



Conservation and Water Stewardship

Climate Change and Environmental Protection Division
Environmental Approvals Branch
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CLIENT FILE NO.: 5573.00

August 28, 2012

Rob Elder, P.Eng.
Manitoba Hydro
PO Box 815 Stn Main
Winnipeg MB R3C 2P4

Dear Mr. Elder:

Enclosed is **Environment Act Licence No. 3015** dated August 28, 2012 issued in accordance with *The Environment Act* to **Manitoba Hydro** for the construction and operation of the Development being a wastewater management system, wastewater collection system and a wastewater treatment lagoon with a hydraulic storage capacity of 57, 600 cubic metres (198 cubic metres per day average), located in Sections 5 and 6-89-2 E2 in Manitoba and with discharge of treated effluent from the wastewater treatment lagoon to Creek 16 that drains into the Nelson River, in accordance with the Proposal filed under *The Environment Act* on March 6, 2012 and subsequent information provided in a letter dated June 25, 2012.

In addition to the enclosed Licence requirements, please be informed that all other applicable federal, provincial and municipal regulations and by-laws must be complied with. A Notice of Alteration must be filed with the Director for approval prior to any alteration to the Development as licensed.

For further information on the administration and application of the Licence, please feel free to contact Robert Boswick, Environmental Engineer @ (204) 945-6030.

Pursuant to Section 27 of *The Environment Act*, this licensing decision may be appealed by any person who is affected by the issuance of this Licence to the Minister of Conservation within 30 days of the date of the Licence.

Yours truly,

Tracey Braun, M.Sc.
Director
Environment Act

c: Don Labossiere, Director, Environmental Compliance and Enforcement
Public Registries

NOTE: Confirmation of Receipt of this Licence No. 3015 (*by the Licensee only*) is required by the Director of Environmental Assessment and Licensing. Please acknowledge receipt by signing in the space provided below and faxing a copy (letter only) to the Department by September 11, 2012.

On behalf of Manitoba Hydro

Date

LICENCE

Licence No. / Licence n° 3015

Issue Date / Date de délivrance August 28, 2012

In accordance with *The Environment Act* (C.C.S.M. c. E125)
Conformément à la *Loi sur l'environnement* (C.P.L.M. c. E125)

Pursuant to Sections 11(1) / Conformément au Paragraphe 11(1)

THIS LICENCE IS ISSUED TO: / CETTE LICENCE EST DONNÉE À:

MANITOBA HYDRO; "the Licencee"

for the construction and operation of the Development being a wastewater management system, wastewater collection system and a wastewater treatment lagoon with a hydraulic storage capacity of 57, 600 cubic metres (198 cubic metres per day average), located in Sections 5 and 6-89-2 E2 in Manitoba and with discharge of treated effluent from the wastewater treatment lagoon to Creek 16 that drains into the Nelson River, in accordance with the Proposal filed under *The Environment Act* on March 6, 2012 and subsequent information provided in a letter dated June 25, 2012 and subject to the following specifications, limits, terms and conditions:

DEFINITIONS

In this Licence,

"**accredited laboratory**" means an analytical facility accredited by the Standard Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Conservation to be equivalent to the SCC, or be able to demonstrate, upon request, that it has the quality assurance/quality control (QA/QC) procedures in place equivalent to accreditation based on the international standard ISO/IEC 17025, or otherwise approved by the Director;

"**affected area**" means a geographical area, excluding the property of the Development;

"**approved**" means approved by the Director or assigned Environment Officer in writing;

"**appurtenances**" means machinery, appliances, or auxiliary structures attached to a main structure to enable it to function, but not considered an integral part of it;

"ASTM" means the American Society for Testing and Materials;

"base" means the exposed and finished elevation of the bottom of any cell of the wastewater treatment lagoon;

"Director" means an employee so designated pursuant to *The Environment Act*;

"effluent" means treated wastewater flowing or pumped out of the wastewater treatment lagoon;

"Environment Officer" means an employee so designated pursuant to *The Environment Act*;

"fecal coliform" means aerobic and facultative, Gram-negative, nonspore-forming, rod-shaped bacteria capable of growth at 44.5 °C, and associated with fecal matter of warm-blooded animals;

"five-day biochemical oxygen demand (BOD₅)" means that part of the oxygen demand usually associated with biochemical oxidation of organic matter within five days at a temperature of 20°C;

"five-day carbonaceous biochemical oxygen demand (CBOD₅)" means that part of the oxygen demand usually associated with biochemical oxidation of carbonaceous organic matter within five days at a temperature of 20°C, excluding the oxygen demand usually associated with the biochemical oxidation of nitrogenous organic matter;

"flooding" means the flowing of water onto lands, other than waterways, due to the overtopping of a waterway or waterways;

"HDPE" means high density polyethylene;

"high water mark" means the line on the interior surface of the primary and secondary cells which is normally reached when the cell is at the maximum allowable liquid level;

"holding tank" means a watertight receptacle, conforming to the requirements of the latest edition of Canadian Standards Association (Association) Standard B66-10, *Prefabricated Septic Tanks and Sewage Holding Tanks*, and bearing a valid stamp or mark indicating certification by the Association, designed to retain sewage wastewater, wastewater, greywater or wastewater effluent;

"hydraulic conductivity" means the quantity of water that will flow through a unit cross-sectional area of a porous material per unit of time under a hydraulic gradient of 1.0;

"influent" means water, wastewater, or other liquid flowing into the wastewater treatment lagoon;

"in-situ" means on the site;

"low water mark" means the line on the interior surface of the primary and secondary cells which is normally reached when the cell is discharged;

"MPN Index" means the most probable number of coliform organisms in a given volume of wastewater which, in accordance with statistical theory, would yield the observed test result with the greatest frequency;

"odour nuisance" means a continuous or repeated odour, smell or aroma, in an affected area, which is offensive, obnoxious, troublesome, annoying, unpleasant or disagreeable to a person:

- a) residing in an affected area;
- b) working in an affected area; or
- c) present at a location in an affected area which is normally open to members of the public;

if the odour, smell or aroma

- d) is the subject of at least 5 written complaints, received by the Director in a form satisfactory to the Director and within a 90-day period, from 5 different persons falling within clauses a), b) or c), who do not live in the same household; or
- e) is the subject of at least one written complaint, received by the Director in a form satisfactory to the Director, from a person falling within clauses a), b) or c) and the Director is of the opinion that if the odour, smell or aroma had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90-day period, from 5 different persons who do not live in the same household;

"primary cell" means the first in a series of cells of the wastewater treatment lagoon system and which is the cell that receives the untreated wastewater;

"record drawings" means engineering drawings complete with all dimensions which indicate all features of the Development as it has actually been built;

"riprap" means small, broken stones or boulders placed compactly or irregularly on dykes or similar embankments for protection of earth surfaces against wave action or current;

"secondary cell" means a cell of the wastewater treatment lagoon system which is the cell that receives partially treated wastewater from the primary cell;

"septage" means the sludge produced in individual on-site wastewater disposal systems such as septic tanks;

"sewage" means household and commercial wastewater that contains human waste;

"sludge" means accumulated solid material containing large amounts of entrained water, which has separated from wastewater during processing;

"sludge solids" means solids in sludge;

"Standard Methods for the Examination of Water and Wastewater" means the most recent edition of Standard Methods for the Examination of Water and Wastewater published jointly by the American Public Health Association, the American Waterworks Association and the Water Environment Federation;

"total coliform" means a group of aerobic and facultative anaerobic, Gram-negative, nonspore-forming, rod-shaped bacteria, that ferment lactose with gas and acid formation within 48 hours at 35 °C, and inhabit predominantly the intestines of man or animals, but are occasionally found elsewhere and include the sub-group of fecal coliform bacteria;

"wastewater" means the spent or used water of a community or industry which contains dissolved and suspended matter;

"wastewater collection system" means the sewer and pumping system used for the collection and conveyance of domestic, commercial and industrial wastewater;

"wastewater management system" means the components of the development used in the collection, conveyance and temporary storage of wastewater; and

"wastewater treatment lagoon" means the component of the development which consists of an impoundment into which wastewater is discharged for treatment and storage.

GENERAL TERMS AND CONDITIONS

This Section of the Licence contains requirements intended to provide guidance to the Licencee in implementing practices to ensure that the environment is maintained in such a manner as to sustain a high quality of life, including social and economic development, recreation and leisure for present and future Manitobans.

1. The Licencee shall direct all wastewater generated within the Keewatinoow Converter Station start-up camp and construction camp and other related mobile camps toward the wastewater management system and the wastewater treatment lagoon or other approved sewage treatment facilities.
2. In addition to any of the limits, terms and conditions specified in this Licence, the Licencee shall, upon the request of the Director:
 - a) sample, monitor, analyze and/or investigate specific areas of concern regarding any segment, component or aspect of pollutant storage, containment, treatment, handling, disposal or emission systems, for such pollutants or ambient quality, aquatic toxicity, leachate characteristics and discharge or emission rates, for such duration and at such frequencies as may be specified;
 - b) determine the environmental impact associated with the release of any pollutant(s) from the Development; or
 - c) provide the Director, within such time as may be specified, with such reports, drawings, specifications, analytical data, descriptions of sampling and analytical procedures being used, bioassay data, flow rate measurements and such other information as may from time to time be requested.
3. The Licencee shall, in the event of a release, spill, leak, or discharge of a pollutant or contaminant in an amount or concentration, or at a level or rate of release, that exceeds the limit that is expressly provided under this Act, another Act of the Legislature, or an Act of Parliament, or in a regulation, licence, permit, order, instruction, directive or other approval or authorization issued or made under one of those Acts, immediately report the release, spill, leak, or discharge by calling 204-944-4888. The report shall indicate the nature of the release, leak, or discharge, the time and estimated duration of the event and the reason for the release, spill, leak, or discharge.
4. The Licencee shall, during construction and operation of the Development, report spills of fuels or other contaminants to an Environment Officer in accordance with the requirements of *Manitoba Regulation 439/87* respecting *Environmental Accident Reporting* or any future amendment thereof.

5. The Licencee shall comply with the provisions of the Department of Fisheries and Oceans Canada/Manitoba Natural Resources publication, "*Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat*" (May, 1996).
6. The Licencee shall not cause or permit an odour nuisance to be created as a result of the construction, operation or alteration of the Development, and shall take such steps as the Director may require to eliminate or mitigate an odour nuisance.
7. The Licencee shall submit all information required to be provided to the Director under this Licence, in writing, in such form (including number of copies), and of such content as may be required by the Director, and each submission shall be clearly labeled with the Licence Number and Client File Number associated with this Licence.
8. The Licencee shall acquire any necessary land agreements prior to constructing the wastewater management system and the wastewater treatment lagoon.
9. The Licencee shall actively participate in any current or future watershed-based management study, plan and/or nutrient reduction program, approved by the Director, for the Nelson River and associated waterways and watersheds.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

Respecting Construction – General

10. The Licencee shall notify the assigned Environment Officer not less than two weeks prior to beginning construction of wastewater management system and the wastewater treatment lagoon. The notifications shall include the intended starting dates of construction and the name of the contractor responsible for the construction.
11. The Licencee shall:
 - a) conduct all ditch related work activities during no flow or dry conditions and not during the April 1 to June 15 fish spawning and incubation period;
 - b) not construct the wastewater treatment lagoon or wastewater collection system during periods of heavy rain;
 - c) place and/or isolate all excavated and construction material where it will not erode into any watercourse;
 - d) implement effective long-term sediment and erosion control measures to prevent soil-laden runoff, and/or silt from entering any watercourse during construction and until vegetation is established;
 - e) routinely inspect all erosion and sediment control structures and immediately complete any necessary maintenance or repair;

- f) 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; and
 - g) use rock that is free of silt and clay for riprap.
12. The Licencee shall, during construction of the wastewater treatment lagoon, operate, maintain and store all materials and equipment in a manner that prevents any deleterious substances (fuel, oil, grease, hydraulic fluids, coolant, paint, uncured concrete and concrete wash water, etc.) from entering the wastewater treatment lagoon, the discharge route and associated watercourses, and have an emergency spill kit for in water use available on-site during construction.
13. The Licencee shall locate all fuel storage and equipment servicing areas established for the construction and operation of the Development a minimum distance of 100 metres from any waterbody, and shall comply with the requirements of *Manitoba Regulation 188/2001* respecting *Storage and Handling of Petroleum Products and Allied Products Regulation* or any future amendment thereof.
14. The Licencee shall dispose of non-reusable construction debris from the Development at a waste disposal ground operating under the authority of a permit issued pursuant to *Manitoba Regulation 150/91* respecting *Waste Disposal Grounds*, or any future amendment thereof, or a Licence issued pursuant to *The Environment Act*.
15. The Licencee shall, if significant heritage resources or human remains are encountered during any phase of the construction or operation of the Development, immediately contact the Historic Resources Branch – Manitoba Culture, Heritage and Tourism.

Respecting Construction – Wastewater Management System

16. The Licencee shall arrange with the designated Environment Officer a mutually acceptable time and date for any required inspections between the 1st day of May and the 15th day of October of any year, unless otherwise approved by the Environment Officer.
17. The Licencee shall not cover the various components of the wastewater management system that were not installed prior to obtaining this Licence in a manner that obscures them from view or interferes with inspection of the holding tanks until receiving approval from the assigned Environment Officer.

Respecting Construction – Wastewater Treatment Lagoon

18. The Licencee shall construct and maintain continuous liners, including cover material, underlying all cells of the wastewater treatment lagoon such that:
 - a) the liners are constructed from HDPE geomembrane;
 - b) the uppermost liner has a minimum thickness of 60 mils;
 - c) the lowermost liner has a minimum thickness of 40 mils;
 - d) all sections of each of the liners are joined by dual track seaming;
 - e) the uppermost liner shall be installed to a minimum elevation of 2.5 metres above the base of the cells;
 - f) the liners are installed in accordance with ASAE Standard EP340.2 for the Installation of Flexible Membrane Linings;
 - g) non-destructive test methods are used to test the integrity of:
 - i) all field seams joining liner sections in accordance with ASTM Standard D 5820-95 (Reapproved 2006); and
 - ii) all other field seams in accordance with ASTM Standard D 4437-99;
 - h) the hydraulic conductivity of the liners shall not exceed 3×10^{-9} centimetres per second over the entire surface area of the liners;
 - i) testing reports for each liner are prepared and submitted to the assigned Environment Officer within 30 days of commencing the installation of the liners; and
 - j) the uppermost liner shall be covered with sand or other granular cover material to a minimum depth of 0.3 metre measured perpendicular to the surface of the liner.
19. The Licencee shall construct and maintain effective gas and groundwater relief systems under the HDPE liners of the wastewater treatment lagoon.
20. The Licencee shall notify the assigned Environment Officer one week prior to commencing the installation of:
 - a) the gas and groundwater relief systems;
 - b) the 40 mil HDPE liners; and
 - c) the 60 mil HDPE liners of the wastewater treatment lagoon.
21. The Licencee shall not cover the 40 mil HDPE liner or the 60 mil HDPE liner or use any cells of the wastewater treatment lagoon until receiving the approval of the assigned Environment Officer of reports submitted pursuant to sub-Clause 18 i) of this Licence.
22. The Licencee shall install and maintain a fence around the wastewater treatment lagoon to limit access. The fence shall be a minimum of 1.83 meters high and have a locking gate, which shall be locked at all times except to allow access to the wastewater treatment lagoon.

23. The Licencee shall construct and maintain an all-weather access road and a sewage dumping station for truck-hauled wastewater. The dumping facility shall have a surface splash ramp with a smooth hard surface that can be easily washed free of solids.

Respecting Operation

24. The Licencee shall obtain and maintain classification of the Development pursuant to *Manitoba Regulation 77/2003* respecting *Water and Wastewater Facility Operators* or any future amendment thereof and maintain compliance with all requirements of the regulation including, but not limited to, the preparation and maintenance of a Table of Organization, Emergency Response Plan and Standard Operating Procedures.
25. The Licencee shall carry out the operation of the Development with individuals properly certified to do so pursuant to *Manitoba Regulation 77/2003* respecting *Water and Wastewater Facility Operators* or any future amendment thereof.

Respecting Operation – Wastewater Management System

26. The Licencee shall operate the wastewater management system in such a manner that:
- a) all sewage and wastewater generated at the start-up camp is directed toward the wastewater management system;
 - b) only sewage and wastewater as defined in this Licence is discharged into the wastewater management system;
 - c) septage is not discharged into the wastewater management system; and
 - d) it effectively provides the service for which it was designed.
27. The Licencee shall dispose of wastewater from the wastewater management system:
- a) at a facility licenced under *The Environment Act* to accept this material; and
 - b) at a facility with capacity to treat this material as demonstrated to the satisfaction of the Environment Officer assigned to administer this Licence.
28. The Licencee shall install, operate and maintain the wastewater management system such that freezing of wastewater in the system is prevented.
29. The Licencee shall not spill, or allow to be spilled, sewage or wastewater in the areas around the wastewater management system.

30. The Licencee shall have wastewater from the holding tanks pumped and hauled by haulers registered, or who are employed by haulers registered, in accordance with Schedule G of *Manitoba Regulation 83/2003* respecting *Onsite Wastewater Management Systems* or any future amendment thereof.
31. The Licencee shall operate and maintain the wastewater collection and wastewater management system in such a manner that the maximum daily flow rate to the holding tank system is not in excess of 18.0 cubic metres over any 24-hour period.
32. The Licencee shall install and maintain lockable access covers for the holding tank access points that shall remain locked at all times that access to the holding tanks is not required for normal operation or servicing of the holding tank components of the wastewater management system.
33. The Licencee shall undertake a regular program of maintenance for the wastewater management system that includes inspections to assess the integrity of the wastewater collection system and to determine if the components holding tanks are watertight.
34. The Licencee shall construct and maintain an all-weather access road to the holding tanks.

Respecting Operation – Wastewater Treatment Lagoon

35. The Licencee shall operate and maintain the wastewater treatment lagoon in such a manner that:
 - a) the organic loading on the primary cell of the wastewater treatment lagoon, as indicated by the five-day biochemical oxygen demand, is not in excess of 56 kilograms per hectare per day;
 - b) the depth of liquid in the cells does not exceed 1.5 metres; and
 - c) a 1.0 metre freeboard is maintained in all cells at all times.
36. The Licencee shall not discharge effluent from the wastewater treatment lagoon:
 - a) where the organic content of the effluent, as indicated by the five day biochemical oxygen demand, is in excess of 25 milligrams per litre;
 - b) where the total suspended solids content of the effluent is in excess of 25 milligrams per litre, unless the exceedance is caused by algae;
 - c) where the fecal coliform content of the effluent, as indicated by the MPN index, is in excess of 200 per 100 millilitres of sample;
 - d) where the total coliform content of the effluent, as indicated by the MPN index, is in excess of 1500 per 100 millilitres of sample;
 - e) where the total phosphorus content of the effluent is in excess of 1.0 milligram per litre;

- f) between the 1st day of November of any year and the 15th day of June of the following year;
 - g) when flooding from any cause is occurring along the discharge route; or
 - h) when such a discharge would cause or contribute to flooding in or along the discharge route.
37. The Licencee shall, when chlorine is used as a disinfecting agent:
- a) notify the Director in advance;
 - b) dechlorinate effluent prior to discharge;
 - c) obtain grab samples prior to and daily during the discharge period and have them analyzed for total residual chlorine; and
 - d) not discharge effluent where the concentration of the total residual chlorine is in excess of 0.02 milligrams per litre.
38. The Licencee shall not discharge septage into the wastewater treatment lagoon between the 15th day of October of any year and the 1st day of June of the following year.
39. The Licencee shall install and maintain riprap on all interior dyke surfaces to protect the dykes from wave action to the satisfaction of the assigned Environment Officer.
40. The Licencee shall provide and maintain a grass cover on the dykes of the wastewater treatment lagoon and shall regulate the growth of the vegetation so that the height of the vegetation does not exceed 0.3 metres on all dykes.
41. The Licencee shall annually remove by mechanical methods all reeds, rushes and trees located above the low water mark in every cell of the wastewater treatment lagoon.
42. The Licencee shall implement an ongoing program to remove burrowing animals from the site of the wastewater treatment lagoon.
43. The Licencee shall discharge the wastewater treatment lagoon over at least a two-week period, while accelerating discharge as necessary to maintain normal operation of the wastewater treatment lagoon, such that increased nutrient uptake from the wastewater effluent may occur along the discharge route.

Respecting Monitoring and Reporting - General

44. The Licencee shall, unless otherwise specified in this Licence:
- a) carry out all preservations and analyses on liquid samples in accordance with the methods prescribed in "Standard Methods for the Examination of

- Water and Wastewater" or in accordance with an equivalent analytical methodology approved by the Director;
- b) have all analytical determinations undertaken by an accredited laboratory; and
 - c) report the results to the Director, in writing or in a format acceptable to the Director, within 60 days of the samples being taken.

Respecting Monitoring and Reporting – Wastewater Management System

45. The Licencee shall monitor the wastewater collection and holding tank system, and make the records of such monitoring available to the Director as may be requested, for the following parameters:
 - a) total flow rate(s) into the wastewater management system; and
 - b) other process parameters approved or required by the Director.
46. The Licencee shall maintain a record of all wastewater pumped out and hauled from the holding tanks, including the number of loads on a daily and weekly basis, the volume of each load, the name of the hauler, and the name and location of the licenced wastewater treatment facility to which the wastewater was transferred for treatment. The Licencee shall submit, in an electronic format acceptable to the Director, an annual report of all the waste hauling information to the Director by the 15th of January of the following year.
47. The Licencee shall:
 - a) prepare "record drawings" for the wastewater management system and shall label the drawings "record drawings"; and
 - b) provide to the Director, within one month of commissioning the wastewater management system, two electronic copies of the "record drawings" of the wastewater collection and management system.

Respecting Monitoring and Reporting – Wastewater Treatment Lagoon

48. The Licencee shall, prior to each effluent discharge campaign, obtain grab samples of the treated wastewater and have them analyzed for:
 - a) the organic content as indicated by the five-day biochemical oxygen demand and expressed as milligrams per litre;
 - b) the organic content as indicated by the five-day carbonaceous biochemical oxygen demand and expressed as milligrams per litre;
 - c) the total suspended solids content expressed as milligrams per litre;
 - d) the fecal coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
 - e) the total coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample; and
 - f) the total phosphorus content expressed as milligram per litre.

49. The Licencee shall:
- a) during each year maintain records of:
 - i) reports of visual inspections conducted at a minimum of once per month;
 - ii) wastewater sample dates;
 - iii) original copies of laboratory analytical results of the sampled wastewater; and
 - iv) effluent discharge dates;
 - b) make the records being maintained pursuant to sub-Clause 49 a) of this Licence available to an Environment Officer upon request; and
 - c) keep the maintained records of any one calendar year available for inspection for a period of three years following the respective calendar year in which they were recorded.
50. The Licencee shall:
- a) determine or obtain geographic coordinates for all existing or proposed groundwater wells in the vicinity of the Development;
 - b) prepare a summary of characteristics for all existing or proposed groundwater wells in the vicinity of the Development;
 - c) submit the summary of groundwater well characteristics to the Groundwater Management Section, Manitoba Conservation and Water Stewardship within sixty days of the date of this Licence; and
 - d) maintain an associated groundwater monitoring and reporting program for the area of the wastewater treatment lagoon that is satisfactory to the Director.
51. The Licencee shall maintain a record of all septage, sewage and wastewater hauled to the wastewater treatment lagoon, including the number of loads on a daily and weekly basis, the volume of each load, the name of the hauler, and the source of the contents of each load according to the type of waste and the name and location of each property serviced. The Licencee shall submit, in an electronic format acceptable to the Director, an annual report of all the waste hauling information to the Director by the 15th of January of the following year.
52. The Licencee shall immediately notify the Director each time the operating depth of any cell of the wastewater treatment lagoon exceeds the maximum operating depth for that cell as specified in this Licence.
53. The Licencee shall, if reporting is required pursuant to Clause 52 of this Licence in two consecutive years:
- a) engage the services of a qualified consultant, acceptable to the Director, to undertake an investigation of the Facility and related infrastructure, to determine the ability or inability of the existing system to meet the

hydraulic loading capacity of the community. The investigation shall include but not be necessarily limited to:

- i) diagnosis of the cause(s) of the recent exceedances of maximum operating depth;
 - ii) sources of infiltration into the wastewater system including the municipal infrastructure;
 - iii) current hydraulic loading of the system; and
 - iv) lack of storage capacity due to sludge build-up within existing cells; and
 - v) the organic loading on the primary cell in terms of the five day biochemical oxygen demand;
- b) provide to the Director, within four months of the notification given pursuant to Clause 52, an engineering report describing in detail the results and observations concluded by virtue of the investigation; and
 - c) provide to the Director, within four months of the report provided pursuant to Sub-clause b) of this section, a remedial action plan in the form of a detailed engineering report describing recommended modifications, repairs or upgrading works to overcome excessive hydraulic loading of the system.
54. The Licencee shall:
- a) prepare updated "record drawings" for the wastewater treatment lagoon and shall label the drawings "record drawings"; and
 - b) provide to the Director, within four months of the Environment Officer's approval of the reports required by Clause 18 i) of this Licence, two electronic copies of the "record drawings".
55. The Licencee shall, during the first year of operation of the Development following the construction of the wastewater treatment lagoon that a discharge must occur, obtain and analyze grab samples of the effluent during each effluent discharge campaign and report results of the analysis in accordance with Schedule "A" attached to this Licence.

DECOMMISSIONING

Respecting Wastewater Management System

56. The Licencee shall, after placing the wastewater treatment lagoon into operation, prevent any additional wastewater from being discharged into the holding tanks of the wastewater management system.


57. The Licencee shall decommission the holding tanks of the wastewater management system within 90 days of commencing operation of the wastewater treatment lagoon.
58. The Licencee shall decommission the holding tanks in accordance with the following:
 - a) transfer the effluent and sludge from the holding tanks to the wastewater treatment lagoon;
 - b) remove the holding tanks and all unnecessary ancillary components;
 - c) dispose of the holding tanks and all unnecessary ancillary components
 - i) at a waste disposal ground operated under the authority of a permit issued under Manitoba Regulation 150/91 or a Licence issued pursuant to *The Environment Act*; or
 - ii) by other means approved by the assigned Environment Officer; and
 - d) level the disturbed areas to the original grades and return these areas to their natural state through the use of effective means of re-vegetating to the satisfaction of the Environment Officer.

Respecting Wastewater Treatment Lagoon

59. The Licencee shall, upon completion of construction of the Keewatinoow Converter Station, prevent any additional wastewater or septage from being discharged into the wastewater treatment lagoon.
60. The Licencee shall, within one year of completion of construction of the Keewatinoow Converter Station:
 - a) remove the wastewater from the wastewater treatment lagoon or discharge treated effluent in accordance with the terms of this Licence;
 - b) dewater the sludge in the wastewater treatment lagoon;
 - c) remove all of the sludge from the wastewater treatment lagoon;
 - d) dispose of the sludge and all materials and ancillary components from the wastewater treatment lagoon that cannot be recycled at a waste disposal ground operated under the authority of:
 - i) a permit issued under *Manitoba Regulation 150/91* respecting *Waste Disposal Grounds*; or
 - ii) a Licence issued pursuant to *The Environment Act*;
 - e) remove the synthetic liners, gas and groundwater relief systems, and all ancillary components associated with the operation of the wastewater treatment lagoon from the wastewater treatment lagoon;
 - f) level the site to the original grade(s) such that effective, positive drainage is provided; and
 - g) return the site to natural vegetation.

REVIEW AND REVOCATION

- A. If, in the opinion of the Director, the Licencee has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out in this Licence, the Director may, temporarily or permanently, revoke this Licence.
- B. If the Licencee has not commenced construction of the Development within three years of the date of this Licence, the Licence is revoked.
- C. If, in the opinion of the Director, new evidence warrants a change in the specifications, limits, terms or conditions of this Licence, the Director may require the filing of a new proposal pursuant to Section 11 of *The Environment Act*.



Tracey Braun, M.Sc.
Director
Environment Act

FILE: 5573.00

Schedule "A" to Environment Act Licence No. 3015

Initial Characterization of Wastewater Pursuant to Clause 55

Facility Size: Very small (less than 500 m³/day)

Facility Type: Facultative wastewater treatment lagoon - intermittent discharge

Effluent Sampling:

During the first year of operation, for all discharge events:

1. Obtain a representative grab sample of the discharging effluent near the beginning of the discharge period and near the end of the discharge period (i.e., two samples for each discharge event.)
2. Determine the temperature of each sample at the time of sampling.

Effluent Analysis:

1. For each grab sample, have the grab sample analysed for:
 - a) the organic content as indicated by the five-day biochemical oxygen demand and expressed as milligrams per litre;
 - b) the organic content as indicated by the five-day carbonaceous biochemical oxygen demand and expressed as milligrams per litre;
 - c) the total suspended solids content expressed as milligrams per litre;
 - d) the *Esherichia coli* (*E. Coli*) content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
 - e) the fecal coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
 - f) the total coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
 - g) total residual chlorine expressed as milligrams per litre if chlorine was used;
 - h) total ammonia nitrogen expressed as milligrams per litre;
 - i) nitrate-nitrite nitrogen expressed as milligrams per litre;
 - j) total kjeldahl nitrogen (TKN) expressed as milligrams per litre;
 - k) dissolved phosphorus expressed as milligrams per litre;
 - l) total phosphorus expressed as milligrams per litre; and
 - m) pH.

Effluent Reporting:

1. For each grab sample, report the results to the Director, in writing or in an electronic format acceptable to the Director within 60 days of the sampling date. The report shall include the sampling date, sample temperature, the dates of the effluent discharge, and copies of the laboratory analytical results of the sampled effluent.