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KATIMAYINGI

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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN

## WATER LICENCE APPLICATION FROM ( REPULSE BAY, NUNAVUT)

Application for: (check one)

☐ **X** New ☐ Amendment ☐ Renewal ☐ Assignment

**LICENCE NO.:**

(for NWB use only) **NWB3REP**

**1. NAME AND MAILING ADDRESS OF APPLICANT/LICENSEE**  
Hamlet of REPULSE BAY

**2. ADDRESS OF CORPORATE OFFICE IN CANADA** (if applicable)  
N/A

**3. LOCATION OF UNDERTAKING** (describe and attach a topographical map, indicating the main components of the Undertaking)

**Approximate location of hamlet is:**

Latitude:

Longitude

NTS Maps No.:

Scale: **N/A**

66degrees 31minutes

86degrees 14minutes

**4. DESCRIPTION OF UNDERTAKING** (attach plans and drawings)

**There is no "undertaking" at the moment. The Hamlet simply wishes to conform to regulations and obtain its water license.**

**5. TYPE OF UNDERTAKING** (A supplementary questionnaire must be submitted with the application for undertakings listed in "bold")

☐ Industrial

☐ Remote/Tourism Camp

☐ Mine Development

☒ **Water services, Solid waste, sewage disposal**  
**Municipal**

☐ Advanced Exploration

☐ Power

☐ Exploratory Drilling

☐ Other (describe)

<b>6.</b>	<b>WATER USE</b> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> <input type="text"/> To obtain water  <input type="text"/> To modify the bed or bank of a watercourse  <input type="text"/> To alter the flow of, or store, water  <input type="text"/> To cross a watercourse </div> <div style="width: 50%;"> <input type="text"/> To divert a watercourse  <input type="text"/> Flood Control  <u>Provision of Public water service Other</u>  <u>(describe)</u> </div> </div>															
<b>7.</b>	<b>QUANTITY OF WATER INVOLVED</b> (liters per second, liters per day or cubic meters per year, including both quantity to be used and quality to be returned to source) 21147.975 cubic meters per year															
<b>8.</b>	<b>WASTE</b> (for each type of waste describe: composition, quantity, methods of treatment and disposal, etc.) DISCHARGE TO WETLANDS <input type="text"/> Sewage <input type="text"/> Waste Oil WETLAND AREA(64000sq m) FLOWPATH(1400m) <u>BURN AND LANDFILL (60000sq m)</u> Solid Waste <input type="text"/> DISCHARGE TO WELLANDS <input type="text"/> Grey Water WETLAND AREA (64000sq m) FLOWPATH (1400M) <input type="text"/> Hazardous <input type="text"/> Sludges <u>BULKY WASTE SITE</u> Bulky Items/Scrap Metal <input type="text"/> Other (describe) (60000 sq m)															
<b>9.</b>	<b>PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING</b> (give name, mailing address and location; attach if necessary) N/A  <div style="margin-top: 20px;"> <b>Land Use Permit</b>   <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">INAC</td> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/> Yes</td> <td style="width: 10%; text-align: center;"><input type="checkbox"/> No</td> <td style="width: 50%;">If no, date expected <input type="text"/></td> </tr> <tr> <td>Regional Inuit Association</td> <td style="text-align: center;"><input checked="" type="checkbox"/> Yes</td> <td style="text-align: center;"><input type="checkbox"/> No</td> <td>If no, date expected <input type="text"/></td> </tr> <tr> <td>Commissioner</td> <td style="text-align: center;"><input checked="" type="checkbox"/> Yes</td> <td style="text-align: center;"><input type="checkbox"/> No</td> <td>If no, date expected <input type="text"/></td> </tr> </table> </div>				INAC	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	If no, date expected <input type="text"/>	Regional Inuit Association	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	If no, date expected <input type="text"/>	Commissioner	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	If no, date expected <input type="text"/>
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Commissioner	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	If no, date expected <input type="text"/>													
<b>10.</b>	<b>PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES</b> (direct, indirect, cumulative impacts, etc.)  <div style="margin-top: 20px;"> NIRB Screening <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, date expected <input type="text"/> </div>															
<b>11.</b>	<b>INUIT WATER RIGHTS</b>  Will the project or activity substantially affect the quality, quantity, or flow of water flowing through Inuit Owned Lands and the rights of Inuit under Article 20 of the Nunavut Land Claims Agreement?  If yes, has the applicant entered into an agreement with the Designated Inuit organization to pay compensation for any loss or damage that may be caused by the alteration? If no compensation agreement has been made, how will compensation be determined?															

**12. CONTRACTORS AND SUB-CONTRACTORS** (name, address and functions)

**13. STUDIES UNDERTAKEN TO DATE** (list and attach copies of studies, reports, research, etc.)

**14. THE FOLLOWING DOCUMENTS MUST BE INCLUDED WITH THE APPLICATION FOR THE REGULATORY PROCESS TO BEGIN**

Supplementary Questionnaire (where applicable: see section 5) Yes No If no, date expected \_\_\_\_\_

Inuktitut/English Summary of Project

Application fee \$30.00 (c/o of Receiver General for Canada) Yes No If no, date expected \_\_\_\_\_

**15. PROPOSED TIME SCHEDULE**

\_\_\_\_\_ Annual (or) \_\_\_\_\_ Multi Year

Start Date: \_\_\_\_\_ Completion Date: \_\_\_\_\_

B. MCQUARRIE

Name (Print)

S.A.O.

Title (Print)

  
Signature

Aug. 13/03  
Date

**For Nunavut Water Board Use Only**

APPLICATION FEE Amount: \$ \_\_\_\_\_ Receipt No.: \_\_\_\_\_

WATER USE DEPOSIT Amount: \$ \_\_\_\_\_ Receipt No.: \_\_\_\_\_



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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI

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**Water Licence Application  
Supplémentaire Questionnaire  
For Municipalities**

## I. GENERAL

1. Date: November 28th
2. Applicant: Hamlet of Repulse Bay, Kivalliq Region  
Municipality and Region
3. Contacts: Brian MacQuarrie SAO, also Bryan Purdy, (CG&T)  
Name of Contact  
  
Senior Administration Officer  
Position  
  
1 (867) 462-9952 B.M., 1 (867) 645-8114 BP, 1 (867) 462-4144  
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 # \_\_\_\_\_

## 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.

Indicate which organization has provided the various maps or diagrams.

### III. WATER SUPPLY

#### *Water Source*

1. Type of source: **x Lake** \_\_\_River \_\_\_Well \_\_\_ other \_\_\_\_\_

2. Name of water source and alternative, if any.

3.

**Nuviq Luktujuk Lake** \_\_\_\_\_

Primary Source

Secondary Source

3. Usual break-up & freeze-up period: **May 31** **November 1.**  
Break-up Freeze-up

#### *Water Intake*

1. Please provide short descriptions for the following:

a. Freshwater intake facility

**b. 12 inch Diameter Insulated Pipe /with stainless steel screen**

c. Operating capacity of pumps used \*\* **(2) 1000L per minute**

d. Intake screen size \*\* 8mm

#### *Water Storage*

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

**X Reservoir/Pond** \_\_\_ Storage tank \_\_\_ none \_\_\_

\_\_\_ Other **Lake** 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:	<u>  <b>x</b>  </u> <b>good</b>	___ fair	___ poor
Fall:	<u>  <b>x</b>  </u> <b>good</b>	___ fair	___ poor
Winter:	<u>  <b>x</b>  </u> <b>good</b>	___ fair	___ poor
Spring:	<u>  <b>x</b>  </u> <b>good</b>	___ fair	___ poor

2. Describe. **Good water year round**

- ### 3. Type of water treatment.

_____	Filtration and chlorination
<u><b>X</b></u>	<b>Chlorination only</b>
_____	None
_____	Other _____
	Description

### ***Water Use And Distribution\*\****

1. Volume of water use:

Distribution	Estimated number of people on the system	Estimated average water consumption (Liters/capita/day)	Total water consumption (Day/day)
	A	B	A x B
PIPED			
TRUCKED	675	85.9	57,982.5
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.

**Truck delivery, trucks were inspected and repaired by Kingland Ford earlier this year**

***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**

**Only on the pump house, none around the lake**

**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

**Repulse Bay has a good wetland**

***Mechanical System (if applicable)***

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

**N/A**

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.

**The wetlands are 1400m long, and located 1.4 km east of the community, the wetlands area is 64,000 sq m and eventually the effluent enters the Hudson Bay.**

***Honey Bag Pit***

1. Does the municipality use a honey bag pit?

\_\_\_ Yes \_\_\_x 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 \_\_\_x 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 \_\_\_x 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.

N/A

- b. Discharge control system  
    \_\_\_ Satisfactory   \_\_\_ Unsatisfactory  
    If unsatisfactory, explain.

N/A

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

***Modifications***

1. Are there any changes *planned* in the sewage treatment facilities?

**x** 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.

#### ***Abandonment and Restoration***

1. List and describe abandoned or restored sewage treatment facilities.  
Refer to original attachment maps. **No (none that local Hamlet employees knew of)**

#### ***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.

#### **Routine garbage collection**

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

3. Is the fence adequate? ☐ Yes ☒ **No**

If no, describe: **Currently there is only a 5' gravel berm around the solid waste site. There are current plans to build a new fenced solid waste site.**

**The fence will be built in 2004**

#### ***Waste Reduction***

1. Does the municipality burn garbage ?

☒ **Yes** ☐ **No**

If yes, describe how and when this is done.

**15 times a month, garbage is burned, when the wind is favorable**

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

**Carcasses go in the general garbage, there was a metal container for burning dogs when the community had a distemper problem in the past.**

***Waste Oil Pit***

1. Describe the waste oil storage area.

**Waste Oil is stored in drums and Nunavut Power has plans to implement the use of a waste oil furnace this will take care of all most used oil created within the Hamlet**

***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.

**An area called metal dump is used, 60,000 sq.m in size**

***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 **x** No

If yes, describe its:

a. Location

b. Structure

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

**Battery acid is removed and neutralized.**

***General Condition of the Solid Waste Disposal Area***

1. Comment on the general conditions of the: **The solid waste is too close to the airport and the Hamlet, no fencing exists and a new site has been planned and is currently in the first stages of construction.**

a. Solid waste disposal area

   Satisfactory **x** Unsatisfactory

If unsatisfactory, explain.

***Modifications***

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

   No **x** Yes

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

**Repulse Bay's solid waste site is located less than 450 m from some of the community's houses. The solid waste site is located only 750 m from the airport runway. The Hamlet has requested that the waste site be relocated because it restrains community development and creates a bird strike hazard for aircraft. In FY 01/02, Ferguson Simek Clark of Yellowknife was selected by proposal call to carry out site surveys and prepare pre-designs of the proposed new site at a cost of \$ 19 k. The consultant will identify alternate sites, confirm suitability of sites with Hamlet and regulatory agencies and assist Hamlet to make final site selection. In 2002 Dillon Engineering selected a new site to the right of the water lake road . Construction on this project start in 2003 . This site will open in the summer of 2005**

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

**YES**

**Repulse Bay's solid waste site is located less than 450 m from some of the community's houses. The solid waste site is located only 750 m from the airport runway. The Hamlet has requested that the waste site be relocated because of community development is restrained and a bird strike hazard is created for aircraft. In FY 01/02, Ferguson Simek Clark of Yellowknife was selected by proposal call to carry out site surveys and prepare pre-designs of the proposed new site at a cost of \$ 19 k.**

**A bird hazard study was performed in the August 2002 on the site chosen by Dillon Engineering . This confirmed there would be no major difficulty with the chosen solid waste site and the airport**

### ***Abandonment and Restoration***

1. List and describe abandoned or restored solid waste facilities.  
Indicate their location on a map.

**There possibly exists an old site 2km's to the east of town. Interviewee was unsure**

### **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

Date: **August 2003**

☐ Municipal and Community Affairs

Date: \_\_\_\_\_

☐ Other: **Nunavut Water Board**

Date: **2003**

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

☐ Yes ☐ No

If yes, describe.

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

☒ **Yes** ☐ No

If yes, describe.

**A procedure is in place to deal with spills, a supply of oil soak material is kept on hand.**

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

\_\_\_ Yes **x** 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 ?

**x** Yes \_\_\_ No

If Yes, answer the questions a to e

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

**The chlorine residual readings are taken and recorded by the Hamlet each day**

- b. Briefly describe any monitoring done for wastewater effluent and leachate.  
**Annual inspections by a DIAND Inspector Officer (WRO),  
The Health Center may also do some testing at the Sewage Dump Site**

- c. Who is responsible for water sampling ?

Name: **Dennis Kaunak**

Position: **Hamlet Employee.**

Telephone #: **(867) 462-4093**

Fax # : ?

Level of training:

- d. Recognized laboratory performing analysis of samples. **(MONTHLY SAMPLES)**

Name: **Fred O'Brien, Regional Health Officer**

Address: **P.O. Bag 298, Rankin Inlet, NU, X0C 0G0**



Telephone #: (867) 645-2171

Fax #: (867) 645-2409

- 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.

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

1. Date:
2. Municipality: **Repulse Bay, (Kivalliq Region)**

3. Contact: **Mr. Fred O'Brien**

Telephone # **(867) 645-2171**

Fax # : **(867) 645-2409**

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

**If yes, describe None that the Hamlet Operator new of, the Health Officer would possibly be better able to answer this.**

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 : The solid waste is too close to the airport and the Hamlet, no fencing exists and a new site has been planned and is currently in the first stages of construction.**

***Monitoring Program***

1. Does the Regional Health Board perform water quality sampling?  
\_\_\_No      **X** If Yes, answer questions (a) to (e)

**The Health Officer receives monthly water samples from Repulse Bay and performs testing at the Regional Office in Rankin Inlet**

- a. Briefly describe the sampling methodology.

**Monthly samples are submitted to the Regional Health Officer**

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

**Sewage effluent sampling is carried out on an annual basis by a DIAND Officer**  
**Total Suspended Solids, Phenols, BOD, PH, and Oil and Grease testing (where applicable) is carried out**

- c. Who is responsible for sampling ?

Name: **Scott Stewart**

Position: **DIAND Officer**

Telephone # **(867) 975-4289**

Fax # : **(867) 979-6445**

Level of training:

- d. Recognized laboratory performing analysis of samples.

Name: **Taiga Environmental**

Address: **P.O. 1500 Yellowknife, NT.**

Telephone #: **(867) 669-2788**

Fax # : **(867) 669-2718**

- 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: **November 28, 2003**
2. Municipality: **Repulse Bay, NU (Kivalliq Region)**
3. Contact: **Bryan Purdy**  
**(Community Government and Transportation Representative)**

Telephone # **(867) 645-8114**

Fax # **(867) 645-8143**

4. Population : **675**
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?  
  x   No    Yes

If yes, specify.

**The Hamlet Council was consulted regarding the Solid Waste Site**

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?  
  x   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 ( $\text{m}^3/\text{day}$ ) and directions.
  - f. The volume of seepage flow ( $\text{m}^3 / \text{day}$ ); 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?

These drawings were forwarded in August 2003

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? \_\_\_\_\_ km<sup>2</sup>  
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? 58 m<sup>3</sup>/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)? \_\_\_\_\_
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.

**There is no effect on the volume in Nuviq Luktujuk Lake**

***Water Intake***

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

**12" intake with stainless steel screen (8mm opening)**

- b. operating capacity of the pumps - (2) 1000 litre/minute

- c. intake screen size: **8mm**



### ***Water Storage***

1. Is a dam or dyke being used to store or alter the flow of water? \_\_\_\_Yes **x**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?  
\_\_\_\_\_ 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
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.

**Chlorine is added to each water truck load as it is loaded.**

4. Are there any changes planned in the water treatment facilities? no  
**x** 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:  
\_\_\_ **x** **primary** \_\_\_ secondary \_\_\_ tertiary  
Pre-treatment (if applicable): \_\_\_ screening \_\_\_ maceration  
Lagoons (if applicable): \_\_\_ anaerobic \_\_\_ aerobic \_\_\_ facultative
2. Indicate the capacity of the sewage treatment facility  
**(current wetlands)64,000sq m**
3. Based on current population projections, the facility will meet the needs of the community until  
the year **2010** .
4. Average depth of the wastewater lagoon \_\_\_\_\_ **m.** wetlands
5. What is the design freeboard? \_\_\_\_\_ **m.**
6. Indicate the retention time of the sewage while in the treatment facility \_\_\_\_\_  
days.
7. Indicate the estimated rate of discharge of wastewater \_\_\_\_\_ **?** \_\_\_\_\_ L/sec.
8. Indicate the location of the discharge point **The sewage dumpsite is located 1.4 km east of the community** .
9. Is the discharge:        \_\_\_ seasonal        \_\_\_ 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.  
.

***Solid Waste Disposal***

1. Indicate the capacity of the disposal area 60000 sq.m (area), also an **additional 60,000sq.m bulky waste**
2. The *average* depth of the solid waste disposal site 2 m.
3. The current facility will meet community needs until the year 2003/04  
.

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?  
The solid waste site is bermed to prevent leachate from flowing to the ocean

5. Indicate the volume of water that may enter these areas from any source(s) and attach all pertinent details of the diversions. **No flow just natural precip.**

Source

Volume

6. Please describe any diversions of watercourses:

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.

**Repulse Sanitation Project 507 314 \$ 150.0\_\_\_ K in 2003/04 +  
\_160.0\_\_\_K in 2004/05 \$ 100.00 in 2005/06**

***Other***

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