

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:** Rural Municipality of Cartier  
**PROPOSAL NAME:** R.M. of Cartier - Springstein Lagoon  
**CLASS OF DEVELOPMENT:** 2  
**TYPE OF DEVELOPMENT:** Wastewater Treatment Lagoon  
**CLIENT FILE NO.:** 4603.00

### **OVERVIEW:**

On February 5, 2001, the Department received an Environment Act Proposal (EAP) on behalf of the Rural Municipality of Cartier to construct and operate a new 2-cell wastewater treatment lagoon to serve the community of Springstein. The proposed wastewater treatment lagoon would be located in parts of River Lots 12, 13, 14, and 15 in the Parish of St. Francois Xavier in the Rural Municipality of Cartier. The proposal describes the construction and operation of the wastewater treatment lagoon to be located on a land parcel that is immediately adjacent to the north property line of a municipal road and Canadian Pacific Railway right-of-ways that pass through these River Lots. Effluent (treated wastewater) from the wastewater treatment lagoon would be discharged to an existing municipal drain that flows north and empties to the Assiniboine River. The proposal indicated that effluent would be discharged between June 15<sup>th</sup> and November 1<sup>st</sup> of any year.

The proposal and supporting documentation prepared by J. R. Cousin Consultants Ltd., identified clay soils at the proposed site. The supporting documentation indicated that the clay soil is expected to meet provincial standards regarding hydraulic conductivity of soils used for construction of wastewater treatment lagoons.

The Department, on February 12, 2001, placed copies of the EAP report in the Public Registries located at 123 Main St. (Union Station); the Centennial Public Library and the Portage la Prairie City Library and provided copies of the EAP report to the Canadian Environmental Assessment Agency, the Clean Environment Commission, the R.M. of Cartier and TAC members. As well, the Department placed public notifications of the EAP in the Winnipeg Free Press on Saturday, February 17, 2001 and in the Headingley Headline on Monday, February 19, 2001. The newspapers and TAC notifications invited responses until March 14, 2001.

On March 23, 2001 Manitoba Conservation submitted responses from the public and TAC members to the appropriate Public Registries.

Six TAC responses were received while two letters from the public were also received. On March 22, 2001, a letter, summarizing directly related items of interest presented by the TAC and public and requesting comments on these items of interest, was sent to the proponent. On April 17, 2001, Manitoba Conservation received a response to the request wherein the proponent commented on the items of interest.

On April 19, 2001 the response was distributed to the representatives of the TAC for review and comment. Comments relative to ancillary sewer system components and preventative action requirements resulted. The comments were provided to the proponent. Additional information was requested.

On May 1, 2001 the proponent responded to the request for additional information. The response satisfied the requests. The proponent indicated that, because of concerns raised during the TAC review, the lagoon discharge period would be altered from what was originally proposed, occurring only after September 1 of any year.

**COMMENTS FROM GENERAL SOURCES:**

| <u>Name</u>   | <u>Address</u>                               | <u>Date</u> | <u>Comment(s)</u>   |
|---|--|-------------|---|
| Ron Dalmy,<br>President of the<br>Organization                          | N/A  | 01/03/13    | - Expressing concern regarding; the effectiveness of septic fields and lagoons for treating septage and wastewater; lagoon discharges to Assiniboine River, Red River and, ultimately, Lake Winnipeg; and lagoon operation techniques |
| Gerry Tessier<br>Associate Director<br>Canada-MB<br>Infrastructure Sec. | 420-155<br>Carlton St.<br>Wpg, MB<br>R3C 3H8 | 01/03/08    | - Summarizing Canada-Manitoba Infrastructure Program potential financial support for proposed project and interest in environmental assessment activities for this project  |

Disposition:

- Performance limits are applied to wastewater treatment lagoon operation and effluent quality such that discharge prior to attaining such quality is not permissible within the terms of an Environment Act Licence. The limits applied to wastewater treatment lagoons are the same as those applied to secondary or biological treatment plants with the exception of the suspended solids limit. In such cases where nutrient content and concentration in the effluent are determined to have potential impacts on receiving environments, limits on the content and concentration are imposed and tertiary treatment may be required. Limits are also applied based on receiving water quality such that ambient water quality objectives are met. The Manitoba Surface Water Quality Objectives specify water quality parameters that must be maintained such that various water uses are protected from impact. Performance limits and water quality limits are included in the assessment process of Environment Act Proposals as well as in the development of design and operating criteria for wastewater treatment lagoons in Manitoba.
- The TAC and participating public are afforded the opportunity to review, assess and comment on applicable Environment Act Licences during the development process.

**COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:**

**Natural Resources**

- *The proponent should be advised that the increased nutrient load from the effluent might enhance vegetative growth in the drain and impact the drain's hydrologic capacity.*
- *A third cell or polishing cell was not suggested in the submission. Such a cell would provide the opportunity to have the nutrient content of the effluent substantially reduced prior to discharge. This would also enhance the quality of the effluent before it reaches the Assiniboine River.*
- *The creek that receives the discharge flows through Beaudry Provincial Park. The proposal should address the potential impacts and mitigation along the drainage route through the park that might affect park users, wildlife and vegetation.*

Disposition:

- With regard to the first two points, the proponent indicates that the lagoon was designed with a 1-year storage period. Contrary to the original EAP, the proponent has altered the proposed operation of the lagoon indicating that a fall discharge would be utilized. It is suggested that this would provide higher quality effluent. Most vegetation goes into dormant stages in the fall. In the spring, flushing of drains will normally occur due to spring run-off. The proponent suggested that the annual volume to be discharged in the fall should not enhance vegetative growth in the drain.
- There should be minimal to no impact on the park users, wildlife and vegetation as only treated effluent, to Manitoba Conservation Guidelines, will be discharged.

**Historic Resources**

- *No concerns.*

**Health**

- *The health concerns with this proposal are:*
  1. *Adequate protection against groundwater pollution; and,*
  2. *Proper fencing for safety reasons*

Disposition:

- The wastewater treatment lagoon is required to be lined with a liner having a hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec or less at all locations. Only effluent that is treated to standard limits will be discharged.
- The wastewater treatment lagoon is required to be fenced. Access will be restricted through the use of a lockable gate.

**Environment-Operations Division**

- *How does the proponent plan to address the following situations:*
  - *Hydrogen sulfide gases presenting corrosion problems and odour problems in the vicinity of the liftstation; and,*
  - *Where infiltration is allowed to enter the system as a result of weeping tile or roof drains, homeowners have installed a pump of greater horsepower than the system was designed to handle. The result being, systems with the standard sized pumps are unable to overcome the head pressure when pipes are running at full flow. As a result, the centrifugal pumps continue to operate without pumping any product and overheat. This generally results in*

*a failure of some type and overflow of sewage or sewage backup into the household?*

- *What preventative and corrective actions are going to be taken by the Municipality to prevent and rectify the occurrence of homeowners increasing the size of their pump after the system has been in operation?*

Disposition:

- The pressure system proposed does not have a lift station. Hence the hydrogen sulfide gas is not an issue on this project.
- The specifications to be used will stipulate the required size of sewage pump for each household. Homeowners with pumps that do not meet specifications will not be permitted to connect to the sewer system. The municipality has been requested to consider a by-law that prevents any new homes from being constructed with the weeping tiles connected to the sewer system. Weeping tile water should be discharged to surface drainage. Owners of older homes in Springstein that have sump pumps should also be encouraged to direct any weeping tile water to surface drainage rather than the sewer system.
- The R.M. of Cartier will pass a bylaw for the Springstein utility that will have materials specifications and typical service connection details including pump horsepower allowable on the system. The bylaw will specify that any new development will be required to dispose of weeping tile water separately. The bylaw The RM has a building inspector who is responsible to ensure that conditions of the building permit and utility bylaw meet requirements.

### **Environment-Water Quality/Terrestrial Quality Management**

- *Since the population of the community of Springstein (115 persons) and the volume of effluent to be discharged are both relatively small, was land application of the effluent ever considered as a means of effluent disposal?*
- *The drainage ditch is long and appears, from aerial photos, to be well vegetated. This will help to reduce nutrient concentrations in the effluent prior to it reaching the Assiniboine River.*
- *The proposal states that the design capacity of the lagoon will allow for a single discharge each year. This is advantageous since a long effluent retention time should facilitate the denitrification and volatilization of nitrogen compounds, reductions in bacteria, and the settling out of phosphorus and metals.*
- *Proponent may be asked to participate in a watershed-based management plan should one be developed for the Assiniboine River drainage basin in the future.*

Disposition:

- Land application of the effluent was not considered as the quantity of treated effluent is inadequate for the cropland that could be irrigated. Irrigation requires significant management practices to conduct irrigation properly and is often only considered where other means are not possible.
- The proponent is aware that they may be asked to participate in a watershed management plan should one be developed.

### **Environmental Approvals Contact**

- *The April 5, 2001 reply by the proponent presented discussion pertaining to potential impacts of lagoon discharges only in the fall. The EAP report suggests that discharge is proposed to occur between June 15 and November 1. The final design discharge period must be determined.*
- *The EAP report provides limited information regarding the proposed forcemain. Details regarding the length of the proposed forcemain and the proposed construction and commencement of operations schedules should be considered. The quality of the liner could be impacted if there is a lag time between construction and commencement of use of the proposed lagoon.*
- *The service area of the wastewater treatment lagoon should be limited to the Community of Springstein due to the limited organic treatment capacity of the lagoon.*

### Disposition:

- The proponent indicated that the lagoon was designed with a 1-year storage period and that fall discharge would be utilized to provide higher quality effluent. In short, a fall discharge, i.e. after September 1<sup>st</sup> will be used.
- The proponent indicated that the length of the proposed high-density polyethylene pipe forcemain is to be 1400 metres and the diameter 150 mm. The forcemain will be a zero leak pipe and head losses will be minimal under normal operating conditions. The 150 mm pipe diameter will provide a safety factor during a storm event for existing homes with weeping tiles connected to the system. If there is a lag time between the construction of the lagoon and the pressure system the integrity of the lagoon liner can be maintained by pumping drainage water from the local drain into the lagoon.
- The proponent indicated that only residents of the Community of Springstein would direct wastewater to the proposed wastewater treatment lagoon.

**Canadian Environmental Assessment Agency**

- *The 2001 CEAA responses have indicated that application of The Canadian Environmental Assessment Act with respect to this proposal will be required. Environment Canada and Health Canada would be able to provide specialist advice in accordance with Section 12(3) of the Act.*
- *The Canada-Manitoba Infrastructure Secretariat has requested to be kept abreast of the environmental assessment activities related to this project.*

**PUBLIC HEARING:**

A public hearing has not been requested.

**RECOMMENDATION:**

An Environment Act Licence may be issued in accordance with the attached draft. Enforcement of the Licence should be assigned to the Approvals Branch until the soil testing has been completed.

**PREPARED BY:**

Robert J. Boswick, P. Eng.  
Environmental Engineer  
Municipal & Industrial Approvals  
May 11, 2001

Telephone: (204) 945-6030  
Fax: (204) 945-5229  
E-mail Address: rboswick@gov.mb.ca