



Conservation and Water Stewardship

Environmental Stewardship Division
Environmental Approvals Branch
123 Main Street, Suite 160, Winnipeg Manitoba R3C 1A5
T 204 945-8321 F 204-945-5229
www.gov.mb.ca/conservation/eal

File: 5661.00

January 14, 2014

Adara Kaita
Crown Land Programs and Policy Manager
Conservation and Water Stewardship
Box 25, 200 Saulteaux Crescent
Winnipeg, MB R3J 3W3

Dear Ms. Kaita:

Re: Fairholme Colony Domestic Wastewater Treatment Lagoon - Environment Act Proposal

The responses from the Technical Advisory Committee (TAC) that contained requests for additional information regarding the Environment Act Proposal (EAP) for the Fairholme Colony Domestic Wastewater Treatment Lagoon were forwarded to the proponent's consultant. The consultant was asked to address the comments contained in the responses and to provide additional information for the environmental review that is continuing.

Attached you will find the consultant's December 20, 2013 letter responding to the comments and requests for additional information presented by the TAC. Please review the response to determine if your comments and requests for additional information have been satisfactorily addressed.

Your comments, if any, are required not later than two weeks after the date of this letter. No response on your part will be assumed to indicate no concern.

If you have any questions, please contact me at (204) 945-2614 or by e-mail at Rafiqul.Chowdhury@gov.mb.ca.

Yours truly,
"Originally signed by"

Rafiqul Chowdhury, M.Eng., P.Eng
Environmental Engineer

Attachment

- c. Donna Smiley, Provincial Manager, Environmental Compliance and Enforcement Branch
Public Registries



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January 14, 2014

Dan Roberts
Water Resource Officer
Water Control Works and Drainage Licensing Section
Manitoba Conservation and Water Stewardship
Box 640, 201 Fourth Ave. S.
Swan River, MB R0L 1Z0

Dear Mr. Roberts:

Re: Fairholme Colony Domestic Wastewater Treatment Lagoon - Environment Act Proposal

The responses from the Technical Advisory Committee (TAC) that contained requests for additional information regarding the Environment Act Proposal (EAP) for the Fairholme Colony Domestic Wastewater Treatment Lagoon were forwarded to the proponent's consultant. The consultant was asked to address the comments contained in the responses and to provide additional information for the environmental review that is continuing.

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January 14, 2014

James Stibbard P. Eng.
Approvals Engineer
Office of Drinking Water
Manitoba Conservation and Water Stewardship
1007 Century Street
Winnipeg MB R3H 0W4

Dear Mr. Stibbard:

Re: Fairholme Colony Domestic Wastewater Treatment Lagoon - Environment Act Proposal

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January 14, 2014

Joy Kennedy
Water Protection Officer
Water Quality Management Section
Water Science and Management Branch
Manitoba Conservation and Water Stewardship
160-123 Main Street, Winnipeg, MB R3C 1A5

Dear Ms. Kennedy:

Re: Fairholme Colony Domestic Wastewater Treatment Lagoon - Environment Act Proposal

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January 14, 2014

Laurie Frost, M.Sc., P. Eng.
Hydrogeologist
Groundwater Management Section
Water Science and Management Branch
Manitoba Conservation and Water Stewardship
Box 18, 200 Saulteaux Cresc.
Winnipeg, Manitoba R3J 3W3

Dear Ms. Frost:

Re: Fairholme Colony Domestic Wastewater Treatment Lagoon - Environment Act Proposal

The responses from the Technical Advisory Committee (TAC) that contained requests for additional information regarding the Environment Act Proposal (EAP) for the Fairholme Colony Domestic Wastewater Treatment Lagoon were forwarded to the proponent's consultant. The consultant was asked to address the comments contained in the responses and to provide additional information for the environmental review that is continuing.

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January 14, 2014

Rob Matthews, P. Geo.
Manager, Water Use Licensing Section
Manitoba Conservation and Water Stewardship
Box 16, 200 Saulteaux Crescent
Winnipeg, MB R3J 3W3

Dear Mr. Matthews:

Re: Fairholme Colony Domestic Wastewater Treatment Lagoon - Environment Act Proposal

The responses from the Technical Advisory Committee (TAC) that contained requests for additional information regarding the Environment Act Proposal (EAP) for the Fairholme Colony Domestic Wastewater Treatment Lagoon were forwarded to the proponent's consultant. The consultant was asked to address the comments contained in the responses and to provide additional information for the environmental review that is continuing.

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Environmental Engineer

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December 20, 2013

Project No: 131-13812-00

Rafiqul Chowdhury, M.Eng., P.Eng.

Environmental Engineer

MANITOBA CONSERVATION AND WATER STEWARDSHIP

160-123 Main Street

Winnipeg, MB, R3C 1A5

Dear Mr. Chowdhury:

**RE: ENVIRONMENT ACT PROPOSAL –
FAIRHOLME COLONY DOMESTIC LAGOON –
REVIEW REPONSE – CLIENT FILE NO: 5661.00**

Thank you for providing us with the comments received during the initial review period for the Environment Act Proposal (EAP) regarding the construction of the Fairholme Colony domestic wastewater treatment lagoon from the Technical Advisory Committee (TAC). This letter intends to address and respond to the comments and requests for additional information from the following branches and sections within Manitoba Conservation and Water Stewardship: Water Science and Management Branch, Water Control Works and Drainage Licensing Section, Water Use Licensing Section, Office of Drinking Water, Fisheries Branch and the Lands Branch.

1. Memorandum from Water Quality Management Section, Water Science and Management Branch – Manitoba Conservation and Water Stewardship, September 3, 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.

2. E-mail from Groundwater Management Section, Water Science and Management Branch – Manitoba Conservation and Water Stewardship, September 11, 2013.

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

3. E-mail from Water Control Works and Drainage Licensing Section – Manitoba Conservation and Water Stewardship, September 5, 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.

4. E-mail from Water Use Licensing Section – Manitoba Conservation and Water Stewardship, August 28, 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.

5. E-mail from Office of Drinking Water – Manitoba Conservation and Water Stewardship, September 10, 2013.

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

6. E-mail from Fisheries Science and Fish Culture Section, Fisheries Branch – Manitoba Conservation and Water Stewardship, September 13, 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.

7. E-mail from Lands Branch – Manitoba Conservation and Water Stewardship, September 13, 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 (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.

Kind regards,

GENIVAR



Jason Bunn, P.Eng.
Environmental Engineer

cc: Mr. Chris Maendel – Fairholme Colony