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NUNAVUT WATER BOARD

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OFFICE DES EAUX DU NUNAVUT

**Water Licence Application
Supplementary Questionnaire
For Municipalities**

I. GENERAL

1. Date: November 13, 2009
2. Applicant: Canadian Forces Station Alert
3. Contacts: Col. R.C. Baker
Name of Contact

Director A4 Construction Engineering
Position

204-833-2500 204 -833-2566 Raymond.Baker@forces.gc.ca
Telephone # Fax # Email
4. Community Status: **XX** None Village Town City
 Hamlet Settlement Corporation
5. Indicate the status of the municipality's license on the date of the application.
XX New Application
 Renewal Water License #

II. ATTACHMENTS

Also see an attached supplementary report.

1. Attach current or up-to-date detailed map(s) showing the locations of the:
 - a. Raw water intake;
Shown as Drawing Number L-A28-Y304 121006 in Appendix E
 - b. Water storage and treatment facilities;
Shown as Drawing Number FSC C1 in Appendix E
 - c. Fuel and chemical storage;
Shown as Drawing Number TR7-41093 in Appendix E
 - d. Sewage treatment facilities (lagoon, honey bag pit, wetland);
Currently, none
Proposed as Drawing Number FSC C1 & C2 in Appendix E

e. Wastewater treatment area and discharge outlets;
Shown as Drawing Number L-A28-9305-413 in Appendix E

f. Solid waste disposal areas and drainage patterns;

Shown as Drawing Number NRC Figure 3 in Appendix E
Note that on drawing 121005 by Associated Engineering the label “dump road” is not to be construed as the present road to the solid waste site.

g. Hazardous waste disposal area;
Not applicable as such wastes are not disposed on site.
See section 5.2 of attached document

h. Transportation access routes;
Air accessible only; there are no land or sea 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);
Shown as Drawing Number SK1 in Appendix E

j. Traditional use areas outlined on site map and areas around the community used for recreation, camping, fishing, etc.
Not applicable as this is not a traditional use area.

k. Abandoned and/or restored water treatment, sewage, and solid waste disposal facilities.
Not applicable as there are no such abandoned facilities.

Are maps attached? XX Yes No

Indicate which organization has provided the various maps or diagrams.

Maps, diagrams and sketches have been provided by Associated Engineering, FSC Architects & Engineers and by the Department of National Defence.

Please note that the Department of National Defence is not required to stamp and seal their maps, diagrams and sketches. Those prepared by Associated Engineering and FSC are stamped and sealed.

III. WATER SUPPLY

Water Source

See section 3.2 of attached document

1. Type of source: XX Lake ___ River ___ Well ___ Other _____
2. Name of water source and alternative, if any.

<u>Upper Dumbell Lake</u>	<u>None</u>
Primary Source	Secondary Source

3. Usual break-up & freeze-up period: June September
Break-up Freeze-up

Water Intake

1. Please provide short descriptions for the following:

See section 3.3 of attached document

Water Storage

1. Type of water storage facility. (Check where applicable)
___ Reservoir/Pond XX Storage tank ___ None ___ Other ___
2. If “reservoir” checked: N/A

Water Treatment

1. Indicate the quality of the water.

Summer:	<u>xx</u> good	___ fair	___ poor
Fall:	<u>xx</u> good	___ fair	___ poor
Winter:	<u>xx</u> good	___ fair	___ poor
Spring:	<u>xx</u> good	___ fair	___ poor
2. Describe.

See section 3.9 of attached document

3. Type of water treatment.

See section 3.5 of attached document

xx Filtration and chlorination

Water Use And Distribution

1. Volume of water use: **See sections 3.7 & 3.8 of attached document**

General Condition of the water supply facilities

1. General condition of the:
- a. Water supply facility
xx Satisfactory ___ Unsatisfactory

If unsatisfactory, explain.

- b. Storage facility
xx Satisfactory ___ Unsatisfactory

If unsatisfactory, explain.

- c. Distribution system
xx Satisfactory ___ Unsatisfactory

If unsatisfactory, explain.

Modifications

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

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

See section 3.12 of attached document

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

See section 3.12 of attached document

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

☒ Overland

☐ Honey bag

☐ Combination/Other: Describe:

Wetland (if applicable)

1. Describe the Overland wastewater treatment system.

See section 4.5 of attached document.

Honey Bag Pit

1. Does the municipality use a honey bag pit?

☐ Yes ☒ No

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?)

☐ Yes ☒ No

See section 4.2 & 4.6 of attached document

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 xx Satisfactory ___ Unsatisfactory
If unsatisfactory, explain.
 - b. Discharge control system xx Satisfactory ___ Unsatisfactory
If unsatisfactory, explain.
 - c. Dams, diversion dykes, berms: **N/A presently, there are none.**

Modifications

1. Are there any changes *planned* in the sewage treatment facilities? xx Yes
If yes, please attach a copy of the plan, or describe changes. Provide information on the implementation schedule.

See section 4.6 of attached document

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

Not applicable. This is a military facility

Abandonment and Restoration

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

Presently, none. See section 4.1 of attached document

Identification

2. Are there signs identifying past and present sewage disposal sites? xx No

V. SOLID WASTE DISPOSAL

1. Briefly describe how solid wastes are collected and delivered to the disposal area.
See section 5.1 of attached document

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.

See section 5.2 of attached document

2. Has the municipality considered measures for waste reduction such as recycling or reuse?
☒ Yes ☐ No
If yes, describe

See section 5.2 of attached document

Animal Carcasses Pit

1. Does the municipality have an area for the disposal of animal carcasses?
☐ Yes ☒ No **None are disposed; no site is required.**

Waste Oil Pit

1. Describe the waste oil storage area.

See section 5.5 of attached document

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.

See section 5.5 of attached document

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?

___ Yes xx No

If yes, please indicate sources, types and quantity.

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

___ Yes xx No

General Condition of the Solid Waste Disposal Area

1. Comment on the general conditions of the:

a. Solid waste disposal area xx Satisfactory ___ Unsatisfactory

If unsatisfactory, explain.

Modifications

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

xx No ___ Yes

2. Are changes needed to the solid waste disposal area? None required.

Abandonment and Restoration

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

None. See section 5.5 of attached document

Identification

Are there signs identifying past and present solid waste disposal sites? No

VI. INSPECTION AND MONITORING

1. When were municipal facilities inspected by?

xx Indian and Northern Affairs Inspector Date: _____

___ Municipal and Community Affairs Date: _____

___ Other: _____ Date: _____

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

xx Yes ___ No If yes, describe.

See Spill Plan attached

3. Is there a contingency plan for clean up of spills?
xx Yes ___ No If yes, describe.

See Spill Plan attached

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

Minor spills have occurred along the pipeline joining the upper tank farm and the lower tank farm. However, a large spill (22,000L) occurred on September 8, 2006 when a fuel line flex-joint ruptured spilling JP-8 fuel, used as heating oil. Much of the fuel was vacuumed up from the containment area and the recovery trenches following the spill. The remainder of the fuel was excavated along with the contaminated soils and placed into an engineered soil remediation facility. Soils were excavated to permafrost, where necessary. The areas affected have been restored using native soils from the vicinity of the spills.

Monitoring Program

1. Is water sampling and analysis done? xx Yes ___ No

See section 3.9 of attached document

If Yes, answer the questions a to e:

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

See section 3.9 of attached document

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

See section 7.4.2 of attached document

- c. Who is responsible for water sampling?

WFE Tech Operators

- d. Recognized laboratory performing analysis of samples.

Name: Caduceon Environmental Laboratory

Address: Kingston, ONT. K7K 6Z1

Telephone #: 613 544 2001

Fax #: 613 544 2770

- e. Are any changes planned in the water quality-monitoring program?
xx Yes ___ No If yes, describe.

See section 7.3 of attached document

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.

Not applicable. This is a military facility.

However, Dr. Morrison of Environment Canada has expressed the concern that if sewage is treated, then the ability to study migrating birds will be lost. See his full comments in attached report at section 6.2 and Appendix A.

DND has designed a sewage treatment process that will allow the treatment of sewage without losing the opportunity to study birds. Please see this in section 4.5 and drawings in Appendix E.

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

GN Public Health has not inspected this site.

1. Date: _____
2. Municipality: _____

3. Contact: (Environmental Health Officer) _____
4. Have there been any problems or health/environmental concerns with drinking water?
___ Yes **xx** No
If yes, describe:
5. Have there been any problems or health/environmental concerns with sewage disposal/treatment?
___ Yes **xx** No
If yes, describe
6. Have there been any problems or health/environmental concerns with solid waste disposal?
___ Yes **xx** No
If yes, describe:

Monitoring Program

1. Does the Regional Health Board perform water quality sampling?
___ Yes **xx** No

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. Location: **CFS Alert**
3. Contact: _____
Telephone #: _____
Fax #: _____
4. Population: **100 - 200**
5. Estimated growth rate over next 5 years: **None**
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?
xx Yes __ No Drinking water quality only

If no, are such studies being planned?

xx 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?

Not applicable, not a traditional area

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 xx Yes If yes, provide details below.

See section 6.2 of attached document

Hydrology

1. Effects on surface water flow:

Are any stream channels altered? xx No

Is the natural storage or water level of any lake or pond changed? xx No

Are there changes in water flow downstream of the project? xx No

Is a storage reservoir created in a natural channel? xx 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? 7.9 km²

What is the average elevation of the drainage basin? 79 to 0 metres

Is the drainage basin outlined on an attached map? xx Yes ___ No

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

See section 2.2 of attached document

3. Channel characteristics:

Is the course of any channel changed? ___ Yes xx No

4. Will the cross-section of any watercourse be changed? ___ Yes xx No