Manitoba

Conservation and Water Stewardship

Climate Change and Environmental Protection Division
Environmental Assessment and Licensing Branch
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CLIENT FILE NO.: 5510.00 February 1, 2012

Patrick Pulak, P.Eng.
City of Brandon
410-9th Street
Brandon, MB R7A 6A2

Dear Mr. Pulak:

Enclosed is **Environment Act Licence No. 2991** dated February 1, 2012 issued to the **City of Brandon** for the operation of the Development, being a wastewater collection system within the City of Brandon, a 43,200 m^3/day hydraulic capacity municipal wastewater pre-treatment facility (MWWTF) located at NW 17-10-18WPM, a 30,700 m^3/day hydraulic capacity centralized wastewater treatment facility (CWWTF) located on parts of Section 16-10-18WPM and a 112 m^3/day hydraulic capacity wastewater treatment lagoon system located in Sections 21 and 22-10-18 WPM with treated effluent from the CWWTF and the wastewater treatment lagoon system being discharged to the Assiniboine River via outfall pipes in accordance with the Proposal dated January 21, 2011 and subsequent information provided on June 15, 2011.

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 Jennifer Winsor, Environmental Engineer at (204) 945-7012.

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

Tracey Braun, M.Sc.
Director
Environment Act

Enc.
c: Don Labossiere, Director, Environmental Operations
Public Registries

NOTE: Confirmation of Receipt of this Licence No. 2991 *(by the Licencee 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 February 13, 2012.

On behalf of the City of Brandon **Date**

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

THE ENVIRONMENT ACT
LOI SUR L'ENVIRONNEMENT

Manitoba

LICENCE

Licence No. / Licence n° 2991

Issue Date / Date de délivrance February 1, 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 Section 11(1) / Conformément au Paragraphe 11(1)

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

THE CITY OF BRANDON; the Licencee

for the operation of the Development, being a wastewater collection system within the City of Brandon, a 43,200 m^3/day hydraulic capacity municipal wastewater pre-treatment facility (MWWTF) located at NW 17-10-18WPM, a 30,700 m^3/day hydraulic capacity centralized wastewater treatment facility (CWWTF) located on parts of Section 16-10-18WPM and a 112 m^3/day hydraulic capacity wastewater treatment lagoon system located in Sections 21 and 22-10-18 WPM with treated effluent from the CWWTF and the wastewater treatment lagoon system being discharged to the Assiniboine River via outfall pipes in accordance with the Proposal dated January 21, 2011 and subsequent information provided on June 15, 2011 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;

"acute lethality" means a toxic effect resulting in death produced in an organism by a substance or mixture of substances within a short exposure period (usually 96 hours or less);

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

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

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

"biosolids" means accumulated organic solids resulting from wastewater treatment processes that have received adequate treatment to permit the material to be recycled;

"calibrate" means to determine, check, or rectify the graduation of any instrument giving quantitative measurement;

"composite sample" 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;

"combined sewer overflow (CSO)" means the sewage overflow to the river that occurs during high flow conditions from a pipe system that collects both municipal sewage and surface runoff from a service area;

"CWWTF" means the City of Brandon centralized wastewater treatment facility;

"day" or **"daily"** means any 24-hour period;

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

"effluent" means treated or untreated wastewater flowing or pumped out of the wastewater treatment facility or any component of the facility;

"Environmental Management System (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;

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

"Escherichia coli (*E.coli*)" means the species of bacteria in the fecal coliform group found in large numbers in the gastrointestinal tract and feces of warm-blooded animals and man, whose presence is considered indicative of fresh fecal contamination, and is used as an indicator organism for the presence of less easily detected pathogenic bacteria;

"excess wet weather wastewater flows" means untreated wastewater flows in the wastewater collection system that increase as a result of spring run-off or precipitation events and which exceed a flow rate of 67.9 million litres per day;

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

"final discharge point" means the effluent monitoring stations 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 (BOD_5)" 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 ($CBOD_5$)" means that part of the oxygen demand usually associated with biochemical oxidation of carbonaceous organic matter within 5 days at a temperature of 20°C, excluding BOD associated with nitrogenous organic matter;

"flow proportional composite sample" means a combination of not less than ten individual samples of equal volumes of wastewater taken at equal increments of wastewater flow over a specified period of time;

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

"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;

"hog processing facility" means the Maple Leaf Foods Ltd. 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 Maple Leaf Foods Inc. and the Licencee, and between Pfizer 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. and of Pfizer by the Licencee;

"influent" means water, wastewater or other liquid flowing into the wastewater treatment facility or any component of the facility;

"kg/d" means kilograms per day;

"mg/L" means milligrams per litre;

"mixing zone" means an area adjacent to a discharge where a receiving water may not meet all water quality objectives included in the most recent version of the "Manitoba Water Quality Standards, Objectives, and Guidelines";

"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;

"MWWTF" means the City of Brandon municipal wastewater pre-treatment facility;

"noise nuisance" means an unwanted sound, in an affected area, which is annoying, troublesome, 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 unwanted sound

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 unwanted sound 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;

"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;

"pollutant" means a pollutant as defined in *The Environment Act*;

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

"rip rap" 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;

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

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

"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;

"supernatant" means the liquid remaining above the dewatered sludge solids after sedimentation;

"thirty-day rolling average" means the arithmetic average of any daily reported data plus the preceding 29 consecutive days of reported data;

"TKN" means total Kjeldahl nitrogen;

"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;

"truck dumping station" means a facility used to receive, store and meter wastewater, including septage, which has been hauled to the sewage treatment plant with a truck;

"undiluted" means not having water added for the purposes of meeting the limits of this Licence;

"WAS" means waste activated sludge;

"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 treatment lagoon system" means an impoundment consisting of a series of lagoon cells into which wastewater is discharged for storage and treatment by natural oxidation or by a combination of mechanical aeration and natural oxidation;

"wastewater treatment plant" means the central facility of wastewater treatment facilities which contains all treatment processes exclusive of the collection system; 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. With the exception of the combined sewer overflow (CSO) wastewater, the Licencee shall direct all wastewater from the wastewater collection system area to the CWWTF or other facility approved by the Director.

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 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, ambient quality, aquatic toxicity, leachate characteristics and discharge or emission rates, and for such duration and at such frequencies as may be specified;
   b) determine the environmental impact associated with the release of any pollutant 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, 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 or in accordance with equivalent preservation and analytical methodologies approved by the Director;
   b) carry out all sampling of, and preservation and analyses on, soil and air samples in accordance with methodologies approved by the Director;
   c) have all analytical determinations undertaken by an accredited laboratory; and
   d) report the results to the Director within 60 days of the samples being taken.

4. The Licencee shall provide to the Director, upon request, all information required under this Licence, in writing and in such form and content (including number of copies), as

may be specified by the Director, and each submission shall be clearly labeled with the Licence Number and Client File Number associated with this Licence.

5. 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.

6. The Licencee shall actively participate in any future watershed based management study, plan or nutrient reduction program, approved by the Director.

7. The Licencee shall comply with the provisions of *Manitoba Regulation 331/88R* respecting *Water Works, Sewerage and Sewage Disposal Regulation* and its amendment or any future amendment thereof.

8. The Licencee shall obtain all necessary federal, provincial and/or municipal licences, authorizations, permits and/or approvals for construction of relevant components of the Development prior to commencement of construction.

9. 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.

10. 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.

11. The Licencee shall comply with all the applicable requirements of:
    a) *Manitoba Regulation 240/2004*, or any future amendments thereto, respecting the storage and handling of petroleum products and allied products;
    b) the *Manitoba Dangerous Goods Handling and Transportation Act,* and regulations issued thereunder, respecting the handling, transport, storage and disposal of any dangerous goods brought onto or generated at the Development; and
    c) *Manitoba Regulation 439/87,* or any future amendment thereto, respecting the reporting of environmental accidents.

12. The Licencee shall collect, transport and store used oil or hydraulic fluids removed from on-site machinery in secure, properly labeled, non-leaking containers and shall regularly send them to a recycling or disposal facility approved to accept hazardous wastes.

13. The Licencee shall implement and continually maintain in current status, an Environmental Management System (EMS) for the Development, as approved by the Director.

14. The Licencee shall continually maintain, in current status, an Emergency Response Plan for the Development, prepared in a manner consistent with the "*Industrial Emergency Response Planning Guide (MIAC, September 1996)*", or as otherwise approved by the Director.

15. The Licencee shall install and maintain spill recovery equipment at the Development at all times.

16. The Licencee shall:
    a) prepare updated "record drawings" for the Development and shall label the drawings "Record Drawings"; and
    b) provide to the Director, not later than six months after construction of the Development is completed, two sets of "record drawings" of the Development.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

17. The Licencee shall:
    a) prepare and execute a current comprehensive and enforceable Industrial Services Agreement to address both the hog processing operation of Maple Leaf Foods Inc.'s hog processing plant and the operation of the Pfizer plant, and to be legally entered into with Maple Leaf Foods Inc. and Pfizer, 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 MWWTF and CWWTF in terms of their design capability and/or in consideration of the actual performance of the CWWTF relative to the effluent quality limits as specified in this Licence;
    b) provide the Director with a copy of the Industrial Services Agreements upon being signed by all parties; and
    c) provide the Director with a copy of any future revised Industrial Services Agreement.

18. The Licencee shall not accept any wastewater from the Maple Leaf Foods hog processing facility into the CWWTF 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 CWWTF, 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 as otherwise renegotiated thereafter.

19. The Licencee shall:
    a) monitor and manage the quality and quantity of the influent streams from Maple Leaf Foods in a manner consistent with the design limitations of the CWWTF and consistent with maintaining ongoing compliance with the limits, terms and conditions set out in this Licence;
    b) provide written instructions to Maple Leaf Foods when necessary, with respect to managing the quality and quantity of any wastewater streams being directed from the hog processing facility to the CWWTF, clearly indicating the necessity for the instruction(s) and any critical timing associated with executing the instruction(s); and
    c) copy the Director on any written authorizations or instruction(s) provided to Maple Leaf Foods concerning the commissioning of the CWWTF and the management of the quality and quantity of any influent wastewater streams.

20. The Licencee shall notify the assigned Environment Officer prior to beginning construction of the CWWTF and alteration to the municipal wastewater treatment plant. The notification shall include the intended starting date of construction and the name of the Licencee's contact person at the construction sites.

21. The Licencee shall with respect to on-site earthen construction works, 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.

22. 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.

23. The Licencee shall, from the date of issuance of this Licence, pressure test the integrity of the connections of any new underground piping of the Development, which is intended to transport wastewater under pressure, before such pipe connections are backfilled with earth and make repairs as required.

24. The Licencee shall:
    a) clearly mark all those existing groundwater monitoring wells located on the property of the Development which have the potential to be disturbed by any construction activity involving the expansion and modification of the Development; and
    b) decommission any existing groundwater monitoring well(s) which are planned to be terminated or relocated (in the course of the construction activities) in a manner consistent with any applicable guidelines or requirements administered by the Department of Water Stewardship.

25. The Licencee shall:
    a) install or utilize existing security fencing, acceptable to the Director, to enclose the wastewater treatment plants or components thereof, that are not enclosed in a building with a security system acceptable to the Director; and
    b) maintain the security system in a manner acceptable to the Director.

26. The Licencee shall:
    a) conduct all ditch and/or outfall 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 ditch and/or outfall related work during periods of heavy rain;
    c) place and/or isolate all dredged 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; and
    f) maintain streambeds and banks of watercourses associated with Development operation and repair eroded and physically unstable streambeds and banks associated with the Development, the discharge route and associated watercourses such that they are able to perform the operations for which they were designed and constructed. If watercourses are fish bearing and/or provide fish habitat, the proponent is required to submit a proposed activity for review by the Department of Fisheries and Oceans Canada.

27. The Licencee shall maintain a wastewater receiving station at the MWWTF for truck hauled wastewater and septage. The wastewater receiving facility shall be equipped with an influent pipe fitted with a quick-coupler. All trucks used to deliver wastewater are to be equipped with a flexible hose and matching adapters for the quick-coupler. All wastewater delivered to the wastewater receiving station is to be discharged through the hose and influent pipe into the coarse screens area of the MWWTF.

28. 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.

29. The Licencee shall not cause or permit a noise 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 a noise nuisance.

30. The Licencee shall:
    a) construct and make available for use by an Environment Officer, at locations acceptable to the Director, secured and heated monitoring stations with direct access to:

i) the MWWTF influent wastewater pipelines;
ii) the CWWTF influent wastewater pipelines;
iii) the MWWTF forcemains for wet weather flow and WAS to the wastewater lagoon treatment system;
iv) each CWWTF effluent pipeline; and
v) the wastewater treatment lagoon system outfall;

b) make the monitoring stations accessible to an Environment Officer at all times;
c) install and maintain a continuous flow measuring devices, equipped with an interface compatible with departmentally owned ISCO sampler, at the monitoring stations or at a location acceptable to the Director which is capable of measuring the volume of effluent with an accuracy of ± 2 percent;
d) have the flow measuring device re-calibrated every two years or on the request of an Environment Officer;
e) submit to the Director a certificate of calibration, signed by a person qualified to calibrate the flow measuring device, for each flow measuring device within two weeks of the completion of each calibration, identifying the plus or minus percent error associated with each calibrated flow measuring device; and
f) equip the monitoring stations with a flow-proportional sampling device equipped to function with the flow measuring device and have the sampling device available on request for use by an Environment Officer.

31. The Licencee shall maintain all cells of the wastewater treatment lagoon system with continuous liners under all interior surfaces of the cells in accordance with the following specifications:
a) the liners shall be made of clay;
b) the liners shall be at least one metre in thickness;
c) the liners shall have a hydraulic conductivity of 1×10^{-7} centimetres per second or less; and
d) the liners shall extend to an elevation of at least one metre above the maximum liquid level of each cell.

32. The Licencee shall immediately notify the Director each time the operating depth of any cell of the wastewater treatment lagoon system exceeds the maximum operating depth for that cell as specified in this Licence.

33. The Licencee shall, if reporting is required pursuant to Clause 32 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 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 32 of this Licence, 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.

34. The Licencee shall operate and maintain the wastewater treatment lagoon system in such a manner that:
a) the organic loading, 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 the cells.

35. 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 Clause 35 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.

36. The Licencee shall ensure that if, in the opinion of the Director, significant erosion of the interior surfaces of any of the dykes of the wastewater treatment lagoon system and sludge holding cells occurs, rip rap shall be placed on the interior dyke surfaces from 0.6 metres above the high water mark to at least 0.6 metres below the low water mark to protect the dykes from wave action.

37. The Licencee shall:
a) prepare an engineering report detailing the decommissioning of the aerators and associated infrastructure of Cell No. 4 of the wastewater lagoon system; and

b) submit the report to the Director for approval within six months upon the commissioning of the Development.

38. The Licencee shall, unless otherwise approved by the Director,:
a) direct all wastewater flows from the City of Brandon wastewater collection system area with flows less than 43,200 m^3/day and all Pfizer wastewater to the MWWTF;
b) direct all untreated wet weather flows greater than 43,200 m^3/day but less than 67,900 m^3/day from the City of Brandon wastewater collection system area to the municipal wastewater treatment lagoon Cell No. 3;
c) direct all untreated excess wet weather wastewater flows being equal to or greater than 67,900 m^3/day to the Assiniboine River via manhole MH-109, as identified in Appendix 'B' of this Licence and report as required in all applicable provincial and federal regulations;
d) direct all WAS generated at the MWWTF and CWWTF to the wastewater treatment lagoon system;
e) direct all wastewater effluent from the MWWTF, all supernatant from the biosolids cells at the municipal wastewater treatment lagoons and all Maple Leaf Food wastewater effluent to the CWWTF;
f) direct all wastewater effluent from the wastewater treatment lagoon system only through the final discharge point of the wastewater treatment lagoon system, being manhole MH 12 of Cell No.5 of the wastewater treatment lagoon system, as identified on Appendix 'C' attached to this Licence; and
g) direct all wastewater effluent from the final discharge point of the CWWTF to the outfall located at the Assiniboine River on the west side of 65th Street.

39. The Licencee shall, during the first year of operation of the CWWTF following the issuance of this Licence, obtain and analyze grab samples of the effluent during each effluent discharge campaign and report the results of the analysis in accordance with Appendix D of this Licence.

40. The Licencee shall, during the first year of operation of the wastewater treatment lagoon system following the issuance of this Licence, obtain and analyze grab samples of the effluent during each effluent discharge campaign and report the results of the analysis in accordance with Appendix E of this Licence.

41. The Licencee shall not dispose of biosolids from any of the sludge or wastewater storage cells of this Development into the environment, except in accordance with Environment Act Licence No. 2485 or any future revision thereof.

42. The Licencee shall not dispose of biosolids from the anaerobic basin of the CWWTF into the environment, except in accordance with Environment Act Licence No. 2506 or any future revision thereof.

43. The Licencee shall discharge wastewater effluent from the Development only through the final discharge points.

44. The Licencee shall continually maintain the contents of the anaerobic basin of the CWWTF at a temperature not less than 28 degrees Celsius.

45. The Licencee shall not discharge effluent from the CWWTF, as sampled in the effluent monitoring station, referred to in Clause 30 of this Licence, where:
   a) the organic content in the effluent, as indicated by the five-day carbonaceous biochemical oxygen demand determined from any composite sample of effluent collected at the final discharge point, is in excess of 25 mg/L;
   b) the total suspended solids content in the effluent, as determined from any composite sample of effluent collected at the final discharge point, is in excess of 25 mg/L;
   c) the E. coli content of 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;
   d) the concentration of total phosphorus of the effluent is in excess of 1 milligram per litre as determined by the thirty-day rolling average;
   e) the total residual chlorine is in excess of 0.02 mg/L;
   f) the concentration of total nitrogen of the effluent is in excess of 15 milligrams per litre as determined by the thirty-day rolling average; and
   g) the ammonia nitrogen content (as N) of the effluent is in excess of the following limits:

Period	**Ammonia Nitrogen (as N)** (kilograms/any 24 hour period)
January	790
February	766
March	830
April	622
May	325
June	267
July	182
August	117
September	87
October	145
November	392
December	539

46. The Licencee shall not discharge effluent from the wastewater treatment lagoon system Cell No. 5 outfall, as sampled in the effluent monitoring station referred to in Clause 30 of this Licence, where:
   a) the organic content in the effluent, as indicated by the five-day carbonaceous biochemical oxygen demand is in excess of 25 mg/L;
   b) the total suspended solids content in the effluent is in excess of 25 mg/L, unless the exceedance is caused by algae;

c) the fecal coliform content in the effluent, as indicated by the MPN index, is in excess of 200 per 100 millilitres of sample;
d) the total coliform content in the effluent, as indicated by the MPN index, is in excess of 1500 per 100 millilitres of sample;
e) the concentration of total phosphorus of the effluent is in excess of 1 milligram per litre as determined by the thirty-day rolling average;
f) the concentration of total nitrogen of the effluent is in excess of 15 milligrams per litre as determined by the thirty-day rolling average;
g) between the 1st day of October of any year and the 1st day of June of the following year;
h) when flooding from any cause is occurring along the discharge route; or
i) when the discharge of effluent will cause or contribute to flooding in or along the discharge route.

47. The Licencee shall, when wastewater effluent is discharged to the environment:
a) take weekly composite samples (24-hour) of the effluent being released at each respective final discharge point of the CWWTF and of Cell No. 5 of the wastewater treatment lagoon system, with a minimum separation time of 5 days between samples, and have them analyzed for:
    i) five-day carbonaceous biochemical oxygen demand (expressed as mg/L);
    ii) total suspended solids (expressed as mg/L);
    iii) pH;
    iv) ammonia nitrogen ($NH_4^+ + NH_3$ expressed as mg/L of N);
    v) total nitrogen (TKN + NO_3^- + NO_2^- expressed as mg/L of N); and
    vi) total phosphorus (expressed as mg/L of P);
b) once each day at equal time intervals for a minimum of three (3) consecutive days per week, collect a grab sample of the effluent at the final discharge point of the CWWTF and have it analyzed for E.coli content (expressed as MPN per 100 millilitres of sample) and determine and record the monthly geometric mean for the E.coli counts based on all the data collected during each month for each coliform type;
c) once every six months, and coinciding with such dates as determined by consultation with the Licencee and Manitoba Water Stewardship, collect a grab sample of effluent at the final discharge point of the CWWTF 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 organochlorines;
    iv) pharmaceutical ingredients (particularly suspected endocrine disrupting compounds) which may be associated with hog processing and/or pharmaceutical operations; and
    v) such other parameters as may be requested by the Director;
d) take weekly grab samples of the effluent, at the final discharge point of Cell No. 5 of the wastewater treatment lagoon system, with a minimum separation time of 5 days between samples, and have them analyzed for:
    i) fecal coliform (expressed as MPN per 100 millilitres of sample); and

ii) total coliform (expressed as MPN per 100 millilitres of sample);

e) determine and record the volumes (in cubic metres) of effluent released at each respective final discharge point during each 24-hour period during which each composite sample was taken; and

f) determine and record the 24-hour ammonia nitrogen loading ($NH_4^+ + NH_3$ expressed as kilograms per day of N), the total nitrogen loading and the total phosphorus loading based on each effluent composite sample, as well as determine the respective combined daily loadings from the CWWTF and Cell No. 5 of the wastewater treatment lagoon system for these substances on each composite sampling date.

48. The Licencee shall, during each month of each year:

a) continuously measure and record the total volume (in cubic metres) of:
   i) effluent being released from the CWWTF into the Assiniboine River;
   ii) effluent being directed from the MWWTF to the wastewater treatment lagoon system, as identified in Appendix 'C' attached to this Licence, for reasons of additional treatment or due to the elevation of the water of the Assiniboine River exceeding 357.2 metres above sea level; and
   iii) excess wet weather wastewater flows being diverted from the MWWTF and directed to the wastewater treatment lagoon system, as identified in Appendix 'C' attached to this Licence; and

b) to an accuracy within ±2 percent; and

c) continuously measure and record the total volume (in cubic metres) of effluent being discharged from Cell No. 5 of the wastewater treatment lagoon system, as identified in Appendix 'C' attached to this Licence, to an accuracy within ±2 percent.

49. The Licencee shall submit monthly reports on the analytical values, and the information determined and recorded pursuant to Clauses 47 and 48 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.

50. The Licencee shall, respecting instances of diversions of raw wastewater to the Assiniboine River from Manhole MH-109 located on the wastewater collection system upstream of the MWWTF, as shown in Appendix 'B' attached to this Licence:

a) report in writing to the Director, within 24 hours of each occurrence, any instances of unscheduled diversions of raw wastewater to the Assiniboine River from Manhole MH-109, and advise the Director of the reason, the date and time of commencement, the duration, and the estimated quantity; and

b) notify the Director, and downstream users of the Assiniboine River, at least one week in advance of any likely instances of scheduled diversions of raw wastewater to the Assiniboine River from Manhole MH-109, advising the Director and the downstream users of the circumstance(s) necessitating the diversion(s) and why no alternative options are available.

51. 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 percent 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, or by another toxicity testing method approved by the Director.

52. The Licencee shall, once every three months:
a) ccollect a bioassay sample of the wastewater effluent from the CWWTF effluent monitoring station and test the sample at 100 percent concentration for acute lethality 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;
b) collect a bioassay sample of wastewater effluent from the CWWTF effluent monitoring station and test for chronic toxicity, using test methods approved by the Director; and
c) submit the acute and chronic toxicity test results of the wastewater effluent from the CWWTF to the Director no later than 30 days after the end of the month during which the toxicity testing was completed.

53. The Licencee shall, in the course of operating the sludge line from the MWWTF to the sludge cells of the wastewater treatment lagoon system:
a) continually ensure that all of the leak detection provisions incorporated into the design of the sludge line approved by the Director on March 10, 2000, are continually maintained in a fully operating condition; and
b) notify the Director immediately of any instance whereby the leak detection devises are activated outside of routine testing conditions.

54. 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 impact area of groundwater.

55. The Licencee shall:
a) maintain a record of all wastewater and septage hauled to the MWWTF, 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;
b) make all records available to an Environment Officer upon request; and
c) submit an annual report of all the waste hauling information to the Director within 30 days of the end of the twelve month period.

56. The Licencee shall, within six months of the date of this Licence, and with respect to the operation of the proposed trenched forcemain, submit to the Director for approval, a program for monitoring or testing the ongoing containment integrity of the forcemain, along the full length, so as to identify the occurrence and location of a forcemain leak or rupture that could adversely impact the groundwater or the Assiniboine River in the affected area.

57. 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 for forcemain until the necessary repair has been completed.

58. The Licencee shall:
a) monitor the leak detection manholes at the anaerobic basin of the CWWTF at least once a week for evidence of any leakage of wastewater through the primary 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.

59. The Licencee shall, if the leak detection manhole for the primary liner of the double-lined anaerobic basin at the CWWTF 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 anaerobic basin to contain leakage.

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

61. The Licencee shall:
a) collect all biogas from the anaerobic basin of the wastewater treatment facility;
b) send all the biogas to Maple Leaf Foods, 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.

62. Whereupon evidence indicates that:
a) seepage of pollutants is occurring through the primary liner of the anaerobic cell of the CWWTF (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} cm/s at full operating depth); or
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 circumstances as well as determine options for the remediation of the circumstance, for submission to, and for the consideration of, the Director.

63. The Licencee shall, within six months of the date of this Licence:
a) develop of a monitoring program for both the CWWTF and wastewater treatment lagoon system effluent based on the endocrine disrupting compounds present in Pfizer and Maple Leaf Foods Inc. wastewater;
b) submit the proposed endocrine disrupting compounds monitoring program to the Director; and
c) implement the endocrine disrupting compounds monitoring program as approved by the Director.

64. The Licencee shall, upon finalizing the new outfall location for the CWWTF and prior to construction of the outfall, have a survey conducted of the affected area by a specialist practicing within their stated area of expertise, for the presence of mussels, including the Mapleleaf Mussel, and submit the survey findings to the Director.

REVIEW AND REVOCATION

A. Environment Act Licence No. 2351 S2 R and Environment Act Licence No. 2747 RR are rescinded upon successful commissioning of the MWWTF and CWWTF.

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.

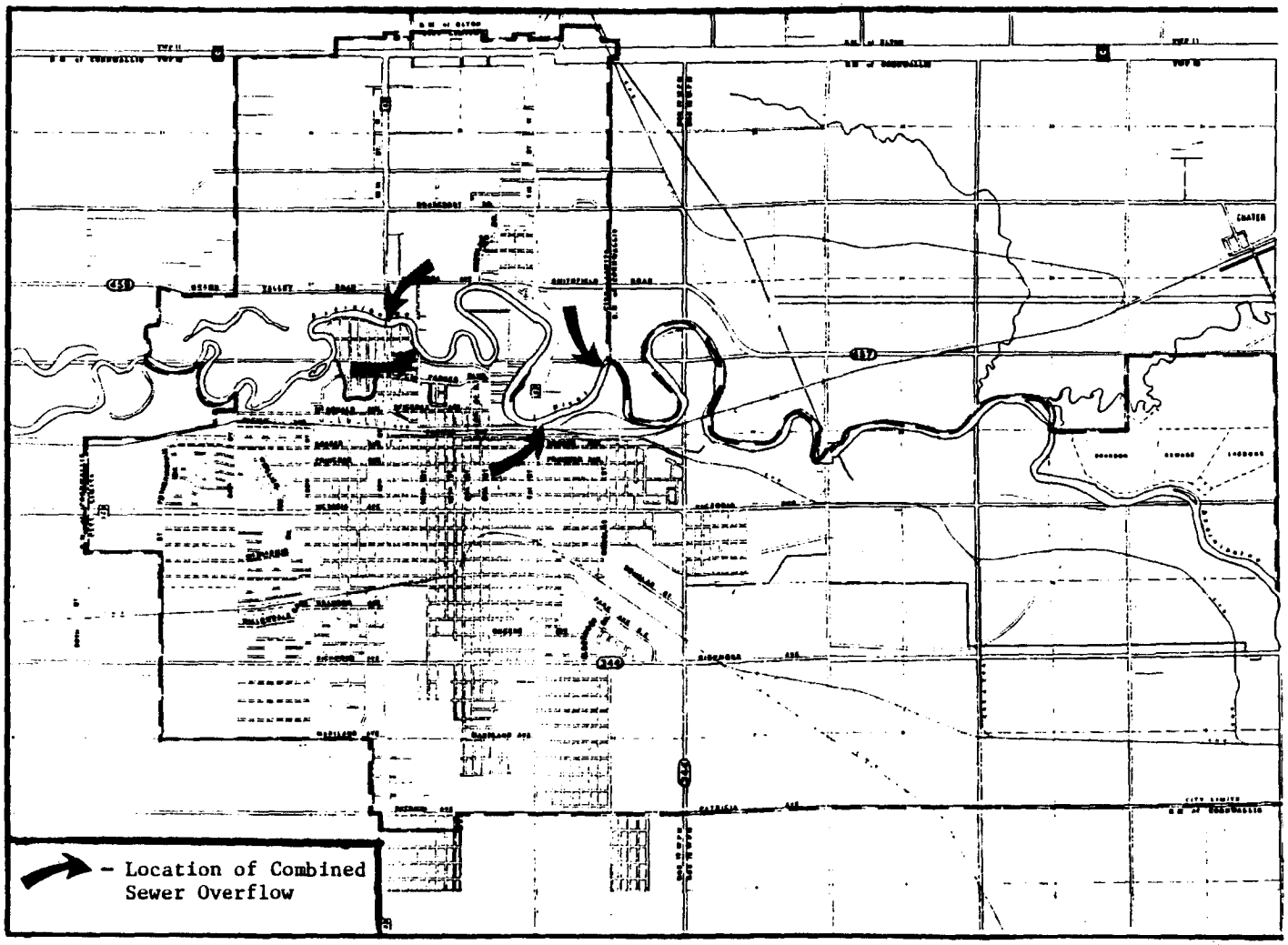
Tracey Braun

Tracey Braun, M.Sc.
Director
Environment Act

File: 5510.00

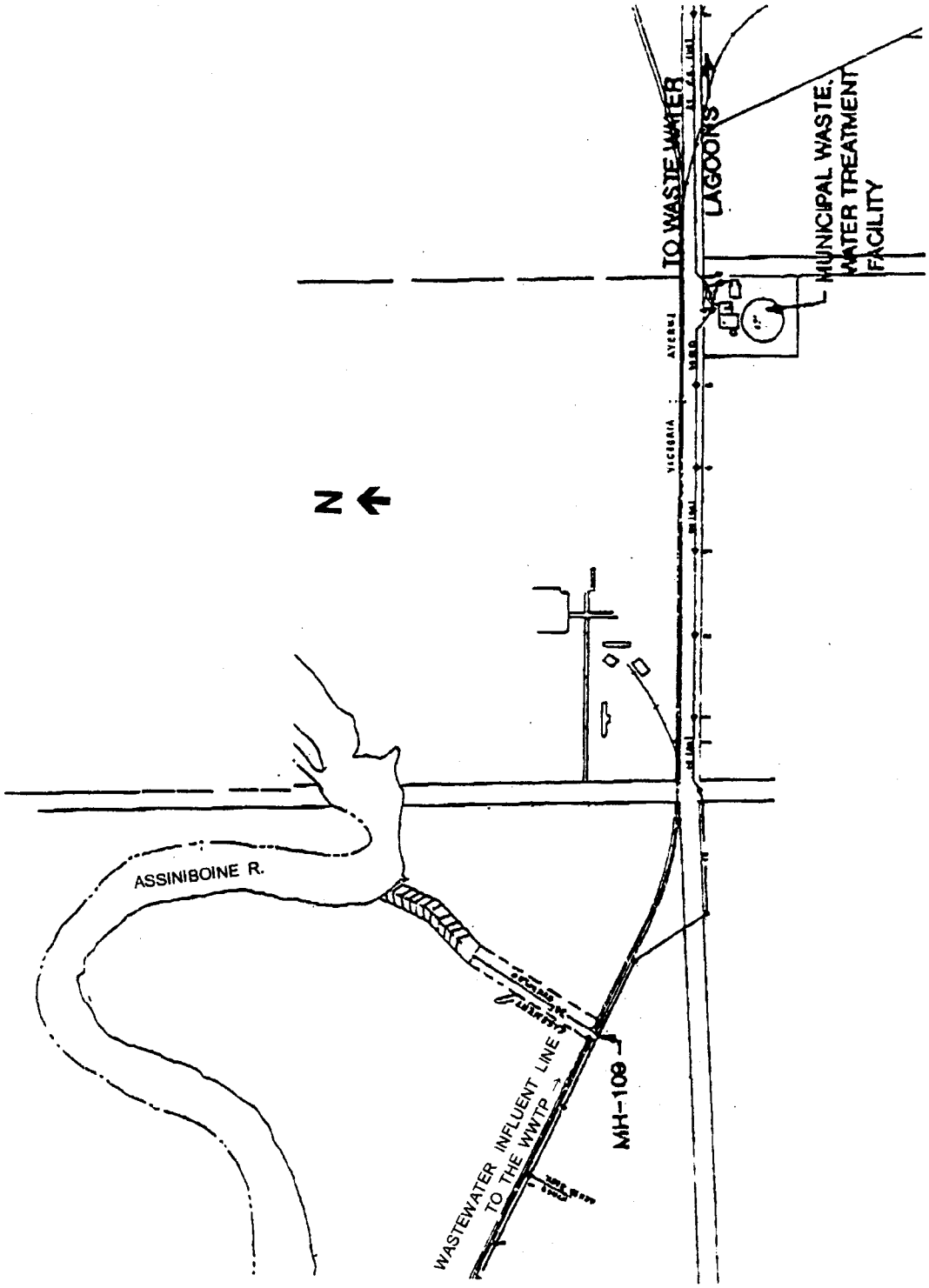
APPENDIX 'A' to Environment Act Licence No. 2991

CITY OF BRANDON - COMBINED SEWER OVERFLOWS



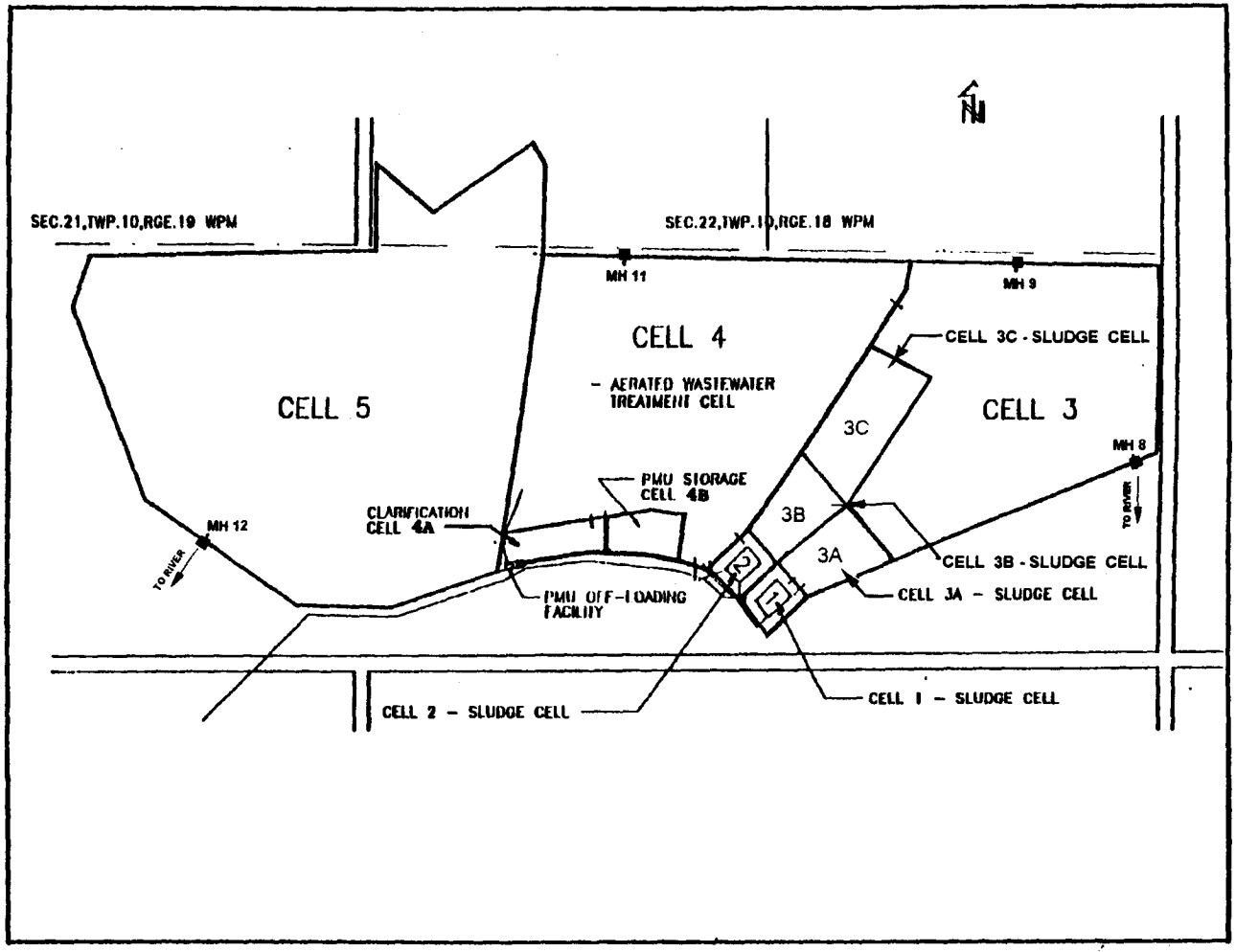
APPENDIX 'B' to Environment Act Licence No. 2991

CITY OF BRANDON - MH-109 ON WASTEWATER COLLECTION SYSTEM



APPENDIX 'C' to Environment Act Licence No. 2991

CITY OF BRANDON – WASTEWATER TREATMENT LAGOON SYSTEM



APPENDIX "D" to Environment Act Licence No. 2991

Initial Characterization of Wastewater

Facility Size: Large (greater than 17,500 m^3/day but less than 50,000 m^3/day)
Facility Type: Sewage Treatment Plant - Continuous discharge

Effluent Sampling:

During the first year of operation:

1. a grab sample shall be collected on a weekly basis;
2. a grab sample shall be collected on a monthly basis;
3. a grab sample shall be collected on a quarterly basis; and
4. a grab sample shall be collected twice per day, if chlorine is used.

Effluent Analysis:

1. Have the weekly sample 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 Esherichia coli (E. Coli) content as indicted 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 ammonia nitrogen expressed as milligrams per litre;
   h) nitrate-nitrite nitrogen expressed as milligrams per litre;
   i) total Kjeldahl nitrogen, TKN (ammonia + organic N) expressed as milligrams per litre;
   j) dissolved phosphorus expressed as milligrams per litre;
   k) total phosphorus expressed as milligrams per litre;
   l) Temperature; and
   m) pH.

2. Have the monthly sample analyzed for:
   a) acute toxicity; and
   b) chronic toxicity.

3. Have the quarterly sample analyzed for:

a) Fluoride;
b) Nitrate;
c) Nitrate + Nitrite;
d) Total extractable metals and metal hydrides (full range);
e) Chemical Oxygen Demand (COD);
f) Organochlorine pesticides;
g) Polychlorinated Biphenyls (PCBs);
h) Polycyclic Aromatic Hydrocarbon (PAHs);
i) Cyanide (total);
j) pH;
k) Volatile organic compounds;
l) Mercury;
m) Phenolic compounds; and
n) Surfacants.

4. Have the twice daily sample analyzed for Total Residual Chlorine (TRC), if required.

Effluent Reporting:

1. 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.

APPENDIX "E" to Environment Act Licence No. 2991

Initial Characterization of Wastewater

Facility Size: Very small (less than 500 m^3/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 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 *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) if chlorine was used as a disinfecting agent, total residual chlorine expressed as milligrams per litre;
   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.