

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: Mosakahiken Cree Nation
PROPOSAL NAME: Mosakahiken Cree Nation and Community
of Moose Lake Aerated Wastewater
Treatment Lagoon
CLASS OF DEVELOPMENT: 2
TYPE OF DEVELOPMENT: Waste/Scrap Wastewater Treatment Lagoons
CLIENT FILE NO.: 5218.00

OVERVIEW:

On June 1, 2006, the Department received a Proposal from J.R. Cousin Consultants Ltd. on behalf of the Mosakahiken Cree Nation (MCN) for the construction and operation of an aerated wastewater treatment lagoon located at the northeast quarter of Section 29-54-20 WPM to serve the MCN Community and the Community of Moose Lake. Additional information was received from the proponent on July 31, 2006. Treated wastewater from the wastewater treatment lagoon will be discharged between April 15th and November 1st of any year to a constructed drainage ditch south of the lagoon and then follow a natural drainage path to Summerberry Creek. Summerberry Creek drains into Cedar Lake.

The Department, on August 30, 2006, placed copies of the Proposal in the Public Registries located at 123 Main St. (Union Station), the Winnipeg Public Library, the Manitoba Eco-Network, The Pas Public Library and the Community of Moose Lake office. Copies of the Proposal were also provided to the Technical Advisory Committee (TAC) members. The Department placed public notification of the Proposal in The Pas Opasquia Times on Friday, September 8, 2006. The newspaper and TAC notifications invited responses until October 5, 2006.

COMMENTS FROM THE PUBLIC:

No responses were received from the public notification.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Agriculture, Food and Rural Initiatives

- *No concerns*

Conservation - Sustainable Resource & Policy Management

- *Under Section 4.5, Public Open House, it states that none occurred. Why is this the case and are there any known local concerns with the location of this lagoon?*

Proponent Response (November 30, 2006):

- Although a public open house was not conducted specifically for this phase of the project, ININEW did hold an open house during the feasibility stages of this project. Public opinion is that a new wastewater treatment and water treatment facility is needed. In addition, members of the Moose Lake Council and Mosakahiken Cree Nation Council are part of the Project Team and thus have direct input on all aspects of the project. The Council members are also required to keep their respective communities updated on the project.

There are no known local concerns with the location of the lagoon. The lagoon site meets Manitoba Conservation siting requirements as outlined in Section 2.6.2 of the Environment Act Proposal. The site is at least 2 km from the Community of Moose Lake and 800 metres from a proposed subdivision (Manitoba Conservation requires a distance of 460 m from the lagoon to the nearest community). The site is at least 600 m from the nearest resident (Manitoba Conservation requires a distance of 300 m from the lagoon to the nearest resident and recommends a distance of 460 m).

Disposition:

- The proponent response was reviewed and Conservation has no concerns or comments.

Water Stewardship

- *Discharge from the proposed facility should only be permitted between June 15th and October 31st of each year.*
- *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, for Summerberry Creek, Cedar Lake and associated waterways.*
- *The proposed lagoon site is located in an area where bedrock is very shallow, in fact bedrock was intersected in one of the test pits at a depth of 5 cm. Since the major source of water supply in this area is from the bedrock aquifer, a reasonable level of protection for the aquifer must be included in the design. The consultant should consider and respond to the following:*
 - *How will the bedrock outcrop under a part of the lagoon be dealt with?*
 - *Where are the existing water supply wells in relation to the proposed lagoon? Is there a history of shallow groundwater contamination in this area?*
 - *It is well known that geotextile liners do allow leakage through a statically predictable number of defects (for instance, see the 2005 Rankin Lecture and a recent publication by Rowe), through improper sealing joints, and through wear and tear or direct damage over the years. What estimates can be made of the seepage rate that will occur from the liners beneath the three cells? What potential impacts could this leakage have on the underlying shallow aquifer? Would the lagoon lie within the drawdown*

cone of the water supply wells? Based in this evaluation, is there need of additional protection for the aquifer?

- *According to section 1.3, the proposed lagoon location differs from the existing lagoon. As per the Public Health Act, Regulation 331/88R (waterworks, sewerage and sewage disposal regulation) sewer line extensions require certificate of approvals prior to construction. Office of Drinking Water should be contacted in case any sewer collection works are required.*
- *Section 3.4 suggests that the groundwater quality will be monitored. It can be noted that Nitrate (NO₃) concentration is very important from drinking water point of view.*
- *Discharge from this facility ends up in Cedar Lake via Summerberry River. While our FHICS has no information of Summerberry River, Cedar Lake provides year round habitat for a number of commercial and recreational fish species. Ensuring that the effluent meets or exceeds Manitoba Water Quality Standards and Objectives for Aquatic Species is important. Further to this the proponent indicates that the facility was not designed to decrease ammonia and phosphorous levels. Our concern with ammonia levels is heightened given the indicated discharge times are between April 15th and November 1st. Due to the potential for Summerberry to be utilized by spring spawning fish species and possibly also used as nursery and feeding habitat the effluent should not be discharged prior to June 30th. Also, given the presence of lake whitefish in Cedar Lake effluent should probably not be discharged no later than September 1st. We would recommend ammonia levels be included in any monitoring that is required and it would be beneficial to do sampling at the entry point to Summerberry River. (NOTE a reduction in effluent discharge time may require the cells to be redesigned as they are currently designed on 200 days based on 10 year loading.) Second, given the Department's initiative on reducing nutrient inputs into Lake Winnipeg, phosphorus levels should be required to meet current expectations of 1 mg/L.*
- *During construction and until the site is stabilized, temporary and permanent erosion control measures need to be implemented. The ditch banks in particular may need to be covered if vegetation can not be established prior to spring runoff or other precipitation events. While silt traps are mentioned, equally important is the need to monitor and clean them as required.*
- *Again, these are areas we note of concern and our comments do not take precedent over those recommended by our colleagues in Water Quality Management Section or DFO. DFO is responsible for fish habitat under the Federal Fisheries Act and as long as they are involved in reviewing this proposal and managed fish habitat to meet the intent of their no net loss policy, provincial fisheries management interests should be met.*
- *Given project specifics we are wondering why Cells 1 and 2 were based on 20 year loadings and Cell 3 just on 10 year loading. No information was included on the performance and water quality monitoring results from the present lagoon system nor is there any operational procedures included on how this new facility will operate, in particular the steps involved prior to discharging from Cell 3.*

Proponent Response (November 30, 2006):

- Effluent will have a total retention time of 60 days in the 2 aeration cells. Following the aeration cells, the treated effluent will flow to a liquid level control manhole to maintain a constant liquid level in the aerated cells. Treated effluent will be pumped from the liquid level control manhole through UV disinfection equipment in an aeration building prior to being discharged to a storage cell. The purpose of the storage cells is to hold the treated effluent over the winter (i.e. until the receiving body is thawed) and provide additional polishing of the treated effluent. The aerated lagoon cells, UV equipment, and storage cells will treat the effluent to the following levels (in accordance with the Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments):

- $BOD_5 \leq 20$ mg/L
- $TSS \leq 25$ mg/L
- Fecal Coliforms < 200 CFU/100 mL

The above levels are more stringent than the requirements for Municipal Wastewater Effluents as stated in Manitoba Water Quality Standards, Objectives and Guidelines (Final Draft: November 22, 2002). To ensure discharge requirements are met, an accredited laboratory will test the effluent before discharging into Summerberry Creek. The submitted Environment Act Proposal incorrectly stated that the lagoon would discharge treated effluent between April 15 and October 31 (pg. 5). Effluent discharge is proposed to occur between May 15 and October 31.

As per Manitoba Conservation and Water Stewardship's latest policy regarding nutrient removal from wastewater treatment lagoons, phosphorus reduction is only required of wastewater treatment lagoons located in Provincial Parks. Some phosphorus removal can still be expected from the aerated lagoon system, however phosphorus reduction targets should not be applied in this case.

- To monitor the impact of the wastewater effluent on the Saskatchewan River Watershed Study Area (which includes Cedar Lake), the proponent would be willing to participate in any future watershed or drainage basing management plan, approved by the Director, for the Summerberry Creek, Cedar Lake, and associated waterways and watersheds. At the request of the Director, the proponent would also be willing to monitor ammonia levels during effluent discharge sampling events.
- The orientation of the aerated lagoon has been altered to minimize the quantity of bedrock that will require blasting and removal for the construction of the lagoon. Approximately 500 cubic metres of bedrock will require removal.
- Mr. Eric Carlson (Water Stewardship) was contacted regarding existing water supply wells in the vicinity of the proposed lagoon. A search of GWDrill Logs (May 2006) indicates that there are numerous groundwater wells located in 54-20 WPM, however no wells are specifically identified as being in Section 29. In addition, there is no known history of groundwater contamination in the area.

Friesen Drillers Limited conducted a groundwater study in preparation for the construction of a new water treatment plant with a "new" groundwater source for the Mosakahiken Cree Nation. The new production well is located approximately 1,100

metres from the proposed lagoon site. The predicted drawdown for the well is approximately 2.7 metres at the proposed lagoon site. Friesen Driller's report indicates that the proposed groundwater source is located in a carbonate bedrock aquifer, which may be connected to the nearby lakes and rivers in the area. The carbonate bedrock contains two aquifers. The upper aquifer was identified to exist between 3 to 6 metres below the surface. The lower aquifer was identified to exist approximately 55 metres below the surface. Friesen Driller's recommends that the Community conduct a groundwater assessment of the aquifers in the Community. It is recommended that the Community treat the upper and lower aquifers as one continuous aquifer unless the groundwater assessment indicates otherwise.

To protect the aquifer from potential impact from the wastewater in the lagoon, the lagoon will be lined with a synthetic geomembrane fabric (60 mil HDPE). The geomembrane liner will be installed as per manufacturer specifications, and will be inspected and tested prior to commissioning of the aerated lagoon. The functionality of the liner welding equipment is also tested at the start of each working day to ensure that suitable welds are formed. The liner inspection will include testing of all seams and welds (air channel tests). Destructive testing is also conducted on welds at "non-critical" sections of the liner (i.e. in the anchor trench). If a hole is detected in the liner during installation, extrusion welding and vacuum testing is conducted to repair the hole.

Additional protection for the aquifer will be provided via monitoring wells, which will be installed upstream and downstream from the lagoon, based on the local groundwater flow (which has been predicted to be in a westerly direction). Groundwater characteristics (including nitrate) will be monitored as required to provide an indication as to whether the groundwater is being impacted by the lagoon effluent.

- Ms. Kim Barlishen, P.Eng. , Environmental Engineer from the Office of Drinking Water, Water Stewardship, has been contacted regarding this project. She has requested that the 66% design plans for the sewer piping be forwarded to her office for review, after which, approval will be received for the sewer piping. Ms. Barlishen has also indicated that her office has no involvement with the water treatment plant or water piping aspects of this project as these components are solely for the First Nation and do not fall under Provincial jurisdiction.
- Although the wastewater treatment lagoons are not specifically designed to reduce nutrient levels (i.e. ammonia and phosphorus) in the wastewater, natural biological processes provide some nutrient reduction during the wastewater treatment process. In addition, aerating the wastewater further enhances the nutrient reducing biological processes.
- The aeration cells (Cells 1 and 2) were sized based on projected year 20 loadings as the cost to construct the cells based on 20 year loadings was minimal relative to the cost to expand the cells after year 10. INAC projects are typically sized for projected year 10 loadings and thus, the remainder of the lagoon (i.e. Cell 3) was designed based on year 10 loadings. After year 10, an additional cell could be constructed to provide additional hydraulic storage, as required, to meet the year 20 loadings.

- The performance and water quality monitoring results from the present lagoon system is immaterial. The existing lagoon is overloaded and not performing sufficiently. Hence, the need for the new lagoon system.
- As discussed in Section 4.4 of the Environment Act Proposal, silt fences will be utilized during construction to mitigate potential impact to aquatic life via sedimentation of water flowing into the Summerberry Creek. The tender specification document will indicate that the contractor is responsible to monitor, clean, and replace silt fencing as required. All disturbed areas within the construction zone will be seeded to stabilize soil and sediments within the construction zone. To minimize sedimentation of the Summerberry Creek, a 50 metre riparian/buffer zone will be maintained along the banks of the Summerberry Creek, which will further aid in the removal/settling of entrained sediments along the proposed drainage route.

Water Stewardship Response (December 15, 2006):

- *Fisheries Branch has looked over the proponent's comments and the only recommendation we would have is to reflect the discharge dates to occur (at minimum) between June 15-October 31st. This is the date that is always used down south and should probably be kept consistent. DFO had called earlier and discussed the consideration for an even later summer discharge rate to reflect later spawning periods up north but decided that as long as the effluent met MWQSOG an earlier date would be alright. It's my recollection that pushing the discharge date would have required the proponents to increase the storage cell which would increase the cost of the project considerably.*

Water Stewardship Response - ADDENDUM (December 20, 2006):

- *Water Quality gathers that the discharge dates for aerated treatment lagoons do not always follow the standard June 15th to October 31st period because aerated lagoons provide treatment throughout the ice-covered period thus reducing potential issues with ammonia. Therefore, while the proponent may not be required to meet a June 15th to October 31st discharge period, they will be required to meet the Manitoba Water Quality for ammonia during discharge.*

Water Stewardship Response (April 3, 2007):

- *The proposed monitoring for ammonia, pH and temperature at this facility will satisfy concerns expressed by the Water Quality Management Section. The Water Quality Management Section would appreciate a copy of data collected as part of this facility's license requirements.*

Disposition:

- Monitoring for ammonia, pH and temperature at this facility is included in the draft Licence.
- The draft Licence requires the Licencee to actively participate in any future watershed based management study, plan and/or nutrient reduction program, approved by the Director, for Summerberry Creek, Cedar Lake and/or associated waterways and watersheds.

Culture, Heritage and Tourism - Historic Resources

- *No concerns*

Health

- *There are a number of points about the proposal that remain unclear to me.*
 1. *Have the sources of drinking water and their protection been considered in the selection of the location and design of this system?*
 2. *In the absence of a public open house, was public opinion assessed in other ways?*
 3. *Who will be the owner of the proposed wastewater treatment lagoon?*
 4. *Who will be responsible for operating and monitoring the system?*
 5. *Who will have regulatory oversight?*

Proponent Response (November 30, 2006):

- A new drinking water source and treatment plant is being developed in conjunction with the proposed aerated wastewater treatment lagoon. The water source is a groundwater well, which draws from the aquifer located in Section 33-54-20 WPM. A Driller's Report on the local groundwater indicates that the groundwater flow is in a westerly direction, which means that groundwater flow from the community area towards the lagoon. Thus, there should be no concerns of impact to the community's drinking water source as a result of the lagoon.
- Although a public open house was not conducted specifically for this phase of the project, ININEW has held an open house during the feasibility stages of this project. Public opinion is that a new wastewater treatment and water treatment facility is needed. In addition, members of the Moose Lake Council and Mosakahiken Cree Nation Council are part of the Project Team and thus have direct input on all aspects of the project. The Council members are also required to keep their respective communities updated on the project.
- The Mosakahiken Cree Nation (MCN) will be the owners of the proposed lagoon. The MCN will also be responsible for operating and monitoring the system. Regulatory oversight for all aspects of the lagoon will be provided by INAC, who is providing funding for this project.

Disposition:

After receiving the additional information from the proponent, no further comments were received from Manitoba Health. This was assumed to indicate that the original comments were satisfied.

Infrastructure and Transportation

- *No comments received.*

Intergovernmental Affairs & Trade

- *No concerns.*

Canadian Environmental Assessment Agency

- *Following a review by all federal departments with a potential interest in the proposed development, the application of the CEAA will be required.*
- *Natural Resources Canada and Health Canada have offered to provide specialist advice with respect to the project.*
- *CEAA recommends a condition be included pertaining to monitoring for possible leakage of effluent through the floor of the lagoon cells.*
- *DFO concluded that the proposed works and undertakings are adequate to protect fish and fish habitat provided that the work is carried out as described in the plans and the following additional measures are implemented:*
 1. *All work activities should meet or exceed the relevant construction standards outlined in the Manitoba Steam Crossing Guidelines for the Protection of Fish and Fish Habitat (Manitoba Natural Resources and DFO, 1996)*
 2. *All treated effluent should not be discharged into Summerberry Creek prior to June 30 and discharged no later than September 1.*
 3. *No instream work should take place between April 15 and June 30 and September 1 and May 15 in any given year.*
 4. *All reasonable efforts should be made to minimize the duration of instream work, and minimize the amount of sediment generated during construction. Disturbance to the bed and banks of the watercourse should be minimized and confined to the immediate work site.*
 5. *The works should be constructed under low flow or dry conditions. Construction is halted during heavy rains. The contractor should have a contingency plan in place during construction to ensure sediment does not enter Summerberry Creek during high storm events.*
 6. *The deposit of deleterious substances (E.g. silt, sediment) into water frequented by fish is prohibited under the Fisheries Act. Appropriate precautions must therefore be taken to ensure that potentially deleterious substances do not enter any watercourse.*
 7. *Operate machinery from the outside of the water and in a manner that minimizes disturbance to the banks of the watercourse:*
 - a) *Machinery is to arrive on site in a clean condition and is to be maintained free of fluid leaks.*
 - b) *Wash, refuel and service machinery and store fuel and other materials for the machinery away from the water to prevent deleterious substances from entering the water.*
 - c) *Keep an emergency spill kit on the site in case of fluid leaks or spills from machinery.*
 8. *Install effective sediment and erosion control measures before starting work to prevent the entry of sediment into the watercourse. Pay particular attention to the ditches of road approaches. Inspect and monitor measures regularly during the course of construction and until any required re-vegetation has established to ensure they are functioning properly. Make all necessary repairs if any damage is discovered or these measures are not effective at controlling erosion and sedimentation.*

9. *Stabilize any waste materials removed from the work site, above the ordinary high water mark to prevent them from entering any watercourse. Spoil piles could be contained with silt fences, flattened, covered with biodegradable mats or tarps, and/or planted with preferably native grass or shrubs.*
10. *Vegetate any disturbed areas by planting and seeding preferably native trees, shrubs or grasses and cover such areas with mulch to prevent soil erosion and to help seeds germinate. If there is insufficient time in the growing season remaining for the seeds to germinate, stabilize the site (e.g. cover exposed areas with erosion control blankets to keep the soil in place and prevent erosion) and then vegetate the following spring.*
11. *Maintain effective sediment and erosion control measures until complete revegetation of disturbed areas is achieved.*

Proponent Response (November 30, 2006):

- In addition to the information presented in Section 4.4 of the Environmental Act Proposal (EAP), contractors will be instructed via the tender specifications document that all work activities must meet or exceed the relevant construction standards outlined in the Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat.
- Effluent will have a total retention time of 60 days in the 2 aeration cells. Following the aeration cells, the treated effluent will flow to a liquid level control manhole to maintain a constant liquid level in the aerated cells. Treated effluent will be pumped from the liquid level control manhole through UV disinfection equipment in an aeration building prior to being discharged to a storage cell. The purpose of the storage cells is to hold the treated effluent over the winter (i.e. until the receiving body is thawed) and provide additional polishing of the treated effluent. The aerated lagoon cells, UV equipment, and storage cells will treat the effluent to the following levels (in accordance with the Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments):
 - $BOD_5 \leq 20 \text{ mg/L}$
 - $TSS \leq 25 \text{ mg/L}$
 - Fecal Coliforms $< 200 \text{ CFU/100 mL}$

The above levels are more stringent than the requirements for Municipal Wastewater Effluents as stated in Manitoba Water Quality Standards, Objectives and Guidelines (Final Draft: November 22, 2002). To ensure discharge requirements are met, an accredited laboratory will test the effluent before discharging into Summerberry Creek. The submitted Environment Act Proposal incorrectly stated that the lagoon would discharge treated effluent between April 15 and October 31 (pg. 5). Effluent discharge is proposed to occur between May 15 and October 31.

It is expected that any sediment being carried in the effluent would settle out of the discharge stream prior to the outfall into Summerberry Creek, as a 50 m riparian zone will be maintained during and after the lagoon discharge ditch construction. Furthermore, silt fences would be used to mitigate the potential to impact aquatic life via sedimentation of waters flowing into the Summerberry Creek during construction.

In addition, construction of the discharge ditch would likely take place in the late summer or early fall of 2006, such that if sediments were released into the Summerberry Creek, it would not occur during spawning season.

- In-stream work is not required for this project and thus, limiting such activities does not apply in this case.
- Disturbance of the drainage route to the Summerberry Creek will be confined to the immediate work site. Mitigative measures to prevent the entrainment of sediments in the ditch flows will be attained via the utilization of silt fences.
- The contractor will be instructed to halt construction activities during heavy rains. Silt fencing will be utilized in the drainage ditch to the Summerberry Creek to minimize the potential for sediments to enter the Summerberry Creek during high storm events.
- As described in Section 4.4 of the EAP, instructions will be given to the contractor to minimize the potential for deleterious substances to be released into any watercourse.
- The requested measures have previously been described in Section 4.4 of the EAP, and will be included in the tender specification document.
- This statement will be copied and included in the Erosion Control section of our tender specification document for this project.
- Waste materials will be placed such that they will be prevented from entering any watercourse. Spoil piles will be contained with silt fences and seeded with native grass if there is no intention of moving/utilizing the spoil piles in the near future.
- Disturbed areas will be seeded with native grasses.
- The contractor will be instructed to maintain effective sediments and erosion control measures until complete re-vegetation of disturbed areas is achieved.

Disposition:

- The requirement for the submission of a groundwater monitoring plan has been included in the draft Licence.
- After receiving the additional information from the proponent, DFO has revised the additional measures to be implemented by removing the effluent discharge clause (item 2 above) and has no further comments or concerns.

Health Canada has provided the following comments:

- *The EAP does not indicate the proximity of lake water intakes, wells and other potential potable water resources to the lagoon site and effluent discharge route.*
- *It is unclear whether potable water will be supplied to the lab/office of the facility. If so, what will the source be?*
- *Section 2.6.4.1 indicates that there is a bedrock outcrop in the middle of the lagoon area. Will blasting be required to remove the outcrop or any other rock for the project? If so, what measures will be used to ensure the safety of workers, visitors or trespassers to the site during blasting, and storage of explosives.*

- *The EAP does not indicate whether warning signage, in meaningful languages, will be posted at/around the lagoon site.*
- *The EAP does not indicate whether First Nation input was, or will be utilized to assess potential impacts to traditional resources (e.g. hunting, trapping, fishing, gathering, ceremonial/sacred areas) in the project area.*
- *The proponent should ensure that adequate wastewater and water treatment/distribution system operator training is provided to a sufficient number of individuals to cover off for times of illness, hunting season, vacation, employee turn over etc.*
- *The information received did not provide detail on the truck dump area. Will safety devices be incorporated (e.g. bollards, high curb, lighting) to prevent trucks from reversing into the spillway during all weather conditions?*
- *Section 3.1.1 indicates that the lagoon (with aerator control building) will be located approximately 600 m from the nearest residence. Aeration systems can emit considerable noise. Will mitigation measures be necessary during the operation phase to reduce any noise impacts to the existing or future rural residents?*
- *Section 3.1.1 also states that PWGSC indicates that the prevailing winds are from the east and the southwest. This contradicts the Annual Wind Rose Diagram on Page A144 showing that the winds are most commonly from the west and southwest.*

Proponent Response (November 30, 2006):

- There are no known lake water intakes in the vicinity of the proposed lagoon site. Residents in the area draw potable water from the groundwater aquifer below. As no residents are located within 600 metres of the proposed lagoon site, drinking water wells do not exist within 600 metres of the proposed lagoon site. Potable water will be supplied to the aeration building via an onsite cistern. The water for the cistern will be trucked-in, and will be obtained from the bulk truck fill station at the new proposed water treatment plant (WTP) at the Mosakahiken Cree Nation Reserve. The water source for the new proposed WTP is the aquifer located in the carbonate bedrock. The WTP and water well will be located in 33-54-20 WPM.
- The orientation of the aerated lagoon has been altered to minimize the quantity of bedrock that will require blasting and removal for the construction of the lagoon. Approximately 500 cubic metres of bedrock will require removal. The tender specification document will stipulate that the contractor must have the appropriate blasting certificates and take the required safety measures when blasting as per Manitoba Regulation 204/77 (as amended by M.R. 86/84 and 189/85) and W210 – M.R. 108/88R.
- Security fencing (barb wire) will be installed around the perimeter of the lagoon (outer edge along the top of the dikes), truck turnaround, and aeration building. A locked access gate will be installed where the access road meets the truck turnaround. Signs will be posted at strategic locations near the perimeter fence. The signs will indicate that a wastewater treatment lagoon belonging to the Community of Moose Lake and the Mosakahiken Cree Nation occupies the site, and that unauthorized

trespassing is prohibited. The signs will be posted in English and may also be posted in Cree, if requested by the Project Team.

- There are no known local concerns with the location of the lagoon. Impact to traditional resources as a result of this project is not anticipated. Although a public open house was not conducted specifically for this phase of the project, ININEW did hold an open house during the feasibility stages of this project. Public opinion is that a new wastewater treatment and water treatment facility is needed. In addition, members of the Moose Lake Council and Mosakahiken Cree Nation Council are part of the Project Team and thus have direct input on all aspects of the project. The Council members are also required to keep their respective communities updated on the project.
- Recommendations will be provided to the Project Team, which consists of Councilors from the Community and Cree Nation that the proper operation of the wastewater treatment facility requires that the operators accumulate experience and training in the methods of operating the process. It is important that the operator be employed permanently so that the valuable experience gained stays with the facility. The recommended level of staffing for the wastewater treatment facility is 1 full time person with 1 standby person for holidays, hunting season, illness, etc. Both operators are required to hold a valid Class 1 Operator's Certificate. If Operators with Class 1 certification are not available, an oversight function will be provided through the West Region Tribal Council's "Circuit Rider" program until the operator obtains certification. Utilizing the facility classification criteria from Schedule A, Part 4 Wastewater Treatment Facilities of the Environment Act Regulation 77/2003, the proposed wastewater treatment lagoon is classified as Class 1 facility. The operator certification level is determined by the facility classification hence the level of operator certification for the proposed wastewater treatment lagoon under the mandatory operator certification is Certified Class 1. Although the First Nation falls under Federal Government jurisdiction, we have strongly recommended that the operators obtain the Provincial Certification. The Manitoba First Nation Water and Wastewater Instruction Program could provide the recommended training.
- The truck dump (i.e. spillway) will have bollards around the concrete pad to guide sewage truck drivers to the correct location on the spillway. A typical 300 mm (12") high curb will be constructed across the rear of the spillway to provide the sewage truck driver with guidance to a safe discharge location on the spillway and to minimize the potential for sewage trucks to reverse onto the sloped portion of the spillway during all weather conditions. The operator must conduct the proper maintenance of the spillway (i.e. snow removal).
- Noise from the aeration equipment is not anticipated to impact rural residents. Primary noise attenuation will be achieved via the blower housing. Manufacturer specifications state that noise in the range of 80-90 dB can be anticipated from the blower at a distance of approximately 1 metre. The blowers will also be housed inside the aeration building, which will provide additional attenuation of noise generated by the blowers. As the nearest residents are at least 600 metres from the

proposed lagoon site, noise from the blowers is not anticipated to impact rural residents.

- Our office misread the Wind Rose data. Winds are most commonly from the west and southeast.

Disposition:

After receiving the additional information from the proponent, Health Canada has no further comments or concerns.

PUBLIC HEARING:

A public hearing is not recommended.

RECOMMENDATION:

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

PREPARED BY:

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April 3, 2007
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