

**Licence No.: 2559**

**Licence Issued: July 8, 2002**

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

**ACADIA HOLDING CO. LTD.; "the Licencee"**

for the construction and operation of the Development being a wastewater treatment lagoon located on the northeast quarter of Section 14 Township 11 Range 14 WPM in the Rural Municipality of North Cypress in accordance with the Proposal filed under The Environment Act on December 10, 2001 and the additional information dated May 10, 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 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;

**"approved"** means approved by the Director 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;

**"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;

**"grab sample"** means a quantity of wastewater taken 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;

**"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;

**"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;

**"mil"** means one-thousandth of an inch;

**"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 earthen surfaces against the 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;

**"sewage"** means household wastewater that contains human waste;

**"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;

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

**"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 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. In addition to any of the following specifications, limits, terms and conditions specified in this Licence, the Licencee shall, upon the request of the Director:
  - a. sample, monitor, analyze or investigate specific areas of concern regarding any segment, component or aspect of pollutant storage, containment, treatment, handling, disposal or emission systems, for such pollutants, ambient quality, aquatic toxicity, leachate characteristics and discharge or emission rates, and for such duration and at such frequencies as may be specified;
  - b. determine the environmental impact associated with the release of any pollutant from the Development; or
  - c. provide the Director, within such time as may be specified, with such reports, drawings, specifications, analytical data, descriptions of sampling and analytical procedures being used, bioassay data, flow rate measurements and such other information as may from time to time be requested.
  
2. The Licencee shall, unless otherwise specified in this Licence:
  - a. carry out all preservations and analyses on liquid samples in accordance with the methods prescribed in the Standard Methods for the Examination of Water and Wastewater, or in accordance with an equivalent analytical methodology 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.

3. The Licencee shall submit all information required to be provided to the Director under this Licence, in writing, in such form (including number of copies) and of such content as may be required by the Director.
4. The Licencee shall direct all wastewater generated within the Acadia Colony farmsite toward the wastewater treatment lagoon or other approved sewage treatment facilities.
5. The Licencee shall operate and maintain the wastewater treatment lagoon and wastewater collection system in such a manner that the release of offensive odours is minimized.
6. The Licencee shall install and maintain a fence around the wastewater treatment lagoon to limit access.

### **SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS**

7. The Licencee shall ensure that the sewage load on the wastewater treatment lagoon does not exceed the design capacities as follows:
  - a. 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
  - b. the depth of liquid in all primary and secondary cells does not exceed 1.5 metres.
8. The Licencee shall construct and maintain a continuous liner 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 double channel fusion seaming;
  - d. the liner is installed to a minimum elevation of 1.8 metres above the base of both the primary and secondary cells;
  - 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 is secured to prevent lifting of the liner.
9. The Licencee shall construct and maintain a gas relief system under the liner for all cells of the wastewater treatment lagoon.
10. 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 100 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; or
  - d. between the 1st day of November of any year and the 15th day of June of the following year.
11. The Licencee shall ensure that if, in the opinion of the Director, significant erosion of the material covering the liner occurs, riprap shall be placed on the interior dyke surfaces from 0.6 metres above the high water mark to at least 0.6 metres below the low water mark.
12. 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.
13. 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.

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

### **MONITORING AND REPORTING SPECIFICATIONS**

15. The Licencee 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 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; and
  - c. the total coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample.
16. 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 Clause 16 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.
17. The Licencee shall notify the Director one week prior to commencing the installation of the liner and the gas relief system.
18. The Licencee shall not cover the HDPE liner or use the wastewater treatment lagoon until receiving the approval of the Director of the report submitted pursuant to sub-Clause 8e) of this Licence.
19. 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 December, 2003, two copies of the "as constructed drawings" of the wastewater treatment lagoon.
20. 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; and
  - c. complete the repairs in accordance with the written instructions of the Director.

### **REVIEW AND REVOCATION**

- A. 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.

- B. If the Licencee has not commenced construction of the Development within three years of the date of this Licence, the Licence is revoked.
- 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.: 4726.00**