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NWB File: 3BM-CAP0810
Our file: 4782 048

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Via Email: licensing@nunavutwaterboard.org

Re: Operation and Maintenance Manual for Licence 3BM-CAP0810

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to EC's responsibilities under the *Canadian Environmental Protection Act*, and Section 36(3) of the *Fisheries Act*.

The Hamlet of Cape Dorset (Hamlet) has submitted their Operation and Maintenance (O&M) Manual for their Sewage Disposal Facilities to the Nunavut Water Board (Board) for review. Environment Canada has the following recommends for the Board's consideration:

General

- All mitigation measures identified by the Hamlet, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of the Hamlet's representatives (including contractors) conducting operations in the field. EC recommends that all field operations staff be made aware of the Hamlet's commitments to these mitigation measures and provided with appropriate advice / training on how to implement these measures.
- The Hamlet must ensure that any effluent discharged must be in compliance with Section 36(3) of the *Fisheries Act*. According to the *Fisheries Act*, Section 36(3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited.
- There are some inconsistencies throughout the O&M manual with respect to the Monitoring Program.
 - Section 3.4.1 page 8 of the O&M manual, refers to the Effluent Discharged from the 2001 Sewage Disposal Facility as sampling station CAP-3 and the Emergency Sewage Disposal Facility as sampling location CAP-4." However, in Table 5, CAP-3 is identified as the Influent of Wastewater to Wastewater Facilities, CAP-4 as Effluent Discharge from 2001 Sewage Disposal Facilities, and CAP-5 as Effluent Discharge from Emergency Sewage Disposal Facilities. This inconsistency is also occurs in the water licence in Part D, item 4 and Part H item 1. EC recommends that the Board and the Hamlet review this inconsistency

- in the licence and O&M Manual to ensure that the correct monitoring stations are being sampled.
- Section 3.4.4 page 10, lists the discharge limit expected for faecal coliforms after the treatment to be 1.5×10^4 FCU/100 ml, whereas the limit in the licence for faecal coliforms is listed at a value of 1×10^4 FCU/100 ml. EC requests that the Hamlet update the O&M manual to reflect the water licence requirements.
 - Section 3.4.9 page 19 states that stations CAP-6 to CAP-14 will be sampled one week prior to decant and weekly during decanting of the lagoon; however, on page 12 it states that samples will be taken from stations CAP-3 to CAP-15. The water licence requires that samples be taken from “Monitoring Program Stations CAP-3 through CAP 15, one week prior to the proposed discharge date, once at the beginning of the discharge and weekly thereafter until cessation of discharge.” EC requests that the O&M manual be updated to reflect the water licence requirements.
- Additionally, Section 3.4.4 page 14, provides an overview of the proposed sampling protocol for the sewage treatment system. The report recommends that water samples be taken weekly during periods of open water over several years in order to obtain data for trend analysis. It is stated that the program could be scaled down after the first year to remove sample locations that are not considered essential, such as the lagoon inflow and along the wetland path. Environment Canada recommends that the sampling program only be scaled back if the results obtained during the first two years of operation are consistent. It is recommended that the monitoring program be continued for 2 years in order to allow time for any sediment resulting from construction to be flushed through the system and not influence actual treatment results.
 - Environment Canada recommends that in addition to the Sludge Management Plan provided in Section 3.4.6, the Hamlet should provide information on operational procedures for the environmentally sound removal and disposal of sludges. These procedures should include characterization to ensure disposal options are appropriate.
 - EC notes that the CCME Strategy for the Management of Municipal Wastewater has been signed, and that northern jurisdictions can expect performance standards for BOD5 and TSS to be regulated following a five year period which starts in 2009. We anticipate that the standards for these parameters may be higher than the 25 mg/L for each that is proposed for the southern jurisdictions and the Yukon. Also, it should be noted that carbonaceous Biological Oxygen Demand (cBOD) will be the regulated parameter, and it would be prudent to add this to the list of licence parameters now, in order to gain some idea of the system’s track record over the next five years.

Fuel Storage and Spill Contingency

- Secondary containment or surface liners (drip pans, fold a tanks, etc.) should be placed under all containers and vehicle fuel tank inlet and outlet points, hose connections and hose ends during fuel or hazardous substance transfers. Secondary containment should be of adequate size and volume to contain and hold fluids for the purpose of preventing spills (the worst-case scenario).
- The number listed for Environment Canada in Section 7.2 of the Spill Contingency Plan is incorrect. The contact number for the Iqaluit Enforcement Officer is (867) 975-4644.

If there are any changes in the proposed activities, EC should be notified, as further review may be necessary. If you have any questions regarding the foregoing please contact Carrie Spavor at (867) 975-4631 or via email at carrie.spavor@ec.gc.ca.

Yours truly,

Original signed by

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cc: Carey Ogilvie (Head, EA-North, Environment Canada, Yellowknife, NT)
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