

APPENDIX

B

EXISTING EAL



File No.: 6133.00

October 26, 2023

Leo Poulin
Chief Administrative Officer
Municipality of Boissevain-Morton
P.O. Box 490
admin@boissevain.ca

Dear Leo Poulin:

Re: Environment Act Licence No. 3415

Please find enclosed Environment Act Licence No. 3415 in response to your proposal dated April 19, 2021. You wish to construct and operate an aerated wastewater treatment facility in SE 11-04-20 WPM serving the community of Boissevain.

Municipality of Boissevain-Morton must follow all licence requirements and federal, provincial, and municipal regulations and by-laws. The licensee must get approval from the director per The Environment Act to alter the development.

Anyone affected by this decision may appeal, in writing, to the Minister of Environment and Climate Change at minec@leg.gov.mb.ca by November 25, 2023. The licence is available on the public registry at <https://www.gov.mb.ca/sd/eal/registries/index.html>.

For clauses 19 – 21 and 27, the environment officer of the Environmental Approvals Branch is Siobhan Burland Ross, who may be contacted at Siobhan.BurlandRoss@gov.mb.ca or 204-793-6487. If you have any questions regarding this approval, please contact Kristy Forrestall, Regional Supervisor, Environmental Compliance and Enforcement Branch, at EnvCEWestern@gov.mb.ca or 204-573-0518.

Sincerely,



Agnes Wittmann
Director
The Environment Act

Enclosure

- c. Rob De Koninck, Stantec Consulting Ltd
Tyler Foxtton, Manitoba Water Services Branch
Kristy Forrestall, Environmental Compliance and Enforcement Branch
Siobhan Burland Ross, Environmental Approvals Branch

LICENCE

File No.: 6133.00

Licence No. / Licence n° : 3415
Issue Date / Date de délivrance : October 26, 2023

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)

Under Section 11(1) / Conformément au Paragraphe 11(1)

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

MUNICIPALITY OF BOISSEVAIN-MORTON; "the licensee"

for the construction and operation of the development being a wastewater collection system and a wastewater treatment facility consisting of two aerated wastewater treatment lagoon cells and two submerged attached growth reactors serving the community of Boissevain, with an average flow rate of 1,036 cubic metres per day and located in SE 11-4-20 WPM in the Municipality of Boissevain-Morton, with effluent being discharged to Cherry Creek in accordance with the proposal filed under The Environment Act on April 19, 2021 and additional information dated February 11, 2022 and October 3, 2022, and subject to the following specifications, limits, terms and conditions:

DEFINITIONS

In this licence,

"accredited laboratory" means an analytical facility accredited by the Standards Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Environment and Climate Change 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 in an organism by a substance or mixture of substances within a short exposure period (usually 96 hours or less);

"aerated cell" means a cell of a wastewater treatment lagoon system in which mechanical or diffused-air aeration is used to supplement the oxygen supply;

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

"approvals branch" means the Environmental Approvals Branch of Manitoba Environment and Climate Change, or any future branch responsible for issuing licences under The Environment Act;

"approved" means approved by the director or assigned environment officer in writing;

"ASAE" means the American Society of Agricultural Engineers;

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

"bioassay" means a method of determining toxic effects of industrial wastes and other wastewaters by using viable organisms;

"composite sample" means a quantity of undiluted effluent consisting of a minimum of three equal volumes of effluent collected at approximately equal time intervals over a sampling period of not less than 7 hours and not more than 24 consecutive hours, or consisting of a quantity of undiluted effluent collected continually at an equal rate, or at a rate proportional to flow, over a sampling period of not less than 7 consecutive hours and not more than 24 consecutive hours;

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

"director" means an employee so designated under The Environment Act;

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

"environment officer" means an employee so designated under The Environment Act;

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

"five-day biochemical oxygen demand (BOD₅)" means that part of the oxygen demand usually associated with biochemical oxidation of organic matter within 5 days at a temperature of 20°C;

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

"grab sample" means a quantity of wastewater obtained at a given place and time;

"HDPE" means high density polyethylene;

"high water mark" means the line on the interior surface of the aerated cell which is normally reached when the cell is at the maximum allowable liquid level or the line of the exterior of the perimeter dykes which is reached during local flooding;

"mil" means one thousandth of an inch;

"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;

"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 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;

"operator" means a person certified to operate the wastewater collection system and the wastewater treatment facility employed by the licensee to manage the functional day-to-day operation of the wastewater collection system and the wastewater treatment facility within the constraints of this licence;

"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;

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

"SAGR" means submerged attached growth reactor;

"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;

"total coliform" means a group of aerobic and facultative anaerobic, Gram-negative, non-spore 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;

"total residual chlorine" means the sum of free chlorine and combined chlorine, including inorganic chloramines;

"UV" means ultraviolet;

"UV disinfection" means a disinfection process for treating wastewater using ultraviolet radiation;

"UV germicidal dose" means the units of intensity of ultra violet light that is required to kill bacteria and viruses present in the effluent;

"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, industrial and process wastewater;

"wastewater treatment facility" means the components of the development that receive and treat wastewater from the wastewater collection system, including the aerated wastewater treatment cells, the SAGRs and associated piping, pumping and control facilities; and

"WWTF" means wastewater treatment facility.

GENERAL TERMS AND CONDITIONS

1. The licensee shall at all times maintain a copy of this licence at the development or at the premises from which the development's operations are managed.
2. The licensee shall direct all wastewater generated within the community of Boissevain toward the WWTF as shown in Schedule "A" attached to this licence or other approved wastewater treatment facilities.

3. In addition to any of the following specifications, limits, terms and conditions specified in this licence, the licensee 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, handling, treatment and disposal systems, for such pollutants, ambient quality, aquatic toxicity, seepage characteristics and discharge rates and for such duration and frequencies as may be specified;
 - b) determine the environmental impact associated with the release of any pollutant from the development;
 - c) conduct specific investigations in response to the data gathered during environmental monitoring programs; or
 - d) provide the director within such time as may be specified, with such reports, drawings, specifications, analytical data, bioassay data, flow rate measurements and such other information as may from time to time be requested.
4. The licensee shall submit all information required to be provided to the director or environment officer under this licence, in writing, in such form (including number of copies), and of such content as may be required by the director or environment officer, and each submission shall be clearly labelled with the licence number and file number associated with this licence.
5. The licensee 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.
6. The licensee shall not cause or permit an odour nuisance to be created as a result of the construction, operation or alteration of the development, and shall take such steps as the director may require to eliminate or mitigate an odour nuisance.
7. The licensee shall actively participate in any future watershed-based management study, plan or nutrient reduction program, approved by the director, for Cherry Creek and associated waterways and watersheds.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

Construction - General

8. The licensee shall notify the assigned environment officer prior to beginning construction of the WWTF and associated pipelines. The notification shall include the intended starting date of construction and the name of the contractor responsible for the construction.
9. The licensee shall:
 - a) conduct all ditch related work activities during no flow or dry conditions and not during the April 1 to June 15 fish spawning and incubation period;
 - b) not construct components of the development involving earthwork during periods of heavy rain;
 - c) place and/or isolate all excavated and construction material where it will not erode into any watercourse;

- d) implement effective long-term sediment and erosion control measures to prevent soil-laden runoff and/or silt from entering any watercourse during construction and until vegetation is established;
 - e) routinely inspect all erosion and sediment control structures and immediately complete any necessary maintenance or repair;
 - f) revegetate soil exposed during the construction of the development with native or introduced grasses or legumes. Native species shall be used to revegetate areas where native species existed prior to construction; and
 - g) use rock that is free of silt and clay for riprap.
10. The licensee shall dispose of non-reusable construction debris from the development at a waste disposal facility operating under the authority of a permit issued under the Waste Management Facilities Regulation, or any future amendment, or a licence issued under The Environment Act.
11. The licensee shall comply with the requirements of The Heritage Resources Act, and suspend construction and immediately notify the Historic Resources Branch if heritage resources are encountered during the construction of the development.
12. The licensee shall locate fuel storage and equipment servicing areas established for the construction and operation of the development a minimum distance of 100 metres from any waterbody, and shall comply with the requirements of the Storage and Handling of Petroleum Products and Allied Products Regulation, or any future amendment.
13. The licensee shall, during construction and maintenance of the development, operate, maintain and store all materials and equipment in a manner that prevents any deleterious substances (fuel, oil, grease, hydraulic fluids, coolant, paint, uncured concrete and concrete wash water, etc.) from entering the WWTF, the discharge route, and watercourses, and have an emergency spill kit for in-water use available on site during construction.
14. The licensee shall, during construction and maintenance of the development, prevent the introduction and spread of foreign aquatic and terrestrial biota by cleaning equipment prior to its delivery to the site of the development and complying with the requirements of the Aquatic Invasive Species Regulation, or any future amendment.
15. The licensee shall construct and maintain an all-weather access road and a wastewater dumping station for truck-hauled wastewater. The dumping facility shall have a surface splash ramp with a smooth hard surface that can be easily washed free of solids.
16. The licensee shall install and maintain a fence around the WWTF to control access. The fence shall be a minimum of 1.2 metres high and have locking gates, which shall be locked at all times except to allow access to the WWTF.

Construction - HDPE Liner of Aerated Wastewater Treatment Cells and SAGR Cells

17. The licensee shall construct and maintain continuous liners within the aerated wastewater treatment cells and SAGR cells of the WWTF such that:
- a) the liners are constructed from HDPE geomembrane;
 - b) the liners have a minimum thickness of 60 mils;
 - c) all sections of the liners are joined by dual track seaming;

- d) the liners are installed in accordance with ASAE Standard EP340.2 for the Installation of Flexible Membrane Linings;
 - e) the liners are installed to a minimum elevation of 4.0 metres above the base of the liners in the aerated wastewater treatment cells;
 - f) the liners are installed on the floors and all walls of the SAGR cells;
 - g) non-destructive test methods are used to test the integrity of:
 - i) all field seams joining liner sections in accordance with ASTM Standard D 5820-95 (Reapproved 2006); and
 - ii) all other field seams in accordance with ASTM Standard D 4437-99;
 - h) an installation report is prepared and submitted to the designated environment officer of the approvals branch for approval within 30 days of commencing the installation of the liners. The installation report shall include the test results, a discussion of the results, and a statement that the liners were installed in accordance with the manufacturer's requirements; and
 - i) the aerated wastewater treatment cell liners are covered with sand or other granular cover material to a minimum depth of 0.3 metres measured perpendicular to the surface of the liner.
18. The licensee shall construct and maintain an effective gas relief system under the liners for the aerated wastewater treatment cells.
19. The licensee shall notify the assigned environment officer of the approvals branch one week prior to commencing the installation of the liners and the gas relief system.
20. The licensee shall not cover the liners or use the cells until receiving the approval of the assigned environment officer of the approvals branch of the report submitted pursuant to sub-clause 17 h) of this licence.
21. The licensee shall complete the installation of the HDPE liners of the WWTF between the 15th day of May and the 15th day of October of any year, unless otherwise approved by the environment officer of the approvals branch

Construction - Pipelines

22. The licensee shall construct waterway crossings on flowing waterways by augering, tunnelling or boring. Open cut crossings on flowing waterways shall not be made unless prior consultation with Manitoba Environment and Climate Change has occurred and the prior written approval of the director has been obtained. Dry or non-flowing natural and artificial waterways may be crossed with open cut techniques where approval has been obtained where necessary from the authority responsible for the channel.
23. The licensee shall, where open cut stream crossing techniques are used on intermittent waterways and artificial drainage channels, minimize disturbance to riparian areas and restore the bottom and banks of the waterways to their original elevations and shapes.
24. The licensee shall not alter local drainage patterns by the construction of pipelines, including inflows and outflows from small wetlands adjacent to the route of pipelines.

25. The licensee shall not remove, destroy or disturb species listed as rare, endangered, or of special concern, or their habitats. These species are listed in the Threatened, Endangered and Extirpated Species Regulation or any future amendment, and in the federal Species at Risk Act.
26. The licensee shall not construct pipelines in areas likely to provide bird habitat before August 1 of any year.

Record Drawings

27. The licensee shall:
 - a) prepare "record drawings" for the development and shall label the drawings "record drawings"; and
 - b) provide to the designated environment officer of the approvals branch, within six months of the approval of the report submitted pursuant to sub-clause 17 h) of this licence, one electronic copy of "record drawings" of the development.

Breakdown or Process Upset Reporting

28. The licensee shall, in the case of physical or mechanical equipment breakdown or process upset where such breakdown or process upset results or may result in the release of a pollutant in an amount or concentration, or at a level or rate of release, that causes or may cause a significant adverse effect, immediately report the event by calling the 24-hour environmental accident reporting line at 204-944-4888 (toll-free 1-855-944-4888). The report shall indicate the nature of the event, the time, estimated volume and estimated duration of the event and the reason for the event.
29. The licensee shall, following the reporting of an event pursuant to clause 28,
 - a) identify the repairs required to the mechanical equipment;
 - b) undertake all repairs to minimize unauthorized discharge of a pollutant;
 - c) complete the repairs in accordance with any written instructions of the director and/or the environment officer; and
 - d) submit a report to the director about the causes of breakdown and measures taken, within one week of the repairs being done.

Aerated Wastewater Treatment Cells - Maintenance

30. The licensee shall, if in the opinion of the environment officer, significant erosion of the interior surfaces of the dykes occurs, repair the dykes of the aerated wastewater treatment cells to the satisfaction of the environment officer. Upon approval of the environment officer, install riprap as necessary. The riprap shall be placed on the interior dyke surfaces from 0.6 metres above the high water mark to the bottom of the dykes to protect the dykes from wave action.
31. The licensee shall provide and maintain a grass cover on the exterior dykes of the aerated wastewater treatment cells and shall regulate the growth of the vegetation so that the height of the vegetation does not exceed 0.3 metres on all dykes.
32. The licensee shall annually remove by mechanical methods all reeds, rushes and trees in the aerated wastewater treatment cells.

33. The licensee shall implement an ongoing program to remove burrowing animals from the site of the aerated wastewater treatment cells.
34. The licensee shall take action to maintain the HDPE liner in its design position in the cells of the development. If the liner becomes displaced from its design position, the licensee shall immediately report the displacement to the environment officer, and take any measures required by the environment officer to restore the liner to its design position.

Operation - General

35. The licensee shall obtain and maintain classification of the development under the Water and Wastewater Facility Operators Regulation or any future amendment 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.
36. The licensee shall carry out the operation of the development with individuals properly certified to do so under the Water and Wastewater Facility Operators Regulation or any future amendment.

Operation - Aerated Wastewater Treatment Cells

37. The licensee shall maintain a minimum freeboard of 1.0 metre and a maximum depth of liquid of 3.0 metres in the aerated wastewater treatment cells.
38. The licensee shall maintain a minimum of 2 milligrams of dissolved oxygen per litre in the liquid in the aerated wastewater treatment cells.

Operation - Effluent Discharge from WWTF

39. The licensee shall not discharge effluent to Cherry Creek from the WWTF where:
 - a) the organic content of the effluent, as indicated by the five-day carbonaceous biochemical oxygen demand (CBOD₅), is in excess of 25 milligrams per litre;
 - b) the fecal coliform or 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 intervals on each of a minimum of 3 consecutive days per week;
 - c) the total suspended solids content of the effluent, as indicated by the non-filterable residue, is in excess of 25 milligrams per litre;
 - d) the total phosphorus is in excess of 1.0 milligram per litre, as determined by the thirty-day rolling average for the WWTF; and

- e) the total ammonia content of the effluent of the WWTF expressed as total ammonia nitrogen (N) in milligrams per litre is in excess of the limit specified below:

Effluent pH	Effluent, Total Ammonia expressed as N (mg/L)
6.50	48.83
6.60	46.84
6.70	44.57
6.80	42.00
6.90	39.16
7.00	36.09
7.10	32.86
7.20	29.54
7.30	26.21
7.40	22.97
7.50	19.89
7.60	17.03
7.70	14.44
7.80	12.14
7.90	10.13
8.00	8.41
8.10	6.95
8.20	5.73
8.30	4.71
8.40	3.88
8.50	3.20
8.60	2.65
8.70	2.20
8.80	1.84
8.90	1.56
9.00	1.32

40. The licensee shall not release a quality of effluent from the WWTF which:
- on any day, causes, or contributes to, the mixing zone for the effluent in Cherry Creek being acutely lethal to aquatic life passing through the mixing zone; or
 - can be demonstrated to be acutely lethal to fish within the mixing zone for the effluent in Cherry Creek by 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 concentration of 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.

Operation - Effluent Discharge from Existing Facility Until WWTF is Commissioned

41. The licensee shall not discharge effluent to Cherry Creek from the existing facility in SE 23-3-20 WPM where:
- a) the organic content of the effluent, as indicated by the five-day carbonaceous biochemical oxygen demand (CBOD₅), is in excess of 25 milligrams per litre;
 - b) the fecal coliform or 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 intervals on each of a minimum of 3 consecutive days per week;
 - c) the total suspended solids content of the effluent, as indicated by the non-filterable residue, is in excess of 25 milligrams per litre; and
 - d) the total phosphorus is in excess of 1.0 milligram per litre, as determined by the thirty-day rolling average for the facility.

Operation - Disinfection

42. The licensee shall, if UV disinfection is employed, have adequate instrumentation installed to provide constant monitoring of the UV process to ensure compliance with the UV disinfection requirements. Such instrumentation shall include but not be limited to the following:
- a) a UV sensor to monitor lamp intensity;
 - b) appropriate alarm and shutdown systems;
 - c) a lamp monitoring system to identify the location of individual lamp failures;
 - d) an hour meter which cannot be reset to display actual hours of UV lamp operation; and
 - e) protective circuits for overcurrent and ground current leakage detection.
43. The licensee shall, if UV disinfection is employed, utilize UV lamps in the UV disinfection process that have a rated output of at least 254 nanometres (nm) capable of delivering a germicidal dose in excess of 30,000 microwatt seconds/sq cm.
44. The licensee shall, if UV disinfection is employed, operate and maintain the UV disinfection system to give a germicidal dose of 80% or more of the design UV germicidal dose, at the end of the lamp life.
45. The licensee shall when chlorine is used as a disinfecting agent:
- a) notify the director in advance;
 - b) dechlorinate effluent prior to discharge;
 - c) obtain grab samples prior to and daily during the discharge period and have them analyzed for total residual chlorine; and
 - d) not discharge effluent where the concentration of the total residual chlorine is in excess of 0.02 milligrams per litre.

Decommissioning of Existing Facility

46. The licensee shall, within one year of commissioning of the WWTF, submit for the approval of the director a decommissioning plan for the existing facility in SE 23-3-20 WPM, and implement the approved plan. The plan shall include:
- a) the removal and land application of sludge from the existing facility, in the form of an Environment Act Proposal;

- b) the leveling of the dykes of the existing facility, removal of above ground equipment, and reclamation of the site; and
- c) a timeline for all decommissioning steps.

MONITORING AND REPORTING SPECIFICATIONS

47. The licensee shall, unless otherwise specified in this licence:
- a) carry out all preservations and analyses of liquid samples in accordance with the methods prescribed in the 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, compost, 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, in writing and in an electronic format acceptable to the director, within 60 days of the samples being taken.
48. The licensee shall monitor, and make the records of such monitoring available to the environment officer as may be requested, the wastewater treatment process for the following parameters:
- a) total flow rate(s) into the WWTF;
 - b) operation of the aeration system at least once each week; and
 - c) other process parameters approved or required by the director or environment officer.
49. The licensee shall:
- a) construct, maintain, and make available for use by an environment officer, a monitoring station allowing direct access to the WWTF effluent discharge pipe following UV disinfection (if UV disinfection is required);
 - b) have the monitoring station accessible to an environment officer at all times;
 - c) install and maintain a flow measuring device at the monitoring station or at a location acceptable to the director which is capable of measuring the volumes of effluent with an accuracy of ± 2 percent;
 - d) have the flow measuring device re-calibrated biannually or on the request of an environment officer;
 - e) equip the monitoring station 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; and
 - f) equip the monitoring station with an electrical power source of 15 amperes at 110 volts.

Effluent Monitoring

50. The licensee shall:
- a) take one composite sample of effluent from the WWTF effluent monitoring station over a 24-hour period once each month;

- b) have the composite effluent sample analyzed for:
 - i) five-day carbonaceous biochemical oxygen demand (CBOD₅);
 - ii) total suspended solids;
 - iii) unionized ammonia;
 - iv) total ammonia;
 - v) total phosphorus;
 - vi) pH; and
 - vii) temperature;
- c) take three daily grab samples on consecutive days of the effluent from the effluent monitoring station during the discharge period once biweekly;
- d) have the grab samples analyzed for fecal coliform content or E. coli; and
- e) determine and record the monthly geometric mean for the fecal coliform or E. coli counts based on all the data collected during each month, from a minimum of six (6) grab samples.

51. The licensee shall, during the first year of operation of the development following the commissioning of the WWTF, obtain grab samples of the effluent from the WWTF, have them analyzed and report the results in accordance with Schedule "B" attached to this licence.

Acute Lethality

52. The licensee shall, upon the request of the director:
- a) take a flow proportional composite sample of effluent from the WWTF effluent monitoring station over a 24 hour period;
 - b) have the sample of the effluent analyzed 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; and
 - c) report the results to the director within 30 days of the end of the month during which the sample was taken.

Records Maintenance and Reporting

53. The licensee shall during each year maintain the following records and retain them for a minimum period of five calendar years:
- a) reports of visual inspections conducted at a minimum of once per month;
 - b) wastewater sample dates;
 - c) original copies of laboratory analytical results of the sampled wastewater;
 - d) a summary of laboratory analytical results;
 - e) monthly effluent discharge volumes from the WWTF;
 - f) aeration system inspection dates;
 - g) maintenance and repairs;
 - h) expansions to the wastewater collection system with associated capacity assessment;
 - i) updated organization charts identifying all certified operators, including backup operators; and
 - j) a summary of any sanitary sewer overflows.

54. The licensee shall submit an annual report to the environment officer by February 28 of the following year including all records required by clause 53 of this licence.

Operating Depth and Freeboard Non-Compliance Events

55. The licensee shall immediately notify the director each time the operating depth of the aerated wastewater treatment cell does not comply with the maximum operating depth and minimum freeboard requirements as specified in clause 37 of this licence for a period of time exceeding ten consecutive days.
56. The licensee shall, if reporting is required under clause 55 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 wastewater treatment 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;
 - iv) lack of storage capacity due to sludge build-up within existing cells;
 - v) the organic loading on the primary cell in terms of the five day biochemical oxygen demand; and
 - vi) operating procedures.
 - b) provide to the director, within four months of the notification given under clause 55 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 under 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.

Alterations

57. The licensee shall notify the director and receive the approval of the director for any alterations to the development as licensed, prior to proceeding with such alterations.

REVIEW AND REVOCATION

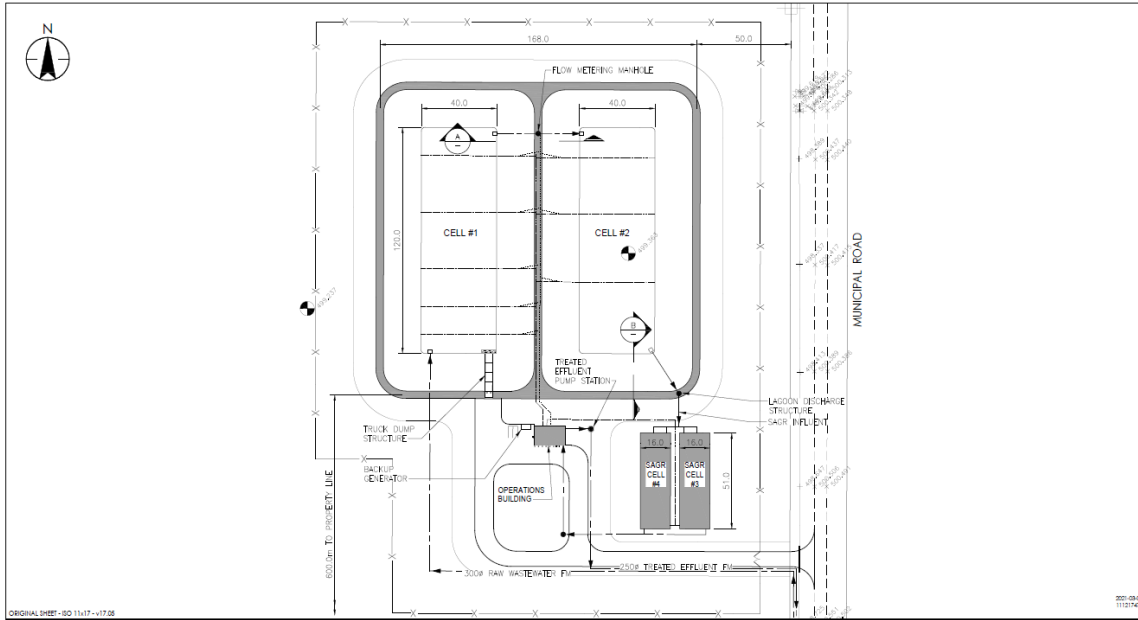
- A. Environment Act Licence No. 1166 is hereby rescinded.
- B. If, in the opinion of the director, the licensee has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out in this licence, the director may, temporarily or permanently, revoke this licence.

- 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 under section 11 of The Environment Act.



Agnes Wittmann
Director
The Environment Act

Schedule "A" to Environment Act Licence No. 3415



ORIGINAL SHEET: SD 11-17-V17.06
 2011-08-01 11:12:42

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Notes

Client/Project
 MWS AND RM OF BOSSEVAH - MORTON
 BOSSEVAH WASTEWATER TREATMENT
 Figure No.
 6.4
 Title
 LAGOON SITE PLAN

Schedule "B" to Environment Act Licence No. 3415

Initial Characterization of Wastewater from the Wastewater Treatment Facility Under Clause 51

Facility Size: Small (500 - 2500 m³/day)

Facility Type: Aerated wastewater treatment lagoon – continuous discharge

Effluent Sampling:

During the first year of operation:

1. Obtain a representative grab sample of the discharging effluent monthly;
2. Obtain a representative grab sample of the discharging effluent quarterly; and
3. Determine the temperature of each sample at the time of sampling.

Effluent Analysis:

1. Have the monthly grab samples 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 *Escherichia 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;
 - m) temperature; and
 - n) pH.
2. Have the quarterly grab samples analyzed for:
 - a) acute toxicity; and
 - b) chronic toxicity.

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.