Environment Act Licence

Manitoba Environment

Licence No. 1858

Issue Date June 22, 1994

In accordance with the Manitoba Environment Act (C.C.S.M. c. E125)

THIS LICENCE IS ISSUED TO:

BONAVISTA HOLDING CO. LTD.; "the Licencee"

for the construction and operation of the Development being a wastewater collection system and a wastewater treatment lagoon located on the north-west quarter Section 32, Township 4, Range 10 WPM and with discharge of treated effluent by irrigation onto agricultural land and subject to the following specifications, limits, terms and conditions:

DEFINITIONS

In this Licence,

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

"ASAE" means the American Society of Agricultural Engineers;

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

"cut-off" means a vertical-side trench filled with compacted clay or a wall constructed from compacted clay;

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

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

"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;

"five-day biochemical oxygen demand" means that part of the oxygen demand usually associated with biochemical oxidation of organic matter within five days at a temperature of 20^{o}C;

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

"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;

"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;

"in-situ" means on the site;

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

"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;

"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;

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

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

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

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

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

"spray irrigation" means the application of effluent to crops by spraying it from orifices in piping under pressure;

"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 ^{o}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 treatment lagoon" means the component of this development which consists of an impoundment into which wastewater is discharged for storage and treatment by natural oxidation.

GENERAL REQUIREMENTS

1. The Licencee shall direct all sewage generated within the farmsite toward the wastewater treatment lagoon or other approved sewage treatment facilities.

2. The Licencee shall operate and maintain the wastewater treatment lagoon in such a manner that:

   (a) the release of offensive odours is minimized;

   (b) the organic loading on the primary cell, as indicated by the five-day biochemical oxygen demand, is not in excess of 56 kilograms per hectare per day; and

   (c) the depth of liquid in the primary cell or secondary cell does not exceed 1.5 metres.

3. The Licencee shall, in case of physical or mechanical breakdown of the wastewater collection and/or treatment system:

   (a) notify the Director immediately;

   (b) identify the repairs required to the wastewater collection and/or treatment system;

   (c) undertake all repairs to minimize unauthorized discharges of wastewater; and

   (d) complete the repairs in accordance with any written instructions of the Director.

4. The Licencee shall install and maintain a fence around the wastewater treatment lagoon to control access.

CONSTRUCTION SPECIFICATIONS

5. The Licencee shall, prior to October 1, 1995, construct and maintain a continuous poly-vinyl chloride geosynthetic membrane liner underlying each cell of the wastewater treatment lagoon system such that:

   a) the liner shall be installed in accordance with ASAE Standard EP340.2 for the Installation of Flexible Membrane Linings;

   b) the liner shall be installed to minimum elevations of 1.8 metres above the base of both the primary and secondary cells respectively;

   c) the liner shall have a minimum thickness of 20 mils;

   d) the permeability of the liner shall not exceed 3.5×10^{-9} centimetres per second over the entire surface area of both the primary and secondary cells;

e) in accordance with ASTM Standard D-4437, the integrity of all field seams shall be tested by nondestructive test methods and a testing report shall be prepared; and

f) the liner shall be covered with sand or other granular cover material to a minimum depth of 0.30 metre measured perpendicular to the surface of the liner.

6. The Licencee shall construct and maintain a gas relief system under the liner for all cells of the wastewater treatment lagoon.

7. The Licencee shall ensure that if, in the opinion of the Director, significant erosion of the granular material covering the liner occurs, rip rap shall be placed on the interior dyke surfaces from 0.6 metres above the high water mark to 0.6 metres below the low water mark to protect the dykes from wave action.

DISCHARGE LIMITS, TERMS AND CONDITIONS

8. The Licencee shall not discharge effluent from the wastewater treatment lagoon:

(a) if the organic content of the effluent, as indicated by the five day biochemical oxygen demand, is in excess of 30 milligrams per litre;

(b) if the fecal coliform content of the effluent, as indicated by the MPN index, is in excess of 200 per 100 millilitres of sample;

(c) if the total coliform content of the effluent, as indicated by the MPN index, is in excess of 1500 per 100 millilitres of sample; or

(d) between the 1st day of November of any year and the 1st day of June of the following year.

9. The Licencee shall ensure that all effluent is disposed of by spray irrigation onto land owned by the Licencee and that:

(a) effluent is only discharged to irrigate:

(i) actively growing cereal, forage or oil seed crops;

(ii) grasslands which will not be utilized for grazing:

A. by dairy cattle for at least 30 days after effluent is applied; or

B. by livestock other than dairy cattle for at least 7 days after effluent is applied;

(b) after agriculture crops are irrigated, harvesting of the crops does not take place for at least 7 days;

(c) if corn has been grown, it is used solely for making silage;

(d) for at least 10 continuous hours in every 24-hour period, no effluent is applied to the particular lands; and

(e) if ponding or surface runoff occurs during application, the gross depth of effluent applied during any application of effluent shall be reduced so that ponding or surface runoff does not occur.

10. The Licencee shall not discharge effluent, by spray irrigation:

(a) within 300 metres of any dwelling not owned or lawfully controlled by the Licencee;

(b) within 100 metres of any surface watercourse or groundwater well;

(c) within 100 metres of any property boundary; or

(d) on land with a surface slope in excess of twelve percent.

11. The Licencee shall ensure that lands which have been irrigated with effluent are not used for the growing of vegetable crops for a period of three years after the effluent was applied to those lands.

MONITORING AND REPORTING SPECIFICATIONS

12. The Licencee shall arrange with the designated Environment Officer a mutually acceptable time and date for the required testing between the 15th day of May and the 15th day of October of any year.

13. The Licencee shall, at least 2 weeks before each cell of the wastewater treatment lagoon is placed in operation, submit to the Director all reports and results of the tests carried out pursuant to Clause 5 for the respective cell which is to be placed into operation.

14. The Licencee shall, on or before the 1st day of November, 1995, provide to the Director "as constructed" drawings of the wastewater treatment lagoon and all appurtenances.

15. The Licencee shall notify the Director prior to first discharge of effluent in any year.

DECOMMISSIONING

16. The Licencee shall, after placing the Development into operation, prevent any additional wastewater, septage or sludge from being discharged into the old wastewater treatment lagoon located on the north-east quarter of Section 31, Township 4, Range 10 WPM.

17. The Licencee shall remove the wastewater from the old wastewater treatment lagoon and transport it to the new wastewater treatment lagoon located in the north-west quarter of Section 32, Township 4, Range 10 WPM.

18. The Licencee shall, prior to using the old wastewater treatment lagoon for any future use, file a plan with the Director indicating how the facility will be used.

19. This Licence replaces Licence No. 901 which is hereby rescinded.

REVOCATION

If in the opinion of the Director the Licencee has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out herein, the Director may revoke, temporarily or permanently, this Licence.

Larry Strachan, P. Eng.
Director
Environment Act

File No.: 1964.10