

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:** Rural Municipality of St. Francois Xavier  
**PROPOSAL NAME:** R.M. of St. Francois Xavier Wastewater Treatment Lagoon Expansion  
**CLASS OF DEVELOPMENT:** 2  
**TYPE OF DEVELOPMENT:** Waste Treatment and Storage  
**CLIENT FILE NO.:** 3369.20

### **OVERVIEW:**

On January 15, 2013, the Department received a Proposal from Genivar on behalf of the R.M. of St. Francois Xavier for the expansion and operation of the R.M. of St. Francois Xavier wastewater treatment lagoon, located on Outer Two Mile Lots FXOT 183 and FXOT 184 in the Parish of St. Francois Xavier, in the Rural Municipality of St. Francois Xavier. The proposed development consists of the expansion of the existing primary cell and the construction of an additional secondary cell located directly southeast of the existing lagoon on Outer Two Mile Lots FXOT 184 and FXOT 185.

The Department, on February 7, 2013, placed copies of the Proposal in the Public Registries located at 123 Main St. (Union Station), the Millennium Public Library, the Manitoba Eco-Network and on the Environmental Approvals Branch online public registry. 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 Winnipeg Free Press on Saturday, February 9, 2013. The newspaper and TAC notifications invited responses until March 11, 2013.

### **COMMENTS FROM THE PUBLIC:**

No public comments were received.

### **COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:**

#### **Conservation and Water Stewardship – Office of Drinking Water**

- *Office of Drinking Water sees no cause for concern with respect to drinking water safety with the EAP or proposed development.*

#### **Conservation and Water Stewardship – Parks and Natural Areas Branch**

- *The Branch has no comments to offer.*

#### **Conservation and Water Stewardship – Water Stewardship Division**

- *The following effluent standards should be in place for RM St. Francois Xavier lagoon as per the Manitoba Water Quality Standards, Objectives and Guidelines Regulation (196/2011).*
  - *BOD5 25 mg/L*
  - *Total suspended solids 25 mg/L*

- *Fecal Coliforms or Escherichia coli 200 MPN / 100mL*
- *The Manitoba Water Quality Standards, Objectives and Guidelines Regulation (196/2011) requires new or expanding wastewater treatment facilities to meet a 1 mg/L phosphorus limit or implement a nutrient reduction strategy. The proposal states that trickle discharge would be implemented and that land has been set aside for a future constructed wetland.*
  - *The effluent standards should not allow discharge where the total phosphorus content of the effluent is in excess of 1 milligram per litre or provide additional information on the equivalency of trickle discharge to a 1 mg/L phosphorus limit. This information must be provided before trickle discharge can be approved as a nutrient reduction strategy.*
  - *Has the Proponent considered effluent irrigation as a discharge option?*
- *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.*

Proponent Response (April 4, 2013):

- The Manitoba Water Quality Standards, Objectives and Guidelines Regulation (196/2011) states the following: “Under the new province-wide nutrient standards, a 1 mg/L phosphorus limit applies immediately for all new, expanding or modified wastewater treatment facilities. Small wastewater treatment facilities (serving less than 2,000 people or equivalent) have the option of implementing a demonstrated nutrient reduction strategy instead of the 1 mg/L phosphorus limit.” The existing R.M. of St. Francois Xavier lagoon services the existing R.M. of St. Francois Xavier population of 1,240 people. The R.M. of St. Francois Xavier is expecting a population increase of 600 people over the next 20-year period for a total 2032 population of 1,840 which is less than 2000. Therefore, to meet the requirements of the Water Quality Standards, Objectives and Guidelines Regulation under The Water Protection Act (2011), the R.M. of St. Francois Xavier proposed to implement a nutrient reduction strategy consisting of a trickle discharge. That portion of the discharge route, between the discharge point and the existing second order drain, has been reviewed and it is now proposed to extend it by creating the serpentine flow discharge swale to the south of the proposed secondary cell, and now averages approximately 1,920 metres. The distance of the route from the discharge point of the proposed lagoon to the Assiniboine River with proposed extension is approximately 11,000 metres. A trickle discharge extending from two to four weeks will allow the vegetation and the soil in the bottom of the discharge ditch, swale and the existing secondary drain to absorb nutrients and reduce the nutrient load to the Assiniboine River.
- We have checked into previous studies and reports we have done on lagoons. The typical phosphorus concentration in the effluent is usually 2-3 mg/L. In the past, we had the opportunity to monitor the flow in the discharge ditch of a lagoon where the phosphorus reduction in 1,400 metres of flow in the discharge ditch was 35 percent. That would translate into 48 percent reduction in 1,920 metres. It is expected that reduction of the final phosphorus concentration in the effluent from the R.M. of St. Francois Xavier lagoon would

be about 0.96 – 1.44 mg/L by the time it reaches the existing second order drain. The absorption of nutrients will be continued in the existing second order drain, and by the time it reaches the Assiniboine River the phosphorus concentration is expected to be less than 1 mg/L. The proposed discharge swale will be seeded with grass. The grass cover will be mowed periodically and baled.

- To consider use of irrigation as a treated effluent discharge option, the R.M. of St. Francois Xavier would require dedicated land suitable for irrigation close to the lagoon. Land application has been an ongoing problem for other communities in the last few years. Successive years of high precipitation made it impractical and harmful to add yet more moisture to land already saturated with natural rainfall. Since surficial deposits in the area are composed of mainly lacustrine clay and alluvial deposits, which range from a few metres to 17 or more metres in thickness, the area is not suitable for discharge by irrigation, especially in wet periods.
- Any party involved in a future watershed based management study, plan/or nutrient reduction program for the area are welcome to contact the R.M. of St. Francois Xavier.

#### Water Stewardship Division Response:

- *Trickle discharge from the lagoon should occur over sufficient time for the nutrients to be assimilated by the vegetation (4 weeks). Discharge should not occur when there is sufficient precipitation forecasted to create a cross swale overflow.*
- *Can the proponent install a gated or stop-log control structure at the end of the 1920 m discharge swale? At the commencement of lagoon trickle discharge, the discharge swale gate could be closed. This would create in-line storage and offer any vegetation within the 1920 m discharge swale more time to assimilate nutrients. The gate could then be slightly opened for effluent to be trickled discharged a second time from the 1920 m discharge swale in the municipal ditch.*
- *For the first three (3) years of operation, as a condition of the license the proponent should collect water quality samples for total phosphorous from the exit of the discharge swale control structure. The proponent should also be required to report the date of the effluent release, volume of effluent discharge on a daily basis, total volume of effluent discharged, daily precipitation measurements, time in hours of cross swale overflows if any occurred.*
- *The proponent should cut, bale and remove vegetation from the drainage ditch.*
- *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.*

#### Disposition:

- Sampling of treated effluent during discharge for phosphorus concentrations is required in the Licence (Clause 31) and removal of vegetation from the discharge swale, to maximize nutrient uptake is required in the draft Licence (Clause 24).
- The submission and approval of a phosphorus sampling and monitoring plan to verify the effectiveness of the trickle discharge phosphorus reduction strategy is required in the draft Licence (Clause 37).

- The draft Licence requires the proponent to actively participate in any future watershed-based management study, plan and/or nutrient reduction program, approved by the Director, for Second Creek and/or the Assiniboine River and associated waterways and watersheds (Clause 6).

### **Conservation and Water Stewardship – Environmental Compliance and Enforcement**

- *No concerns*

### **Conservation and Water Stewardship - Sustainable Resource & Policy Management Branch**

- *The Sustainable Resource and Policy Management have no concerns, conditional upon the following:*
  - *If the license for wastewater pond expansion is granted, it is recommended that the effluent discharges from the lagoon (and effluent composition) be maintained within provincial guidelines*
  - *The proposed discharge route for treated effluent flows through Second Creek to the Assiniboine River just upstream of the Clam Beds Proposed Ecological Reserve. Parks and Natural Areas Branch staff can advise of any additional conditions that may be required to ensure future effluent discharge from the wastewater pond expansion does not adversely affect the habitat of this proposed ecological reserve.*
- *The Lands Branch has no concerns as the land is owned by the RM of St. Francois Xavier.*

### **Conservation and Water Stewardship – Wildlife Branch**

- *No concerns*

### **Infrastructure and Transportation – Highway Planning and Design Branch**

- *We do not have concerns with the development as proposed.*

### **Manitoba Health**

- *Based on our review, I do not anticipate any additional threats to health that has not been identified in the proposal and mitigated for (i.e. odour and ground water pollution).*

### **Canadian Environmental Assessment Agency**

- *The Canadian Environmental Assessment Act, 2012 (CEAA 2012) came into force on July 2012, focusing federal attention on those project proposals that have a greater potential for significant adverse environmental effects in areas of federal jurisdiction. The Regulations Designating Physical Activities identify the activities which, if carried out individually or in combination, would constitute a “designated project” that is subject to the requirements of CEAA 2012.*
- *The proponent is responsible for confirming its federal regulatory responsibilities associated with its project. In your response to the proponent, please advise it to review the noted regulations (<http://laws-lois.justice.gc.ca/eng/regulations/SOR-2012-147/index.html>) and*

*contact the Canadian Environmental Assessment Agency if its proposal includes any activity described.*

**PUBLIC HEARING:**

No public comments were received during the environmental assessment review period. A public hearing is not recommended for this Development.

**CROWN-ABORIGINAL CONSULTATION:**

The Government of Manitoba recognizes it has a duty to consult in a meaningful way with First Nations, Métis communities and other Aboriginal communities when any proposed provincial law, regulation, decision or action may infringe upon or adversely affect the exercise of a treaty or Aboriginal right of that First Nation, Métis community or other Aboriginal community.

Crown-Aboriginal consultation was not conducted for this Development as it is an existing facility on land owned by the proponent.

**RECOMMENDATION:**

The Proponent should be issued a Licence for the expansion and operation of the St. Francois Xavier Wastewater Treatment Lagoon in accordance with the specifications, terms and conditions of the attached draft Environment Act Licence. Enforcement of the Licence should be assigned to the Environmental Approvals Branch until the construction of the expansion is complete and approved for use.

**PREPARED BY:**

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