

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPOSER: Manitoba Aboriginal & Northern Affairs
PROPOSAL NAME: Community of Manigotagan Wastewater Treatment Lagoon
CLASS OF DEVELOPMENT: 2
TYPE OF DEVELOPMENT: Waste/Scrap Wastewater Treatment Lagoons
CLIENT FILE NO.: 3335.20

OVERVIEW:

On January 25, 2005, the Department received a Proposal from Cochrane Engineering on behalf of Manitoba Aboriginal and Northern Affairs for a Development to construct and operate a new wastewater treatment lagoon in the Community of Manigotagan. The new lagoon facility will be located in Lot 8 of Plan 548 in the Manigotagan Settlement. The treated wastewater will be discharged to a discharge ditch which discharges into the Manigotagan River. The Manigotagan River discharges into the Lake Winnipeg.

The Department, on March 15, 2005, placed copies of the Proposal in the Public Registries located at 123 Main St. (Union Station), the St. James-Assiniboia Public Library, the Manitoba Eco-Network, the Brokenhead River Regional Library and the Community of Manigotagan. Copies of the Proposal were also provided to the Technical Advisory Committee (TAC) members. The Department placed a public notification of the Proposal in the Lac du Bonnet Leader on Friday, March 18, 2005. The newspaper and TAC notification invited responses until April 19, 2005.

COMMENTS FROM THE PUBLIC:

Mr. Bob Fenton:

- *It is difficult to tell, but I believe that the trucked sewage load has been under estimated.*
- *My wife and I are permanent residents of the Pelican Harbour development located on the lakeshore between Seymourville and Manigotagan. At the present time there are four other houses occupied on a year round basis and perhaps ten others that serve as year round vacation homes. Both of these numbers will continue to grow as there are a total 128 lots in this development.*
- *In addition to the Pelican Harbour development, the Ayres Cove development with about 40 lots is adjacent to us on the south, the proposed Seymourville cottage subdivision is adjacent to us on the north. Further to the south of us on the lakeshore is the Mantago Bay development. As you are aware, waste water in all of these developments must be stored in vaults and trucked away for treatment. From an environmental and economic point of view, Manigotagan is a good destination and we feel that the lagoons there should be sized to reflect our sewage load.*

Proponent Response (May 31, 2005):

- It will be the responsibility of the cottage owners to make arrangements with a sewage hauler who in turn will make his arrangements for disposal. There are a number of lagoons in the area such as Hollow Water First Nation, Pine Falls, Seymourville, Bissett, or Winnipeg.
- The lagoon cells were sized based on parameters agreed to by the proponent, however in response to your email, the lagoon facility has been re-sized, taking into account the additional cottages mentioned.

Mr. Bob Fenton's response (June 14, 2005):

- *I am concerned that the need for winter storage for this trucked waste is being down played. The concept of a summer cottage is rapidly becoming obsolete with the season being extended for many owners and with more retirees spending much of the year at "the lake". Of the 200 units the consultant is planning for, I expect that shortly after the lagoon is in operation, the full-time equivalent would be 15-20 units. If the trend continues the numbers could be 30-40 within 10 years. Winter storage for these dwellings should be factored in at the planning stage.*
- *The proponent and the consultant make the point that it is the responsibility of developments such as Pelican Harbour to arrange with a private contractor to haul away their wastewater to an approved lagoon. I agree with this point. I disagree that Winnipeg, Pine Falls or Bissett are appropriate sites for our wastes to be dumped. Any of these sites would be prohibitively costly if we could get a hauler to undertake the task of going there.*
- *I understand that there are problems with additional waste being dumped in Seymourville and Hollow Water.*
- *I concur with the Lake Winnipeg Stewardship Board's call for regional wastewater treatment facilities and feel that the new lagoon at Manigotagan should be a regional facility for truck hauled wastewater. As such, both summer and winter capacity should be sized accordingly. Also an all-weather road should be constructed and maintained to provide year-round truck access to the lagoon.*
- *It also seems appropriate that the operating licence contain a clause providing for trucked waste originating outside the Manigotagan community limits to be accepted at the plant. And for truck access to be maintained year-round. Of course an appropriate cost-based dumping fee should be charged to the hauler to be passed on to the waste generator.*

Proponent Response (July 7, 2005):

- Contrary to Mr. Fenton's position that the lagoon should be a regional facility, it is not. The lagoon is being constructed within the Manigotagan community boundaries for use by the residents of Manigotagan not for private developments outside of the community boundaries. Capital funding for the construction of the lagoon has been secured by the community of Manigotagan for this project.
- Once the facility is constructed, the operation of the site along with the associated costs will be the responsibility of the community. As it was never the intent of

- this facility to be a regional site, I disagree with Mr. Fenton's suggestion that the license contain a clause requiring that waste from outside the community be accepted at this site and that the access road be maintained year round. Those are operational issues that will have to be addressed by the community.
- Mr. Fenton's cottage is located in a private development outside the Manigotagan's community boundary and as a private development it is their responsibility to make and pay for their own services, such as sewage disposal at an approved location.
 - I feel that the sizing of the facility is adequate for its intended purpose (serving the current and future residents of the community of Manigotagan). The community will also incur additional capital costs during construction so that the facility can be sized for an additional 200 summer cottages in the area. This is being done as a courtesy by the community.

Disposition:

The lagoon was resized based on Mr. Fenton's comments to provide for additional summer storage.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Agriculture and Food

- *No concerns.*

Conservation - Sustainable Resource Management

- *The proponent should implement sediment and erosion control measures during and after construction of the cells, perimeter ditch, discharge drain and road, until all sites are stabilized to ensure no sediment enters the river.*
- *The proponent has indicated that the total estimated hydraulic loading of the wastewater treatment lagoon is 17,800m³ for the secondary cell with an estimated storage volume of 15,000 m³ for the primary cell. On page 10 of the EIA Report, Table 4.4 Summary of Cell Design Parameters indicates the primary cell will have a design storage volume of 17,800 m³. This apparent discrepancy requires clarification.*
- *On page 14 of the EIA Report item 4.2.2 Decommissioning of Wastewater Treatment plan, the proponent has indicated that sludge which is not sufficiently stabilized will be disposed at a waste disposal ground. The location of the waste disposal ground should be stated and this waste disposal ground should be of a Class 1 type in accordance with regulation 150/91 Schedules D and E.*
- *Treated effluent from the proposed wastewater treatment lagoon will be discharge to a constructed drainage ditch that drains into the Manigotagan River to the south of the site. Since the Manigotagan River is a source of drinking water and eventually drains into Lake Winnipeg the licence should contain a requirement for monitoring the quality of the effluent along the discharge route and the receiving water to accurately quantify the impact of nutrients from the discharge.*
- *The licence should also contain requirements for other parameters that are normally listed in accordance with Manitoba Water Quality Guidelines.*

- *The internal surfaces of the proposed cell should be constructed of a clay liner to meet the hydraulic conductivity of at least 1×10^{-7} cm/sec.*

Proponent Response (May 31, 2005):

- The proponent will implement sediment and erosion control measures during and after construction as required by Manitoba Conservation.
- There was an apparent discrepancy between storage volumes in Table 4.4 and on the bottom of page 10 of the Environment Act proposal. While all numbers given are correct, the labeling on Table 4.4 is somewhat ambiguous. The storage volume listed in Table 4.4 is the TOTAL available storage from both the primary and secondary cells (calculated as half the primary cell volume, plus secondary cell volume minus dead storage). However, the dimensions of the proposed cell have been changed, so the information in Table 4.4 is no longer relevant. Please see Table 1 for revised lagoon design parameters.
- It has been determined that sludge which is not sufficiently stabilized will be disposed of in the new primary cell, as opposed to using a waste disposal ground for disposal of sludge as indicated in the proposal.
- The proponent will monitor the quality of effluent for nutrient concentrations as stipulated in the Environment Licence.
- The proponent will monitor the quality of effluent for all parameters as required by the licence.
- The lagoon cells will be lined with a layer of a least one metre of clay of hydraulic conductivity of less than 1×10^{-7} cm/sec. The clay will be locally sourced, and reworked to ensure that it meets the minimum hydraulic conductivity requirements.

Disposition:

After receiving the additional information from the proponent, these comments were satisfied and are no longer of concern:

Water Quality Management

- *The proponent's estimate of the nutrient load to Lake Winnipeg from the proposed wastewater treatment lagoon appears to be incorrect. In Table 6.1, the total seasonal population is estimated at 200 persons. However on page 6, the proponent indicates that each of the 200 seasonal cabins and sites would average 4 persons each with 40% occupancy (approximately 320 persons).*
- *While the percent contribution of nutrients to the lake is quite small, the Manitoba Government has committed to reducing nutrients to pre-1970s levels. The cumulative impact of small facilities, in particular facilities that discharge directly to Lake Winnipeg, must be considered. Although it is suggested that some nutrient removal will occur along the vegetated channel, no information is provided as to the sustainability of the nutrient removal. Aquatic vegetation and wetlands can become saturated with nutrients and actually begin to release more nutrients than are retained. Without monitoring, it is difficult to determine if nutrient removal is actually occurring along the vegetated channel. As per the*

proposal, a “thorough monitoring program at the facility, along the discharge route, and at the receiving water is required to accurately quantify the direct impacts” on the receiving waters.

- *Therefore, the Water Quality Management Section recommends that the requirements for surface water monitoring be included in the Licence for the Manigotagan wastewater treatment lagoon. It is recommended that the proponent collect grab samples towards the end of the period of discharge. Grab samples should be collected at the point of discharge of effluent from the wastewater lagoon to the existing drainage ditch and at the point of discharge to the Manigotagan River. Variables for analysis should include:*
 - a) *Total kjeldahl nitrogen*
 - b) *Nitrate-nitrite nitrogen*
 - c) *Ammonia nitrogen*
 - d) *Total dissolved phosphorus*
 - e) *Total particulate phosphorus*
 - f) *Total inorganic phosphorus*
- *The Water Quality Management Section is concerned with any discharges that have the potential to impact the aquatic environment and/or restrict present and future uses of the water. Therefore, it is recommended that the license require the proponent to actively participate in any future watershed based management study, plan/or nutrient reduction program, approved by the Director, for Lake Winnipeg, and associated waterways and watersheds.*

Proponent Response (May 31, 2005):

- It was stated that the estimate of nutrient loading to Lake Winnipeg appears to be incorrect based on the equivalent seasonal population used. As stated on page 17 of the proposal, this is an equivalent summer population *based on organic loading rate*, as the seasonal population is estimated to have a lower per capita contribution than the year-round population. However, it does appear that this equivalent population based on an organic loading is slightly underestimated, and should have more accurately been given as 208 and not 200.
- The lagoon dimensions have changed based on an increase in the estimated seasonal population. Tables 6.1 and 6.2 from the proposal have been revised.
- The proponent will monitor the quality of effluent from the lagoon as required by the environmental licence.

Disposition:

After receiving the additional information from the proponent, these comments were satisfied and are no longer of concern:

Culture, Heritage and Tourism - Historic Resources

- *No concerns.*

Health

- *No comments received.*

Transportation and Government Services

- *No concerns.*

Intergovernmental Affairs

- *No concerns.*

Canadian Environmental Assessment Agency

- *Following a review by federal departments with a potential interest in the proposed development, the application of the CEAA will be required.*
- *Western Economic Diversification (WD) must complete a federal environmental assessment pursuant to the Act since the project is being considered for funding under that program.*
- *Environment Canada would be able to offer specialist information with respect to the project review.*

Disposition:

No comments were received from any federal departments.

PUBLIC HEARING:

A public hearing is not recommended.

RECOMMENDATION:

The Proponent should be issued a Licence for the construction and operation of the wastewater treatment lagoon in accordance with the specifications, terms and conditions of the attached draft Licence. Enforcement of the Licence should be assigned to the Environmental Assessment and Licensing Branch until the liner testing has been completed and the Development is commissioned.

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