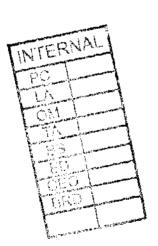


P.O. Box 119 GJOA HAVEN, NT X0E 1J0

Tel: (867) 360-6338 Fax: (867) 360-6369 kNK5 wmoEp5 vtmpq NUNAVUT WATER BOARD NUNAVUT IMALIRIYIN KATIMAYINGI

Water Licence Application Supplementary Questionnaire for Municipalities

I. GENERAL





	1.	Date:	February 27, 2001		
-	2.	Applicant:	Cape Dorset Baffin Regio Municipality and Region		
	3.	Contacts:	Hayward Sims Name of Contact	_	
		Senior .	Administration Officer Position	_	
			(867) 897-8943 Telephone #	(867) 897-8030 Fax #	muncdsao@cyberus.ca E-Mail
	4.	Community	Status:Village _X_ Hamlet	Town City Settlement Corpora	ation
	5,	_X_ New	status of the municipality's Application val - Water Licence #		the application.
	ATT	ACHMENTS	S		
	1.	Attach currer	nt or up-to-date detailed map	o(s) showing the loca	tions of the:
		a. raw w b. water c. fuel a d. sewag e. waste f. solid g. hazare h. transp i. existin occur sites. j. Tradit campi	vater intake; storage and treatment facility and chemical storage; ge treatment facilities (lagoor water treatment area and disc waste disposal areas and draid dous waste disposal area; cortation access routes; and water bodies/courses and a as a result of water use or water (Outline drainage basin); tional use areas outlined on si ing, fishing, etc.	ties; n, honey bag pit, wether charge outlets; inage patterns; any changes to these aste disposal facilities ite map and areas are	
		Are maps atta	ched? Yes X No		
		Gary Strong j are currently line replacem	consuming on projects in the	ellowknife has all the e Municipality for he	e updated documents required as they oth the Sewer Lagoon And water pipe e drawings you already have in your

Ħ.

Indicate which organization has provided the various maps or diagrams. Dillon Consulting from Yellowknife @ Ferguson Semek Clark Iqaliut

III.	WAT	ER S	SUPPL	Y
		*/# >		

	2. Name of water source and alternative, if any. 3.	
	Tee Lake	Dead Dog Lake
	Primary Source	Secondary Source
3.	Usual break-up & freeze-up period:June	_October
	Break-up	Freeze-up
Wat	er Intake	
١.	Please provide short descriptions for the following	ā.
	a. Freshwater intake facility2-¼ inch Galvanized	
	b. Operating capacity of pumps used 60 gpm pump	
	c. Intake screen size 2 1/4 inch	
Vate	Type of water storage facility (Ch. 1. 1. 1	
•	Type of water storage facility. (Check where appliance Reservoir/Pond X Storage tank no	cable) one
	Other Description:	
	If "reservoir" checked	

What type of liner? Neoprene		. When was	When was it installed?	
Water Treatment				
F: W	ity of the water, ummer: all: /inter; oring:	_X_ good _X_ good _X_ good _X_ good	fair fair fair fair	poor poor poor
3. Type of water treatm Filtra X_ Chl None Othe	tion and chlorinat orination only	tion		

Description

Water Use And Distribution

1. Volume of water use:

Distribution	Estimated number of people on the system	I stimated average water consumption (Littles capita day)	Lotal water consumption (Litres day)	
PIPED		is —	ANB	

TRUCKED	1250 People	90 liters per person	112500 liters per day
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	772500 Ittors per day
		TOTAL	
<u> </u>			

General Condition of the water supply facilities

1.

ai Co	nation of the water supply faculties
Gene	eral condition of the:
a.	Water supply facility Satisfactory X Unsatisfactory
year	If unsatisfactory, explain. The pipe line is 25 years old and decaying the galvanizing on the inside of the pipe at the ges has flaked off and we are collecting residue at each water sample. The flanges where the pipe are showing signs of fatique. Note: Total pipe line replacement is scheduled to commence this I quote project plan Number 4-002-473 from Gary Strong from Dillon Consulting a copy of h is in your office.
b.	Storage facility X Satisfactory Unsatisfactory
	If unsatisfactory, explain.
c.	Distribution system SatisfactoryX_Unsatisfactory
	If unsatisfactory, explain. Total Pipe line replacement required as outlined in previous paragraph Above
Modi	fications
1.	Are there any changes planned for the water supply system? NoXYes
	If yes, please attach a copy of the plan, or describe changes. Provide information on the implementation schedule. Total Pipe line replacement is scheduled to start this spring under project Plan number 4-002-473 supplied to your office from Gary Strong of Dillon Consulting from Yellowknife

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

The project plan # 4-002-473 for total pipe line replacement has the full support from the Municipality of Cape Dorset Council , Mayor & Residents

	tification there signs identifying drinking water sources presently used by the municipality? Yes _X_No
IV.	SEWAGE DISPOSAL
1.	What type(s) of sewage treatment does the community have? X_ Lagoon Mechanical system Wetland Honey bag Combination/Other: describe
Lago	on (if applicable)
Ι.	Has there been any operating problems with the lagoon?
	X Yes No
	If yes, describe
water	There are currently three cell located beside high rocky cliffs. During spring run off the washes out the end of the lower cell and overflows the upper 2 cells not allowing seepage to
filter	normally. This causes raw sewage to infiltrate the fish migration route through the community
Mech	anical System (if applicable)
1.	Describe (type, specifications, operation and maintenance program for the mechanical wastewater treatment system).
	None
2.	Are sludges produced ?
	Yes X No
	If yes, describe how the sludges are disposed of:
	nd(if applicable)
1.	Describe the Wetland wastewater treatment system.
	N/A

	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:
	<i>Comm</i> 1.	nercial, Industrial and/or Hazardous Wastes 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) YesX_No
		If yes, indicate sources, types and quantities.
	1.	Are fish, shell fish and other wildlife harvested in or near the discharge area? _X_YesNo If yes, indicate species harvested, and level of harvest. Clams Skullpin and cod harvested by local residents for local's consumption by their catch in the bay the present discharge from the lagoon is contaminating the catch and the residents will not fish there any more
Gener	ral Condi General	ition of the sewage treatment facilities
	Somera	Condition of the
		Sewage collection system SatisfactoryX_ Unsatisfactory If unsatisfactory, explain.
	As I me	entioned before there is an ongoing problem with the sewage lappon cell washing out consider
	run sen	vage to enter migration routes of the afore mentioned species of shellfish and fish, Gary from Dillon Consulting and David Parker from Cg&T were in the community on Febuary

20,2001 to address the problem. They are currently addressing they are currently addressing the problem and working on a viable solution. You can obtain more information from Gary Strong from Dillon Consulting in Yellowknife. Gary has the current site plans and a possible new location site plan in the works. It is in the 5-year capital plan to improve the lagoon or replace the existing system with a sewage treatment plant for Cape Dorset.

- b. Discharge control system

 ___ Satisfactory __X_ Unsatisfactory
 If unsatisfactory, explain.

 For the same reasons listed above
- c. Dams, diversion dykes, berms

 ___ Satisfactory __X_ Unsatisfactory
 If unsatisfactory, explain.

 Full explanation listed above

Modifications

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

It is in the 5 year capital plan for complete re-construction of the sewer lagoon or a sewage treatment plant. Gary Strong from Dillon Consulting and David Parker were in the community on the 20th of February 2001 to address the urgency of the on going problems with the lagoon and are presently working on a temporary solution until the prototype sewage treatment plant in Pangnirtung proves its meeting all standards and codes. They are also looking into other options available. You can Contact Gary Strong from Dillon Consulting in Yellowknife for more information.

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

The Municipality of Cape Dorset residents, Mayor & Council have been trying to repair the ongoing problems with the lagoon as they fear that their health is at risk due to the breakdown of the lagoons and the raw sewage entering into the traditional migration of sea food they consume in the community. The Municipality of cape Dorset welcomes any improvements that can be made to the lagoon or the construction of a sewage treatment plant to clean up their fish habitat. The landscape all over Cape Dorset is extremely rocky and high cliffs this hinders development in a lot of area's.

Abandonment and Restoration

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

Because of the afore mentioned problems the community has had to resort to the old sewage lagoon located close to town for dispensing as a result of the failure of the upper cells outlined in the above paragraph

Identification

Are there signs identifying past and present sewage disposal sites? Yes X No

V. SOLID WASTE DISPOSAL

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

We conduct daily pick up of garbage and it is trucked to a site located out of town. The solid waste is burned once a week weather permitting. The solid waste dump is located west of town and the site and is sitting in a large depression.

2.	Is the solid waste site fenced?	_ Yes _ X _ No
3.	Is the fence adequate?Yes	s _X_ No
	If no, describe	

Waste 1.	P. Reduction Does the municipality burn garbage? X Yes No
	If yes, describe how and when this is done. The Municipality currently burns garbage twice a week providing the wind is correct and it does not pose a health threat to the community.
2.	Has the municipality considered measures for waste reduction such as recycling or reuse? YesX_No
	If yes, describe
Anima	Does the municipality have an uran for the diament of animal and
1.	Does the municipality have an area for the disposal of animal carcasses? Yes X_No If yes, describe the location, drainage and operation/maintenance of the site
Wasta	Oil Pit
	Describe the waste oil storage area. We currently collect the waste oil in barrels and burn it in a waste oil burner(resinator) located in the repair facility in the Municipal Works Garage
	Scrap Metal Waste Disposal Area
1.	Does the municipality have a scrap metal or bulky waste disposal area? _X_YesNo
	If yes, briefly describe its location and operation plan. The Metal wests dump is located as the advantage of the control of
metals	The Metal waste dump is located on the edge of town. Our long range goals is to separate the cut it, cube the metal and transport it out of town on back haul on sea lift to be crushed and
aispose	ed of in t he south

Commercial, Industrial and/or Hazardous Wastes Disposal Area

Yes _XNo If yes, please indicate sources, types and quantity. 2. Will the municipality use a hazardous waste disposal area?Yes _XNo If yes, describe its: a. Location b. Structure c. Operation and maintenance (describe special handling/disposal methods for these waste	
Yes X No If yes, describe its: a. Location b. Structure	
b. Structure	
c. Operation and maintenance (describe special handling/disposal methods for these waste	
	es)
General Condition of the Solid Waste Disposal Area 1. Comment on the general conditions of the:	
a. Solid waste disposal area Satisfactory X Unsatisfactory If unsatisfactory, explain.	
Currently the solid waste dump and burn dump is in an open pit area located at the bas rocky cliff up stream from the sewage lagoon. The community would like to see some type of a doub system such as an incinerator or equivalent installed	e of a le burn
Modifications Are there any changes planned for the solid wayte disposal area?	
Are there any changes planned for the solid waste disposal area? _X_NoYes If yes, attach a copy of the plan, or describe changes. Provide information on the implementat schedule.	

2. Are changes needed to the solid waste disposal area? Describe. The condition of the solid waste dump should be addressed currently we dump and burn in an open pit environment and the residue sometimes enters town causing thick smoke and respiratory problems with our elders and residents with respiratory problems. We try and burn on days when winds allow however the wind direction changes and the thick smoke diverts to town a second-burn incinerator would solve most if not all this problem			
Aba 1.	ndonment and Restoration List and describe abandoned or restored solid w Indicate their location on a map.	aste facilities.	
	atification Are there signs identifying past and present solic Yes _X_No	l waste disposal sites ?	
/T.	INSPECTION AND MONITORING		
1.	When were municipal facilities inspected by: _X_ Indian and Northern Affairs Inspector _X_ Municipal and Community Affairs _X_ Other:	Date: September 2001 Date: February 20,2001 Date: February 20,2001	
2.	Is there a system in place for reporting spills? _X Yes No If yes, describe. Form supplied by the Federal government spill spill is detected	center to be completed and registered as soon as the	
3.	Is there a contingency plan for clean up of spills? X_Yes No If yes, describe.		

VI.

3.

Contact the spill center remove the contaminated material storage in containers for removal and destruction, resurface of contaminated area, inform all personnel such as S.A.O, local enforcement officials and Sustainable Development dept of Renewable Resources

4.	Ify	⁄es,	any spills occurred in the past five years? YesX_No describe and show on a map the locations of the spills. What action has been taken to clean the ed areas?
Monit 1.		_	Program
1.	15 \		er sampling and analysis done ? YesNo
	If	Yes	, answer the questions a to e
		a.	Briefly describe how samples are taken and sent to the laboratory. The samples are taken to the community health center and air freighted to Iqaliut These Samples are taken once a week
		b.	Briefly describe any monitoring done for wastewater effluent and leachate. None
	c.		Who is responsible for water sampling? Name: Rolland Godin
			Position: Journeymen Plummer
			Telephone #: <u>(867) 897-8878</u>
			Fax # :
			Level of training: Received training from Enviormental Health Services
	đ.		Recognized laboratory performing analysis of samples.
			Name: Environmental Health Services

Address: Igaliut Nunavut

Telephone #: <u>(867)979-7656</u>

Fax #: <u>Unknown</u>

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

Yes X_No

If yes, describe.

VII. PUBLIC CONCERNS

 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 concerns of the Municipality of Cape Dorset are as follows:

- 1. That the replacement of the water pipe line that is the lively hood of the community take place as per project plan # 4-002-473
- 2. Solution the planned replacement of the water pipe line is starting this spring
- 3. That a safe and complete resolution of the sewer lagoon problem be addressed Solution Studies are under way with Gary Strong from Dillon Consulting and David Parker from C.G&T as of February 20,2001 effect repair or construction of a new site.
- 4. That the hazardous material be disposed of in a safe manner until they can be transported out of the community.
 Solution We have to come up with a contingency plan for storage until they can be moved out of town via sea-lift
- 5. Clean up of the metal dump and moved further from town until it can be cubed and removed Solution The Municipality is seeking funding from the federal Government for the complete clean up and removal of the scrap metal via sea-lift back haul.
- 6. Incinerator is built to burn solid waste dump to prevent heath related problems.

 <u>Solution</u> The community will have to seek funding for the purchase of an incinerator to accommodate the amount of solid waste to be burned.

VIII,	PUBLIC HE	ALTH (To be filled by the Regional Environmental Health Officer)
1.	Date:	February 27, 2001
2.	Municipality.	Cape Dorset, NU
3.	Confact:	Shaun Mackie, Environmental Health Officer
		Telephone #: (867) 979-7654
		Fax #: (867) 979-7659
4,	water?	en any problems or health/environmental concerns with drinking YesNo
	If yes, describe	e '
	A new supply	line must be installed to the pump house.
5 .	disposal/treatm	en any problems or health/environmental concerns with sewage ment? Yes No
	If yes, descr	ribe
		n system provides little/no treatment of sewage. Sewage flows d down toward the ocean. A new lagoon must be completed ASAP.
б.	Have there beddisposal? _X_Yes	en any problems or health/environmental concerns with solid waste No
	If yes, describe	9

No perimeter fence installed to limit wind-blown garbage. Commingled waste is burned, there is little separation taking place. Only clean-burning organic waste should be burned.

1.	Does the Reg	ional Health B	loard perform water quality sampling?	
	No	X Yes	If yes, answer questions (a) to (c)	

Briefly describe the sampling methodology.

Drinking water samples are collected by the Municipality and shipped to Environmental Health in Iqainir. These samples are analyzed for total coliform and E coli bacteria using a membrane filtration technique. Results are then disseminated by the Environmental Health office.

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

None performed by Environmental Health.

Who is responsible for sampling? C.

Name:

Municipality of Cape Dorset

Position:

Telephone #: (867) 897-8943

Fax #:

(867) 897-8030

Level of training:

Recognized laboratory performing analysis of samples. đ.

Name:

Environmental Health

Address:

PO Box 1000, Stn. 1046

Iqaluit, NU XOA 0H0

Telephone #: (867) 979-7654/7656

Fax #:

(867) 979-7659

Are any changes planned in the water quality monitoring program? Yes X No If yes, describe.

FAX 813-3328

PLEASE FAX
BACK TO
D. HALMCS
(\$D 877-8250-

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 difficult with this section).
 - I. Date: MARCH 15,2001
 - 2. Municipality: CAR DORSET
- Contact: DAU D PARKETC
 (Community Government and Transporation Representative)

Telephone # (367) 975- 5311

Fax #

4 Population (according to most recent census results):

125 Births

5. Estimated growth rate over next 5 years:

300 PUL TO EX PROSION FROM DECENTRALIZATION + THE 125

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:

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Prepared by

<u>Title</u>

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?

XNo 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?

X_No __Yes

If yes, provide details below.

Prepared by

Title

Completion Date

If no, are such studies being planned? X No Yes.

If yes, specify:

Attachments

Page 17 of 24

WAHack Copy of FSC DRAGING

- Attach detailed plan or drawing(s) of the present solid waste disposal area. Include the following ١. information:
 - details of pond size and elevation; 2.
 - details of all retaining structures (dimensions, materials of construction, etc.); Ъ.
 - details of the drainage basin, and existing and proposed drainage modifications; C.
 - 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;
 - location and construction of liners; g.
 - h. leachate and groundwater collection systems; and
 - i. control structures.

- Attach detailed plan or drawing(s) of the present sewage treatment system. The drawing(s) should 2. include the following:
 - details of all retaining structures (dimensions, materials of construction, etc.);
 - b. details of the drainage basin, and existing and proposed drainage modifications;
 - details regarding direction and path of wastewater flow from the area; Ċ,
 - indications of the distance from watercourses and fish bearing waters; d.
 - all sources of seepage presently encountered near these areas, including volumes (m³/day) and e. directions.
 - f. The volume of seepage flow (m³ / day); and
 - The direction of each flow. g.

FOR 1+2 see attacknessed A

3.	Are drawings for the solid waste disposal area and sewage treatment system attached? YesNo
	If Yes, who has provided them?
	If no, indicate when they will be available.
Hydi	rology
1.	Effects on surface water flow:
	Are any stream channels altered? Is the natural storage or water level of any lake or pond changed? Yes No You
	Is the natural storage or water level of any lake or pond changed? Yes XNo
	Are there changes in water flow downstream of the project? Yes No
No	ls a storage reservoir created in a natural channel? Yes X
	If yes to any of the above, briefly describe the expected change in flow or storage:
2.	Drainage Area:
- .	What is the drainage area? O. 6 km ²
	What is the average elevation of the drainage basin? 160 metres
	Is the drainage basin outlined on an attached map? Yes No See ATTACHMENT B
	SEE ATTACHMENT B
	Describe the drainage basin characteristics, (vegetation, general soil type, lakes, swamps and permafrost areas, etc.)
	- Prodonind Bullock outerys, hourly tructions
	- pernulosed regioned servert.
	-
3 .	Channel characteristics:
	Is the course of any channel changed? Yes No

MAR 15 2001 11:19 PAGE.04

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	Supp	ly
,,,		~,

- What is the rate of withdrawal from the source? 240 m³/day. 1.
- is water drawn from the source 2.

intermittently continuously

- 3. If it is drawn intermittently, during what month(s) is it drawn?
- For what period is it drawn (days/weeks/months)? 24-7. 4.
- What is the rate of flow of source (if river) or size (if lake)? 5.
- 6. At the intended rate of water usage, describe the effects on the river or lake from which water will be drawn.

NONE

Water Intake

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

in clined shuft the down well pump

screen to prevent fish entrypinent

b. operating capacity of the pumps

600 Rlmin

intake screen size C.

See Attention C

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Water	Storage
-------	---------

1,	Is a dam or dyke being used to store or alter the flow of water?YesYes
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 Indicate the capacity of the treatment facility/
2.	What is the capacity of the water storage facility. 534 m ³
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? NoXYes
	of 24 Truckfill station due to
Page 21	of 24 Truck fill station and to

	If yes, attach a copy of the plan or indicate changes and include an - Precionsly implementation schedule. Include excerpt from MACA Capital Plan if available.		
Sewa	ge Disposal		
1.	Indicate the level of sewage treatment:		
2.	Indicate the capacity of the sewage treatment facility 27,000 m ³		
3.	Based on current population projections, the facility will meet the needs of the community until the year		
4.	Average depth of the wastewater lagoon 3. 0 m.		
5 .	What is the design freeboard? O. 3 m.		
6.	Indicate the retention time of the sewage while in the treatment facility 50 days.		
7.	Indicate the estimated rate of discharge of wastewater 2.0 L/sec.		
8	Indicate the location of the discharge point See Define of rent D		
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 Yyes If yes, attach a copy of the plan or indicate changes and include an implementation schedule. Unclin 5 tucky at this time.		
	Include excerpt from MACA Capital Plan if available		

Solid Waste Disposal				
1.	Indicate the capacity of the disposal area	m³.		
2.	The average depth of the solid waste disposal site	m.		
3.	The current facility will meet community needs un	til the year 2020		
4.	Do any natural watercourse enter the solid waste dused to decrease the amount of runoff water entering	isposal area? What methods are ng these areas? Defection		
5.	Indicate the volume of water that may enter these a attach all pertinent details of the diversions.	reas from any source(s) and		
	Source	Volume		

Please describe any diversions of watercourses.

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6.

7.	Are there any changes planned in the solid waste disposal facilities
	× NoYes
	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

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