

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:** Conservation and Water Stewardship  
**PROPOSAL NAME:** Spruce Woods Provincial Park Lagoon Replacement  
**CLASS OF DEVELOPMENT:** 2  
**TYPE OF DEVELOPMENT:** Wastewater Treatment Lagoon  
**CLIENT FILE NO.:** 5662.00

### **OVERVIEW:**

On June 18 and August 8, 2013, the Department received components of an Environment Act Proposal (EAP) on behalf of the Parks and Natural Areas Branch – Manitoba Conservation and Water Stewardship for the construction and operation of a wastewater treatment lagoon located in Spruce Woods Provincial Park within SE 24-08-14 WPM in the Rural Municipality of South Cypress. Treated wastewater from the wastewater treatment lagoon will be discharged to the Assiniboine River in the fall of any year and only until November 1<sup>st</sup> of that year. The wastewater treatment lagoon will replace an existing wastewater treatment lagoon located in 14-08-14 WPM that currently operates under Environment Act Licence No. 942 and which will be decommissioned.

The Department, on August 23, 2013, placed copies of the EAP report in the Public Registries located at the Legislative Library, 200 Vaughn St., Winnipeg; the Millennium Public Library, 4<sup>th</sup> Floor, 251 Donald St., Winnipeg; Manitoba Eco-Network, 3<sup>rd</sup> Floor, 303 Portage Ave., Winnipeg; and the Online Registry, <http://www.gov.mb.ca/conservation/eal/registries/index.html>, and provided copies of the EAP report to the TAC members. As well, the Department placed public notifications of the EAP in the Baldur Glenboro Gazette News on Tuesday, August 27, 2013. The newspaper and TAC notifications invited responses until September 24, 2013.

On November 28, 2013, Manitoba Conservation and Water Stewardship forwarded one public and five TAC correspondence items to the proponent's consultant for response.

On November 29, 2013, Manitoba Conservation and Water Stewardship submitted the November 28, 2013 letter, one public response and twelve responses from TAC members to the appropriate Public Registries.

In a February 4, 2014 letter, the proponent's consultant provided responses to the public and TAC correspondences. The letters were forwarded to the public and participating TAC members on February 21, 2014.

There were no requests for additional information by the TAC while the Cypress Planning District responded with general comments and requests that land related matters be confirmed and verified.

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

#### Cypress River Planning District – November 25, 2013

- *It is our understanding that a two cell lagoon has been proposed to be located at SE 24-8-14WPM, and while there is currently (at least on Council's behalf) some confusion as to whether this property is actually inside Spruce Woods Park, or on Crown Land adjacent to the Park, the Province is the owner of the parcel. It would appear that the lagoon is proposed to be located fairly close to a couple of existing yard sites on the adjacent quarter sections; however it has been indicated that the "required" 300 meter separation will be maintained. We would ask that your department confirm that this is the case and that these property owners are fully aware of this proposal. Further to this, are you aware of any proposal to install a shelterbelt around the lagoon?*
- *Of perhaps more concern to Council and The Board is the proposal to pipe the effluent from the lagoon along the municipal ditch to the Assiniboine River. While we understand that the existing lagoon drained into the river, and that it is not a totally unusual design to drain into a waterway, in this particular case this makes no sense to us. We would think that the Province would be taking this opportunity to ensure that this lagoon (and any other lagoon where it is reasonably practicable) does not drain into a water body. If, as we are told, the effluent will be tested and be fairly clean, then given the amount of Crown and Park lands adjacent to this location, this effluent should be distributed on these lands and any nutrients that have been generated be absorbed by the natural vegetation. If more lands are required for distribution, I am sure surrounding property owners would be happy to have the additional moisture on their crop and pasture lands. To reiterate, we see no reason whatsoever that this lagoon needs to drain into the Assiniboine River!*

#### Proponent Responses – February 4, 2014:

- As indicated in Section 5.2.2.1 of the *Environment Act* Proposal and as shown in Figure 9 of the Preliminary Design Report (Appendix A of the *Environment Act* Proposal), the separation distance to the nearest permanent residence is approximately 300 m to the east of the lagoon site.

With respect to discussions with adjacent property owners; on September 29, 2012, a public Open House was held in the Spruce Woods Provincial Park at the Park Interpretive Centre by Manitoba Parks and AECOM as described in Section 7.1 of the *Environment Act* Proposal report. Manitoba Parks has contacted individual residents (in a letter dated May 15, 2012) and has had informal discussions with the residents

(on September 25 and 27, 2012 and April 5, 2013). The letter indicated that a total of five sites were taken into consideration for the construction of the new lagoon. The letter further describes the criteria used for site selection, indicates why certain sites did not meet the described criteria and outlines mitigation measures to address odour or visual issues for neighbouring properties.

The proposed lagoon will be located within the Spruce Woods Park boundary as indicated by Parks and Natural Areas Branch in correspondence provided in Appendix A of this TAC response letter.

As per Sections 5.2.2.2, 5.10.2, 5.11.1 and 5.13.2 of the *Environment Act* Proposal, a shelterbelt will be provided around the lagoon site which is anticipated to mitigate odour and visual effects of the proposed lagoon.

- Discharging treated effluent from a lagoon into a stream is the most common method/standard method of discharging effluent. An engineered wetland option was investigated for the Spruce Woods lagoon, but was considered too costly, as a lined basin would be required. There may be opportunities to discharge treated effluent onto agricultural land, but this change would require consent/agreement with local landowners, geotechnical and groundwater investigations, environmental approvals and design changes. There is no guarantee that this disposal method would prove feasible, and the impact of these additional steps would be a significant delay to the construction schedule.

#### Cypress River Planning District – March 18, 2014

- *Despite the consultants comments, the Board and Council still do not understand why this lagoon is planned to drain into the Assiniboine River when there are significant Park and Crown Lands available for distribution of the clean” effluent and feel that this option was not fully explored. While none of us are scientists, it still appears that in this day and age, especially considering the current serious concerns with the condition of many of our lakes and rivers, That draining this lagoon into a major waterway would be the last option to be considered. That being said we can only trust that there will be adequate oversight of the facility and proper testing to ensure that the effluent is indeed clean and that the new facility operates much better than the existing one.*

*In the letter I was sent, reference was made to the fact that Road 78W was outside the Park boundary and was under Municipal control. It is our understanding that the proposed lagoon discharge pipe is planned to be installed along the west side of this Road Allowance and that it will cross Road 46N. I would ask that once this matter is confirmed, that the appropriate approval for this installation be obtained from South Cypress Council.*

*Also in this letter it was indicated that the portion of SE 24-08-14W where the new lagoon is planned to be located was hilly inside the Park boundaries including the portion of Road 45N directly south of the quarter. This claim is still causing some*

*confusion with South Cypress Council as their records and maps indicate that the property in question, while certainly Provincially owned, is actually Crown Land and not inside the Park. A recent check with Assessment appears to support this claim. In order to assure that future maps of this area are correct, we request that both South Cypress Council and the Cypress Planning District be forwarded large scale maps of the Park boundaries along with documentation indicating this property is actually within the Park. Unfortunately the map that was attached to your letter was very small scale and was unreadable.*

Disposition:

- It is understood that the Parks and Protected Spaces Branch of Manitoba Conservation and Water Stewardship has been working with the municipalities involved such that all matters that pertain to land will be resolved prior to advancing to construction.

**COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:**

**Fisheries Branch – Conservation and Water Stewardship**

- *Fisheries Branch has reviewed this proposal for a new primary and secondary wastewater treatment lagoon located in Spruce Woods Provincial Park (SE 24-08-14 W). The effluent will discharge to the Assiniboine River but through a new discharge route with a new outfall. Other project components include a new force main to the lagoon and new or upgraded lift station. The discharge pipe will be placed in the right of way along Steele's Ferry Road on the east side of the lagoon and will run north approximately 1,800 m before discharging into a constructed riprap lined ditch that will run to the river. The ditch is being used to accommodate changes in the river banks location over the years without damaging the discharge pipe. Annually, a maximum of 43,829 m<sup>3</sup> of treated effluent will be discharged to the Assiniboine River at a flow rate of approximately 0.08 m<sup>3</sup>/s or 0.04 m<sup>3</sup>/s starting likely in mid-October and ending by November 1<sup>st</sup>. The effluent discharge represents, at worst case scenario, 0.5% of the flow in the Assiniboine River. The existing lagoon will be decommissioned by dewatering and disposing of the sludge remaining in the cell. If water meets the effluent limits it will be discharged to the Assiniboine River. If it does not it will be pumped out and trucked to the new primary cell for treatment.*
- *The proponents have identified a number of measures to mitigate construction and operation effects: the cells will be lined with a 60 mil HDPE liner; effluent will meet Manitoba's Water Quality Standards, Objectives and Guidelines including meeting the phosphorous limit through the addition of alum; minimizing the amount of disturbed material and implementing erosion and sediment control measures at and near the outfall location; ensuring sufficient gradient in the outfall ditch to minimize fish utilizing the area and possibly becoming stranded and; installing the discharge pipe by directionally drilling.*

- *The proponents have identified the importance of the Assiniboine River in providing year round habitat for all life stages of a number of large and small bodied fish species. As long as the proponent implements the mitigation measures identified and can meet the Manitoba Water Quality Standards, Objectives and Guidelines most of our fisheries concerns should be addressed. Fisheries Branch would have preferred that the discharge pipe be directionally drilled right through to the river versus constructing a ditch which will alter the bank and riparian area. The proponent's have identified the need to consult with DFO on this component of the project. We would request a condition in the licence that requires the proponent to not proceed with the construction of the outfall until direction, including mitigation measures, has been provided from DFO.*
- *It is unclear in the proposal how they will test the new pipes prior to operation. If hydrostatic testing then we may have concerns with the timing of the water withdrawal if using surface water (avoid the spring and summer spawning period: April 1 – June 30) and test water should not be discharged directly into the river. Would it be possible to include clauses to address these concerns, if relevant.*
- *The proponents did not identify a water quality monitoring component. While we defer to our colleagues in Water Science Management on this we would support the requirement to monitor to verify some of the parameter predictions provided in the proposal.*
- *Finally to minimize the potential to spread aquatic and terrestrial invasive species can the following clause be included in the licence:*
  - *The Licencee shall, during construction and maintenance of the Development, prevent the introduction and spread of foreign aquatic and terrestrial biota by ensuring all equipment, including transport equipment, is clean before use at each location.*

#### Proponent Responses – February 4, 2014:

- Section 2.2.2.4 of the *Environment Act* Proposal states that, “the discharge pipe will be installed using directional drilling”. Subsequent to the *Environment Act* Proposal submission, a geotechnical investigation was conducted along the proposed pipeline route on November 18, 2013. A review of the borehole logs collected during the investigations indicates the soils along the route are primarily coarse grained sands.

Sandy conditions require modifications of routine horizontal directional drilling (HDD) procedures and equipment, such as the use of special drill heads and modified drilling fluids to keep the hole open during drilling and reaming. Due to the shallow depth, potential for frac out would limit the overall length per drill and would require an increased number of entrance and exit shafts. The increased costs and technical requirements to adopt construction methods suitable for the sandy soils have since

rendered the previously proposed HDD infeasible for this location. Therefore, the pipe installation is now proposed to be completed using open trench methods.

To mitigate any additional concerns from the open trench pipe installation, a terrestrial survey will be conducted by a qualified biologist in the spring of 2014 in advance of construction, to identify any sensitive species that may be impacted along the route of the discharge pipe. If any sensitive species are encountered, appropriate mitigation measures will be developed, as required, and permission to proceed obtained from the Biodiversity Conservation Section of the Wildlife and Ecosystem Protection Branch. If no species of concern are encountered, the Director will be notified of such.

In addition to the terrestrial survey, a qualified archaeologist will be consulted with to confirm that the open trench method does not pose any additional concerns along the pipeline route previously inspected. If any additional investigations are required to identify and mitigate any heritage concerns due to the larger pipeline footprint, the Director will be notified of such.

- The new pipes will not be hydrostatically tested prior to operation, as the discharge pipe is a gravity line; the new pipes will be televised to confirm integrity.
- Manitoba Conservation - Parks and Natural Areas will implement water quality monitoring as required by the Director of Approvals as a part of the *Environment Act* Licence conditions for the proposed project.
- Manitoba Conservation - Parks and Natural Areas will adhere to all licence conditions.

Disposition:

- The draft Environment Act Licence contains a clause that requires that the Licencee shall, for a period of at least five years following the commencement of operation of the wastewater treatment lagoon under the Licence, obtain samples of effluent just prior to each effluent discharge campaign from the secondary cell of the wastewater treatment lagoon. The samples shall be preserved, analyzed and reported in accordance with the requirements of the Licence, and analyzed for:
  - total ammonia;
  - pH; and
  - temperature.
- The draft Environment Act Licence contains a clause that requires that the Licencee shall, during construction and maintenance of the Development, prevent the introduction and spread of foreign aquatic and terrestrial biota by cleaning equipment prior to its delivery to the site of the Development.

**Prairie Mountain Health**

- *Please ensure containment design provides the best possible groundwater protection for the area.*

- *Please consider monitoring for groundwater contamination by regular sampling of nearby residential or community wells.*
- *Please consider leachate monitoring.*
- *Please ensure:*
  - *prevention of pollutants or contaminated wastewaters from entering surface and/or groundwater system;*
  - *odor control and monitoring; and*
  - *effluent discharge as per regulation.*
- *Fencing was noted in the proposal, but the need for gates and warning signs should be included in the license to ensure public safety.*

Proponent Responses – February 4, 2014:

- As described in Section 9.3 of the *Environment Act* Proposal, the lagoon will incorporate a geosynthetic liner (60 mil HDPE liner) and will be installed on a 150 mm thick layer of compacted bedding sand. This construction method will provide appropriate containment for groundwater protection.
- The installation of monitoring wells on the site on all sides of the lagoon will facilitate regular monitoring of groundwater, which will provide information on lagoon integrity. Manitoba Conservation - Parks and Natural Areas will implement groundwater monitoring as required by the Director of Approvals as part of the *Environment Act* Licence conditions for the proposed project.
- Monitoring will be implemented as set out on the *Environment Act* Licence and, if required as part of the licence terms, monitoring could be undertaken using the on-site monitoring wells that will be installed as indicated in the response to comments above.
- Mitigation measures described in Section 5.4.1.4 and 5.16 of the *Environment Act* Proposal will be implemented. These include procedures such as; inspecting storage sites periodically to confirm compliance, and properly maintaining equipment and facilities. We believe these will appropriately mitigate the risk of spills from occurring and pollutants subsequently entering water bodies.

As noted in Section 5.2.2.2, 5.10.2 and 5.13.2 of the *Environment Act* Proposal, the shelterbelt will help to alleviate odour and aesthetic concerns.

At this time, Manitoba Conservation - Parks and Natural Areas does not intend to implement an odour monitoring program: however, if documented complaints are received, Manitoba Conservation – Parks and Natural Areas will address these complaints on an individual basis.

Effluent monitoring prior to discharge in the fall (likely mid-October) will be conducted in accordance with the requirements of the *Environment Act* Licence anticipated for the proposed project.

- Requirements of the *Environment Act* Licence will be met. In addition to the information provided in Section 9.3 of the *Environment Act* Proposal, the following measures will be implemented:
  - A pipe gate will be installed at the entrance to the lagoon access road to limit access to authorized personnel only.
  - Appropriate signage marking the entrance to the road will be installed.
  - The entire lagoon will be surrounded by a 1.8 m high chain link fence to restrict access. A locked gate will be included in this fence, which will allow authorized personnel access for maintenance purposes.
  - The truck dump area will include a solids gate, which will allow trucks to dump sewage into the lagoon, but will prevent access to the lagoon itself.

### **Water Science and Management Branch – Conservation and Water Stewardship**

- *The following effluent standards should be in place for Spruce Woods Provincial Park Lagoon as per the Manitoba Water Quality Standards, Objectives and Guidelines Regulation (196/2011).*
  - *BOD<sub>5</sub> 25 mg/L*
  - *TSS 25 mg/L*
  - *Fecal Coliforms 200 MPN / 100mL*
  - *TP 1 mg/L*
- *The Water Quality Management Section recommends monitoring concentrations of total ammonia, pH and temperature of the effluent just prior to discharge as a condition of the license.*
- *The Water Quality Management Section encourages the land application of sludge for beneficial use of valuable resources such as nutrients, organic matter and energy contained within municipal biosolids and sludge.*
- *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 Responses – February 4, 2014:**

- The proposed lagoon will operate in accordance with the *Manitoba Water Quality Standards, Objectives and Guidelines Regulation (196/2011)* identified above and as described in Section 2.2.3 of the *Environment Act* Proposal.
- Manitoba Conservation - Parks and Natural Areas will include total ammonia, pH and temperature in the effluent monitoring/reporting program in accordance with the *Environment Act* Licence requirements.



- Manitoba Conservation - Parks and Natural Areas will evaluate viable methods for lagoon sludge management. These may include agricultural land application and/or dewatering and subsequent disposal at the City of Brandon Landfill. If land application or some other management method is determined to be a viable option, an application will be made to appropriate regulatory authorities at that time.
- Manitoba Conservation - Parks and Natural Areas will adhere to all *Environment Act* Licence conditions including the participation in such programs listed above, if requested by the Director.

Disposition:

- The draft Environment Act Licence contains a clause that requires that the Licencee shall, for a period of at least five years following the commencement of operation of the wastewater treatment lagoon under the Licence, obtain samples of effluent just prior to each effluent discharge campaign from the secondary cell of the wastewater treatment lagoon. The samples shall be preserved, analyzed and reported in accordance with the requirements of the Licence, and analyzed for:
  - total ammonia;
  - pH; and
  - temperature.
- The draft Environment Act Licence contains a clause that requires that the proponent actively participate in any future watershed-based management study, plan/or nutrient reduction program, approved by the Director, for the Assiniboine River, the Red River and Lake Winnipeg and/or associated waterways and watersheds.

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

- *The only concern I would have is that the raw water intakes for the City of Portage la Prairie and Cartier Regional Water Coop are located downstream of the proposed lagoon outfall. As such, I would recommend the contact information for the Portage la Prairie and Cartier water treatment plants be kept on file at the Spruce Woods Park with instructions that, in the event of a major spill of contaminants from the lagoons draining into the river, the plant operators at Portage la Prairie and Cartier be notified.*

*Beyond this, ODW has no other concerns with this EAP.*

Proponent Responses – February 4, 2014:

- Manitoba Conservation - Parks and Natural Areas will maintain contact details for the Portage la Prairie and Cartier water treatment plants at the site and will notify them, in addition to Manitoba Conservation and water stewardship, in the event of a major spill of contaminants from the lagoon into the river.

**Environmental Services Section – Infrastructure and Transportation**

- *MIT has reviewed the proposal noted above and while we do not have concerns with the development as proposed, we would like to offer the following reminders:*
  - *The proposed project may require a permit under the Highways Protection Act for any new, modified or relocated access connection onto a PTH. A permit may also be required for:*
    - *any construction, above or below ground level, within 38.1 m (125 ft) from the edge of the right of way of PTH 5;*
    - *any plantings within 15.2 m (50 ft) from the edge of the right of way of PTH 5; or*
    - *discharge of water or other liquid materials into the ditch on PTH 5.*
- *Should any of the water/sewer lines cross under PTH 5 or within the right of way of PTH 5, an agreement with MIT will be required.*

**Proponent Responses – February 4, 2014:**

- *As shown in Figure 2 of the Environment Act Proposal, the proposed project does not include construction or alteration of any infrastructure within 38.1 m of PTH 5, nor does it include plantings within 15.2 m of PTH 5 or planned discharge of water or other liquids to the ditch on PTH 5. No pipes are proposed to cross under PTH 5 as part of this project.*

**Office of the Fire Commissioner – Family Services and Labour**

- *No comments.*

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

- *No concerns.*

**Watersheds and Protected Areas Branch and Lands Branch – Conservation and Water Stewardship**

- *No concerns.*

**Lands Branch – Conservation and Water Stewardship**

- *No concerns.*

**Agri-Environment Branch – Agriculture, Food, and Rural Initiatives**

- *No concerns.*

**Wildlife Branch – Conservation and Water Stewardship**

- *No concerns.*

**Water Use Licensing Section – Conservation and Water Stewardship**

- *No concerns.*

**PUBLIC HEARING:**

A public hearing has not been requested.

**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.

The proposal involves the construction and operation of a wastewater treatment lagoon on agricultural land within Spruce Woods Provincial Park. The Province of Manitoba owns the land. Adverse effects on surface water or habitat for wildlife or fisheries are not anticipated. Sludge from an existing related lagoon that is to be decommissioned may be applied to agricultural land and will be assessed as an option that may be proposed in a separate Environment Act Proposal.

Since the quantity of land required for the project is very small and there is a large quantity of other agricultural land in the area, it is concluded that Crown-Aboriginal consultation is not required for the project.

**RECOMMENDATION:**

Issue an Environment Act Licence in accordance with the attached draft. Enforcement of the Licence should be assigned to the Environmental Approvals Branch until inspection of the liner has been completed.

**PREPARED BY:**

Robert Boswick, P. Eng.  
Environmental Engineer  
May 9, 2014

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