

LICENCE

Licence No./Licence n° 2747

Issue Date/Date de délivrance December 20, 2006

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) and 14(2) /Conformément au Paragraphes 11(1) et 14(2)

THIS LICENCE IS ISSUED TO:/CET LICENCE EST DONNÉ À:

THE CITY OF BRANDON; "the Licencee"

to expand, modify and operate an existing Development, being the industrial wastewater treatment facility, located on parts of Section 16, Township 10, Range 18 WPM, within the City of Brandon, to treat and disinfect sanitary sewage and pre-treated process wastewater generated by a 2-shift per day, maximum 6-day per week operation of the adjacent Maple Leaf Foods hog processing facility, in accordance with a Proposal submitted to the Department on March 19, 2003, together with supporting information comprised of:

- an Assiniboine River "Water Quality Assessment" report prepared by North/South Consultants, Inc., and submitted to the department on May 23, 2003; and
- a preliminary study and report on "Expanded Biological Treatment for 18,000 hogs/day" prepared by HDR Engineering, Inc., and submitted to the department on June 6, 2003;
and
- in consideration of the recommendations submitted by the Clean Environment Commission to the Minister of MB Conservation on October 24, 2003, following public hearings held on the Proposal;
and
- in consideration of a Phase I Notice of Alteration filed by the City of Brandon on November 6, 2006, and supported by a technical engineering report compiled by Earth Tech (Canada) Inc., to expand/modify the Licencee's I-WWTF so as accommodate additional wastewater as would be expected from an increased hog processing rate to a maximum of 75,000 hogs per week, which was conditionally approved on November 22, 2006 as a minor alteration, 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;

**** A COPY OF THIS LICENCE MUST BE KEPT ON SITE AT THE DEVELOPMENT AT ALL TIMES ****

- “**affected area**” means a geographical area, excluding the property of the Development;
- “**approved**” means approved by the Director in writing;
- “**as constructed**” means engineering drawings complete with all dimensions which indicate all features of the Development as it has actually been built;
- “**CBOD₅**” means 5-day carbonaceous biochemical oxygen demand;
- “**composite sample of the effluent**” means a quantity of undiluted effluent composed of a minimum of 24 sequential series of discrete equal volumes of effluent collected at a rate proportionate to the flow rate of the effluent over a period of 24 consecutive hours;
- “**composite sample of the influent**” means a quantity of undiluted influent composed of a minimum of 24 sequential series of discrete equal volumes of influent collected at a rate proportionate to the flow rate of the influent over a period of 24 consecutive hours;
- “**day**” or “**daily**” means any period of 24 consecutive hours;
- “**Director**” means an employee of the department appointed as such by the Minister;
- “**effluent**” means wastewater released into the environment;
- “**Environmental Management Systems (EMS)**” means the part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy;
- “**Escherichia coli (E. coli)**” means that species of bacteria in the fecal coliform group that is found in large numbers in the gastrointestinal tract and feces of warm blooded animals and man, the presence of which is considered indicative of fresh fecal contamination, and which is used as an indicator organism for the presence of less easily detected pathogenic bacteria;
- “**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;
- “**final discharge point**” means the effluent monitoring facility located in the UV facility of the I-WWTF, or the actual end-of-pipe outfall location for the effluent on the banks of the Assiniboine River, unless otherwise re-designated in writing by the Director;
- “**five-day biochemical oxygen demand**” means that part of the oxygen demand usually associated with biochemical oxidation of organic matter within 5 days at a temperature of 20° C;

“grab sample” means a quantity of undiluted effluent collected at any given time;

“hog processing facility” means the adjacent Maple Leaf Foods hog slaughtering and processing plant, and all the supporting facilities located on the same property;

“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;

“Industrial Services Agreement” means a signed and legally binding agreement, arrived at between the at between Maple Leaf Foods Inc. and the Licencee, which outlines clear limits respecting the maximum daily and maximum weekly flow rates, as well as maximum daily and maximum weekly loading limits on such physical, chemical and biological parameters as may be requested of Maple Leaf Foods Inc. by the Licencee;

“influent” means pre-treated process wastewater being received from the wastewater pre-treatment plant of the hog processing facility;

“ I-WWTF” means the City of Brandon’s industrial wastewater treatment facility;

“mg/L” means milligrams per litre;

“kg/d” means kilograms per day;

“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 the 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;

“pollutant” means a pollutant as defined in The Environment Act;

“process wastewater” means all wastewater from the hog processing facility, excluding sanitary sewage;

“**MPN index**” means the most probable number of coliform organisms in a given volume of wastewater or effluent which, in accordance with statistical theory, would yield the observed test result with the greatest frequency;

“**30-day rolling average**” means the arithmetic average of any daily reported data plus the preceding 29 consecutive days of reported data;

“**30Q10**” means the lowest 30 day average flow rate with a return frequency of 10 years;

“**undiluted**” means not having water added for the purposes of meeting the limits of this Licence;

“**wastewater**” means any liquid containing a pollutant; and

“**week**” or “**weekly**” means any period of 7 consecutive days.

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. 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 I-WWTF; and /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 rates, concentrations and mass loading rates, and such other information as may from time to time be requested.
2. 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 the most current 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 Pollution Control Federation, or in accordance with an equivalent analytical methodology approved by the Director; and
 - (b) have all analytical determinations are undertaken by an accredited laboratory.

3. The Licencee shall report all the information requested through the provisions of this Licence in a manner and form acceptable to the Director.
4. The Licencee shall:
 - (a) develop an Environmental Management System (EMS) for the I-WWTF, similar to the international standard ISO 14001;
 - (b) submit the EMS, in written and electronic format, on or before July 1, 2007, for the approval of the Director; and
 - (c) commence implementing the approved EMS on or before July 1, 2008.
5. The Licencee shall:
 - (a) within six months of the date of issuance of this Licence, submit to the Director, for approval, a proposed Emergency Response Plan, in written and electronic format, consistent with the departmental "*Industrial Emergency Response Planning Guide (MIAC, September, 1996)*" to address contingency measures and emergency responses to such matters as: major power failures; fires; spills of chemicals, dangerous goods or hazardous wastes; a major or prolonged malfunction of the I-WWTF, and any other kind of foreseeable incident that can pose a potential risk to human health or the environment; and
 - (b) continually maintain the approved Emergency Response Plan in a current status for the duration of the operation of the I-WWTF.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

Respecting the Design and Construction of the Expanded and Modified I-WWTF

6. The Licencee shall:
 - (a) clearly mark all those existing monitoring groundwater wells located on the property of the I-WWTF which have the potential to be disturbed by any construction activity involving the expansion and modification of the existing I-WWTF; and
 - (b) decommission any existing groundwater monitoring well(s) which are planned to be terminated or relocated (in the course of the construction activity) in a manner consistent with any applicable guidelines or requirements administered by the Department of Water Stewardship.
7. The Licencee shall, with respect to any modifications or new additions proposed for the I-WWTF, submit to the Director:
 - (a) one set of construction drawings, for each construction contract, as soon as they become available; and
 - (b) two sets of constructed drawings, stamped "As Constructed", for each construction contract, no later than three months following the completion of the construction activity.

Respecting Influent

8. The Licencee shall not accept wastewater or liquid sludge into the I-WWTF from any source other than the Maple Leaf Foods' hog processing facility, except to seed the I-WWTF with selected organisms upon the start-up of the I-WWTF or to recover from a treatment process upset.
9. The Licencee shall:
 - (a) prepare and execute a current comprehensive and enforceable Industrial Services Agreement to address both a 54,000 hogs per week and a 75,000 hogs per week hog processing operation of the client hog processing plant, and to be legally entered into with Maple Leaf Foods Inc., which is acceptable to the Director, for the purposes of defining maximum daily and maximum weekly influent limits respecting volume and pollutant loading rates which would protect the operational integrity of the I-WWTF in terms of its design capability and/or in consideration of the actual performance of the I-WWTF relative to the effluent quality limits as specified in this Licence;
 - (b) provide the Director with a copy of the Industrial Services Agreement upon being signed by both parties; and
 - (c) provide the Director with a copy of any future revised Industrial Services Agreement.
10. The Licencee shall not accept any wastewater from the Maple Leaf Foods hog processing facility into the I-WWTF which:
 - (a) exceeds either the maximum daily or the maximum weekly flow rate as specified in the prevailing Industrial Services Agreement;
 - (b) exceeds any of the maximum daily or maximum weekly pollutant loading rates specified as in the prevailing Industrial Services Agreement; or
 - (c) has a temperature less than the temperature specified in writing by the operator of the I-WWTF, as provided for, and subject to, the conditions specified in the "Agreement for Exchange of Energy" signed by the Licencee and Maple Leaf Foods Inc. on August 4, 1999, or otherwise renegotiated thereafter.

Respecting the Operational Integrity of the I-WWTF

11. The Licencee shall, upon being satisfied that the altered I-WWTF is ready to accept wastewater from a 75,000 hogs per week operation of the hog processing facility:
 - (a) authorize Maple Leaf Foods Inc., in writing, to commence the transfer of pretreated wastewater from a 75,000 hogs per week operation of the hog processing facility;
 - (b) monitor and manage the quality and quantity of the influent streams from the Maple Leaf Foods' hog processing facility in a manner consistent with the design limitations of the I-WWTF, and consistent with maintaining ongoing compliance with the limits, terms and conditions set out in this Licence;
 - (c) provide written instructions to Maple Leaf Foods Inc., when necessary, with respect to managing the quality and quantity of any wastewater streams being directed from the hog processing facility to the Development, clearly indicating the necessity for the instruction(s) and any critical timing associated with executing the instruction(s); and

- (d) copy the Director on any written authorizations or instruction provided to Maple Leaf Foods Inc. concerning the commissioning of the altered Development, and the management of the quality and quantity of any influent wastewater streams.
12. The Licencee shall, in the circumstance of any major physical, electrical, mechanical or process breakdown of the Development that could adversely affect the performance of the Development, or that may cause the release of unauthorized levels of pollutants into the environment:
- (a) immediately notify the Director of the situation, and undertake a detailed survey of the situation;
 - (b) inform the Director, in writing (following the completion of a survey of the situation) of:
 - (i) how the situation will be kept contained;
 - (ii) the extent of actions or repairs required to be implemented, their associated time of implementation; and
 - (iii) any environmental impacts as may result from the incident;
 - (c) implement any necessary repairs as soon as practical; and
 - (d) undertake such further actions as may be requested by the Director to protect the environment.
13. The Licencee shall continually maintain the contents of the anaerobic basin of the Development at a temperature not less than 28 degrees Celsius.

Respecting Effluent

14. The Licencee shall release effluent from the Development only through the final discharge point.
15. The Licencee shall not release any effluent from the Development if the quality of the effluent is such that:
- (a) the organic content in the effluent, as indicated by the five-day biochemical oxygen demand, is in excess of 30 mg/L, as determined from any composite sample of the effluent;
 - (b) the total suspended solids content in the effluent, is in excess of 30 mg/L, as determined from any composite sample of the effluent;
 - (c) the fecal coliform content in the effluent, as indicated by the MPN index, is in excess of 200 per 100 millilitres of sample, as determined by the monthly geometric mean of 1 grab sample collected at equal time intervals on each of a minimum of 3 consecutive days per week; or
 - (d) the E. coli content in the effluent, as indicated by the MPN index, is in excess of 200 per 100 millilitres of sample, as determined by the monthly geometric mean of 1 grab sample collected at equal time intervals on each of a minimum of 3 consecutive days per week.
16. The Licencee shall:
- (a) on and after 90 days following the Licencee's authorization to Maple Leaf Foods Inc. to commence directing pretreated process wastewater into the I-WWTF under a hog processing rate greater than 54,000 hogs per week, not release effluent from the I-WWTF where:
 - (i) the concentration of total nitrogen in the effluent on any day is in excess of 65.0 milligrams per litre, as determined by the 30-day rolling average; or
 - (ii) the concentration of total phosphorus in the effluent on any day is in excess of 1.0 milligrams per litre, as determined by the 30-day rolling average; and

- (b) after December 31, 2007, not release effluent from the Development where:
 - (i) the concentration of total nitrogen in the effluent on any day is in excess of 15.0 milligrams per litre, as determined by the 30-day rolling average; or
 - (ii) the concentration of total phosphorus in the effluent on any day is in excess of 1.0 milligrams per litre, as determined by the 30-day rolling average

- 17. The Licencee shall not, on any day, under prevailing Assiniboine River flow rates equal to or greater than the 30Q10 flow rates (see Appendix 'A' attached to this Licence) for the corresponding period, release an ammonia nitrogen loading (expressed as kilograms per day of nitrogen) from the Development which, in combination with other major ammonia releases or licensed allocations on the same day between 18th Street and the final discharge point of the Development, exceeds 75% of the total ammonia nitrogen assimilative capacity of the Assiniboine River theoretically available, as determined through the Department's ammonia nitrogen mass balance model, or the Assiniboine River model using QUAL2E or QUAL2K, (used in a manner satisfactory to the Director), by incorporating:
 - (a) the prevailing ambient ammonia nitrogen concentration, pH, temperature and flow rate of the Assiniboine River at 18th Street in the City of Brandon on the same day;
 - (b) the water quality objectives for ammonia nitrogen as determined on the basis of the "Final Draft - Manitoba Water Quality Standards, Objectives, and Guidelines" dated November 22, 2002, or any future amendment thereto;
 - (c) all major downstream water use withdrawal rates and input rates between 18th Street and the final discharge point on the same day;
 - (d) the prevailing ammonia nitrogen discharge rates from the City of Brandon municipal wastewater treatment facility final discharge points; and
 - (e) the applicable daily ammonia loading allocations licensed to Koch Fertilizer Canada Ltd (see Appendix 'B' attached to this Licence).

- 18. Notwithstanding Clause 17 of this Licence, the Licencee shall not, on any day, and under prevailing Assiniboine River flow rates equal to or greater than the 30Q10 flow rates listed in Appendix 'A' attached to this Licence for the corresponding period, release effluent from the Development which causes, or contributes to, the dissolved oxygen level in the water column of the Assiniboine River, at the nearest downstream model predicted location of lowest dissolved oxygen, to drop to less than 5.0 mg/L.

- 19. The Licencee shall not, on any day, release a quality of effluent from the Development which:
 - (a) causes, or contributes to, the mixing zone for the effluent in the Assiniboine River being acutely lethal to aquatic life passing through the mixing zone; or
 - (b) which can be demonstrated to be acutely lethal to fish within the mixing zone for the effluent in the Assiniboine River using a 96-hour static acute lethality test which results in mortality to more than 50 percent of the test fish exposed to 100% per cent strength effluent, with the test carried out in accordance with the protocol outlined in Environment Canada's "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout: EPS 1/RM/13 Second Edition - December 2000", or any future amendment thereof.

Respecting Surface Runoff

20. The Licencee shall construct and maintain silt fences in the drainage routes transporting surface runoff off the property of the Development until vegetation has been re-established on the disturbed areas.
21. The Licencee shall not permit any pollutants to be directed into, or transported by, any surface drainage route leading off the property of the Development.

Respecting Groundwater Protection

22. The Licencee shall, upon being informed that the Groundwater Monitoring Program being undertaken by Maple Leaf Foods Inc. reveals groundwater monitoring results which suggest that the Development is the probable source of some groundwater pollution:
 - (a) initiate an investigation as soon as possible, and to the satisfaction of the Director, in order to determine the specific source or cause of the pollution; and
 - (b) take such action as is necessary to terminate the determined source or cause of the pollution until the problem is corrected, and implement remediation measures, to the satisfaction of the Director, to restore the impacted area of groundwater.
23. The Licencee shall, upon the suspicion or detection of any leaking or ruptured wastewater collection pipe or forcemain, immediately undertake an investigation, and upon confirmation of a leak or rupture, terminate or otherwise re-route all inputs to the pipe or forcemain until the necessary repair has been completed.
24. The Licencee shall, if the leak detection manhole for the primary liner of the double-lined anaerobic basin indicates a continuous leakage of the primary liner:
 - (a) install a permanent pump, and pump the fluids back into the inlet chamber of the affected basin; and
 - (b) if necessary, raise the top elevation of the manhole to above the high water mark in the affected basin to contain the leakage.
25. Whereupon evidence indicates that:
 - (a) seepage of pollutants is occurring through the primary liner of the anaerobic cell (based on the rates of recovery from their respective leak detection manholes) at a rate greater than that which would be expected to seep through the entire submerged surface area of the primary liner of the respective basin (each expected to have an overall hydraulic conductivity not exceeding 1×10^{-9} centimetres per second at full operating depth); and
 - (b) seepage of pollutants is also occurring through the secondary liner of the anaerobic basin (based on findings from the groundwater monitoring program);the Licencee shall, as soon as possible, arrange to have professionals in that field assess environmental significance of the circumstance as well as determine options for the remediation of the circumstance, for submission to, and for the consideration of, the Director.

Respecting Terrestrial Management

26. The Licencee shall revegetate surface areas on the property of the Development, affected by construction and by re-contouring, in order to minimize or prevent soil erosion.

Respecting Air Emissions

27. The Licencee shall continually maintain the biogas containment cover of the anaerobic basin in a state of proper function to minimize biogas leakage to the atmosphere.

28. The Licencee shall:

- (a) collect all biogas from the anaerobic basin of the wastewater treatment facility;
- (b) send all the biogas to the hog processing facility, as provided for, and subject to the conditions specified, in the "Agreement for Exchange of Energy" signed by Maple Leaf Foods Inc. and the Licencee on August 4, 1999; and
 - (i) flare excess or non required amounts of collected biogas to the atmosphere; or
 - (ii) if the flaring unit is temporarily unavailable for use, pass the biogas through activated carbon filters before releasing the biogas to the atmosphere.

29. 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 specify to eliminate or mitigate an odour nuisance.

30. The Licencee shall, within 12 months of the date of issuance of this Licence, prepare and submit to the Director:

- (a) a greenhouse gas inventory respecting the Development, by addressing carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride emissions; and
- (b) a greenhouse management plan for the Development, including reduction strategies and targets.

Respecting Solid Wastes

31. The Licencee shall not undertake any on-site burning of solid waste.

32. The Licencee shall, wherever possible, maximize the collection and recycling of any recyclable wastes generated through the operating activities.

33. The Licencee shall not deposit solid waste into the environment except into a waste disposal ground operating under the authority of an Environment Act Licence, or a permit issued pursuant to Manitoba Regulation 150/91 or any future amendment thereof, where the operator of that facility has agreed to accept the solid waste.

Respecting Sludge Wastes

34. The Licencee shall not dispose of any sludge from the Development into the environment, other than the sludge withdrawn from the anaerobic basin of the Development in accordance with Environment Act Licence No. 2506 or any future revision thereto.

Respecting Influent and Effluent Monitoring Stations

35. The Licencee shall:
- (a) ensure that the influent and effluent lines associated with the Development each have an in-line continuous flow meter which is factory calibrated and certified to measure flow rates to an accuracy within ± 2 percent; and
 - (b) maintain the influent and effluent flow meters in proper working order.
36. The Licencee shall:
- (a) ensure that the influent and effluent in-line continuous flow meters associated with the Development each possess an electronic interface device designed to activate flow proportional samplers for collecting composite samples of the influent or effluent; and
 - (b) maintain the electronic interface devices in proper working order.
37. The Licencee shall ensure that:
- (a) each of the influent and effluent lines is equipped with an enclosed and heated structure for the collection of composite samples; and
 - (b) the effluent monitoring station is sized to accommodate the simultaneous set-up and operation of up to two flow proportional 24-hour composite samplers, and equipped with interfaces to the effluent flow metering device whereby at least one of the interfaces is compatible with the departmentally owned ISCO sampler.

Respecting Monitoring, Record Keeping and Reporting

38. The Licencee shall:
- (a)
 - (i) continuously measure, and on each day record, the maximum daily, the maximum weekly (cubic metres per week), and the total monthly volume (cubic metres) of influent to the Development to an accuracy within ± 2 percent; and
 - (ii) continuously measure the temperature, in degrees Celsius, of the influent to the Development, and record the daily average temperature versus the temperature specified by the Licencee to Maple Leaf Foods Inc.;
 - (b) on each operating and cleaning day of the adjacent hog processing facility, obtain a composite sample of the pretreated process wastewater, from the hog processing facility, being directed to the Development and have it analyzed for:
 - (i) chemical oxygen demand (COD);
 - (ii) CBOD₅ (as measured directly or as inferred from the COD result);
 - (iii) total suspended solids;
 - (iv) total kjeldahl nitrogen (as N);
 - (v) total phosphorus (as P); and
 - (vi) oil and grease; and
 - (c) determine and record the daily (each day), maximum daily and maximum weekly influent loadings (kilograms per week) of:
 - (i) CBOD₅;
 - (ii) suspended solids;
 - (iii) total kjeldahl nitrogen;

- (iv) total phosphorus; and
- (v) oil and grease.

39. The Licencee shall:

- (a) continuously measure and record the daily and total monthly volume (cubic metres) of effluent released from the final discharge point of the Development to an accuracy within ± 2 percent;
- (b) once every week, on the same day that the City of Brandon municipal wastewater treatment facility effluent is sampled, collect a composite sample of the effluent at the final discharge point of the Development, and analyze it for:
 - (i) pH;
 - (ii) suspended solids (mg/L);
 - (iii) 5-day biochemical oxygen demand (mg/L); and
 - (iv) ammonia nitrogen (expressed as mg/L of N); and
- (c) once each day collect a composite sample of the effluent from the Development and analyze it for:
 - (i) total nitrogen (as N); and
 - (ii) total phosphorus (as P);
- (d) once each day at equal time intervals for a minimum of three (3) consecutive days per week, collect a grab sample of the effluent from the final discharge point of the Development and analyze it for:
 - (i) fecal coliform (expressed as MPN per 100 millilitres of sample); and
 - (ii) E. coli (expressed as MPN per 100 millilitres of sample); anddetermine and record the monthly geometric mean for each of the fecal coliform and the E. coli counts based on all the data collected during each month for each coliform type.
- (e) determine and record from Sub-clauses 39(a), 39(b) and 39(c) of this Licence, the loadings of:
 - (i) ammonia nitrogen (as kg/d of N);
 - (ii) total nitrogen (as kg/d of N); and
 - (iii) total phosphorus (as kg/d of P);released to the Assiniboine River on each sampling date; and
- (f) once every six months, and coinciding with such dates (to be determined by consultation of the Licencee with MB Water Stewardship) on which MB Water Stewardship undertakes to routinely monitor the water quality of the Assiniboine River in the vicinity of the effluent outfall of the Development, collect a grab sample of the effluent at the final discharge point and have the sample analyzed by means of appropriate analytical methodologies to identify and quantify the presence of:
 - (i) Cryptosporidium
 - (ii) Giardia
 - (iii) heavy metals
 - (iv) organochlorines;
 - (v) active pharmaceutical ingredients (particularly suspected endocrine disrupting compounds) which may be associated with hog processing operations; and
 - (vi) such other parameter(s) as may be requested by the Director;until or unless otherwise specified by the Director.

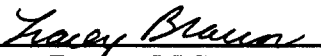
40. The Licencee shall once every week, on the same day that the City of Brandon municipal wastewater treatment facility effluent is sampled:
- (a) collect a representative grab sample of the Assiniboine River at 18th Street in Brandon and analyze it for:
 - (i) field and lab pH;
 - (ii) field temperature (°C); and
 - (iii) ammonia nitrogen (mg/L as N); and
 - (b) determine the flow rate of the Assiniboine River at the Canada Survey flow rate monitoring station on the Assiniboine River just upstream of the City of Brandon where Canada Highway No. 1 crosses the Assiniboine River.
41. The Licencee shall, during each month, and for each effluent sampling day used in carrying out the requirements of Sub-clauses 39(b) and 40(a) of this Licence, determine in a manner acceptable to the Director, and record:
- (a) the 75% theoretical assimilative capacity of the Assiniboine River within the receiving area of the river (being affected by ammonia discharges from the City of Brandon municipal wastewater treatment facility, Koch Fertilizer Canada Ltd, and the Development), as determined through the use of the Department's ammonia nitrogen mass balance model or the Assiniboine River model using QUAL2E or QUAL2K, before the Manitoba Water Quality Objective for ammonia (as N) is exceeded in the immediate downstream fully mixed zone, as based on the prevailing discharge rates from each of the three ammonia discharge sources and on the prevailing ambient ammonia nitrogen concentration, pH and temperature of the Assiniboine River at 18th Street in the City of Brandon; and
 - (b) the individual and sum total of:
 - (i) the ammonia nitrogen loading (expressed as kg/d of N) released from the Development; plus
 - (ii) the ammonia nitrogen loading (expressed as kg/d of N) allocated by licence to Koch Fertilizer Canada Ltd (Appendix 'B' attached to this Licence) for release to the Assiniboine River on the same day; plus
 - (iii) the ammonia nitrogen loading (expressed as kg/d of N) released by the Licencee from the City of Brandon municipal wastewater treatment facility on the same day.
42. The Licencee shall, under prevailing river flow rates less than the 30Q10 flow rate for the period:
- (a) as soon as, and for as long as, the sum total of ammonia nitrogen loadings into the Assiniboine River reaches 75 percent or more of the prevailing theoretical 100 percent assimilative capacity of the Assiniboine River for ammonia nitrogen, and once a week on the same day as the effluent from the Development is sampled:
 - (i) sample the Assiniboine River at the nearest downstream model predicted fully mixed river monitoring station for pH, temperature and ammonia nitrogen, and determine and record the in-situ concentration of ammonia (as N); and
 - (ii) measure and record the dissolved oxygen level in the water column of the Assiniboine River at the downstream model predicted location of lowest dissolved oxygen;

- (b) as soon as, and for as long as, the sum total of ammonia nitrogen loadings into the Assiniboine River reaches 90 percent or more of the prevailing theoretical 100 percent assimilative capacity of the Assiniboine River for ammonia nitrogen:
 - (i) sample the Assiniboine River three times a week (every second day) at the nearest downstream fully mixed river monitoring station for pH, temperature and ammonia nitrogen, and determine and record the in-situ concentration of ammonia (as N); and
 - (ii) measure and record the dissolved oxygen level in the water column of the Assiniboine River three times a week (every second day) at the downstream model predicted location of lowest dissolved oxygen; and
 - (c) submit the information determined pursuant to Sub-clauses 42(a) and 42(b) of this Licence to the Director as soon as possible.
43. The Licencee shall, once every 3 months, until otherwise specified by the Director, and in accordance with the protocol outlined in Environment Canada's "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout: EPS 1/RM/13 Second Edition - December 2000", or any future amendment thereof, collect a bioassay sample of the effluent at the final discharge point, and test the sample at 100 percent concentration for acute lethality.
44. The Licencee shall:
- (a) monitor the leak detection manholes at the anaerobic basin at least once a week for evidence of any leakage of wastewater through the primary (inner) liner of the anaerobic basin; and
 - (b) record the amount of fluid (in litres), if any, pumped each week out of the leak detection manhole.
45. The Licencee shall submit monthly reports on the analytical values, and the information determined and recorded pursuant to Clauses 38, 39, 40, 41, 43 and 44 of this Licence, to the Director, in writing and in an electronic format acceptable to the Director, no later than 30 days after the end of the month during which the information was collected or compiled.

REVIEW OR REVOCATION

- A. This Licence replaces Environment Act Licence No. 2367 S2R, which is hereby rescinded.
- B. If, in the opinion of the Director, the Licencee has failed or is failing to comply with any of the specifications, limits, terms or conditions set out herein, the Director may, temporarily or permanently, revoke this Licence.
- 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.

D. This Licence may be reviewed by the Director upon the re-licensing of any future upgrades respecting the Licencee's upstream municipal wastewater treatment facility.


Tracey Braun, M.Sc.
Director
Environment Act

File: 4307.1

APPENDIX 'A'

30Q10 Flow Rates for the Assiniboine River at Brandon

<u>Month</u>	<u>30Q10 (cubic metres per second)</u>
January	6.44
February	5.60
March	5.74
April	9.65
May	6.55
June	5.78
July	5.56
August	3.79
September	3.34
October	4.32
November	5.77
December	6.27

Note: The above 30Q10 flow rates for the Assiniboine River at Brandon were obtained from Water Stewardship through North/South Consultants, Inc. in 2003. This Appendix 'B' may be revised by the Director if and when new information is received from the Department of Water Stewardship.

APPENDIX 'B'

Total Ammonia Nitrogen Loadings
Licensed to Koch Fertilizer Canada Ltd for Release to the Assiniboine River
through Environment Act Licence No. 1535

<u>Period</u>	<u>Ammonia Nitrogen Limits (kilograms per day as N)</u>
January	120
February	120
March	120
April	90
May 1-15	80
May 16-31	0
June	0
July	0
August	0
September 1-15	0
September 16-30	38
October	40
November	50
December	130