

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: Fairholme Holding Co. Ltd.
PROPOSAL NAME: Fairholme Colony Domestic Wastewater Treatment Lagoon
CLASS OF DEVELOPMENT: 2
TYPE OF DEVELOPMENT: Wastewater Treatment Lagoon–Waste/Scrap
CLIENT FILE NO.: 5661.00

OVERVIEW:

On June 19, 2013 the Department received a Proposal from GENIVAR on behalf of the Fairholme Holding Co. Ltd. pursuant to *The Environment Act* for the construction and operation of a new domestic wastewater treatment lagoon located in the Southwest quarter of Section 35-9-8 WPM in the Rural Municipality of South Norfolk, to serve the Fairholme Colony. The proposed development will consist of the construction of a new primary cell and a new secondary cell. Treated effluent from the wastewater treatment lagoon will be discharged between June 15th and November 1st of any year into an existing drain, which eventually empties into the Assiniboine River, a distance of approximately 940 metres from the lagoon.

On August 19, 2013, Manitoba Conservation and Water Stewardship placed copies of the Proposal in the Public Registries located at Legislative Library, 200 Vaughan St., Winnipeg; Millennium Public Library, 4th Floor, 251 Donald St., Winnipeg; and Online Registry, <http://www.gov.mb.ca/conservation/eal/registries/index.html>. Copies of the Proposal were also provided to the Technical Advisory Committee (TAC) members. The Department placed public notification of the Proposal in the Treherne Times on Monday, August 19, 2013. The newspaper and TAC notifications invited responses until September 13, 2013.

On October 11, 2013, Manitoba Conservation and Water Stewardship forwarded requests for additional information from the TAC to the proponent's consultant. On December 20, 2013, the consultant submitted responses to the comments and requests from the TAC. On January 14, 2014, consultant's responses were distributed to the participating TAC for review and comment.

All additional information necessary for the review was placed in the Public Registries.

COMMENTS FROM THE PUBLIC:

No comments were received from the public.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE (TAC):

Manitoba Infrastructure and Transportation– Highway Planning and Design Branch, Environmental Services Section (August 21, 2013)

- *No concerns*

Manitoba Labour and Immigration – Office of Fire Commissioner (August 27, 2013)

- *No concerns*

Manitoba Local Government - Community & Regional Planning (September 6, 2013)

- *No concerns*

Manitoba Conservation and Water Stewardship, Land Management and Planning (August 21, 2013)

- *No concerns*

Manitoba Conservation and Water Stewardship, Environmental Compliance and Enforcement Branch, Central Region (September 9, 2013)

- *No concerns*

Manitoba Health – Southern Health-Santé Sud (August 20, 2013)

- *No concerns*

Manitoba Conservation and Water Stewardship – Wildlife Branch (September 3, 2013)

- *No concerns*

Manitoba Conservation and Water Stewardship – Watershed and Protected Areas Branch (September 13, 2013)

- *No concerns*

Manitoba Conservation and Water Stewardship – Office of Drinking Water (September 10, 2013)

- *I reviewed the above noted EAP for concerns respecting drinking water quality. The only point to be noted is that the proposed effluent discharge point of this lagoon is the Assiniboine River some miles upstream (the EAP does not specify) of the raw water supply for the City of Portage la Prairie public water system. Under normal operation, the Portage la Prairie water plant should be able to treat the river water including any effluent from the lagoon. However, should a major spill from the lagoon occur, it could affect the Portage Plant. As such, Office of Drinking Water recommends that a clause be inserted in the Licence of the lagoon requiring that contact information for the Portage la Prairie Water Plant be kept on file at the Colony and the Colony be required to inform the City of Portage la Prairie if a major spill of untreated wastewater occur from the lagoon system.*

Proponent Response (December 20, 2013)

- We have no issues with the recommendations proposed by the Office of Drinking Water.

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Office of Drinking Water.

Manitoba Conservation and Water Stewardship - Water Control Works and Drainage Licensing Section (September 5, 2013)

- *The Water Control Works and Drainage Licensing Section requests that erosion control measures be in place during and after construction of the outlet drains, to prevent damage to the river bank and minimize erosion/sedimentation.*
- *Please remind the proponent that all water control works require licensing under the Water Rights Act. Any inquiries in this regard may be directed to the local Water Resource Officer. Their contact information may be found at:
http://www.gov.mb.ca/conservation/waterstewardship/licensing/pdf/areas_of_focus_jan_23_12.pdf*
- *Licensing of yard and field approaches (access points) are the responsibility of either the municipality, or Manitoba Infrastructure and Transportation, whichever is applicable.*
- *The drainage and/or alteration of permanent and semi-permanent wetlands is not permissible under the Water Rights Act.*

Proponent Response (December 20, 2013)

- From the lagoon, the treated effluent will flow through a 165 metre long discharge pipe into an existing well vegetated drainage ditch that runs north. The last segment (approximately 265 metres) of the discharge route appears to be a well-vegetated and natural treed ravine down to the Assiniboine River. Mapping information that we have referenced suggests that the slope of this last section is closer to 15% slope. For the following reasons, we propose that erosion control measures are not required:
 - The final 265 metres of the route appears to be a well-vegetated and treed ravine which is where the steepest slope occurs. The vegetation will serve as a natural erosion control measure.

- Trickle discharge from the lagoon is proposed over the course of a 2 - 4 week period, which equates to a flow rate of 6.8 - 3.4 litres per second (L/s), respectively. This flow rate is relatively low in terms of the cross sectional area of the ditch.
- The Colony will be able to monitor the lagoon discharge route down to the Assiniboine River for any changes.
- Typically lagoons have not triggered the need for water control works licensing. The local Water Resource Officer, Mr. Wayne Henderson, was contacted to verify any need for licensing. Since no downstream drainage improvements are proposed, no licensing is required. We would like to confirm that the discharge pipe area from the lagoon secondary cell will be armoured with rip rap which will be underlain by geotextile fabric.
- All field approaches are existing and no modifications are proposed.
- All general comments were noted.

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Water Control Works and Drainage Licensing Section.

Manitoba Conservation and Water Stewardship, Regulatory Services Branch, Water Use Licensing Section (August 28, 2013)

- *Based on the hydraulic loading calculations outlined in the Environment Act Proposal the Colony will need to apply to the Water Use Licensing Section for a water rights licence for municipal purposes. The contact person for obtaining an application for a water rights use licence is Mr. Chris McCombe at 204-945-3983.*

Proponent Response (December 20, 2013)

- From a discussion with Mr. Chris McCombe, a water rights licence (No. 2013- 160) for municipal and agricultural use has been completed and is awaiting signatures to be finalized.

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Water Use Licensing Section of Regulatory Services Branch.

Manitoba Conservation and Water Stewardship – Parks and Natural Areas Branch (September 3, 2013)

- The Branch has no comments to offer as this does not impact any parks or ecological reserves.

Manitoba Conservation and Water Stewardship – Water Science and Management Branch, Groundwater Management Section (September 11, 2013)

- *The existing earthen manure storage and proposed domestic wastewater stabilization pond are located on a shallow, unconfined sand aquifer. The unconfined nature of the sandy soils and high water table (about 1 metre below ground surface) make it highly vulnerable to groundwater contamination from sources such as manure storage and wastewater.*
- *The proposed lagoon construction (based on drawings provided in the proposal) show the clay core a minimum two metres wide and keyed a minimum of 0.3 metres into the underlying clay. It is essential that the clay core is properly connected to the underlying clay to ensure there is no direct pathway of leakage of wastewater from the lagoon into the surrounding unconfined aquifer.*

Proponent Response (December 20, 2013)

- Comments and concerns are understood and we are in agreement regarding the importance in properly connecting the clay core to the underlying clay.

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Groundwater Management Section.

Manitoba Conservation and Water Stewardship – Lands Branch (September 13, 2013)

- *The Lands Branch has no concerns and notes the following: (detailed responses on these topics are deferred to Water Stewardship's Water Quality Section)*
 - *Nutrient uptake for the trickle releases into the discharge route will only work during the active growing season for the vegetation in the ditch.*
 - *There is no information provided to confirm that the ditch does as it is intended in regards to nutrient up take. Sampling of the effluent at the discharge site entering the Assiniboine would confirm if the plant nutrient uptake has been successful.*

- *The schedule for trickle discharge is not provided. Since they cannot release until after June 15, part of the growing season is already complete and as the season progresses to fall, nutrient uptake by plants is reduced.*

Proponent Response (December 20, 2013)

- We propose that a sampling and monitoring program be implemented with duration of 10 years. During the program, the treated lagoon effluent would be sampled and analyzed during the spring (after June 15) and fall (before November 1) discharges to track and assess the phosphorus reduction in a ditch/ravine-type wetland of this length. We have laboratory results from similar projects which suggest the potential for a 50% reduction within the ravine section of the discharge route alone. At the conclusion of the sampling and monitoring program, if necessary, alternatives will be considered to enhance nutrient uptake.
- All general comments noted.

Further Comments (January 16, 2014)

- Thanks for providing the additional comments. The Lands Branch continues to have no concerns and defers comments regarding nutrient uptake and discharge to the Water Quality Management Section.

Disposition:

- The draft Licence includes a clause that requires the Licencee to meet phosphorus limit of 1 mg/L or
 - Unless the discharge of the effluent is in compliance with a demonstrated nutrient reduction strategy approved by the Director of the Water Science and Management Branch in accordance with the requirements of *Manitoba Regulation 196/2011 respecting Manitoba Water Quality Standards, Objectives and Guidelines*.
- The draft Licence includes a clause that requires the Licencee to actively participate in any current or future watershed-based management study, plan and/or nutrient reduction program, approved by the Director, for the Assiniboine River and/or associated waterways and watersheds.

Manitoba Conservation and Water Stewardship, Fisheries Science and Fish Culture Section, Fisheries Branch (September 13, 2013)

- *Fisheries Branch has reviewed this proposal for a new domestic wastewater treatment lagoon located in the SW quarter of 35-9-8 W to serve the Fairholme Colony. The new primary and secondary cells will be clay lined. The effluent will be discharged to an existing natural creek that flows into the Assiniboine River (~940*

meters). Effluent will be discharged between June 15th and November 1st. They are proposing trickle discharging the effluent over a two to four week period to meet phosphorus limits. Given the high water table there is a recommendation in the Geotechnical Report to construct a system of temporary perimeter trenches (3 to 3.5 m minimum) to drain the site and lower the groundwater table.

- *As noted in the report while the creek is considered Type E habitat (indirect fish habitat) it does flow into the Assiniboine River which is Type A habitat and this river supports year round all life stages of small and large bodied fish species. Generally as long as the effluent meets or exceeds Manitoba Water Quality's Standards, Objectives and Guidelines and standard clauses with respect to implementing erosion and sediment control measures (for lagoon and trenching), etc are included fisheries concerns should be addressed. Given the route the effluent flows through prior to entering the Assiniboine River is short we feel it would be beneficial to include a licence condition that requires monitoring at the downstream end of the creek to confirm that nutrient uptake does occur. We do however defer to the recommendations of our colleagues in Water Science Management on this matter.*

Proponent Response (December 20, 2013)

- We propose that a sampling and monitoring program be implemented with a duration of 10 years. During the program, the treated lagoon effluent would be sampled and analyzed during the spring and fall discharges to track and assess the phosphorus reduction in a ditch/ravine-type wetland of this length. We have laboratory results from a similar project which suggests the potential for a 50% reduction within the ravine section of the discharge route alone. At the conclusion of the sampling and monitoring program, if necessary, alternatives will be considered to enhance nutrient uptake.
- All general comments noted.

Disposition:

- After receiving the additional information from the proponent, no further comments were received from Fisheries Branch.

Manitoba Conservation and Water Stewardship, Water Quality Management Section, Water Science and Management Branch (September 3, 2013)

- *Where the proposed discharge route is selected, erosion control structures would be required. Maps indicate that approximately the final 300 m of the 940 m discharge route flows over a slope of 30 – 45 % before reaching the Assiniboine River.*
- *Trickle discharge is proposed as a nutrient reduction strategy. It is recommended the Colony increase the length of the beginning 600 m discharge route through a serpentine route to increase nutrient uptake.*

- *Can the colony create an alternate discharge route to increase the length of the discharge route and avoid the slope?*
- *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 (December 20, 2013)

- From the lagoon, the treated effluent will flow through a 165 metre long discharge pipe into an existing well vegetated drainage ditch that runs north. The last segment (approximately 265 metres) of the discharge route appears to be a well- vegetated and natural treed ravine down to the Assiniboine River. Mapping information that we have referenced suggests that the slope of this last section is closer to 15% slope. For the following reasons, we propose that erosion control measures are not required:
 - The final 265 metres of the route appears to be a well-vegetated and treed ravine which is where the steepest slope occurs. The vegetation will serve as a natural erosion control measure.
 - Trickle discharge from the lagoon is proposed over the course of a 2 - 4 week period, which equates to a flow rate of 6.8 - 3.4 litres per second (L/s), respectively. This flow rate is relatively low in terms of the cross sectional area of the ditch.
 - The Colony will be able to monitor the lagoon discharge route down to the Assiniboine River for any changes.
- We propose that a sampling and monitoring program be implemented with a duration of 10 years. During the program, the treated lagoon effluent would be sampled and analyzed during the spring and fall discharges to track and assess the phosphorus reduction in a ditch/ravine-type wetland of this length. We have laboratory results from a similar project which suggests the potential for a 50% reduction within the ravine section of the discharge route alone. At the conclusion of the sampling and monitoring program, if necessary, alternatives will be considered to enhance nutrient uptake.
- Based on the available maps, there does not appear to be a feasible alternate discharge route to avoid the steeper sloped land down to the Assiniboine River.
- Any party involved in a future watershed based management study, plan/or nutrient reduction program is welcome to contact the Colony.

Further Comments (January 28, 2014)

- It is recommended that the License contain the following clause:

The Licensee shall not discharge effluent from the wastewater treatment lagoon:

- Where the phosphorus content of the effluent is in excess of 1 mg/L; or
 - Unless the discharge of the effluent is in compliance with a demonstrated nutrient reduction strategy approved by the Director of the Water Science and Management Branch in accordance with the requirements of *Manitoba Regulation 196/2011 respecting Manitoba Water Quality Standards, Objectives and Guidelines*.
- 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:

- The draft Licence includes a clause that requires the Licencee to meet phosphorus limit of 1 mg/L or
 - Unless the discharge of the effluent is in compliance with a demonstrated nutrient reduction strategy approved by the Director of the Water Science and Management Branch in accordance with the requirements of *Manitoba Regulation 196/2011 respecting Manitoba Water Quality Standards, Objectives and Guidelines*.
- The draft Licence includes a clause that requires the Licencee to actively participate in any current or future watershed-based management study, plan and/or nutrient reduction program, approved by the Director, for the Assiniboine River and/or associated waterways and watersheds.

COMMENTS FROM FEDERAL REPRESENTATION:

- The application of the *Canadian Environmental Assessment Act (the Act)* will not be required for this project.

PUBLIC HEARING:

- A public hearing is not recommended because no comments were received from the public.

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.

There is no aboriginal community nearby the lagoon and would be no infringement of aboriginal or treaty rights under Section 35 of the Constitution Act, 1982. Therefore, it is concluded that Crown-Aboriginal consultation is not required for the project.

RECOMMENDATION:

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

PREPARED BY:

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February 11, 2014

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