What is the rate of flow of source (if river) or size (if lake)?
6. At the intended rate of water usage, describe the effects on the river or lake from which water will be drawn.

Water Intake

1. Please provide short descriptions of the following:
 - a. freshwater intake facility

b. operating capacity of the pumps

c. intake screen size

Water Storage

1. Is a dam or dyke being used to store or alter the flow of water? ____ Yes ☒ No
2. What are the dimensions of the dam or dyke?
Length: _____ Width: _____ Height: _____
U/S slope: _____ D/S slope: _____
3. Does the proposed dam create a reservoir in a natural watercourse?
____ Yes ☒ No
If yes, what is the storage capacity and surface area of the reservoir?
_____ m³ _____ x ha.
4. Will the dam or dyke affect fish migration or movement ?
____ Yes ☒ No
If yes, describe all measures for compensation of fish habitat lost due to the dam or dyke, and mitigation for fish migration or movement.

Water Treatment

1. Indicate the capacity of the treatment facility. _____ L/min
2. What is the capacity of the water storage facility. _____ m³
3. Describe the method of water treatment (i.e., backwash, flocculation, sedimentation, chemicals used), and provide the results of the most recent bacteriological and chemical analysis. Attach a diagram, if possible.
4. Are there any changes planned in the water treatment facilities?
☒ No ____ Yes
If yes, attach a copy of the plan or indicate changes and include an implementation schedule.

Include excerpt from MACA Capital Plan if available.

Sewage Disposal

1. Indicate the level of sewage treatment:
____ primary ____ secondary ____ tertiary
Pre-treatment (if applicable): x screening ____ maceration
Lagoons (if applicable): ____ anaerobic ____ aerobic ____ facultative
2. Indicate the capacity of the sewage treatment facility _____ m³
3. Based on current population projections, the facility will meet the needs of the community until
the year 2017 .
4. Average depth of the wastewater lagoon n/a m.
5. What is the design freeboard? n/a m.
6. Indicate the retention time of the sewage while in the treatment facility n/a days.
7. Indicate the estimated rate of discharge of wastewater 9.3 L/sec.
8. Indicate the location of the discharge point 500 meters into Hudson Bay .
9. Is the discharge: ____ seasonal x continuous

If the discharge is seasonal, during what month(s) is it done? _____
What is the duration of the discharge (days/weeks/months) ? _____
10. Are there any changes planned in the sewage disposal facilities?
____ No ____ Yes
If yes, attach a copy of the plan or indicate changes and include an implementation schedule.

Include excerpt from MACA Capital Plan if available.

Solid Waste Disposal

1. Indicate the capacity of the disposal area 352,700 m³.
2. The *average* depth of the solid waste disposal site 3.3 m.
3. The current facility will meet community needs until the year 2005.
4. Do any natural watercourse enter the solid waste disposal area? What methods are used to decrease the amount of runoff water entering these areas?

no

5. Indicate the volume of water that may enter these areas from any source(s) and attach all pertinent details of the diversions.

<u>Source</u>	<u>Volume</u>
none	

6. Please describe any diversions of watercourses:

none

7. Are there any changes planned in the solid waste disposal facilities?
___ No ___x Yes
If yes, attach a copy of the plan or indicate changes and include an implementation schedule.
Include excerpt from MACA Capital Plan if available.

Other

1. Describe any additional details on the existing municipal facilities which should be considered by the Nunavut Water Board during its review.