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Gjoa Haven, NU
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NUNAVUT WATER BOARD

Tel: (867) 360-6338

NUNAVUT IMALIRIYIN
KATIMAYINGI

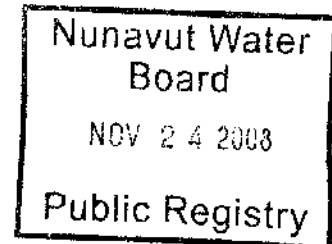
Fax: (867) 360-6369

OFFICE DES EAUX DU NUNAVUT

**Water Licence Application
Supplementary Questionnaire
For Municipalities**

I. GENERAL

1. Date: **November 1, 2008**
2. Applicant: **Hamlet of Sanikiluaq**
Municipality and Region
3. Contacts: **Muhamud Hassan**
Name of Contact
- SAO**
Position



867 -266-7900 867- 266-7924 **sanisao@qiniq.com**
Telephone # Fax # Email

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 #

II. ATTACHMENTS: NIL

1. Attach current or up-to-date detailed map(s) showing the locations of the:
- Raw water intake;
 - Water storage and treatment facilities;
 - Fuel and chemical storage;
 - Sewage treatment facilities (lagoon, honey bag pit, wetland);
 - Wastewater treatment area and discharge outlets;
 - Solid waste disposal areas and drainage patterns;
 - Hazardous waste disposal area;
 - Transportation access routes;
 - 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);
 - Traditional use areas outlined on site map and areas around the community used for recreation, camping, fishing, etc.
 - 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.

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.

 *

Primary Source

Secondary Source

3. Usual break-up & freeze-up period: May November
Break-up Freeze-up

Water Intake

1. Please provide short descriptions for the following:

a. Freshwater intake facility

 Directly from the lake

b. Operating capacity of pump used

 NIL

c. Intake screen size

 Yes

Water Storage

1. Type of water storage facility. (Check where applicable)

 Reservoir/Pond * Storage tank none

 Other No Storage Description:

2. If "reservoir" checked: N/A

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

2. Describe: Recirculation Process under Heat Tracing

3. Type of water treatment.

☐ Filtration and chlorination
☐ * Chlorination only
☐ None
☐ Other _____
Description

Water Use And Distribution

1. Volume of water use:

Distribution	Estimated number of people on the system A	Estimated average water consumption (Liters/capita/day) B	Total water consumption (Day/day) A x B
PIPED			
TRUCKED	800	67458.52	72,000 liters
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 NO Storage___ 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.

Planning stage, waiting for Capital funding.

2. Does the community believe changes needed to the water supply, storage or treatment facilities? Describe.

Yes, Source water modeling and optimization of the entire water supply system.

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) *N/A*

1. Describe (type, specifications, operation and maintenance program for the mechanical wastewater treatment system).
2. Are sludge's produced ? ☐ Yes ☐ No
 If yes, describe how the sludge's are disposed of:

Wetland (if applicable)

1. Describe the Wetland wastewater treatment system.

Natural sloping ground to the sea.

Honey Bag Pit: N/A

1. Does the municipality use a honey bag pit? *N/A*
☐ 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, shellfish 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. **Plan for Improvement-In Capital Plan..**

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

If yes Describe.

YES

Abandonment and Restoration; N/A

1. List and describe abandoned or restored sewage treatment facilities.

Refer to original attachment maps. Not Right Now

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.
BY TRUCK
2. Is the solid waste site fenced? ☐ * ☐ Yes ☐ No
3. Is the fence adequate? ☐ * ☐ Yes ☐ No
If no, describe:

Waste Reduction

1. Does the municipality burn garbage?
☐ * ☐ Yes ☐ No
If yes, describe how and when this is done. YES
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

Waste Oil Pit

1. Describe the waste oil storage area.
A designated area inside the landfill site.NO

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.

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? N/A

___ 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.

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.

Are changes needed to the solid waste disposal area? Yes

Describe. Not so Soon

Abandonment and Restoration

1. List and describe abandoned or restored solid waste facilities. N/A
Indicate their location on a map. Not right now

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 at:

Date:

☐ * Municipal and Community Affairs (**Presently GN-CGS**)

Date: March, **2008**

☐ Other: _____ Date: _____

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

☒ * Yes ☐ No

If yes, describe.

Spill Action Line

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

☒ * Yes ☐ No

If yes, describe.

Spill kits are available.

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.

b.

Daily from each Truck and monthly for the lab.

The monthly samples are sent to Winnipeg Health Centre lab through local Health centre.

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

INAC inspector did effluent sampling

c. Who is responsible for water sampling?

Name: **Hamlet Water Truck Drivers**

Position: **Water Truck Drivers**

Telephone #: _____

Fax #: _____

Level of training: **Locally Trained**

d. Recognized laboratory performing analysis of samples. N/A

Name: _____

Address: _____

Telephone #: _____

Fax #: _____

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

☒ No

If yes, describe.

VII. PUBLIC CONCERNS

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

Optimization stuffy is being planned. New Water Trucks will be ordered.

VIII. PUBLIC HEALTH : Please contact

(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:

Monitoring Program

1. Does the Regional Health Board perform water quality sampling?

☐ * Yes ☐ No

If Yes, answer questions (a) to (e)

GN-DOH Environmental Health officer

- a. Briefly describe the sampling methodology.

Health inspectors collect samples two/three times in a year and test in their Lab in Winnipeg-Health Centre.

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

INAC inspector did this year. Hamlet will start by themselves from next year and so.

- c. Who is responsible for sampling?

Name: Hamlet Staff

Position: Whoever on duty

Telephone #: _____

Fax #: _____

Level of training: Locally trained _____

- c. Recognized laboratory performing analysis of samples.

Not established yet. Planning from 2009

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 (CGS) office if you have difficulty with this section).*

1. Date: _____

2. Municipality: Hamlet of Sanikiluaq

3. Contact: Bhabesh Roy

Telephone #: 867-899-7314

Fax #: 867-899-7378

4. Population: 800

5. Estimated growth rate over next 5 years: Total: 155 (estimated), Growth rate: 3.33%

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:

If no, are such studies being planned?

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

Not fixed up any time frame yet.

7. Have Elders been consulted in the collection of baseline data on main water bodies in the area?

☐ No ☒ Yes

If yes, specify.

No record is available.

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.

If no, are such studies being planned?

☐ No ☒ *Yes.

If yes, specify:

Once funding is approved.

Attachments NIL

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, 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: N/A

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

The Source is a big lake, Effect is unknown

Water Intake

1. Please provide short descriptions of the following: 6" Pump Line
- a. freshwater intake facility : **3 inch diameter gravity intake line**
- b. operating capacity of the pumps: 5,600 Lit/15 min
- 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? N/A
Length: Width: Height:
U/S slope: D/S slope:
3. Does the proposed dam create a reservoir in a natural watercourse? N/A
 Yes No
If yes, what is the storage capacity and surface area of the reservoir?
 m³ ha.
4. Will the dam or dyke affect fish migration or movement? N/A
 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. 1000 L/min
2. What is the capacity of the water storage facility:
15 Not Known
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.
Chemical used-Chlorination
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): screening maceration
Lagoons (if applicable): anaerobic * aerobic facultative
2. Indicate the capacity of the sewage treatment facility: **(19,360 approximately) m³**
3. Based on current population projections, the facility will meet the needs of the community until the year 2015.
4. Average depth of the wastewater lagoon : **4.57m.**
5. What is the design freeboard? 1.0m.
6. Indicate the retention time of the sewage while in the treatment facility
90 days.
7. Indicate the estimated rate of discharge of wastewater Not Known
8. Indicate the location of the discharge point:
S-W corner of the Lagoon towards sea -NE
9. Is the discharge: * seasonal
If the discharge is seasonal, during what month(s) is it done?

Normally August

What is the duration of the discharge (days/weeks/months)? Every day

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 4000 m³
2. The *average* depth of the solid waste disposal site 2.0m m.
3. The current facility will meet community needs until the year: 2015.
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. Nil

Source

Volume

6. Please describe any diversions of watercourses:
 NIL

7. Are there any changes planned in the solid waste disposal facilities? No * Yes
If yes, attach a copy of the plan or indicate changes and include an implementation schedule

Other

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

N/A

