SACHS HARBOUR
JULY 1994.

1531
(Sachs Harbour)

NORTHWEST TERRITORIES WATER BOARD

MUNICIPAL QUESTIONNAIRE FOR WATER LICENCE APPLICATION

Northwest Territories Water Board

Municipal Questionnaire for Water Licence Application

Contents

NOTE If space is insufficient for any of the responses on this questionnaire, please use the back of the sheet or an attachment.

ction A. **GENERAL** 1. Date 21 06 94 (dd \ mm \ yy)

2. Applicant HAMLET OF SACHS HARBOUR
municipality or district
GENERAL DELIVERY, SACHS HARBOUR, NT.
postal address
X0E 0Z0

( ) 690-4351 telephone number ( ) 690-4802 facsimile number

3. Contacts
JACKIE KUPTANA
municipal contact
ACTING S.A.O.
position
(403) 690-4351 telephone number (403) 690-4802 facsimile number

PETER ESAU
alternate contact
MAYOR
position
(403) 690-4111 telephone number 1 (403) 690-4802 facsimile number
( ) telephone number 2

4. Community Status ☐ City ☐ Village ☐ Town
☒ Hamlet ☐ Settlement Corporation

5. Population (according to most recent census results)
125
0.09 % estimated growth rate over next 5 years

6. Indicate the status of the municipalities licence on the date of application.
☒ New Application N424-1531
☐ Renewal –► Water Licence # _____
Hamlet had an Authorization – No. N4L4-15
Filed May 21, 198

7. 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 ☒ Unknown

If yes, please attach attach a summary of program details or cite titles, authors, cities, and dates.

Prepared by	Title	Completion Date
DWAND	Raw water lake, Inspection sampling	ONGOING
Community Health Dept.	drinking water, bacteriology	ONGOING

If no, are such studies being planned? ☐ Yes ☐ No

If yes, briefly describe the proposals. _____

Has any baseline data collection and evaluation been undertaken with respect to the various biophysical components of the environment potentially affected by the project (eg wildlife, soils, air quality), ie. in addition to water related information requested in this questionnaire?

☐ Yes ☐ No ☒ Unknown

If yes, please attach copies of reports or cite titles, authors and dates.

Prepared by	Title	Completion Date

If no, are such studies being planned? ☐ Yes ☐ No

If yes, briefly describe the proposals. Unknown

9. Attach detailed maps which show the relative locations of the:
   (a) raw water intake,
   (b) water treatment facilities,
   (c) fuel & chemical storage,
   (d) sewage treatment facilities,
   (e) wastewater treatment area and discharge outlets,
   (f) solid waste disposal areas and drainage paterns,
   (g) hazardous waste disposal area,
   (h) transportation access routes,
   (i) existing waterbodies/courses and any changes to these water bodies/courses which have or may occur as a result of water use of waste disposal facilities, locations of environmental monitoring sites.

Refer to: Sachs Harbour, NWT Sanitation Planning Study, by Reid Crowther + Partners Ltd Project No. 49092-000 March, 1987

10. Attach detailed scale plan drawing(s) of the proposed (or present) sewage treatment system. The drawing(s) must be stamped by an engineer registered in NWT and include the following:
    (a) details of pond size and elevation;
    (b) precise 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 route followed by wastewater flow from the area;
    (f) indications of the distance to nearby major watercourses, and fish bearing waters;
    (g) location and construction of liners;
    (h) leachate and groundwater collection systems; and
    (i) control structures.

11. Attach detailed scale plan drawings of the proposed (or present) solid waste disposal area. The drawings must include the following:
    (a) precise 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 route followed by wastewater flow from the area;
    (d) indications of the distance to nearby major watercourses, and fish bearing waters;
    (e) all sources of seepage presently encountered in the vicinity of these areas;
    (f) the volume of each seepage flow (m^3/day); and
    (g) the direction of each flow.

12. Attach the present or proposed contingency plan which will be used for each portion of the waste control system in the event it fails to operate properly.

13. Attach the present or proposed spill contingency plan which will be employed in case a spill of hazardous materials occurs. Describe course of action, mitigative methods and equipment available for use.

NOTE : Individual detailed large scale drawings of all facilities (dam, decant system, ditch, dike, water treatment plant, etc) constructed or proposed must be attached. Specific details with regard to the methods of construction, materials used, etc. are required.

Section B **WATER SUPPLY**

1. Volume of water use

System of distribution	Estimated Number of people on each system	Estimated average water use (L/c/d)	Total water use (L/d)
piped			(L/d)
trucked	estm. for 1994 132	(x90) = 11880	11880 (L/d)
other			(L/d)
other			(L/d)

Total: 11880 (L/d)

11880 (Water usage (L/d)) x 1 m³ / 1000 L = Water Usage: 11.9 (m³/d)

11.9 (Water usage (m³/d)) x 365 days / year = Water Usage: 4343.5 (m³/y)

3. Type of source ☒ Lake ☐ River ☐ Well ☐ Other _____

4. Name of raw water source and alternative, if any.

DOT LAKE (Primary Source) No Name Lake (Alternative Source)

5. Usual break-up & freeze-up months. June (break-up) October (freeze-up)

6. Please provide short descriptions for the following

- freshwater intake facility ONE INTAKE 2m FROM SHORE
small shed that contains automatic chlorine injector and truck fill up hose.
- operating capacity of the pumps used 1000 L/min
- intake screen size. Unknown

7. Type of water storage facility. (check where applicable)

☐ Reservoir ☐ Storage tank ☒ None

☐ Other _____
description

8. What is the capacity of the water storage facility. N/A m^3

9. What is the rate of withdrawl from the source? as needed (m^3/d)

10. Is water drawn from the source ☒ intermittently as needed.
☐ continuous

If it is drawn intermittently, during what month(s) is it drawn? as needed.

For what time period is it drawn (days/weeks/months) ? daily

11. What is the rate of flow of source (if river) or size (if lake)? $\simeq$ 1 ha

12. At the intended rate of water usage, describe the effects on the river or lake from which water will be drawn.

No significant effects would be detectable at intended rate of water usage

12. General conditions of:

(a) Water supply facility ☒ Satisfactory
☐ Unsatisfactory

If unsatisfactory, explain. _____

(b) Storage facility ☐ Satisfactory
☐ Unsatisfactory

If unsatisfactory, explain. N/A

(c) Distribution system ☒ Satisfactory
☐ Unsatisfactory

If unsatisfactory, explain. _____

13. Are there any changes planned in the water supply system? ☒ No ☐ Yes

If yes, please attach a copy of the plan, or describe changes. _____

Section C **WATER TREATMENT**

1. Indicate the quality of the raw water prior to treatment & distribution.

☒ good ☐ fair ☐ poor

Describe. No Canadian Drinking Water Guidelines excursions noted in file.
raw water medium-hard. ie Total Hardness is ≈ 160 ppm.

2. Indicate the capacity of the treatment facility. 1000 L/min

3. Type of water treatment facility.

☐ Filtration & Chlorination ☒ Chlorination only ☐ None
☐ Other _____
description

4. Describe in detail 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.

Nursing station in Sachs has most recent bacteriological & chemical analysis. Also, Environ Health, Inuvik Regional Hospital would have these results.
Water is pumped from lake, screen size unknown, should be a standard DFO approved screen. No backwashing, no treatment other than chlorine automatic injection.

5. Have there been any problems or health and environmental concerns with the water treatment facitlities?

☐ No

☒ Yes, describe

Not with facilities but with these examples -

Plane crash (handled as a spill) in Det Lake in October 1989.
Offal overflow towards Det Lake in June 1991 due to Musk-ox harvest.

Are there any changes planned in the water treatment facilities? ☒ No ☐ Yes

If yes, please attach a copy of the plan or indicate changes. _____

_____

_____

_____

_____

Section D **SEWAGE DISPOSAL**

1. Indicate the level of treatment the sewage will be receiving:

   ☒ primary ☐ secondary ☐ tertiary

   Pre-treatment (if applicable): ☐ screening ☐ maceration

   Lagoons (if applicable): ☐ anaerobic ☒ aerobic ☐ facultative

2. Indicate the capacity of the sewage treatment facility. 100m x 100m x 1m deep. ≤ 10,000 m³

3. Indicate the retention time of the sewage while in the treatment facility. 300 days
   natural exfiltration

4. Indicate the estimated rate of discharge of wastewater. _____ L/sec

5. Indicate the location of the discharge point. NEW LAGOON IS 1.5 Km NORTHWEST OF AES SITE

6. Will the discharge be: ☒ seasonal
   ☐ continuous

   If the discharge is seasonal, during what month(s) is it done? during peak run-off; May and June

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

7. Comment on the general condition of the:
   (a) Sewage collection system satisfactory
   (b) Discharge control system N/A
   (c) Dams, diversion dykes, berms N/A

8. Have there been any problems or health and environmental concerns with the sewage disposal facilities?
   ☒ No
   ☒ Yes, describe. The wind blows in the direction of the pumpout route which can be a health problem. Effluent is also being blown up on shore which is also aesthetically unpleasing.

. The average depth of the wastewater lagoon is 1.0 m.

10. What is the design freeboard? there is no design. m.

11. Is there any harvesting of fish or shell fish in the waters where waste is discharged?

☐ Yes ☒ No

If yes, please indicate species harvested, and estimate amounts.

12. Will the municipality be using a honey bag pit? ☒ Yes ☒ No

If yes, describe its:

Location - ~~at New Solid Waste Disposal Site~~

Drainage -

Operation & Maintenance -

13. Are there any sources of commercial or industrial liquid waste being discharged or deposited to municipal system which may affect the quality of the effluent or leachate produced?

☐ Yes ☒ No

If yes, please describe. _____

14. Have any spills occured in the past five years? ☒ Yes ☐ No

If yes, describe. NWTPC Fuel Storage area, 50,000 L (Fuel oil), 1991.
NTCL Fuel Barge Spill, 10,000 L (diesel), 1987.

15. Has there been any operating problems with the lagoon? ☒ Yes ☒ No

If yes, describe. Wind blowing effluent back under the pumpout chute.

16. Are any changes planned in the sewage disposal facilities? ☐ No ☐ Yes

If yes, please describe and if possible, attach a copy of the plan.

Unknown

Section E SOLID WASTE DISPOSAL

1. Indicate the capacity of the disposal area. unknown m^3

2. The average depth of the solid waste disposal site is 1.5 m. berm surrounding site.

3. Are there any sources of commercial or industrial solid waste being deposited in the municipal system which may affect the quality of the effluent or leachate produced?

   ☒ Yes ☐ No

   If yes, please describe. Storage of empty 45 gallon drums.

4. Briefly describe how the solid waste will be picked up & delivered to the disposal area. Dump truck.

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

6. Will the municipality be using a dead animal pit? ☒ Yes ☐ No

   If yes, describe its:

   Location - SEGREGATED AREA BEHIND BULKY METAL AREA.

   Drainage - no noticeable drainage through site.

   Operation & Maintenance -

7. Will the municipality be using a hazardous waste disposal area? ☐ Yes ☐ No

If yes, describe its:

Location - Unknown

Structure - _____

Operation & Maintenance - _____

_____

8. Are there any hazardous commercial wastes entering the solid waste disposal system?

☐ Yes ☐ No

If yes, describe and note amounts and special handling/disposal methods for these wastes.

Unknown

_____

_____

9. If any natural watercourse may gain access to the proposed solid waste disposal area, what methods will be used to decrease the amount of runoff water entering these areas? Indicate the volume of water which may enter these areas from the source(s) in question and attach all pertinent details of proposed diversions.

Source	Volume (m^3/day)
No noticeable drainage through the site.	

10. Please describe the nature of any diversions of watercourses: N/A

_____

_____

_____

11. Have there been any problems or health and environmental concerns with the solid waste disposal facilities?

☐ No
☒ Yes, describe.

Wind blown debris scattering on the tundra. Aesthetics.

12. Are any changes planned in the solid waste disposal system?

☒ Yes ☒ No

If yes, please describe and, if possible, attach a copy of the plan. There are supposedly plans to construct a snow fence around the perimeter of the site.

Section F ABANDONMENT AND RESTORATION PROGRAM

1. List and describe the locations of abandoned or restored water treatment facilities.

N/A

2. List and describe the locations of abandoned or restored sewage treatment facilities.

Past upkill from old solid waste disposal site. Abandoned 3 years ago. Site is naturally being restored.

3. List and describe the locations of abandoned or restored solid waste disposal facilities.

Old solid waste site is being abandoned and restored.

4. Do you have an abandonment and restoration plan? ☐ Yes ☒ No
If yes, please attach a copy of the plan.

Section G. WATER QUALITY MONITORING PROGRAM

1. Briefly describe the methodology that is presently used to sample. DIAND surface grab bacteria water quality sampling per inspection.
Environmental Health (Nursing Station) bacteriology testing of drinking water

2. Recognized laboratory performing analysis of samples.

YELLOWKNIFE WATER LAB
name

BILL COEDY
contact name

P.O. BOX 1500, YK., NT.,
postal address

X1A 2R3
postal address

( ) 920-8192
telephone number

( ) 873-9300
facsimile number

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

☐ Yes ☒ No

If yes, describe.

Section H. ENVIRONMENTAL ASSESSMENT AND SCREENING

1. Has this project ever undergone an initial environmental review, including previous owners?
   - ☐ Yes — By whom/when _____
   - ☒ No
   - ☒ Unknown

2. Has approval been obtained or sought from the Department of Fisheries and Oceans for using any fish bearing waterbodies for containment or disposal of waste?
   - ☐ Yes ☒ No N/A

4. Are there any environmental studies ongoing or planned ?
   - ☐ Yes ☐ No Unknown.

   If yes, list:

Prepared by	Title	Completion Date

Note: MHCA, Limrick, does not have any design specifications for water use or waste disposal either.