SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT:	**Manitoba Aboriginal & Northern Affairs**
PROPOSAL NAME:	**Wastewater Stabilization Pond**
CLASS OF DEVELOPMENT:	**2**
TYPE OF DEVELOPMENT:	**Wastewater Treatment Lagoon**
CLIENT FILE NO.:	**5147.00**

OVERVIEW:

On November 15, 2004, the Department received an Environment Act Proposal (EAP) from Manitoba Aboriginal and Northern Affairs for the construction and operation of a wastewater treatment lagoon in NW 16–33–15WPM to serve the Community of Waterhen and surrounding area. The wastewater treatment lagoon will be located in NW 16-33-15WPM. The proposal indicated that treated wastewater from the wastewater treatment lagoon would be discharged between May 15th and November 1st of any year to a natural drainage channel that flows south into Lake Manitoba.

On December 10, 2004, the Department delivered comments and requests for additional information regarding the proposal to the proponent contact person. On June 9, 2005 the proponent supplied a partial response to the comments and requests for additional information.

The Department, on November 8, 2005, placed copies of the EAP report in the Public Registries located at 123 Main St. (Union Station), the Winnipeg Public Library, the Dauphin Public Library, the Manitoba Eco-Network, and the Waterhen Community Council and provided copies of the EAP report to the Canadian Environmental Assessment Agency (CEAA), and TAC members. As well, the Department placed public notifications of the EAP on the First Perspective Website on Monday, November 14, 2005 and the Dauphin Herald on Tuesday, November 15, 2005. The newspaper and TAC notifications invited responses until December 12, 2005.

On January 13, 2006 Manitoba Conservation forwarded requests for additional information from the TAC and the public to the proponent and sent copies of TAC and public correspondences to the Public Registries. The proponent's April 18, 2007 response to the requests was then provided to the participating TAC and public for review and comment on April 30, 2007.

On June 18, 2007 Manitoba Conservation forwarded supplementary requests for additional information from the TAC and the public to the proponent and sent copies of TAC and public requests to the Public Registries. It was noted that, in a letter dated May 18, 2007, the public suggested that it is considered to be their right to have an open

public consultation regarding this proposal. The proponent's July 26, 2007 response to the requests was then provided to the participating TAC and public for review and comment on August 24, 2007.

No additional comments were presented by the TAC or the public however the public requested that an open public consultation regarding the proposal be organized.

On February 21, 2008 an open public meeting was held in the Community of Waterhen for the purpose of questions and answers regarding the Environment Act Proposal review as well as public concerns and/or support of the overall proposal. Manitoba Conservation provided responses to all related questions regarding the review. No further discussion was generated and no further public correspondence has been received.

COMMENTS FROM THE PUBLIC:

Daniel and Darlene Dumas and other concerned citizens

Following Initial Review of EAP – November 30, 2005

- *Expressing opposition to the EAP;*
- *Suggesting that the lives of area and seasonal residents will be put at risk in two ways:*
  - *surface water quality maybe rendered not potable; and*
  - *risks to fish habitat and related impacts;*
- *Questioning if alternatives have been considered; and*
- *Querying how large of an area will be serviced by the lagoon.*

Proponent Responses – April 18, 2007:

- This proposal is no different that numerous lagoons constructed in the past and many in the future. It is an accepted method of treating sewage and there are numerous installations in Manitoba. A central larger facility is a better alternative than numerous small systems as control over effluent quality, maintenance and monitoring of leaks can be more focused. The effluent will flow through over 5,000m of marsh and swamp prior to release into Lake Manitoba.

Following Review of Proponents Response – May 18, 2007

- *Expressing disappointment with the time required to obtain response to initial requests for additional information;;*
- *Requesting responses to additional questions as follows:*
  - *Have other alternatives been considered? What are they and why are they not being considered?*

- *It is rumored that this facility will be a regional treatment lagoon eventually serving over a thousand residents. Is this true?*
- *How many residents or loads of sewage per day will this facility accommodate? From what distance will the sewage be transported*
- *Why can't the treated wastewater be diverted to the miles and miles of swampland and "dead lakes" that are located in close proximity to Waterhen?*
- *Page 1 - Questioning:*
  a) *the incorrect statement indicating that "the community of Waterhen is located on the western shore of Lake Winnipegosis";*
  b) *the incorrect statement that "the WWSP will be located in NW 16-33-15EPM";*
  c) *the incorrect statement that "natural drainage channel empties into Lake Winnipegosis; and*
  d) *"exactly what will be the number of residents served by this facility?"*
- *Page 3 - The report indicates "the nearest resident is located 300m southwest of the new WWSP". Yet on page 1 of the report it said the nearest resident is 650m. Which is it?*
- *Page 5 - The report indicates "The 2024 population is estimated to be 260 residents and 190 students." Again, what are the boundaries for this estimation? Is this just the community of Waterhen and the school? Who gave these estimates? It is fairly easy to give estimates when you haven't defined exact boundaries.*
- *Page 10 – In the first sentence it talks of a "constructed drain to the natural drain to Lake Manitoba". Finally the lake is the correct one, but again, this is a man-made drain and there is nothing natural about it.*
- *Page 11 – In Section 5.2 it says, "it empties to the Waterhen River downstream of the WTP intake." I do not believe this would be the Waterhen River and again did SEG actually use a map or go view the area?*
- *Page 12 – Section 5.4 says that " The size and scale of the WWSP is relatively small and it is unlikely to have any impact on wildlife or forestry…no negative socio-economic implications are anticipated." Basically this means that you are not 100% sure. Furthermore, what about any impact to aquatic species? Commercial fishermen make a living fishing in the north basin of Lake Manitoba. Why didn't the sturdy examine the environmental impact to fish rather than just "section 5.4.1 species at risk"?*
- *Page 13 – Under "Environmental Effects" the report states "this project is not expected to cause adverse environmental effects to species at risk". Recreational anglers and commercial fishermen would be more interested in whether their fish stocks are at risk. When will this study be undertaken and by who?*
- *Page 17 – The report ends with the statement "There has not been any public involvement regarding the project." Our biggest concern – why not??? The*

public has a right to be involved in open public consultation prior to the start of construction!

- *Regarding the ASKI Geosciences Ltd. report:*
  - *Page 2 – Under 2.1 Lagoon Site it says it will be located "approximately 500 metres northeast of the community". Why does it say 650 metres on both pages 1 and 3 of the same report?*
  - *Under 2.2 it says "the new WTP in Waterhen will be situated approximately 50 metres north of the existing WTP and 50 metres south of the existing water reservoir." Do you mean to say that the water intake and treatment site providing safe drinking water will be located in very close proximity to a sewage disposal site? Why is the sewage handling facility not being constructed may miles away?*
  - *Page 11 – The second sentence in 5.5 reads "The exact dimensions of the proposed lagoon were not known during the assessment." Why not? How could accurate soil testing be done in the proper location if the exact size of the lagoon remained a mystery?*
    a) *The first sentence again has this new lagoon approximately 500 me from the nearest residential house. As we already pointed out, page 1 and 3 indicated it was at least 650 m. Which is it? Was the measuring tape not being used accurately?*
  - *Page 13 – The last sentence of the first paragraph states "Once the exact locations of the proposed structures are confirmed, the writer would like to review the locations with the soils information presented in this report for the benefit of the project team." Has this been done? When? By Whom?*
  - *Attached to this report was a one page document from Larry Cleven of SEG dated June 9, 2005 and addressed to you, Mr. Robert Boswick. In it the second bullet stated, "When storage is running out, the community will have to add another cell." Our question again is how big will this project be and how large of an area will it serve and most importantly – does anyone really know much supposedly "treated" sewage will be dumped into out lake.*
    a) *In bullet five of the same document it says "the existing lagoon will not be decommissioned since the Frontier School Division will retain if for use by the school." This is confusing since other portions indicate that this lagoon will be decommissioned. What is the true version?*
    b) *In the last bullet "truck haul from the surrounding area" is mentioned. We still have no notion of the exact dimensions or the number of existing households in this "surrounding area". What is the latest version? Or, is it even known?*
  - *Our final concern and question deals with the extremely high water levels this past fall (2006) that caused many parts of Waterhen to be flooded and evacuated. Has the proposed sewage site been examined in light of this*

situation that could easily occur again? Would not locating the site in an area less conducive to flooding and evacuation be much wiser?

- *We would like to conclude by stating that neither of us have any engineering or environmental training. However, the many errors and discrepancies that they had pointed out in these studies prepared for Manitoba Aboriginal and Northern Affairs and the community of Waterhen should convince you that these studies are terribly inadequate. The building of this sewage facility should not proceed until all studies have been accurately completed and all of our questions answered. We will remind you that our first letter to you included the signatures of over 60 concerned citizens. <u>All of those residents deserve a chance to hear answers to these concerns and accurate, up to date information regarding this proposal.</u> In hopes of a more timely response to this letter, we have forwarded a copy to your current Minister of Natural Resources as well as the Minister of Aboriginal and Northern Affairs.*

<u>Proponent Responses – July 26, 2007</u>:

- Q.1: We concur that 17 months seems excessive to respond to these issues;
- Q.2:
  a) Other sewage treatment alternatives exist (i.e. primarily mechanical plants such as sequencing batch reactors, extended aeration, etc.) but are costly, both from a capital and operation and maintenance perspective. It is out opinion that this is the reason why a facultative lagoon is being contemplated;
  b) The concept of this Lagoon Facility being developed as a regional lagoon has been discussed with INAC and MANA to service both Provincial (WH-Waterhen) and Federal (SK-Skownan) communities. At this time Skownan is not a part of this project;
  c) Before that question is answered, both stakeholders are looking at a 10 year facility with expansion to go to a 20 year facility. The 20 year numbers are as follows: (WH) and surrounding communities (Mallard, Rock Ridge, Meadow Portage and Spence Lake) = 660, (WH – Seasonal) 332, (SK) = 1,084. The approximate haul distances would be as follows (distances to WH): Skownan 19km, Rock Ridge 11km, Meadow Portage 25km, and Spence Lake 32km;
  d) The outfall routing has been identified in the 2003 pre-design report as authored by SEG and was based on as accepted method and end use facility for discharge from a Provincial Lagoon. Should the Province wish to revisit this element of the project it could be further studied;
- Q.3:
  a) The statement should have read “eastern”;
  b) As with the above, it should have read “NE 16-35-15W”;
  c) We concur with your statement; and
  d) See response to 2c);
- Q.4: The objective is 650m. On Page 3 the reference was to the overall site and homes on Frontier St. On Page 1 the statement states the facility “will be

constructed at least 650m to the nearest residential properties" which is a desired setback and does not reference that existing residences are actually 650m away;

- Q.5: We are given population data by MANA based on assumed growth rates. (Also see response to 2c);
- Q.6: We acknowledge your comment;
- Q.7&8: Please refer to the SEG document of 18-Apr-2007 that discusses the outfall route;
- Q.9: The statement of "No negative socio-economic implications are anticipated" is based on a reasonable assumption for this issue. The WWTP has to meet strict effluent guidelines. It is this control that makes in manageable for the environment. Species at risk analysis is mandatory for Government funded projects;
- Q.10: We can understand the local sensitivities of community member, i.e. the impact on their fish stocks. A comprehensive assessment of the risks to this habitat are not part of our scope of work. You may want to request funding for a separate study from the Provincial or Federal Governments;
- Q.11: We would not object to public participation or involvement of the stakeholders for this project;
- Q.12: A public meeting was held on September 28, 2004 at the Waterhen Community Hall for the proposed lagoon. SEG GENIVAR would not object to any public participation or involvement of the stakeholders for this project or any project of this nature;
- Q.13: The geotechnical report as undertaken in March, 2003. The instructions provided to ASKI Geosciences Ltd. gave them an order of magnitude dimension where the lagoon would be located.

  Your reference to Page 1 and 3 are from a report dated August, 2004. The ASKI report is a supplement to this document. The preliminary nature of a soils investigation on a footprint of over 23,000 m^2 precludes the need for precise measurements, particularly at the pre-design stage. However, as can be seen on DWG. 5 of 11 the "Site Plan" the test holes fall well within the primary and secondary cells.

  a) The new water treatment plant location makes use of existing infrastructure and is suitably located. The new lagoon has acceptable separation with respect to opportunity for cross contamination. The intake is from the Waterhen River and lagoon discharges to Lake Manitoba;

- Q.14: This is very similar to Q.13. The approximate dimensions are used at a pre-design and investigation stage. The results of the soils investigation can influence the final dimensions of the cells.
  a) Again, this is similar to Q.13;

- Q.15: We see this as a good engineering practice to discuss the field information with the design team. The use of an HDPE liner negates the need for concern about the hydraulic conductivity of the clay liner;
- Q.16: As discussed under Q.2, a 10 year facility is being contemplated with expansion to go to 20 years. The hydraulic (amount of sewage flow) and organic (sewage strength) calculations have been performed for both scenarios and presented to both levels of Government by our office:
  a) We are of the understanding that the Frontier School Division does not want to be a stakeholder in this project and be keeping its existing infrastructure intact;
  b) The numbers for the Skownan and surrounding communities have been identified under Q.2 as these are all truck haul.
- Q.17: Historical records for flood levels have been obtained by the Province and will be applied to the design of the facility (to set a safe berm or dike height) to protect against flood conditions.

Disposition:

- The limits, terms and conditions of the draft Environment Act Licence provide construction requirements and operating criteria regarding monitoring and controlling effluent discharges that are conventional for wastewater treatment lagoons in Manitoba.
- The draft Environment Act Licence contains a clause that requires that the Licencee shall submit to the Director for approval, within six months of the date of the Licence, a groundwater investigation and monitoring plan for the site of the Development to monitor for liner integrity.
- 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 this Licence, obtain samples of effluent during 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 Clause 3 of the Licence, and shall be analyzed for:
  a) total dissolved phosphorus;
  b) total inorganic phosphorus;
  c) total particulate phosphorus;
  d) total Kjeldahl nitrogen;
  e) nitrate-nitrite nitrogen;
  f) ammonia;
  g) pH;
  h) temperature; and
  i) total suspended solids.
- The draft Environment Act Licence contains a clause that requires that the Licencee, for a period of at least five years following the commencement of operation of the wastewater treatment lagoon under this Licence and during each discharge campaign:

a) obtain samples of water from the receiving surface bodies of water from three locations including:
   i) in an area of the natural marsh that is upstream of the location where the wastewater treatment lagoon discharge enters the natural marsh;
   ii) near where the discharge route and natural marsh intersects Provincial Road 328; and
   iii) from Lake Manitoba in the vicinity of where it connects to the natural marsh; and
b) in accordance with the requirements of Clause 3 of the Licence, preserve, analyze and report on the samples respecting:
   i) fecal coliform;
   ii) total coliform;
   iii) five-day biochemical oxygen demand;
   i) total dissolved phosphorus;
   ii) total inorganic phosphorus;
   iii) total particulate phosphorus;
   iv) total Kjeldahl nitrogen;
   v) nitrate-nitrite nitrogen;
   vi) ammonia;
   vii) pH;
   viii) temperature; and
   iv) total suspended solids.

- The draft Environment Act Licence requires that the Licencee actively participate in any future watershed based management study, plan or nutrient reduction program, approved by the Director, for Lake Manitoba and associated waterways and watersheds.

Waterhen Community Council

- *Indicating that an error occurred regarding the proposed location of the wastewater treatment lagoon in the public advertisement; and*
- *Suggesting the public notice should be republished.*

Proponent Responses – April 18, 2007:

- Correction of advertisement showing NE vs. NW noted.

Disposition:

- Public participants in the Environment Act Proposal review are aware of the error and were provided with corrected information.

Open Public Meeting – February 21, 2008 – Public Comments

- *Indicating concerns about:*
  - *impacts on surface water quality resulting from lagoon operation;*
  - *discharge route, is it a natural drain;*

- *impacts of closure of the existing "wet pits";*
- *costs of holding tank pump outs;*
- *increased hauling distances.*

Disposition:

- The limits, terms and conditions of the draft Environment Act Licence provide construction requirements and operating criteria regarding monitoring and controlling effluent discharges that are conventional for wastewater treatment lagoons in Manitoba.
- The draft Environment Act Licence contains a clause that requires that the Licencee shall submit to the Director for approval, within six months of the date of the Licence, a groundwater investigation and monitoring plan for the site of the Development to monitor for liner integrity.
- The draft Environment Act Licence contains clauses that requires the Licencee to monitor and report on surface water quality.
- The draft Environment Act Licence requires that the Licencee actively participate in any future watershed based management study, plan or nutrient reduction program, approved by the Director, for Lake Manitoba and associated waterways and watersheds.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Conservation – Sustainable Resource Management Branch

- *As the proposal is on crown land, H. Jonasson, Director, Lands Branch, Manitoba Conservation should be contacted.*

Proponent Responses – April 18, 2007:

- This should happen within the Province's circulation procedure for environmental reviews.

Health

- *Upon review of the above proposal with respect to the potential impact on human health, please accept the following comments for consideration into environment act license requirements:*
  - *i) the license should address the need for fencing, gates and warning signs in order to ensure public safety through the prevention of unsupervised public access to the wastewater treatment site (measures in proposal noted),*
  - *ii) the license should address the need for operation of the wastewater treatment lagoon to occur in such a manner that the release of offensive odours is minimized (measures in proposal noted),*

iii) the license should address the need for discharge of effluent to be in compliance with relevant environmental guidelines (guidelines in proposal noted),

iv) the license should address the need for the containment design of the lagoon to provide the best possible protection of surface and groundwater sources (measures in proposal noted),

v) the license should take into consideration the need for construction of monitoring wells to monitor leachate.

Proponent Responses – April 18, 2007:

- Fencing, gates and warning signs will be part of the project;
- Operational procedures shall be in accordance with recognized standards and Province of Manitoba Guidelines;
- Discharge of the effluent requires testing prior to release; test to be in accordance with environmental limits for release of lagoon effluent; and
- The design of the lagoon will utilize the most current standards and guidelines for containment and long term monitoring.

Disposition:

- The limits, terms and conditions of the draft Environment Act Licence provide construction requirements and operating criteria regarding monitoring and controlling effluent discharges that are conventional for wastewater treatment lagoons in Manitoba.

Historic Resources

- *No concerns.*

Highways and Transportation (now Infrastructure and Transportation)

- *On sheet 2 of DWG No. E-562-31-02-01 under Manitoba Transportation and Government Services, Condition No. 20 states that pressurized sewer and water lines crossing pipelines shall be sleeved in at least Series 160 PVC or DR 1 High Density Polyethylene, which is correct. In other parts of the drawing and on other sheets, reference has been made to DR 11 Series (see road crossing details and under general notes);*
- *It is required that the proponent of the facility (in this case the Community of Waterhen) enter into an agreement (not the contractor as mentioned under the Manitoba Transportation and Government Services Conditions on Sheet 2) with the Province (in this case represented by the Honourable Minister of Transportation and Government Services) for the proposed 125 LPS under PR 328. The proponent will be held responsible for all the conditions under the agreement including the liability insurance and the two (2) year right-of-way restoration.*

Proponent Responses – April 18, 2007:

- DR17 HDPE or Series 160 PVC will be used for pipe sleeving; and
- The highway crossing agreement will be between the Community of Waterhen and the Province of Manitoba.

Disposition:

- General terms and conditions of the draft Environment Act Licence require that the Licencee obtain all necessary provincial and federal permits and approvals for construction of relevant components of the wastewater treatment lagoon prior to commencement of construction.

Sustainable Resource & Policy Management Branch

- *No concerns.*

Water Stewardship

- *Manitoba Water Stewardship, Water Licensing Branch, does not have any record of having received an application for a Water Rights License for the Waterhen Water Treatment plant nor do they have any record of having issued a license for this facility. It is recommended that an application be made for a Water Rights License by contacting Water Licensing Branch at 945-3983;*
- *Locations of any potable sources within the vicinity of the proposed wastewater stabilization ponds were not mentioned. What percentage of the local population will be served by the treated water?*
- *The proposal refers to water and sewer line work. As per the Public Health Act, Regulation 331/88R (waterworks, sewage and sewage disposal regulation) water distribution line extensions (more than 300m) and sewer line extensions require Certificate of Approval prior to construction. Office of Drinking Water should be contacted;*
- *The 5% estimate of WTP backwash waste seems low. We are requesting additional information on the process proposed for the WTP and the rationale for the backwash waste estimate;*
- *The storage capacity of the wastewater treatment lagoon is insufficient given these discharge limitations. Therefore, we recommend that the proponent increase the size of the proposed secondary cell;*
- *Does the organic load estimate include the annual pump out of sludge from septic tanks servicing the community and school?*
- *No information was provided regarding decommissioning of the existing wastewater treatment lagoon. We understand from the proponent's letter of June 9, 2005 that the existing lagoon will be retained for use by the school. However, the proposal suggests that the school will use the new wastewater treatment*

lagoon. This inconsistency should be clarified. If the wastewater treatment lagoon is to be decommissioned what monitoring procedures will be undertaken?

- *What monitoring will be provided to check the integrity of the proposed HDPE liner of the new stabilization pond?*
- *Information provided on the effluent discharge route is unclear. Page 1 of the proposal indicates that the effluent will move via an effluent discharge ditch and a natural drainage channel to Lake Winnipegosis while Page 10 suggests that the effluent will move via an effluent discharge ditch and a natural drainage channel to the Waterhen River. Information on the drainage route and ultimate destination of the effluent is requested;*
- *Water Stewardship is concerned with any discharges that 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 approved by the Director for the Waterhen River, Lake Winnipegosis, or Lake Winnipeg.*
- *The discharge date of the sewage lagoon indicated in the proposal must be changed to reflect the following: "no discharge before June 15 or after November 1 of any year";*
- *Regarding the discharge period, there is no mention what process will be followed if there is an algal bloom. What contingency plans are made in case the discharge qualities have not been met but the cells are full?.*
- *The proponent should incorporate sediment and erosion control measures along the discharge route and during construction of the wastewater treatment lagoon and related works;.*
- *Effluent must meet the Manitoba Water Quality Standards, Objectives and Guidelines. The wastewater effluent quality should include Nitrate concentration from a drinking water point of view; and*
- *Temporary and permanent sediment and erosion control measures must be in place during and after the construction of the ponds and drain until these sites are stabilized.*

<u>Proponent Responses – July 6, 2007</u>:

- A Water Rights license has been issued;
- Closest location of a potable water source is the Waterhen River approximately 1,000m to the west. Currently 90% of the local residences are connected to the low pressure sewer system;
- Prior to construction a Certificate of Approval from the Office of Drinking Water will be requested;
- The backwash is directed to a settling pond. The daily rate from the plant, assuming a backwash once per day, would be approximately 11,000 L. The pond effluent

pump is rated at 3.8 L/sec. Backwash is stored in the ponds and discharge is controlled when conditions permit;

- The capacity of the lagoon storage from Nov 1 to May 15 (196 days) allowed for the following scenario:

  Residential – 68,250 L x 196 days = 13,377 m^3

  School – 10,450 L x 140 days = 1,463 m^3

  Total = 14,840 m^3

  This will change now as discharge will not take place until June 15.

- The organic load estimate was based on population and school daily flows. Pump out tanks, at one pump out per year, would be no more than 1 per day for Waterhen, Mallard, Rock Ridge and Meadow Portage or 4 kg/day of BOD_5 (1,350 L of septage);
- Decommissioning if undertake will be by the Frontier School Division;
- Monitoring of the lagoon will b through the use of monitoring wells and initial baseline test of groundwater prior to using the new facility. Groundwater can then be tested on an annual basis and compared to baseline information to determine if a leak is occurring;
- Discharge is routed to a natural drain which empties into Lake Manitoba.
- Participation in any watershed study could be included as a requirement under the license;
- The discharge date will be revised to “no discharge before June 15 or after November 1 of any year”;
- Contingency plans for full cells could result in a portable disinfection system being put in place with chlorination and de-chlorination taking place while the effluent is discharged;
- Erosion and sediment controls will be implemented during construction. Disturbance of the existing drain will be minimized to maintain the natural vegetation which serves as barrier to erosion; and
- Effluent quality is monitored as a matter of operations.

Disposition:

- The limits, terms and conditions of the draft Environment Act Licence provide construction requirements and operating criteria regarding monitoring and controlling effluent discharges that are conventional for wastewater treatment lagoons in Manitoba.
- The draft Environment Act Licence contains a clause that requires that the Licencee shall submit to the Director for approval, within six months of the date of the Licence, a groundwater investigation and monitoring plan for the site of the Development to monitor for liner integrity.

- 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 this Licence, obtain samples of effluent during 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 Clause 3 of the Licence, and shall be analyzed for:
  a) total dissolved phosphorus;
  b) total inorganic phosphorus;
  c) total particulate phosphorus;
  d) total Kjeldahl nitrogen;
  e) nitrate-nitrite nitrogen;
  f) ammonia;
  g) pH;
  h) temperature; and
  i) total suspended solids.
- The draft Environment Act Licence contains a clause that requires that the Licencee, for a period of at least five years following the commencement of operation of the wastewater treatment lagoon under this Licence and during each discharge campaign:
  a) obtain samples of water from the receiving surface bodies of water from three locations including:
     i) in an area of the natural marsh that is upstream of the location where the wastewater treatment lagoon discharge enters the natural marsh;
     ii) near where the discharge route and natural marsh intersects Provincial Road 328; and
     iii) from Lake Manitoba in the vicinity of where it connects to the natural marsh; and
  b) in accordance with the requirements of Clause 3 of the Licence, preserve, analyze and report on the samples respecting:
     i) fecal coliform;
     ii) total coliform;
     iii) five-day biochemical oxygen demand;
     iv) total dissolved phosphorus;
     v) total inorganic phosphorus;
     vi) total particulate phosphorus;
     vii) total Kjeldahl nitrogen;
     viii) nitrate-nitrite nitrogen;
     ix) ammonia;
     x) pH;
     xi) temperature; and
     xii) total suspended solids.
- The draft Environment Act Licence requires that the Licencee actively participate in any future watershed based management study, plan or nutrient reduction program, approved by the Director, for Lake Manitoba and associated waterways and watersheds.

COMMENTS FROM FEDERAL REPRESENTATION:

Canadian Environmental Assessment Agency

- *Based on the responses to the CEAA survey, application of The Canadian Environmental Assessment Act with respect to this proposal may be required. Fisheries and Oceans Canada and Health Canada requested additional information while Environment Canada indicated that they would be able to provide specialist if requested.*

Fisheries and Oceans Canada

- *The report indicated that effluent will be discharged: a) to Lake Winnipegosis – Sec 1.1, b) or to a new drainage ditch (125 m) to a natural waterway connecting to Lake Manitoba from Figure 1 and Section 4 and/or, c) into a natural drainage channel adjacent to Road B for 1.5 km emptying into the Waterhen River downstream of the town's Water Intake pipe Section 5.2…….Please clarify the water discharge route;*
- *Location of the new lagoon is not clearly identified in any Figures related to the constructed/natural drainage. Please provide an Orthophoto or detailed map indicating the location of the new lagoon and associate drainage (ditches or natural) that will be constructed and/or utilized in the project;*
- *Information on the natural drainage to be used (as suggested in 1. b and c above) has not been provided. (i.e. Fish bearing water, width and depth of stream, photos, connectivity to Lake Manitoba, fish habitat values, etc.);*
- *Will discharge occur after June 15 as is suggested in a letter dated June 9, 2005 to Mr. Robert Boswick from SEG Engineering? Also, it indicates that the existing lagoon will not be decommissioned in the above letter, however the proposal indicates it will;*
- *What is involved IF the existing lagoon is to be decommissioned? Will there be any decommissioning of the effluent outfall or drainage connecting to a fish bearing water body?*
- *The report does not include mitigation measures (ie. Sediment and Erosion Control, Stabilization, construction timing, etc.) to protect drainage ditches flowing to downstream areas of potentially fish bearing waters; and*
- *ASKI Geosciences Ltd. report indicates that the town's water supply line will be buried 2 metres below grade. It is DFO's understanding that these works have been completed up to the river's edge and a portable pump will be used at this location during the summer months. Will there be any more works along side the river at this location? DFO recommends the intake pipe be screened as per the "Freshwater Intake End-of-Pipe Fish Screen Guideline" (Department of Fisheries and Oceans, 1995).*

Proponent Responses – April 18, 2007:

- The effluent discharges into a natural drain which flows into Lake Manitoba;
- A drawing provided shows the proposed lagoon location and effluent routing;
- Natural drain in marsh and swamp area near the lake and generally a dry bottom drain for most of the route;
- Discharge will occur after June 15. The existing lagoon if decommissioned will be undertaken by the Frontier School Division;
- The effluent outfall for the existing lagoon is also a drainage ditch which is required to stay;
- Erosion and sediment controls will be implemented during construction. Disturbance of the existing drain will be minimized to maintain the natural vegetation which serves as barrier to erosion; and
- No further works along side of the river are contemplated.

Following Review of Proponents Response – June 8, 2007

- *The measures described in your plans are not adequate to protect fish and fish habitat. Therefore, please ensure that the following additional measures are incorporated into your plans:*
  - All work activities should meet or exceed the relevant construction standards outline in the Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat (Manitoba Natural Resources and DFO, 1996);
  - All reasonable efforts should be made to minimize the duration of in-stream 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;
  - 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 Lake Manitoba during high storm events;
  - Operate machinery from outside of the water and in a manner that minimizes disturbance to the banks of the watercourse:
    - Machinery is to arrive on site in a clean condition and is to be maintained free of fluid leaks;
    - 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; and
    - Keep an emergency spill kit on site in case of fluid leaks or spills from machinery;
  - Install effective sediment and erosion control measures before starting work to prevent the entry of sediment into the watercourse. 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;
- 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;
- 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; and
- Maintain effective sediment and erosion control measures until complete re-vegetation or disturbed areas is achieved.

Disposition:

- The draft Environment Act Licence contains a Clause that requires that effective long-term erosion control measures be implemented to prevent soil-laden runoff, and/or silt from entering any watercourse during construction and until vegetation is established.
- The draft Environment Act Licence contains a Clause that requires that, if in the opinion of the Director, significant erosion of the interior surfaces of the dykes occurs, the Licencee install rip rap as necessary.
- The draft Environment Act Licence requires that the Licencee actively participate in any future watershed based management study, plan or nutrient reduction program, approved by the Director, for Lake Manitoba and associated waterways and watersheds.

Health

- *The following comments are offered in accordance with the Canada-Manitoba Agreement on Environmental Assessment Cooperation as based on the review of SEG Engineering Inc's August, 2004 document entitled "Environmental Act Proposal for the Proposed Wastewater Stabilization Pond and Related Works in Waterhen, Manitoba":*
  - *The proposal indicates that the existing lagoon will be decommissioned. However, a June 9, 2005 letter from SEG (as appended to the proposal) indicates "the existing lagoon will not be decommissioned since the Frontier School Division will retain it for use by the school". The proposal should clarify whether or not the existing lagoon will be decommissioned, and be revised as required.*
  - *The proposal should address the potential health and safety effects that may be experienced during the construction and operation of the project. Some of these potential effects may include the noise, dust, fall hazard, and traffic*

effects during excavation, trenching, filling, hauling activates. Will residential areas be affected by these activities? What measures will be used to mitigate potential effects to students at the adjacent school due to lagoon decommissioning activities, septic tanks installation and other associated works? How will the residual sludge and wastewater be treated and disposed off at the decommissioning of the existing lagoon?

- *Could the community experience service disruptions during construction? How will this be mitigated? Will the lift station and septic tank include any service protection measures (e.g. alarms, redundancy) for the operation phase?*
- *Does the lift station meet current safety requirements (e.g. ventilation, fall hazards)?*
- *Are the operators of the wastewater and water treatment and distribution systems trained to an appropriate level of certification for the safe operation of these systems?*

Proponent Responses – April 18, 2007:

- The lagoon will not be decommissioned at this time as part of this project;
- The construction will follow Provincial Regulations for Health and Safety. The lagoon is approximately 600m from the closest residence;
- A truck dump has been provided for waste haulers;
- Service disruption will be minimal and will be timed to lessen the impact and residents notified prior to interruption of service. The lift station has a high water alarm. Upgrades provide for new hatch entry, grab bars and floor grating; and
- The operator training and certification is a process of continued upgrading by the operating authority.

Following Review of Proponents Response – May 22, 2007

- *The original EAP included the installation of a septic tank at the school, water distribution lines to residences, LPS to the community buildings, lagoon decommissioning, and an upgraded lift station in the scope. It is unclear how safety issues for students, residents and trespassers will be mitigated at these locations (e.g. fall hazards, noise, dust, traffic safety)?*
- *It is unclear from the response, if, or what standards or guidelines the new lift station will comply with to mitigate for confined space, fall hazards etc.;*
- *The response does not indicate to what certification the operator will be required to be trained and licensed.*

Proponent Responses – July 19, 2007:

- We have been advised that the Frontier School will be keeping and maintaining their own system. They will not be a stakeholder in the sewage treatment facility project;

- All operators have taken or will be taking the appropriate training. Following training as required to remain in good standing.

Disposition:

- The limits, terms and conditions of the draft Environment Act Licence provide construction requirements and operating criteria regarding monitoring and controlling effluent discharges that are conventional for wastewater treatment lagoons in Manitoba.

Indian and Northern Affairs Canada

- *Based on the information provided at this time with regard to the proposed development, INAC Environment do not have comments. But will like to be provided information generated from the provincial review and this information will shared with Waterhen First Nation.*

PUBLIC HEARING:

A public hearing was not requested. However, the public requested the opportunity to discuss the EAP in a public forum and therefore a public open house was held on the evening of Thursday, February 21, 2008 at the Waterhen Community Hall.

The meeting was attended by a total of approximately 50 people, including the engineering consultant and 3 representatives from each of Manitoba Conservation and Manitoba Aboriginal and Northern Affairs. The discussion period lasted for approximately two hours and included some topics of discussion that were not specifically pertinent to the EAP. The engineering consultant and provincial government representatives responded to questions and statements from the public that were pertinent to the EAP. Upon completion of the meeting, there were no further questions from the public regarding the EAP.

RECOMMENDATION:

Issue an Environment Act Licence in accordance with the attached draft. The Licence should be assigned to the Environmental Assessment and Licensing Branch until all testing has been completed and the facility is fully commissioned in accordance with the Licence.

PREPARED BY:

Robert Boswick, P. Eng.

Environmental Engineer
Environmental Assessment and Licensing Branch
Manitoba Conservation
March 17, 2008

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