Licence No.: 2442 RR
Licence Issued: February 22, 2000
Licence Revised: October 3, 2000
Licence Revised: June 11, 2002

IN ACCORDANCE WITH THE MANITOBA ENVIRONMENT ACT (C.C.S.M. c. E125)
THIS LICENCE IS ISSUED PURSUANT TO SECTIONS 11(1) AND 14(2) TO:

MANITOBA PARKS BRANCH; "the Licencee"

for the expansion and operation of the Development being a wastewater treatment lagoon located on the northeast quarter of Section 21, Township 8, Range 16 EPM and with discharge of treated effluent into Falcon Creek that empties into Falcon Lake, in accordance with the Proposal filed under The Environment Act on July 26, 1999, the notices of alteration dated January 5, 2000 and September 4, 2000, the sludge removal plan dated May 1, 2002 as amended May 30, 2002, 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 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;

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

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

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

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

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

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

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

"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°C;

"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;

"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;

"sludge solids" means solids in sludge;

"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, 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;

"waste disposal ground" means an area of land designated by a person, municipality, provincial government agency or crown corporation for the disposal of waste and approved for use in accordance with Manitoba Regulation 150/91;

"wastewater" means the spent or used water of a community or industry which contains dissolved and suspended matter; and

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

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. The Licencee shall direct all wastewater generated within the Falcon Lake recreational area 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 and secondary cells 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, including the sludge treatment, handling and transportation systems:

    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.

5. The Licencee shall construct and maintain an all-weather access road and a sewage dumping station for truck handled sewage. The dumping facility shall have a surface splash ramp with a smooth hard surface that can be easily washed free of solids.

6. The Licencee 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. ensure that all analytical determinations are undertaken by an accredited laboratory; and
   c. 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.

7. The Licencee shall, prior to the commencement of operation of the Development, receive approval pursuant to The Public Health Act for final plans for the Development.

8. The Licencee shall ensure that sludge solids are transported in containers in such a manner to prevent loss of sludge solids to the satisfaction of an Environment Officer.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

9. The Licencee shall, prior to the construction of the dykes for the wastewater treatment lagoon:

   a. remove all organic topsoil from the area where the dykes will be constructed; or
   b. remove all organic material for a depth of 0.3 metres and a width of 3.0 metres from the area where the liner will be constructed.

10. The Licencee shall construct and maintain a continuous liner, including cover material, underlying the primary cell 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 double channel fusion seaming;
    d. the liner shall be installed to a minimum elevation of 1.8 metres above the base of the primary cell;
    e. in accordance with ASTM Standard D-4437, the integrity of all field seams are tested by non-destructive test methods, a testing report is prepared and submitted to the Director within 30 days of commencing the installation of the liner; and
    f. the liner shall be covered with sand or other granular cover material to a minimum depth of 0.3 metres measured perpendicular to the surface of the liner.

11. The Licencee shall construct and maintain a gas relief system under the liner for the primary cell.

12. The Licencee shall ensure that if, in the opinion of the Director, significant erosion of granular material covering the liner occurs, riprap 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.

13. The Licencee shall ensure that septage is not discharged into the wastewater treatment lagoon between the 15th day of October of any year and the 1st day of June of the following year.

14. The Licencee 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.

15. The Licencee 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.

16. The Licencee shall implement an ongoing program to ensure that burrowing animals are removed from the site of the wastewater treatment lagoon.

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

    a. where the organic content of the effluent, as indicated by the five day biochemical oxygen demand, is in excess of 30 milligrams per litre;
    b. where the fecal coliform content of the effluent, as indicated by the MPN index, is in excess of 200 per l00 millilitres of sample;
    c. where the total coliform content of the effluent, as indicated by the MPN index, is in excess of 1500 per 100 millilitres of sample;
    d. where the total phosphorus content is in excess of 1.0 milligrams per litre; or
    e. between the 1st day of November of any year and the 15th day of June of the following year.

18. The Licencee shall construct waterway crossings by augering, tunneling or boring. Open cut waterway crossings shall not be made unless prior consultation with Manitoba Conservation Eastern Region Fisheries staff and Department of Fisheries and Oceans staff has occurred and the prior written approval of the Director has been obtained.

19. The Licencee shall 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. Revegetation is not required for pipelines installed by chain trenching or ploughing on previously disturbed ground including road allowances or on the floors of the wastewater treatment lagoon.

20. The Licencee shall ensure that local drainage patterns are not altered by the construction of the Development, including inflows and outflows from small wetlands adjacent to the route of pipelines.

21. The Licencee shall, where open cut stream crossing techniques are used, minimize disturbance to riparian areas and restore the bottom and banks of the waterways to their original elevations and shapes.

22. The Licencee shall notify the assigned Environment Officer not less than two weeks 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.

23. The Licencee shall separate and replace topsoil from backhoe and trenching operations in accordance with the methodology described in Figures 1, 2, and 3 attached to this Licence. This requirement is not applicable where the topsoil has been previously disturbed due to the construction of roads or drains.

24. Notwithstanding Clause 18 of this Licence, the Licencee shall not construct open cut crossings of streams associated with the Development between April 1 and June 15 of any year. Open cut crossings shall comply with the provisions of the November 1999 publication "Watercourse Crossings Second Edition" published by the National Energy Board.

25. The Licencee shall ensure that fuel storage and equipment servicing areas established for the construction and operation of the Development are located a minimum distance of 100 metres from any waterbody, and shall comply with the requirements of *Manitoba Regulation 188/2001* respecting *Storage and Handling of Petroleum Products and Allied Products*.

26. The Licencee shall remove, treat and dispose of sludge from the wastewater treatment lagoon in accordance with the sludge removal plan approved pursuant to Clause 34 of this Licence.

27. The Licencee shall dispose of sludge solids at a waste disposal ground, operating under a permit issued in accordance with Manitoba Regulation 150/91.

28. The Licencee shall, within 48 hours of depositing the sludge solids at the waste disposal ground:

    a. incorporate the sludge solids into the topsoil covering the waste disposal ground to a minimum depth of 15 centimetres; or
    b. cover the sludge solids deposited at the waste disposal ground with soil to a minimum depth of 15 centimetres.

MONITORING AND REPORTING SPECIFICATIONS

29. The Licencee shall, prior to each effluent discharge, obtain grab samples of the treated wastewater and have them analyzed for:

    a. the organic content as indicated by the five day biochemical oxygen demand and expressed as milligrams per litre;
    b. the fecal coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
    c. the total coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample; and
    d. the total phosphorus content and expressed as milligrams per litre.

30. The Licencee shall, for a period of 3 years after the date of issuance of this Licence obtain 3 grab samples of the treated wastewater during each effluent discharge, with the 1st sample being taken within 30 minutes of the commencement of the discharge, the 2nd sample at the mid-point of the discharge and the 3rd sample within 30 minutes of the termination of the discharge, and have them analyzed for:

    a. the organic content as indicated by the five day biochemical oxygen demand and expressed as milligrams per litre;
    b. the fecal coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
    c. the total coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample; and
    d. the total phosphorus content and expressed as milligrams per litre.

31. The Licencee shall:

    a. during each year maintain records of:

        i. wastewater sample dates;
        ii. original copies of laboratory analytical results of the sampled wastewater; and
        iii. effluent discharge dates;

    b. make the records being maintained pursuant to Sub-Clause 27 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.

32. The Licencee shall:

a. prepare "as constructed drawings" for the Development and shall label the drawings "As Constructed"; and
b. provide to the Director, on or before 1st day of July, 2001, two sets of "as constructed drawings" of the wastewater treatment lagoon.

33. The Licencee shall:

a. submit a plan, on or before July 1, 2001 for a phased sewer maintenance and repair program to the Director for approval; and
b. implement the phased sewer maintenance and repair program in accordance with the approval of the Director.

34. The Licencee shall, on or before July 1, 2001, submit a plan to the Director for approval for the sludge removal, treatment and disposal from the cells of the wastewater treatment lagoon.

REVIEW AND REVOCATION

A. This Licence replaces Environment Act Licence No. 2442 R which is hereby rescinded.

B. 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 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 pursuant to Section 11 of The Environment Act.

"original signed by"
Larry Strachan, P. Eng.
Director
Environment Act

Client File No.: 395.20

Figures 1, 2 and 3 (please refer to file copy)