Manitoba
Environment and Climate Change
Environmental Approvals Branch
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EABDirector@gov.mb.ca

File No.: 6193.00

August 17, 2026

Victor Kleinsasser
Harbour Colony Holding Co. Ltd.
Box 10
Ste Agathe MB R0G 1Y0
victor@crystalspringhb.com

Dear Victor Kleinsasser:

Re: Harbour Colony Holding Co. Ltd. Wastewater Treatment Lagoon - Environment Act Licence No. 3443

Please find enclosed the Environment Act Licence in response to your proposal dated August 17, 2023, and the Clean Environment Commission public hearing report dated May 29, 2026. You wish to construct a domestic wastewater lagoon in the Rural Municipality of Armstrong, located at SE 28-18-03 EPM, Manitoba.

All licensing recommendations in the Clean Environment Commission public hearing report have been accepted and incorporated in the Environment Act licence. A detailed disposition of each recommendation is attached to the table below.

The disposition of the non-licensing recommendations in the Clean Environment Commission public hearing report will be considered separately.

All licence requirements and federal, provincial, and municipal regulations and by-laws must be followed. 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 minecc@manitoba.ca by September 16, 2026. The licence is available on the public registry at https://www.gov.mb.ca/sd/eal/registries/index.html.

For clauses 25 - 27, the environment officer of the Environmental Approvals Branch is Barsha Sagan, Senior Environmental Engineer, Environmental Approvals Branch at Barsha.Sagan@gov.mb.ca or 204-795-7175.

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If you have any questions regarding this approval, please contact Tyler Kneeshaw, Regional Supervisor, Environmental Compliance and Enforcement Branch at EnvCEInterlake@gov.mb.ca or 204-870-1598.

Sincerely,

Original Signed By
Agnes Wittmann
Director
The Environment Act

c. Daniel Burns - Burns Maendel Consulting Engineers Ltd.
Barsha Sagan - Environmental Approvals Branch
Tyler Kneeshaw - Environmental Compliance and Enforcement Branch

Table 1. Clean Environment Commission (CEC) Licensing Recommendations and Disposition – Harbour Colony Holding Co. Ltd. Wastewater Treatment Lagoon

No.	CEC Recommendation	Licensing Disposition
1.	Standard lagoon discharge limits for carbonaceous biological oxygen demand, bacteria, unionized ammonia, total phosphorus and discharge dates should be included as licensing conditions.	▪ Clause 33 of the licence requires the standard lagoon discharge limits for carbonaceous biological oxygen demand, total suspended solids, bacteria, unionized ammonia, total phosphorus to be met. ▪ Clause 33 f) of the licence is related to the discharge period.
2.	A method of limiting or controlling the maximum flow rate of discharge should be included as a licensing condition.	▪ Clause 35 of the licence requires the licensee to discharge the wastewater treatment lagoon over at least a two-week period, while accelerating discharge as necessary up to a maximum of 16 litres/second to maintain normal operation of the wastewater treatment lagoon. ▪ Clause 47 g) of the licence requires the licensee to maintain the records of estimated effluent discharge rates, and retain them for a minimum period of five calendar years. ▪ Clause 48 of the licence requires the licensee to include the estimated effluent discharge rates in the annual report submitted to the department, which will be posted on the public registry.
3.	Appropriate emergency plans to address non-compliant effluent discharges must be developed by the proponent and submitted to the department for approval. Once approved, this plan should be posted in the public registry. The approval to suspend any clause of an Environment Act Licence must be done with strong considerations to prevent and/or mitigate environmental impacts given the overall situation.	▪ Clause 10 of the licence requires the licensee to prepare and maintain an emergency response plan and standard operating procedures. ▪ The disposition of the non-licensing recommendations in the Clean Environment Commission public hearing report will be considered separately.
7.	As a licence condition, commercial wastewater processing should not be permitted.	▪ Clause 31 of the licence is related to limiting any commercial wastewater entering the wastewater treatment lagoon as the licensee shall not operate the abattoir for commercial scale livestock

		processing, custom slaughter services or meat distribution unless otherwise approved in writing by the director. ▪ Clause 29 b) and c) of the licence limit the wastewater strength and volume based on the design assumptions that did not include commercial wastewater.
8.	The department should develop and implement a monitoring program for Willow Creek to assess the effects that effluent discharge has on it. This monitoring program should take place for five years, occur during discharge events and the results shared publicly.	▪ Clause 45 of the licence requires the licensee to engage the services of a third-party qualified professional acceptable to the director to develop and implement a targeted monitoring program, approved by the director and as may be amended by the director, to assess and distinguish the potential effects of effluent discharge on Willow Creek. ▪ Clause 46 of the licence requires the licensee to submit the report summarizing the results of the monitoring program and the report will be posted on the public registry. ▪ Clause 4 of the licence also requires the licensee to complete all analytical testing by an accredited laboratory and submit the laboratory results to the department.

THE ENVIRONMENT ACT
LOI SUR L'ENVIRONNEMENT

Manitoba

LICENCE

File No.: 6193.00

Licence No. / Licence n°: 3443
Issue Date / Date de délivrance : August 17, 2026

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

Pursuant to Sections 11(1) and 14(2) / Conformément au Paragraphe 11(1) et 14(2)

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

Harbour Colony Holding Co. Ltd. "the licensee"

for the construction, operation and maintenance of the development being a wastewater collection system, and a wastewater treatment lagoon (Figure 1) to treat domestic wastewater for a maximum of 250 people, truck wash runoff, wastewater from livestock processing for Harbour Colony use only, backwash from water treatment plant, and runoff from residential weeping tiles, with 230 days of hydraulic storage capacity of 31,862.3 cubic metres, located at SE 28-18-03 EPM in the Rural Municipality of Armstrong, with the treated effluent to be discharged into the roadside 15E drain and travelling north to Willow Creek, then flows approximately 15 km east into Lake Winnipeg, and in accordance with the proposal information filed under The Environment Act on August 17, 2023; Notice of Alteration on April 16, 2024; and additional information on April 15, 2024, October 22, 2024, December 10, 2024 and December 20, 2024, and in consideration of the May 29, 2026 Clean Environment Commission Report, 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;

"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;

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

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

"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 wastewater treatment lagoon;

"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 (BOD_5)" 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 ($CBOD_5$)" means that part of the oxygen demand usually associated with biochemical oxidation of carbonaceous organic matter within five days at a temperature of 20°C, excluding the oxygen demand usually associated with the biochemical oxidation of nitrogenous organic matter;

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

“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 primary and secondary cells 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;

"influent" means water, wastewater, or other liquid flowing into a wastewater treatment facility;

"in-situ" means on the site;

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

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

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

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

if the odour, smell, or aroma is

d) 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 lagoon employed by the licensee to manage the functional day-to-day operation of the wastewater collection system and the wastewater treatment lagoon within the constraints of this licence;

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

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

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

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

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

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

"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;

"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, as well as industrial and process wastewater; and

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

GENERAL TERMS AND CONDITIONS

Retain Copy of Licence

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.

Direct All Wastewater to Wastewater Treatment Lagoon

2. The licensee shall direct all wastewater generated within the Harbour Colony Holding Co. Ltd. in the Rural Municipality of Armstrong toward the wastewater treatment lagoon as shown in Figure 1 attached to this licence or other approved wastewater treatment facilities.

Sampling

3. In addition to any of the 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, 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.

Reporting Format

5. 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.

Odour Nuisances

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.

Equipment Breakdown or Process Upset

7. 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.

8. The licensee shall, following the reporting of an event under clause 7,
   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.

9. The licensee shall, during construction and operation of the development, report spills of fuels or other contaminants to an environment officer in accordance with the requirements of the Environmental Accident Reporting Regulation or any future amendment.

Certification

10. The licensee shall obtain and maintain classification of the development pursuant to the Water and Wastewater Facility Operators Regulation 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.

11. The licensee shall carry out the operation of the development with individuals properly certified to do so pursuant to the Water and Wastewater Facility Operators Regulation or any future amendment thereof. In the event that the development is reclassified pursuant to the regulation, the licensee shall provide a development plan to the director to have their certified operator(s) upgrade their certification.

Compliance With Other Acts and Regulations

12. 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.

13. The licensee shall comply with the requirements of the Nutrient Management Regulation or any future amendment.

14. The licensee shall obtain all necessary provincial and federal permits and approvals for construction of relevant components of the development prior to commencement of construction.

Future Studies

15. The licensee shall actively participate in any future watershed-based management study, plan, or nutrient reduction program, approved by the director, for the Netley-Grassmere-Willow Creek watersheds and associated waterways and watersheds.

SPECIFICATIONS, LIMITS, TERMS, AND CONDITIONS

Construction - General

16. The licensee shall notify the assigned environment officer prior to beginning construction of the development. The notification shall include the intended starting date of construction and the name of the contractor responsible for the construction.

17. 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.

18. 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 amendments, or a licence issued under The Environment Act.

19. 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 amendments.

20. 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 amendments.

21. 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 wastewater treatment lagoon, the discharge route, and watercourses, and have an emergency spill kit for in-water use available on site during construction.

22. The licensee shall install and maintain a fence around the wastewater treatment lagoon 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 wastewater treatment lagoon.

Construction - HDPE Liner

23. The licensee shall construct and maintain a continuous liner, including cover material, underlying the primary and secondary cells of the wastewater treatment lagoon, such that:
    a) the liner is constructed from HDPE geomembrane;
    b) the liner has a minimum thickness of 60 mils;
    c) all sections of the liner are joined by dual track seaming;
    d) the liner is installed in accordance with current industry standards for flexible membrane liner installation,
    e) the liner is installed to a minimum elevation of 2.8 metres above the base of both the primary and secondary cells;
    f) non-destructive test methods are used to test the integrity of:
        i) all field seams joining liner sections in accordance with the current version of ASTM Standard D 5820 (Standard Practice for Pressurized Air Channel Evaluation of Dual-Seamed Geomembranes); and
        ii) all other field seams in accordance with the current version of ASTM D4437/D4437M-16 (Standard Practice for Non-destructive Testing for Determining the Integrity of Seams Used in Joining Flexible Polymeric Sheet Geomembranes);

g) within 30 days of commencing the installation of the liner, an installation report is prepared and submitted to the assigned environment officer of the approvals branch for approval. The installation report shall include a cover letter with a declaration that the liner is continuous underlying each cell of the wastewater treatment lagoon. The installation report shall also include the test results, a discussion of the results, and a declaration that the liner was installed in accordance with the above requirements; and
h) the floor of the liner is covered with sand or other granular cover material to a minimum depth of 0.3 metres measured perpendicular to the surface of the liner.

24. The licensee shall construct and maintain an effective gas relief system under the liner for the primary and secondary cells.

25. The licensee shall notify the assigned environment officer of the approvals branch one week prior to commencing the installation of the liner and the gas relief system.

26. The licensee shall not cover the liner or use the primary and/or secondary cells until receiving the approval of the assigned environment officer of the approvals branch of the report submitted pursuant to sub-clause 23 g) of this licence.

27. The licensee shall complete the installation of the HDPE liner of the wastewater treatment lagoon 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.

Record Drawings

28. 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 four months of the approval of the report submitted pursuant to sub-clause 23 g) of this licence, an electronic copy of "record drawings" of the development.

Operation

29. The licensee shall operate and maintain the wastewater treatment lagoon in such a manner that:
    a) the organic loading on the primary cell, as indicated by the five-day biochemical oxygen demand (BOD_5), is not in excess of 56 kilograms per hectare per day;
    b) the hydraulic loading from the abattoir shall not be in excess of 510 cubic metres per year;
    c) the organic loading from the abattoir, as indicated by the five-day biochemical oxygen demand (BOD_5), shall not be in excess of 2,490 kilograms per year;
    d) the depth of liquid in the primary and the secondary cells does not exceed 1.5 metres; and
    e) a minimum of 1.0 metre freeboard is maintained in the primary and the secondary cells at all times.

30. The licensee shall not discharge septage into the wastewater treatment lagoon between the 15th day of October of any year and the 15th day of June of the following year.

Operation – Management of Abattoir Wastewater

31. The licensee shall not operate the abattoir for commercial scale livestock processing, custom slaughter services or meat distribution unless otherwise approved in writing by the director.

32. The licensee shall, to the satisfaction of the director, minimize blood loss to the wastewater collection system by maximizing the efficiency of the blood collection at the abattoir before wastewater is directed to the wastewater treatment lagoon.

Operation – Effluent Discharge from the Lagoon System

33. The licensee shall not discharge effluent from the wastewater treatment lagoon:
    a) where the organic content of the effluent, as indicated by the five-day carbonaceous biochemical oxygen demand, is in excess of 25 milligrams per litre;
    b) where the total suspended solids content of the effluent is in excess of 25 milligrams per litre, unless the exceedance is caused by algae;
    c) where the coliform content of the effluent, as indicated by the *E. coli* content measured by the MPN index, is in excess of 200 per 100 millilitres of sample;
    d) where the unionized ammonia content of the effluent is in excess of 1.25 milligrams per litre expressed as nitrogen (N), at 15°C ±1°C;
    e) where the total phosphorus content of the effluent is in excess of 1.0 milligrams per litre;
    f) between the 1st day of November of any year and the 15th day of June of the following year;
    g) when flooding from any cause is occurring along the discharge route; or
    h) when the discharge of effluent will cause or contribute to flooding in or along the discharge route.

34. The licensee shall, when chlorine is used as a disinfecting agent:
    a) notify the environment officer 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.

35. The licensee shall discharge the wastewater treatment lagoon over at least a two-week period, while accelerating discharge as necessary up to a maximum of 16 litres/second to maintain normal operation of the wastewater treatment lagoon, such that increased nutrient uptake from the wastewater effluent may occur along the discharge route.

Maintenance

36. 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 wastewater treatment lagoon 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.

37. The licensee shall provide and maintain a grass cover on the dykes of the wastewater treatment lagoon and shall regulate the growth of the vegetation so that the height of the vegetation does not exceed 0.3 metres on all dykes.

38. The licensee shall annually remove by mechanical methods all reeds, rushes and trees located above the low water mark in every cell of the wastewater treatment lagoon.

39. The licensee shall implement an ongoing program to remove burrowing animals from the site of the wastewater treatment lagoon.

40. The licensee shall take action to maintain the HDPE liner in its design position in the cells of the wastewater treatment lagoon. 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.

MONITORING AND REPORTING SPECIFICATIONS

Operating Depth and Freeboard Non-Compliance Events

41. The licensee shall immediately notify the director each time the operating depth of any cell of the lagoon system does not comply with the maximum operating depth and minimum freeboard requirements for that cell as specified in subclauses 29 d) and e) of this licence.

42. The licensee shall, if reporting is required under clause 41 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 lagoon 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 wastewater collection system;
        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 41 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 subclause 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.

Effluent Monitoring

43. The licensee shall, prior to each effluent discharge campaign, obtain grab samples of the treated wastewater and have them analyzed for:
    a) the organic content as indicated by the five-day carbonaceous biochemical oxygen demand and expressed as milligrams per litre;
    b) the total suspended solids content expressed as milligrams per litre;
    c) the coliform content as indicated by the *E. coli* content measured by the MPN index and expressed as MPN per 100 millilitres per sample;
    d) the unionized ammonia as nitrogen (N) content expressed as milligrams per litre at 15°C ±1°C; and
    e) the total phosphorus content expressed as milligrams per litre.

44. The licensee shall, during the first year of operation of the development following the construction of the wastewater treatment lagoon that a discharge must occur, obtain and analyze grab samples of the effluent during each effluent discharge campaign and report the results of the analysis in accordance with Schedule A attached to this licence.

Monitoring of Effluent Effects on Willow Creek

45. The licensee shall engage the services of a third party qualified professional acceptable to the director to develop and implement a monitoring program, approved by the director and as may be amended by the director, to assess and distinguish the potential effects of effluent discharge on Willow Creek.

46. The licensee shall submit to the environment officer a report on the monitoring program, including the results obtained pursuant to clause 45 of this licence, in writing and in an electronic format acceptable to the director.

Records Maintenance and Reporting

47. 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 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) cell isolation dates (i.e., valve operation records);
    f) effluent discharge dates;
    g) estimated effluent discharge rates;
    h) estimated effluent discharge volumes;
    i) maintenance and repairs;
    j) expansions to any collection system with associated capacity assessment;
    k) updated organization charts identifying all certified operators, including backup operators; and
    l) a summary of any wastewater collection system overflows.

Annual Reporting

48. The licensee shall submit an annual report to the environment officer by February 28 of the following year, including all records required by clauses 45 and 47 of this licence.

Alterations

49. 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

50. If construction of the development is not commenced within three years of the date of this licence, the licence is revoked.

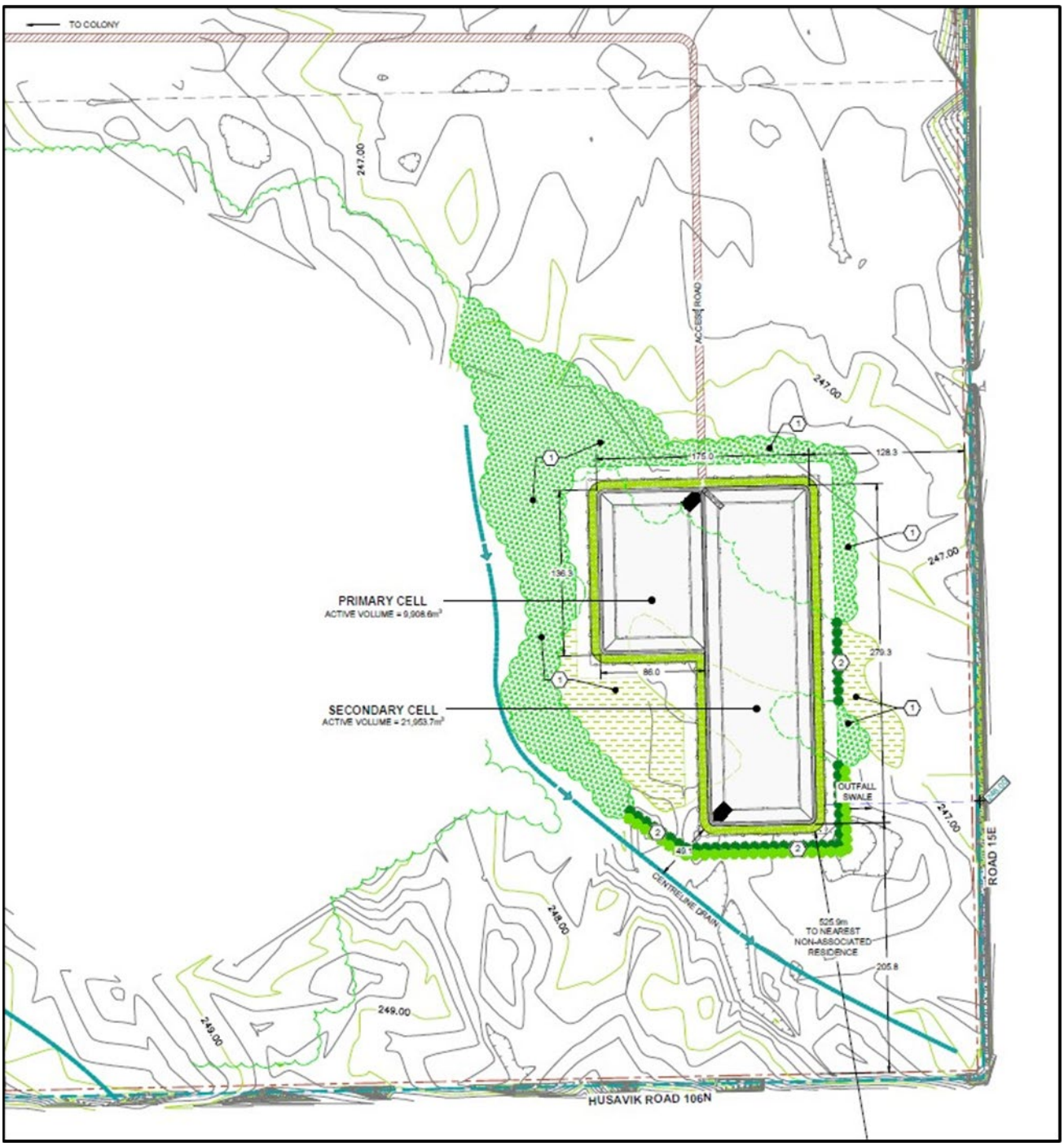
51. If, in the opinion of the director, the licensee has exceeded or is exceeding, or has failed or is failing to meet the specifications, limits, terms, or conditions set out in this licence, the director may, temporarily or permanently, revoke this licence.

52. 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 or request the filing of a Notice of Alteration.

Original Signed By
Agnes Wittmann
Director
The Environment Act

Figure 1 to Environment Act Licence No. 3443

Site plan of Wastewater Treatment Lagoon Pursuant to clause 2



Schedule A to Environment Act Licence No. 3443

Initial Characterization of Wastewater Under clause 44

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 analysed for:
    a) the organic content as indicated by the five-day biochemical oxygen demand and expressed as milligrams per litre;
    b) the organic content as indicated by the five-day carbonaceous biochemical oxygen demand and expressed as milligrams per litre;
    c) the total suspended solids content expressed as milligrams per litre;
    d) the 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) total residual chlorine expressed as milligrams per litre if chlorine was used;
    h) total ammonia nitrogen expressed as milligrams per litre;
    i) nitrate-nitrite nitrogen expressed as milligrams per litre;
    j) total kjeldahl nitrogen (TKN) expressed as milligrams per litre;
    k) dissolved phosphorus expressed as milligrams per litre;
    l) total phosphorus expressed as milligrams per litre; and
    m) pH.

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