

Contacts:

Don Holmes
Director Municipal Works
Municipality of Cape Dorset
Box 30, X0A 0C0
Tel: 867-897-8834
Fax: 867-897-8250
Email: muncdmwx@cyberus.ca

Dave Parker
Community Govt and Transp.
Iqaluit NU
Tel: 867-975-5311 : 975-6442
Fax: 975-6454
Email: dparker@gov.nu.ca

Hayward Sims
Senior Administrative Officer

Environmental Samples taken by:
Rolland Godin
Journeymen Plummer

Application

Dated April 12, 2001 Received April 19, 2001
Posted April 23, 2001
Deadline Comments May 25, 2001
DFO request extension June 27, 2001
June 20 file put on hold pending CEAA screening by DIAND refer to update
January 31, 2002

General

- Total replacement of water pipe line Dillon Consulting)
- Proposed plans for water and sewer (Dillon Consulting)
- Confirm that Dillon Consulting project included lagoon-restructuring details. (4-002-473)
- Note FSC brief on sewage and solid waste relocation design concepts completed in 1996. Unclear if work implemented.

Water Supply

- Primary source Tee Lake; Secondary Dead Dog Lake.
- Storage tank used: What is current capacity compared to current use?
- Lined Reservoir: Installed in 1996 Neoprene
- Chlorination treatment only
- Trucked water supply at capacity of 112,5000 L/d for ~1250 people.
- 25-year-old pipeline scheduled for upgrade in summer 2001. Confirm work completed.
- No signs identifying drinking water supply.
- Public Health (PH) confirms need for water supply. Samples collected and analyzed for total coliform and E-coli bacteria.

- Public Works (PW) Water storage capacity 534 cu.m. Chlorination treatment. Confirm pipeline replacement proposed.

Sewage Disposal

- Lagoon
- PW primary lagoon, 27,000 cu.m. Avg depth=3.0m Design freeboard 0.3m (concern min @1.0m?) Retention time=50 days.
- Operating problems: three cells located beside high rocky cliffs. During spring runoff the water washes out at the end of the lower cell and overflows the upper 2 cells not allowing seepage to filter normally. Causes raw sewage to infiltrate the fish migration route through the community.
- Clams, skulpin and cod harvested by locals in the bay, with present operating problems area no longer harvested.
- Dillon and CGT in community (Feb 20, 01) to address problems.
- Possible new site planning study in the works. Within the 5 year capital plan to improve or replace lagoon with a mechanical sys. Confirm with Dave Parker on status?
- Reference made to prototype sewage treatment plant in Pangnirtung. Is this facility operational or going ahead?
- Personnel safety issues landscape in Cape Dorset extremely rocky and high cliffs. Needs to be considered when determining SNP protocols.
- Community resorted to using old sewage lagoon located close to town. Concern with capacity. Treatment efficiency?
- PH sewage receives little or no treatment near town. No sampling of effluent done by EHO

Solid Waste Disposal (SWS)

- Site located west of town in natural depression. Open burning once-twice/week. Unfenced. No signs.
- Waste oil collected in barrels and burnt in waste oil burner (resinator) at the Municipal Works garage.
- Metal waste dump located on the edge of town. Unclear if site is separate from the main solid waste facility? Future expectations to crush/cut and backhaul to south.
- Concern that SWS located in open pit area at base of the rocky cliff upstream of the sewage lagoon. No changes planned.
- Concern with respect to health concerns associated with open burning. Community would like to see an incineration unit installed.
- No indication by community on past/abandoned SWS. Is this an issue?
- PH no perimeter fence to limit wind blown garbage. No separation of open burned wastes.

- ❑ PW current facility to meet needs until year 2020. Ditching to control runoff. No changes planned to the SWS.

Inspection/Monitoring

- ❑ Review inspection report from DIAND Sept 2001:
- ❑ Check with Community Govt and Trans. Re: summary of visit last Feb 20/01
- ❑ Spill Contingency measures not formalized. No spills w/in last 5 years? Are lagoon breaches considered spills?
- ❑ Community takes samples weekly, which in turn are sent to Iqaluit for testing.

Community Concerns

- ❑ Pipe line project proceed as planned summer 2001 (likely already completed non issue)
- ❑ Sewage Lagoon problems resolution: work ongoing with D. Parker and Dillon Confirm status
- ❑ Hazardous material storage prior to sea-lift transport south. Need contingency plan Discuss with Dave Parker?
- ❑ Metal Dump relocation further from town. Waiting federal funding. Does CGT have any interim measures proposed?
- ❑ Funding for incinerator to deal with Solid Waste.

Review Public Registry

- ❑ As built for sewage and Solid waste developed in summer 1996.
- ❑ Dillon officially notified NWB of water supply upgrade in Feb 2001. No comments provided because community unlicensed.
- ❑ FSC Sewage and Solid Waste Relocation Design and Operational Concepts Brief June 96 FSC drawing show existing lagoon, incomplete 1995 lagoon, proposed location for fourth lagoon. (Engineered lagoon/dumping area and overland wetland treatment system)
 - What components of this plan were implemented w.r.t. Sewage treatment?
 - What components implemented w.r.t. Solid Waste Disposal?
- ❑ Design brief for Water Supply Improvements by Oliver Mangione, McCalla and Assoc. (May 1991) implemented? Confirm as built drawings provided.

DIAND Inspection/Compliance

- ❑ July 23/01
 - Water supply improvements acceptable Turbidity @ 2.3 NTU (AO=5, MAC=1)

- New sewage facility not utilized? Discharge effluent observed at the decant culvert of first cell. FAL levels of phenols and ammonia exceeded. Old sewage lagoon serves as main discharge point.

Follow-up Discussion with Dave Parker (CGT)

Teleconference March 26, 2002

Water Supply

Contract for WS not totally completed will be completed this summer problems with delivery of a component (too late for installation), operation and tested online as soon as weather permit (i.e. July end).

Recent problem heat trace failed. Temporary line installed refer to file. To remedy problems more long term solution CGT flew-in new line by Hercules (2" poly pipe pre packaged) Temporary solution was only needed for ~ 5 days. Approved primary water supply Tee Lake now being used.

Sewage Treatment

Sewage Lagoon - looking to install new lagoon, finite area available, runway restriction, and land use residential restrictions, and parks. Building a Lagoon is not looking like a viable option. Looked at small lake but as it turns out it is the last freshwater source/emergency water supply for the community and therefore not viable. CGT directed consultant (Dillon?) to determine appropriate site for wastewater treatment plant.

Temporary sewage waste disposal site being used. Temporary site offers very little better treatment (Dave mentioned it was similar to what has been used in Pang for years).

Wade Commin, EC Officer -Order indicates new site must be in place by Sept 30, 2002. Dave mentions that this may not be realistic.

The 3 cell lagoon has not been used for quite some time, spring runoff water from of mountainous are flows through the area with great force and breaches the dykes of the lagoon. Community build the system on their own. Not engineered.

Planning study done by Dillon. Options discussed: use lagoon/wetland mechanical (not yet proven in the arctic). Parker visited community twice. One site looked promising but SAO then indicated that is was within the Park. No area available to meet design needs for a lagoon.

Choice option is a Mechanical Treatment System. Two different sites being investigated. Possible implementation schedule is as followed: Purchase this year, design RFP in April/May, award contract May, 50% class z estimate June, full design by Aug/Sept, sea lift arrive Oct (this pending 2nd ship, if there is no second ship things may be delayed another year). Construction/operation testing next year.

I request a copy of Dillon's planning study. Temporary site no (treatment sump hole) no retention time overflow through culvert dribbles down hill to ocean. Likely no sampling is done on sewage disposal area. Just prior to ocean recommended for sampling.

Old site remediation at present not scheduled. Once new system is operational obligation to plan and remediate the old site rests with CGT. Note 3Cell lagoon is located in deep gully lots with lots of flushing, likely not a lot of heavy residuals. Temporary site would also be included with the 3 cells. Most contaminated etc. would be temporary. 6 months is reasonable with respect

Solid Waste

Solid Waste- metal dump is closer to the town and burn site is further from the community. The facility not engineered by CGT community incentive. Ball park estimate may be avail site layout Not likely realistic to plan crush/cut backhaul. Solid waste leachate flows down the same gully where the 3-cell lagoon is located.

Unsure if leachate can be monitored check with Hamlet Foreman. Will the site meet community needs until 2020? Dave indicated that Capital Plan solid waste improvement money has been identified for upgrade 2003/2004/2005 future expansion. \$1M is identified and therefore something is likely substantial is planned but Dave unclear on specific details. Closure option will then have to be identified.

Hazardous material storage in C-container usually recommended. Problems are that inventory needs to be kept. Ultimate shipping of waste to the south is recommended.

Lead to discussion on OM Plans. I discussed with Dave the options available to have communities complete OM Plans maybe CGT could incorporated them into the new facility design requirements and the consultant could have them prepared prior to operation. Discussed benefits to community and benefits to CGT and NWB licence requirements are complied with. Dave will check with Doug Sitland. I raised the issue of funding to communities.

Pending: Planning study for sewage treatment facilities will be forwarded. Drawings need from Dave Parker or Dillon re: site map and locations of Solid waste, sewage lagoon, bulky waste, temporary site, water supply, drainage, etc. prior to licence being finalized. Document received March 27, 2002 via email.

Submissions by the Parties

Environment Canada (EC)

- ❑ Anne Wilson, Tel: 867-669-4735 or anne.Wilson@ec.gc.ca
- ❑ May 22, 2001
- ❑ Agrees rehabilitation/upgrade sewage treatment needed to protect downstream fishery
- ❑ AR plan for old sewage lagoon will implementation once new system becomes operational.
- ❑ SW; EC recommends improvements to management practices.
 - Separation of all hazardous waste, with secure storage and appropriate disposal;
 - Development of basic spill contingency plan which sets out all the steps to be taken in the event of a spill, including maintenance of a stock of appropriate sorbents and clean-up materials.
 - Installation of a perimeter fence at the landfill to contain wind blown garbage.
 - Mitigation measures to minimize/prevent leachate created by the dump from entering marine waters. (i.e., diversion ditches/berms)
 - Bulky wastes encroaching below high water mark. Remove of material required.
 - OM manual should include buffer zone between areas of waste disposal and water bodies.

Health Social Services (HSS)

- ❑ Shaun Mackie, Tel: 867-979-7654 or smakie@gov.nu.ca
- ❑ April 24, 2001
- ❑ Samples required monthly not weekly

NWMB

- ❑ Josee Galipeau, Tel 867-979-6062
- ❑ Concerns with raw sewage infiltrating fish migration route and discharge from sewage lagoon is contaminating fishing area.

DIAND

- ❑ Michael Roy, Tel 867-975-4555 or roymjp@inac.gc.ca
- ❑ May 25, 2001
- ❑ Recommends
 - Water supply
 - Tee lake with annual volume not exceeding 70,000 m³/yr.
 - Assessment of Tee Lake as source capable of supporting long term community needs. (Assume licence until 2006)
 - SNP to measure volume at intake. May be more practical to establish at truckfill station.
 - Sewage Disposal

- SNP establish to sample most visible area of flow, parameters as outlined in Guidelines.
- Sample annually during periods of flow until improvements made (TSS 180 mg/L, BOD 120 mg/L, pH 6-9, Oil Grease – no visible sheen, Ammonia Monitor only).
- Old sewage lagoon used when wash out of dykes therefore establish SNP station when in use.
- Solid Waste
 - OM plan required with Board approval.
 - SNP station to monitor runoff/leachate. Parameters not too erroneous.
- Warning signs at all facilities
- Abandonment and Reclamation
 - Plan required prior to abandoning new facility.
 - Sewage lagoon and temporary lagoon will need to be considered.
 - Board approval required
- OM Plan
 - Within 6 months of issuance of the licence. Basic requirements to address waste metal, hazardous waste disposal, identify designated areas and handling procedures.
- Recommended term of Licence - 5 years.
- Recommends review of draft licence.
- CEAA screening required if Board decides on holding Public Hearing.

DFO

- Jordan DeGroot, Tel 867-979-8007
- July 19, 2001
- Insufficient information to allow proper screening. Provide hydrological assessment examining potential impacts of the project on fish habitat including mitigation measures to prevent sedimentation from the lagoon dykes.
- **Follow-up needed with DFO**