THE ENVIRONMENT ACT
LOI SUR L'ENVIRONNEMENT

LICENCE

Manitoba

Licence No. / Licence n° **3081 R**

Issue Date / Date de délivrance **December 23, 2013**

Revised : **April 23, 2014**

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

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

THE CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT;
"the Licencee"

for the construction and operation of the Development being a Class 1 Waste Disposal Ground and Resource Management Facility to be known as The Brady Road Resource Management Facility located at 1901 Brady Road in Winnipeg, Manitoba in accordance with the Proposal filed under *The Environment Act* on December 23, 2011, and subject to the following specifications, limits, terms and conditions:

DEFINITIONS

In this Licence,

"access road" means a road that leads from a Provincial Trunk Highway, Provincial Road, or a municipal road;

"accredited laboratory" means an analytical facility accredited by the Standard Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Conservation and Water Stewardship 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;

"active area" means a designated trench, cell, or berm confined area of a waste disposal ground in which solid wastes are deposited, also known as waste disposal cell or landfill cell;

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

"all weather road" means a graded and/or graveled road or road of equivalent materials that is passable by vehicles under both wet and dry weather conditions;

"alternative daily cover" means materials approved by the Director for use in temporarily covering waste in an active area;

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

"background water quality" means the quality of water in any geologic zone monitored with regards to the chemical and microbiological parameters specified in a Licence issued pursuant to *The Environment Act* by the Director;

"biosolids" means accumulated organic solids, resulting from wastewater treatment processes, that have received adequate treatment to permit the material to be recycled;

"body of water" means any body of flowing or standing water whether natural or artificially created;

"buffer" means a strip of land that is managed to reduce or eliminate the impacts of land use practices on sensitive areas or natural features;

"bulky metallic waste" means, but is not limited to, derelict vehicles, farm machinery, and large appliances which are capable of being salvaged for recycling or reuse;

"CCME" means Canadian Council of Ministers of the Environment;

"cell" means the location where waste is deposited;

"Class 1 Waste Disposal Ground" means a waste disposal ground serving a population in excess of 5,000 persons;

"Closed Landfill" means the area identified as 'Closed Landfill' shown on the City of Winnipeg Brady Road Resource Management Facility Master Plan Proposed Development Map in Appendix 'C' of this Licence or identified as 'closed' as the status on the Brady Road Resource Management Facility Landfill Cell Location Plan in Appendix 'D' of this Licence or identified on updated closure plans as new areas are closed;

"closure plan" means a plan indicating the actions to be taken for the closure of the Development, or a portion of the Development;

"Community Resource Recovery Centre" means an area within the Brady Road Resource Management Facility that the public will have access to in order to deposit

small loads for segregating materials for recycling, reuse or repurposing and aggregating waste materials to be transferred to a tipping face;

"compliance boundary" means the planar surface that circumscribes the Development, extends vertically downward from the land surface, and constitutes the place at which the parameters of the background water quality as specified in a Licence issued pursuant to *The Environment Act* are not to be exceeded;

"component" means a landfill cell, pad or structure that forms a part of a process or system within an activity area of the Development;

"compost" means solid mature product resulting from composting;

"composting" means a managed process of bio-oxidation of a solid heterogeneous organic substrate including a thermophilic phase;

"concentration value" means a restriction established by a Licence issued pursuant to *The Environment Act* by the Director on quantities, discharge rates and concentrations of pollutants;

"condensate" means liquid created by condensing and removing gases from landfill gas;

"contaminant" means a contaminant as defined in *The Dangerous Goods Handling and Transportation Act*;

"cover material" means material which is non-flammable, does not interfere with landfill gas collection or extraction systems, does not biodegrade to produce landfill gas, is a deterrent to vectors, is free of roots, vegetation and frozen material, or is a material approved by the Director, that is used to cover compacted solid waste;

"CRRC" means Community Resource Recovery Centre;

"daily" means any 24-hour period;

"dangerous goods" means any product, substance or organism designated in the regulations, or conforming with the criteria set out in the regulations, or in any regulation adopted in accordance with *The Dangerous Goods Handling and Transportation Act*, and includes hazardous wastes;

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

"engineer(s)" means an engineer or engineers registered with the Association of Professional Engineers and Geoscientists of the Province of Manitoba;

"engineered wetland" means a designed and man-made system for treatment of impacted water or leachate composed of a basin containing soil at the bottom with emergent and submergent vegetation, animal life, and water that simulates natural wetlands;

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

"final cover" means earth compacted to a thickness of at least 0.5 metre applied to the surface of the compacted waste cell that has achieved the final elevation for cell closure, and is graded to minimize ponding of water on the surface;

"green waste" means leaf, grass, garden waste, prunings, shrubs, small branches and other yard wastes from residential and commercial generators as identified in the Leaf and Yard Waste Composting Facility and Pilot Biosolids Composting Facility at Brady Road Resource Management Facility document;

"groundwater" means water below the ground surface and within a zone of saturation;

"groundwater monitoring program" means a plan developed for the monitoring and management of groundwater;

"hazardous waste" means any substance or group of substances so designated by the regulations or conforming to criteria set out in regulations, or any future amendments thereof;

"HDPE" means high density polyethylene;

"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;

"industrial waste" means waste product generated by industry other than hazardous waste and liquid industrial waste;

"infill waste disposal cell" means an active area that is developed on top of or adjacent to a closed waste disposal cell to maximize use of the space available;

"landfill" see waste disposal ground;

"landfill gas" means a mixture of gases generated by the microbial decomposition and chemical reactions between wastes in a landfill;

"leachate" means liquid that has percolated though solid waste, and that contains dissolved and suspended materials from the solid waste;

"leachate collection system" means a system that gathers leachate so that it may be removed from a landfill and which could include a permeable drainage layer, a network of perforated piping, and sumps or manholes from which leachate can be removed;

"Leachate Management System" means all of the components of a system to transport, collect, and extract leachate from the Development; to include the leachate collection system, and any other infrastructure installed for the purpose of handling leachate;

"liner" means a continuous layer of reworked soil, or manufactured materials, placed beneath and on the sides of a waste disposal ground active area, a compost facility, or a storage area intended to restrict the downward or lateral escape of solid waste, leachate, and or gases, or to restrict the upward movement of groundwater into an area;

"liquid industrial waste" means waste generated by industrial processes that has a slump of more than 150 mm using the slump test method (slump test, C.S.A. Standards Test Method A 23.2-5C), and does not include hazardous waste or industrial waste;

"liquid waste" means sewage, sewage effluent and sludge from septic tanks, holding tanks and municipal sewage treatment systems and that has a slump of more than 150 mm using the slump test method (slump test, C.S.A. Standard Test Method A23.2-5C);

"mil" means one-thousandth of an inch;

"monitoring well" means a well drilled to measure groundwater levels and collect groundwater samples for the purpose of physical, chemical or biological analysis to determine the concentration of groundwater constituents;

"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;

"opacity" means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background;

"particulate matter" means any finely divided liquid or solid matter other than water droplets;

"particulate residue" means that part or portion of an atmospheric emission which is deposited onto a surface;

"point source" means any point of emission from a Development where pollutants are emitted to the atmosphere by means of a stack;

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

"post-closure plan" means a plan indicating the actions to be taken for the care, maintenance, and monitoring of the Development after closure, that will prevent, mitigate, or minimize the threat to public health and the environment;

"QA/QC" means quality assurance/quality control;

"qualified professional" means an individual properly trained and authorized to practice in a specific area or field which may include assessment, design, or providing consultation for an aspect of the Development; to include but not be limited to Professional Engineers, Geoscientists or Landscape Architects;

"representative sample" means a sample collected by a methodology acceptable to an Environment Officer;

"Segregated Material Storage Area" means an area for accumulation and temporary storage of materials which have been segregated by type, composition or potential end use, e.g. metal and white goods, tires, glass etc., prior to utilization on site or transfer off site;

"site" means the area both permanent and temporary which is required for the construction and operation of the Development;

"solid waste" means all discarded waste including dead animals and does not include liquid waste, hazardous waste or bulky metallic waste;

"special waste" means bagged asbestos containing materials, dead animals including specified risk materials (SRM), slaughterhouse waste and food products deemed to be unacceptable by the Canadian Food Inspection Agency (CFIA), biosolids, and any other waste identified by the Director;

"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 Water Works Association and the Water Environment Federation;

"Surface Water Management System" means a system that manages surface water and storm water from all areas, within the Development;

"surface water management feature" means an engineer designed element (pond, engineered wetland, drainage channel, etc.) that is included in the Surface Water Management System;

"top soil" means soil that is free of roots, vegetation, weeds and stones larger than 50 mm, is capable of supporting good vegetative growth, and is suitable for use in top dressing, landscaping and seeding;

"Wood Chip Processing and Storage Area " means an area for the receipt, chipping, and storage of wood waste, including Dutch elm disease impacted wood, prior to utilization on site or for transport off site, including but not limited to use as a compost bulking agent or feedstock; and

"waste disposal ground" means a parcel of land that is used for the disposal of solid or industrial waste, also referred to as a landfill.

PROJECT SCOPE

The Development is located within the area bordered by Waverley Street, Provincial Trunk Highway 100, Brady Road and Rue des Trappistes, also to include Parcels A, B, D and E of Plan 20197; individual parcels shown and legal descriptions in Appendix 'A' and Appendix 'B', attached.

Supporting documents and additional information for the Development, filed in accordance with *The Environment Act* include:

a) Brady Road Resources Management Facility Operating Plan, dated December 2011, received February 3, 2012;
b) Brady Road Landfill Methane Gas Abatement / Biofuel Plant Project, dated March 16, 2009;
c) Landfill Gas Collection and Flaring System Design Brief, Brady Road Resource Management Facility, August 21, 2012;
d) Notice of Alteration – Biosolids Composting Pilot Study Environment Act Licence No. 1089 E RR, January 5, 2012;
e) City of Winnipeg Biosolids Composting Pilot Study, February 9, 2012;
f) Leaf and Yard Waste Composting Facility and Pilot Biosolids Composting Facility at Brady Road Resource Management Facility; Draft Conceptual Design and Operations Report, received September 18, 2012;
g) Winnipeg Water and Waste Department Pilot Biosolids Composting Facility Design Brief dated January 2013;
h) Brady Environment Act Proposal: Proposed Development Plan and Landfill Cell Location Plan, received November 27, 2012; and
i) Updated Brady Environment Act Proposal: Proposed Development Plan, received September 23, 2013.

GENERAL TERMS AND CONDITIONS

This Section of the Licence contains terms and conditions 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.

General Terms

1. The Licencee shall reduce the production and dissemination of wastes by initiating and maintaining waste reduction and waste recycling programs at the Development.

2. The Licencee shall organize, chair and participate on a Community Liaison Committee to be established according to the criteria identified in Appendix 'E' of this Licence.

Reporting Format

3. The Licencee shall provide to the Director, upon request, all information required under this Licence, in writing and in such form and content (including number of copies), as may be specified by the Director and each submission shall be clearly labelled with the Licence Number and File Number associated with this Licence.

4. The Licencee shall carry out any remedial measures, modifications, or alterations, as deemed necessary by the Director, in respect to matters authorized under this Licence.

Future Sampling

5. In addition to any of the limits, terms and conditions specified in this Licence, the Licencee shall, upon the request of the Director:
   a) sample, monitor, analyse 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 or ambient quality, aquatic toxicity, leachate characteristics and discharge or emission rates, for such duration and at such frequencies as may be specified;
   b) determine the environmental impact associated with the release of any pollutants 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.

Sampling Methods

6. 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 most current edition of 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 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 within sixty (60) days of the samples being taken, or within another timeframe as specified by the Director.

7. The Licencee shall, unless otherwise specified in this Licence carry out all sampling of groundwater, surface water, leachate, soil, air and landfill gas in accordance with methodologies specified in the Operating Plan submitted pursuant to Clause 41 of this Licence.

Equipment Breakdown

8. The Licencee shall, in the case of physical or mechanical equipment breakdown or process upset or in cases where waste management functions are disrupted; 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 204-944-4888 (toll-free 1-855-944-4888). The report shall indicate the nature of the event, the time and estimated duration of the event and the reason for the event.

9. The Licencee shall, following the reporting of an event pursuant to Clause 8,
   a) identify the repairs required to the mechanical equipment;
   b) undertake all repairs to minimize unauthorized discharges of a pollutant;
   c) complete the repairs in accordance with any written instructions of the Director; and
   d) submit a report to the Director about the causes of breakdown and measures taken, within four (4) weeks of the repairs being completed.

10. The Licencee shall implement a high standard of equipment maintenance and good housekeeping and operational practices with respect to the Development, at all times.

Fire Reporting

11. The Licencee shall in the event of a fire which continues in excess of thirty (30) minutes, or requires implementation of the Emergency Response Plan in Clause 130, or requires fire suppression assistance from personnel outside of the Development (e.g. fire department) report the fire by calling (204) 944-4888 (toll free 1-855-944-4888), identifying the type of materials involved and the location of the fire.

Approvals and Permits

12. The Licencee shall locate fuel storage and equipment servicing areas established for the construction and operation of the Development in compliance with the requirements of *Manitoba Regulation 188/2001* respecting *Storage and Handling of Petroleum Products and Allied Products* or any future amendments thereof.

13. The Licencee shall obtain approval in writing from the Director for any proposed alteration to the Development before proceeding with the alteration.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

Odours and Air Emissions

14. The Licencee shall not burn waste or combustible materials, or allow the burning of waste or combustible materials at the Development unless approved by the Director.

15. The Licencee 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.

16. The Licencee, upon written request of and in a timeframe stipulated by the Director, shall comply with any air emission or ambient air quality criteria specified by the Director for any pollutant of concern to the Director which has been identified pursuant to Clauses 5 or 108 of this Licence.

17. The Licencee shall take action to minimize the entrainment of particulate matter into the air at the Development resulting from the operation of vehicles or the transportation, storage or handling of compost feedstock, wood wastes, construction and demolition waste or other materials.

Noise

18. The Licencee 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.

Responsible Party

19. The Licencee shall assign an engineer(s) or a qualified person(s) to be responsible for the construction of the Development and any required remediation action in accordance with the plans, specifications and design report(s) submitted in support of the proposal or this Licence.

20. The Licencee shall designate an employee, within sixty (60) days of the date of issuance of this Licence, as the Licencee's Environmental Coordinator, whose job description will include assisting the Licencee in complying with the limits, terms and conditions in this Licence and assisting Senior Management of the Licencee to manage environmental issues at the Development. The name of the Environmental Coordinator shall be submitted in writing to the Director within fourteen (14) days of appointment.

Landscaping Plan

21. The Licencee shall submit to the Director, within one (1) year of the date of this Licence, a Landscaping Plan that includes information respecting the establishment of physical and visual buffers from the operations at the Development to adjacent properties. This plan shall include but not be limited to: construction of berms, tree plantings, vegetation of exposed soils, landscaping and timeframes for completion of each component of the plan.

22. The Licencee shall implement the Landscaping Plan as submitted pursuant to Clause 21 of this Licence.

Construction

23. The Licencee shall, prior to initiating any construction at the Development, submit two paper copies and one electronic copy of final engineering design plans, sealed by an engineer(s), to the Director. The plans will show the engineering details of each new component and the location of each new component with respect to other components.

24. The Licencee shall construct the Development in accordance with the design plans submitted to the Director pursuant to Clause 23 of this Licence.

25. The Licencee shall, to facilitate inspection of the Development during construction and operation, provide such access as the Director deems necessary, to an Environment Officer throughout the duration of construction and operation of the Development.

Site Preparation

26. The Licencee shall, prior to any new construction of any component of the Development, remove all top soil to a minimum depth of 150 mm and store this top soil at a suitable location for future use.

Clay Components of the Development

27. The Licencee shall, where a component of the Development is to be constructed with a clay liner; construct the liner underlying the component as described in Clauses 28 to 31of this Licence. For any component of the Development that is to be constructed with scarified in situ clay, the component shall be subject to Clauses 28 b), and 29 to 31 of this Licence.

28. The Licencee shall construct and maintain all clay lined component(s) of the Development in accordance with the following specifications:
    a) the clay liner is recompacted to a minimum thickness of one (1) metre for the side slopes and for the base;

b) the hydraulic conductivity of the clay is $1x10^{-7}$ cm/second or less;
c) the liner extends a vertical distance of one (1) metre above normal operating level for any leachate storage component other than a landfill cell liner; and
d) the clay liner is installed under the entire base and side wall or berm of any waste containment cell(s).

29. The Licencee shall arrange with an Environment Officer a mutually acceptable time and date for any required soil sampling between the 15th day of May and the 15th day of October of any year, unless otherwise approved by an Environment Officer.

30. The Licencee shall take and test undisturbed soil samples, in accordance with Appendix 'H' attached to this Licence, from:
a) the clay of new waste disposal cell(s);
b) the clay of the compost pad(s) and compost leachate pond, if applicable;
c) leachate treatment wetlands; and
d) any clay component of the Development requiring testing by the Director**.**

The number and location of samples and test methods will be specified by an Environment Officer up to a maximum of twenty (20) samples per cell, pond, compost pad or clay component of the Development.

31. The Licencee shall, prior to operation of the area tested in accordance with Clause 30, receive the approval of the an Environment Officer for the results of the tests carried out pursuant to Clause 30 of this Licence.

Synthetic Lined Components of the Development

32. The Licencee shall, where a component of the Development is to be constructed with a synthetic HDPE liner; construct the liner underlying the component as described in Clauses 33 to 37 of this Licence and establish that the synthetic material is compatible with landfill leachate.

33. The Licencee shall construct and maintain a continuous liner underlying the component of the Development, such that:
a) the liner is constructed from HDPE geomembrane;
b) the liner has a minimum thickness of 60 mil;
c) all sections of the liner are joined by double channel fusion seaming;
d) the liner is installed under the entire base and side wall or berm of any waste containment cell(s);
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 an Environment Officer within 30 days of commencing the installation of the liner; and
f) the liner is secured to prevent lifting of the liner.

34. The Licencee shall complete the installation of the synthetic liner on any component at the Development in accordance with manufacturer recommendations regarding temperature and environmental conditions. Installation shall be completed between the 15th day of May and the 15th day of October of any year, unless otherwise approved by an Environment Officer.

35. The Licencee shall not cover the synthetic liner or use a synthetic lined component of the Development until receiving written approval of the report submitted pursuant to sub-Clause 33 e) of this Licence from an Environment Officer.

36. The Licencee shall notify an Environment Officer two (2) weeks prior to commencing the installation of the synthetic liner.

37. The Licencee shall cover all surfaces of the synthetic liner of a component of the Development with 0.3 metre of sand, other non-angular granular material, or material approved by an Environment Officer.

Alternative Liners for Components of the Development

38. The Licencee, upon written request and approval by the Director, may utilize an alternative geomembrane, synthetic or composite liner system that is at minimum equivalent to the hydraulic conductivity of one metre of $1x10^{-7}$ cm/s compacted clay or a 60 mil HDPE liner; is compatible with landfill leachate; and subject to terms and conditions set by the Director at the time of approval.

Mitigating Erosion and Runoff

39. The Licencee shall with respect to on-site earthen construction works, construct and maintain silt fences in the drainage routes transporting surface runoff off the property of the Development until vegetation has been re-established on the disturbed areas.

40. The Licencee shall construct and maintain the final side slopes of the above ground deposit of waste, including final cover, in the waste cell to not exceed one unit vertical to four units horizontal (1V:4H) and the final top slope to not less than one unit vertical to twenty units horizontal (1V:20H), unless otherwise specified in the Closure Plan by the qualified professional, or approved by the Director.

Operating Plan

41. The Licencee shall submit to the Director, within six (6) months of the date of issuance of this Licence, an Operating Plan that includes information regarding all aspects of the Development, to include but not be limited to:
    a) operational parameters and objectives, including method of tracking placement of special wastes and those wastes requiring unusual management considerations;

b) waste type acceptance parameters and limitations;
c) restrictions and procedures (if applicable) on volumes or ratios for organic based wastes;
d) incident tracking and reporting parameters;
e) all weather access roads;
f) composting and biosolids composting parameters, objectives, standards and ultimate use;
g) dust and litter control procedures;
h) vector control procedures;
i) leachate and landfill gas handling and management;
j) surface and ground water management;
k) monitoring and reporting parameters;
l) identification of operational records to be maintained; and
m) an overview of staffing qualifications and positions.

42. The Licencee shall implement the Operating Plan submitted pursuant to Clause 41 of this Licence.

Operation and Monitoring Records

43. The Licencee shall have available for inspection by an Environment Officer or the Director upon request, records of all operational activities, monitoring and analytical results, reports, certifications and documents identified in this Licence.

44. The Licencee shall keep for inspection, operating and monitoring records at the Development site office including:
a) as-built drawings showing the location and development of excavation, fill area, final grades and structural components;
b) records of annual waste tonnage received at the site;
c) records of handling of any wastes (including special wastes) accepted at the landfill including the amounts accepted and the disposal locations within the landfill;
d) all Certifications and permits for acceptance of regulated materials (SRM permits, weigh scale certification);
e) an initial topographic survey and plans showing the areas where waste has be disposed in the current and previous years;
f) an annual update survey of active areas, or areas receiving cover;
g) nuisance records;
h) monitoring results;
i) complaints received and actions taken; and
j) a statement of compliance with Licence conditions.

Signage and Site Security

45. The Licencee shall post adequate signage at the entrance to the Development indicating, but not limited to the following:

a) the types of wastes not accepted at the site;
b) the hours and days of operation; and
c) 24-hour telephone numbers to be called in the event of an emergency occurring at the site.

46. The Licencee shall staff and secure the Development so that:
a) an attendant is on duty at the scale at all times during hours of acceptance of materials to the Development;
b) gates are provided for all access locations to the site;
c) the gates are kept locked when the attendants are not on duty or the Development is closed; and
d) other attendants to direct traffic and operate heavy equipment are on duty as necessary.

Materials Handling

47. The Licencee shall deposit all waste, other than material intended for recycling, composting or processing, in an active area within the Development.

48. The Licencee shall position fencing, including adequate portable litter fences around the active area or other locations where unloading or handling of materials occur, to prevent litter or other material from collecting on or escaping from the boundaries of the Development.

49. The Licencee shall not accept the following wastes at the Development:
a) hazardous waste;
b) biomedical waste;
c) liquid industrial waste;
d) liquid waste;
e) radioactive waste or materials;
f) unbagged asbestos; or
g) soils or sediments containing contaminants at concentrations in excess of the criteria specified for industrial occupancy in the Canadian Council of Ministers of the Environment (CCME) Environmental Quality Guidelines (latest edition), and the CCME Canada Wide Standards.

50. The Licencee may receive wastes prohibited in Clause 49 of this Licence if appropriate provisions have been made in the Operating Plan for the Development submitted pursuant to Clause 41 of this Licence, or if a separate proposal has been submitted and approved by the Director.

Special Wastes

51. The Licencee shall not excavate in areas where special wastes have been previously buried without approval from an Environment Officer.

52. The Licencee shall keep record, by Global Positioning System (GPS), of the locations of buried special wastes.

WEIGH SCALES AND FACILITY BUILDINGS

Construction – Weigh Scales and Facility Buildings

53. The Licence shall install radiation detectors on all inbound traffic lanes.

Operation – Weigh Scales and Facility Buildings

54. The Licencee shall maintain federal certification of the weigh scales utilized at the entrance of the Development.

LANDFILL CELLS

Construction – Landfill Cells

55. The Licencee shall submit to the Director, at least sixty (60) days prior to construction of a new waste disposal cell or an infill waste disposal cell, the engineering design plans, sealed by an engineer(s) which address construction specifications of any new active area and include, but are not limited to the following:
    a) engineering design with respect to construction of the waste disposal cell base and sides;
    b) engineering design with respect to the construction of the leachate collection system in each new cell, and connections, if applicable, to the Leachate Management System;
    c) location of access road(s) to the waste disposal cell;
    d) details of the location of the waste disposal cell with respect to property lines; and
    e) details of a drainage system to prevent water from entering the waste disposal cell and to channel the surface run-off into the Surface Water Management System for the Development.

56. The Licencee shall construct new waste disposal cells in accordance with the design plans submitted pursuant to Clause 55 of this Licence.

Operation – Landfill Cells

57. The Licencee shall restrict the maximum elevation of the above ground deposit of waste, including the final cover, to not exceed thirty (30) metres above grade.

58. The Licencee shall minimize the working face of each cell to reduce the generation of litter and leachate from the Development.

59. The Licencee shall compact waste deposited in the active area and cover the waste daily with cover material or alternative daily cover.

60. The Licencee, upon a written request to an Environment Officer, may, during extreme weather conditions, utilize temporary covering of wastes deposited in an active area. Such temporary covering material shall be replaced with permanent cover material when the extreme weather conditions cease, unless otherwise specified by an Environment Officer.

CLOSED LANDFILL CELLS

61. Any new waste cell or active area developed over an area that is identified as "closed landfill" on the map in Appendix 'C' or the Table of Appendix 'D'; must be developed in accordance with a design plan for an infill cell, as submitted pursuant to Clause 55 of this Licence.

LEAF AND YARD WASTE COMPOSTING FACILITY

Construction – Leaf and Yard Waste Composting Facility

62. The Licencee shall submit to the Director, at least sixty (60) days prior to construction, engineering design plans, sealed by an engineer(s), which address construction specifications of the composting facility and includes, but are not limited to the following:
    a) engineering design with respect to construction of the composting facility components;
    b) specifications with respect to construction of a compost pad, designed with a minimum of 0.5-metre thick compacted clay liner with a hydraulic conductivity of not greater than $1x10^{-7}$ cm/sec or equivalent;
    c) the location of all weather road(s) to the composting area;
    d) details of the compost facility drainage system and integration into the Surface Water Management System for the Development; and
    e) specifications with respect to construction of the onsite compost leachate basin designed with a minimum one (1) metre thick compacted clay liner or equivalent as approved by the Director.

63. The Licencee shall construct the Leaf and Yard Waste Composting Facility in accordance with the design plans submitted pursuant to Clause 62 of this Licence.

Operation – Leaf and Yard Waste Composting Facility

64. The Licencee shall operate the ditches for the collection and conveyance of impacted water off the Leaf and Yard Waste composting pad in such a manner that no standing water is present in the ditches.

65. The Licencee shall only accept and use green waste as compost feedstock for the Leaf and Yard Waste Composting Facility. The Licencee shall obtain written approval from an Environment Officer prior to the use of any other feedstock materials.

66. The Licencee shall not sell or make available, to any third party, leaf and yard waste compost generated at the Facility that does not achieve the quality requirements and specifications as contained in the most recent edition of the CCME publication entitled "*Guidelines for Compost Quality – PN 1340*" or equivalent standard approved by the Director.

BIOSOLIDS COMPOSTING FACILITY

Study - Biosolids

67. The Licencee shall submit to the Director a study within thirty (30) months of the issuance of this Licence, to include but not be limited to;
    a) any operational recommendations for biosolids compost utilization;
    b) long term options for utilization of biosolids compost; and
    c) timelines for developing and implementing the recommendations and options of the study.

Construction – Biosolids Composting Facility

68. The Licencee shall construct the pilot Biosolids Composting Facility in accordance with the Draft Conceptual Design and Operations Report entitled Leaf and Yard Waste Composting Facility and Pilot Biosolids Composting Facility at Brady Road Resource Management Facility dated August 2012, and the Pilot Biosolids Composting Facility Design Brief dated January 2013.

Operation – Biosolids Composting Facility

69. The pilot study shall run for a duration of two (2) years from commissioning, as identified in the alteration request for Environment Act Licence No. 1089E RR dated January 5, 2012.

70. The Licencee shall, during the pilot study, restrict the annual flow of biosolids to the Biosolids Composting Facility to a maximum of twenty percent (20%) of the biosolids that are generated from the City of Winnipeg's three water pollution control centres.

71. The Licencee shall operate the Biosolids Composting Facility activities separate from the Leaf and Yard Waste Composting Facility activities.

72. The Licencee shall operate the pilot Biosolids Composting Facility in accordance with the operations manual acceptable to the Director pursuant to the City of Winnipeg Biosolids Composting Pilot Study, and the Letter of Authorization dated April 30, 2012.

73. The Licencee shall not stockpile biosolids at any location at the Facility unless approved pursuant to Clause 72 of this Licence.

74. The Licencee shall not remove biosolids or biosolids compost from the Facility in any form, unless approved by an Environment Officer.

75. The Licencee shall utilize all biosolids compost products as landfill cover or as approved by the Director within the Facility for the duration of the pilot study.

76. The Licencee shall assess the quality (chemical and microbiological properties) of the used biofilter material in order to determine a suitable disposal or end use for the material. Proposed use or disposal method must be approved by an Environment Officer.

77. The Licencee shall haul all leachate collected in the underground leachate storage tank at the Biosolids Composting Facility and treat at a Wastewater Treatment Facility Licenced in accordance with *The Environment Act*. The Licencee shall operate the ditches for the collection and conveyance of impacted water off the biosolids composting pad in such a manner that no standing water is present in the ditches.

Monitoring and Reporting – Biosolids Composting Facility

78. The Licencee shall submit to the Director for approval, a report with respect to the pilot project's activities and proposed plans for continuing with the pilot study implementation or site remediation within 30 months of commissioning.

WOOD CHIP PROCESSING AND STORAGE AREA

Operation – Wood Chip Processing and Storage Area

79. The Licencee shall submit to the Director, within six (6) months of the date of issuance of this Licence an Operating Plan, to address design, operation and maintenance specifications of the Wood Chip Processing and Storage Area and include, but not be limited to the following:
    a) design with respect to site layout of the Wood Chip Processing and Storage Area;
    b) location of all weather road(s) and method to maintain site access and security of the Wood Chip Processing and Storage Area;
    c) methods to effectively produce, use and store materials;
    d) methods to control or manage airborne particulates, noise, fire hazards, and management of Dutch Elm disease contaminated materials and other tree wastes and
    e) details of the Wood Chip Processing and Storage Area drainage system and methods by which the runoff, impacted and non-impacted, is managed.

80. The Licencee shall operate the Wood Chip Processing and Storage Area in accordance with the Operating Plan submitted pursuant to Clause 79 of this Licence.

81. The Licencee shall operate the Wood Chip Processing and Storage Area to minimize airborne particulate and shall restrict hours of operation to the hours the Development is open to the public or as approved by the Director to reduce the potential for noise.

CONSTRUCTION MATERIAL AREA

Study – Construction Material Area

82. The Licencee shall submit to the Director a study within one (1) year of the issuance of this Licence, to include but not be limited to; any operational recommendations and plans for utilization, recycling or limitations for acceptance, handling or disposal of construction materials at the Development.

COVER MATERIAL STOCKPILE AREA

Construction - Cover Material Stockpile Area

83. The Licencee shall construct and maintain the geometry of the Cover Material Stockpile Area to allow for maximum recovery of the material and minimize erosion.

Operation – Cover Material Stockpile Area

84. The Licencee shall operate the Cover Material Stockpile Area to minimize soil erosion and sedimentation into any surface water features of the Development, and minimize any particulate matter from becoming airborne.

SAND/STREET SWEEPING STOCK PILE AREA

Operation – Sand / Street Sweeping Stock Pile Area

85. Prior to processing or cleaning the sand or street sweeping material for reuse; the Licencee shall submit to the Director, a plan identifying and mitigating potential environmental effects.

86. The Licencee shall operate the Sand / Street Sweeping Stock Pile Area in accordance with the Operating Plan submitted pursuant to Clause 85 of this Licence.

COMMUNITY RESOURCE RECOVERY CENTRE

Operation – Community Resource Recovery Centre

87. The Licencee shall operate the Community Resource Recovery Centre in a manner to prevent windblown waste, litter, odour generation, fire and other hazards, as well as preventing spills from contaminating runoff.

SEGREGATED MATERIAL STORAGE AREA

Operation – Segregated Material Storage Area

88. The Licencee shall not accept any materials which are not listed in the Operating Plan, pursuant to Clause 41, into the Segregated Material Storage Area unless otherwise approved by an Environment Officer.

89. The Licencee shall operate the Segregated Material Storage Area in a manner to prevent windblown waste, litter, odour generation, fire and other hazards.

90. The Licencee shall remove ozone depleting substances from appliances using a certified contractor in accordance with ***Manitoba Regulation 103/94***, or any future amendment thereof, respecting ***Ozone Depleting Substances and Other Halocarbons.***

LEACHATE MANAGEMENT SYSTEM

Operation – Leachate Management System

91. Unless otherwise approved by the Director, the Licencee shall haul and treat leachate collected in the sump manholes or any other component of the Leachate Management System at the City of Winnipeg North End Water Pollution Control Centre.

92. The Licencee shall submit a Leachate Management Plan, to the Director, within one (1) year of issuance of this Licence, to include, but not be limited to:
    a) design, construction, operation and maintenance procedures complete with proposed frequencies;
    b) proposed performance criteria for maximum leachate head on the liner for all new cells;
    c) proposed methods for reducing leachate head in existing cells;
    d) pumping schedules;
    e) methods to reduce potential chemical precipitation and clogging of collection components;
    f) leachate line clean out methodologies;
    g) inspection methodologies and frequency; and
    h) processes to prevent landfill gas escape from leachate collection components.

93. The Licencee shall inspect the leachate collection and extraction system in the frequency and with the methodology as identified in the Leachate Management Plan, submitted pursuant to Clause 92 of this Licence.

94. The Licencee shall not recirculate leachate or contaminated water collected at the Development through the landfill cells unless approved by the Director.

95. The Licencee shall operate the Leachate Management System in accordance to the Plan submitted pursuant to Clause 92 of this Licence and shall not implement any alternative method of leachate treatment without receiving prior approval of the Director.

Monitoring and Reporting – Leachate Management System

96. The Licencee shall report an occurrence of leachate breakout which leaves the Development to an Environment Officer within 24 hours.

97. The leachate collection system shall be designed to monitor leachate head according to the Leachate Management Plan submitted pursuant to Clause 92.

98. The Licencee shall report if the maximum depth of leachate in any waste cell, developed after August 1, 2013, exceeds the maximum head, as indicated in the approved Leachate Management Plan, above the crown of the collection system cell bottom piping; for a period of seven (7) days to an Environment Officer within 24 hours.

99. The Licencee shall record all events that require reporting, as per Clause 96 and 98, the elevation of the leachate in all waste disposal cells twice per year, in spring and fall, and after each maintenance clean out of the leachate system. The leachate elevation, historical trends and an assessment of the effectiveness of the leachate collection system in maintaining less than the maximum specified head shall be included in the annual report.

100. The Licencee shall develop a Leachate Sampling and Analysis Plan and submit to the Director within one (1) year of the date of issuance of this Licence. The Plan shall include but not be limited to:
    a) the location, type and number of samples from the leachate collection sump manholes or other leachate collection components;
    b) the parameters to be analysed; and
    c) the frequency of analysis.

101. The Licencee shall implement the plan submitted in accordance with Clause 100 of this Licence.

LANDFILL GAS COLLECTION AND FLARING SYSTEM

Construction – Landfill Gas Collection and Flaring System

102. The Licencee shall submit to the Director a copy of authorization for construction, expansion or major modification of a component which is under pressure, of the Landfill Gas Collection and Flaring System, issued by the Office of the Fire Commissioner, prior to any construction, expansion or major modification of the landfill gas system at the Development.

103. The Licencee shall, at least sixty (60) days prior to any future construction, major modification or expansion, provide to the Director complete design and

construction details for the Landfill Gas Collection and Flaring System. The design and construction details shall include at a minimum:

a) number and location of landfill gas extraction wells;
b) configuration of landfill gas extraction wells;
c) design and construction details of landfill gas extraction wells;
d) location of condensate traps;
e) description of pipe network; and
f) location, design, and construction details of blower and flare station.

104. The Licencee shall construct or modify the Landfill Gas Collection and Flaring System in accordance with the design plans submitted pursuant to Clause 103 of this Licence.

Operation – Landfill Gas Collection and Flaring System

105. The Licencee shall, in the event of an environmental, mechanical, electrical or human condition which causes a shutdown or malfunction of a component of the Landfill Gas Collection and Flaring System, lasting greater than 72 hours, report the condition to an Environment Officer within the next 24 hours. The report shall include the nature of the shutdown or malfunction, the time and estimated duration of the event, the cause for the event and the proposed actions for return to operation.

106. The Licencee shall not combust landfill gas at any location other than the enclosed landfill gas flare or other combustion equipment as approved by the Director.

107. The Licencee shall combust only landfill gas or propane for startup in the enclosed landfill gas flare.

108. The Licencee shall not emit particulate matter from the Development such that:
    a) particulate matter:
        i) exceeds 0.23 grams per dry standard cubic metre calculated at 25 degrees Celsius and 760 millimetres of mercury, corrected to 12 percent carbon dioxide for processes involving combustion, from any point source of the Development;
        ii) exhibits a visible plume with an opacity of greater than 5 percent at any point beyond the property line of the Development; or
        iii) results in the deposition of visible particulate residue at any time beyond the property line of the Development; or
    b) opacity from any point source of the Development equals or exceeds:
        i) 20 percent as the average of any 24 consecutive opacity observations taken at 15 second intervals;
        ii) 20 percent for more than 16 individual opacity observations within any 1 hour period; or
        iii) 40 percent for any individual opacity observation.

109. The Licencee shall manage condensate from the landfill gas collection system in accordance with the Operating Plan submitted pursuant to Clause 41 of this Licence.

Monitoring and Reporting – Landfill Gas Collection and Flaring System

110. The Licencee shall submit to the Director for approval, within six (6) months of the date of issuance of this Licence, an operating plan which includes information respecting activities to be implemented in the event that the monitoring program identifies any pollutant in air emissions, as a result of the operation of the Development, in excess of the specifications of Clause 108 of this Licence.

Monitoring and Reporting – Subsurface Landfill Gas Monitoring Program

111. The Licencee shall submit to the Director, within six (6) months of the date of issuance of this Licence, a monitoring program which includes:
    a) methodology for detection of lateral landfill gas migration;
    b) proposed monitoring well locations;
    c) sampling frequency;
    d) development of a Subsurface Landfill Gas Contingency Plan for migration occurrence; and
    e) an annual report for subsurface gas migration including collected data and analysis.

SURFACE WATER MANAGEMENT SYSTEM

Surface Water Management

112. The Licencee shall manage surface water, both impacted and non-impacted, at the Development to prevent uncontrolled release from the Development.

113. The Licencee shall construct and maintain permanent and temporary dyke structures and surface drainage to divert non–impacted surface water runoff away from active areas and Development components under construction to the Surface Water Management System of the Development, in accordance with the Surface Water Management Plan.

114. The Licencee shall:
    a) not construct ditch or surface water management features during periods of heavy rain;
    b) place and/or isolate all construction material where it will not erode into any watercourse;
    c) implement effective long-term sediment and erosion control measures such as sedimentation ponds and short-term sediment and erosion control measures such as silt fencing to prevent soil-laden runoff, and /or silt from

entering any watercourse during construction and operation of a component of the development and maintain the control measure until vegetation is established; and

d) routinely inspect all erosion and sediment control structures and complete any necessary maintenance or repair within 15 days of identification of the deficiency.

Construction – Surface Water Management System

115. The Licencee shall submit to the Director, within six (6) months of the date of issuance of this Licence, a Surface Water Management System design plan including engineered wetlands for the Development on the basis of a 1 in 25 year rainfall event. The plan shall include three tiers of water management addressing clean, impacted and leachate water with water management from all surface elevations of the Development. The plan shall include the source, any conveyance methods, treatment, monitoring parameters and discharge routes. Sealed engineering design plans shall be provided to address construction specifications of all surface water management features and include, but not be limited to the following:
    a) engineering design with respect to the ponds, engineered wetlands, if included in the design, and conveyance routes;
    b) location of all weather road(s) to the surface water management features;
    c) details of the location of the surface water management features with respect to the property lines; and
    d) details of fencing, if required, around surface water management features.

116. The Licencee shall construct the Surface Water Management System in accordance with the design plan submitted pursuant to Clause 115 of this Licence.

117. The Licencee shall obtain a Water Rights Licence from the Water Resources Branch, Conservation and Water Stewardship, if required, for drainage works that cause water to leave the Development. The Licencee shall provide to the Director, a copy of the Water Rights Licence at minimum ten (10) days prior to any construction identified within that Licence.

Operation – Surface Water Management System

118. The Licencee shall operate and maintain the Surface Water Management System to minimize sedimentation within the waterways, odour and pest problems and to maximize nutrient reduction.

Monitoring and Reporting – Surface Water Management System

119. The Licencee shall, for the parameters listed in Appendix 'G', attached to this Licence, sample and evaluate for the 2014 and 2015 monitoring season; and submit a report, prior to February 2016, the water quality criteria objectives for the Development, to be approved by the Director.

120. The Licencee shall develop a surface water sampling and analysis plan and submit it for approval within six (6) months of the date of issuance of this Licence. The plan shall propose the location, type and number of locations to be sampled from the surface water management system, the parameters and frequency of sampling. The Licencee shall maintain records of the results of all such analyses.

121. The Licencee shall undertake, at a frequency deemed appropriate by the Director, the sampling and analysis of water flowing onto and off the Development from the Surface Water Management System, for the parameters and at a frequency identified in the plan submitted and approved pursuant to Clause 120 of this Licence.

GROUNDWATER

Monitoring and Reporting – Groundwater

122. As a result of the operation of the Development, the Licencee shall not cause the concentration values of the parameters listed in Appendix 'F', attached to this Licence, to exceed background levels in groundwater at the compliance boundary.

123. The Licencee shall develop a groundwater monitoring, sampling and analysis plan and submit it for approval within six (6) months of the date of issuance of this Licence. The plan shall propose the location, type and number of locations to be monitored and sampled, the parameters and the frequency of sampling. The Licencee shall maintain records of the results of all such analyses.

GROUNDWATER AND SURFACE WATER REPORT AND CONTINGENCY ACTION PLAN

Monitoring and Reporting

124. The Licencee shall prepare a report which compares the analytical results obtained for the sampling with the results from previous sampling events, and shall provide annually to the Director a report summarizing the results in the report pursuant to Clause 127 of this Licence.

125. The Licencee shall submit to the Director for approval, within six (6) months of the date of issuance of this Licence, a plan that includes a Contingency Action Plan to be implemented in the event that the monitoring program identifies any parameter in surface or groundwater at the property boundary, as a result of the operation of the Development, in excess of background levels. The Contingency Plan shall assess the significance of the exceedance in relation to applicable groundwater and surface water criteria, and action to be taken to mitigate the contamination, if required.

126. The Licencee shall notify an Environment Officer of all incidents requiring Contingency Action Plan implementation regarding groundwater or surface water pollution within seven (7) days of identification of an incident; notification shall include the nature of the incident, the area affected (when determined), immediate actions taken and follow up action proposed to be taken.

ANNUAL REPORT

127. The Licencee shall, unless otherwise approved by the Director, on or before the 15th day of April of each year and beginning in 2015, prepare an annual report with respect to all activities at the Development conducted pursuant to this Licence during the previous calendar year. The format of the report shall be approved by the Director and contain information as identified in the Operating Plan approved pursuant to Clause 41 to this Licence.

128. The Licencee shall compare the results included with the report pursuant to Clause 127 of this Licence with annual reports submitted in previous years to show trends and variances. The reports shall identify, at minimum, any significant variations, the cause of the variations and any actions taken.

129. The Licencee shall create an Executive summary from the previous year's annual report, pursuant to Clause 127 of this Licence; the Executive summary is to be submitted to the Director, and made available to the public:
    a) by posting on the City of Winnipeg's website;
    b) by deposit at the City of Winnipeg Millennium Library; and
    c) at the Development site office.

EMERGENCY RESPONSE PLAN

130. The Licencee shall maintain an Emergency Response Plan, in accordance with the Canadian Centre for Occupational Health and Safety emergency planning guidelines or other document acceptable to the Director, outlining procedures to be used in the event of leak, spill, fire, flood or other hazardous condition at the facility, or if waste management functions are disrupted.

131. The Licencee shall have available for inspection by an Environment Officer, upon request, records of the details of all incidents requiring the implementation of the Emergency Response Plan at the Development site office.

SITE SAFETY PLAN

132. The Licencee shall maintain a Site Safety Plan in the Operating Procedures in accordance with Provincial and City requirements.

CLOSURE AND POST CLOSURE

133. The Licencee shall submit to the Director, within one (1) year of the date of issuance of this Licence, a Preliminary Closure and Post Closure Plan for the Development. The plan shall address the closure of the existing and closed waste disposal cells and provide a preliminary plan for the closure of the new waste disposal cells.

134. The Licencee shall submit to the Director, not less than one (1) year prior to closure of an active waste disposal cell of the Development, an updated engineering design for Closure and Post Closure Plan for that component of the Development.

135. The Licencee shall, where an increase in the slope of the final cover due to settlement, or erosion of the final cover occurs during the post-closure period, take remedial action to correct the situation and maintain the design.

136. The Licencee shall implement and maintain the approved Closure and Post Closure Plan for the Development pursuant to Clause 133 or 134 of this Licence.

FINANCIAL ASSURANCE/INSURANCE

137. The Licencee shall provide to the Director confirmation of financial insurance coverage in the form of: Environmental Impairment Liability insurance providing coverage subject to a minimum limit of $1.0 million per occurrence or claim, including coverage for gradual, and sudden and accidental pollution. Coverage to include on-site and off-site clean up costs, and be placed with insurers satisfactory to the Province of Manitoba. The Province of Manitoba shall be added as an Additional Insured on the policy. The policy shall contain a clause stating that the Insurer will give Manitoba 60 days prior written notice in case of significant reduction in coverage or policy cancellation**.**

138. During the term of the Licence, the City of Winnipeg, as Licencee, may self insure for environmental impairment liability. Such self-insurance shall satisfy

Manitoba's requirement for Environmental Impairment Liability insurance as set out in Clause 137 of this Licence.

RECORD DRAWINGS

139. The Licencee shall:
    a) prepare "record drawings" for the Development and label the drawings "record drawings"; and
    b) provide to the Director, within six (6) months, or as otherwise approved by the Director, after completion of construction of each component of the Development, two paper copies and one electronic copy of the "record drawings" of the component of the Development.

REVIEW AND REVOCATION

A. This Licence replaces Licence No. 3081 and No. 2890 R issued to The City of Winnipeg – Water and Waste Department, which is hereby rescinded.

B. This Licence replaces Operating Permit No 1-015 issued to The City of Winnipeg, which is hereby rescinded.

C. 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.

D. 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"

Tracey Braun, M.Sc.
Director
Environment Act

File No.: 5556.00

APPENDIX 'A'
TO ENVIRONMENT ACT LICENCE NO. 3081 R

Misc. Plan No. 10998/1
Brady Land Fill Title Plot

APPENDIX 'B'
TO ENVIRONMENT ACT LICENCE NO. 3081 R

Legal Description of Land Parcels for
Brady Road Resource Management Facility

Title No:	Legal Description
1050929	Parcels D and E Plan 20197 WLTO in OTM Lots 79-82 Parish of St. Norbert
1233636	Parcels A and B Plan 20197 WLTO in OTM Lots 79 to 82 Parish of St. Norbert
1387181	OTM Lots 83, 84 and 85 of the Parish of St. Norbert, exc out of said Lot 83, Firstly: All that portion taken for Public Road Plan 7169 WLTO and secondly: all that portion shown as the Right-of-way of a Power Transmission Line Plan 10328 WLTO and exc out of all of said lots, firstly: all those portions taken for the Right-of-way of Power Transmission Line Plan 9349 WLTO and secondly: all mines and minerals that may be found to exist within upon or under the above described land.
1233778	All that portion of the SLY 132 feet perp of OTM lot 86, of the Parish of St. Norbert which lies to the east of a line drawn parallel to the eastern limit of said lot and distant wly therefrom 1650 feet measure on the southern limit of said lot
1233776	All that portion of nly 132 feet perp of the sly 264 feet perp of OTM Lot 86 Parish of St. Norbert which lies to the east of a line drawn parallel to the eastern limit of said lot and distant wly therefrom 1650 feet measured on the course of the southern limit of said lot.
1233783	All that portion of OTM Lot 86 Parish of St. Norbert which lies to the east of a line drawn parallel to the eastern limit of said lot and distant wly therefrom 1650 feet on the course of the southern limit of said lot exc of the land above described firstly: the sly 264 feet perp and secondly: the nly 10 feet perp
1387227	OTM Lot 86 Parish of St. Norbert, exc firstly: all that portion thereof lying to the east of a line drawn nly parallel to the eastern limit of said lot from a point in the southern limit of said lot distant wly thereon 1650 feet from the said eastern limit, which lies to the south of a line drawn south of parallel with and perp distant 10 feet from the northern limit of said lot and secondly: all those portions thereof taken for the Right-of-way for Transmission Line Plans 9349 and 15762 WLTO.
1387230	OTM Lot 87 Parish of St. Norbert, exc Right-of-way for Power Transmission Line Plans 9349 and 15762 WTLO.
1387091	OTM Lots 88, 89 and 90 Parish of St. Norbert exc firstly: Power Transmission Line Right-of-way (Pink and Green) Plan 9349 WLTO and secondly: Road Plan 24391 WLTO

APPENDIX 'B' (cont'd.)
TO ENVIRONMENT ACT LICENCE NO. 3081 R

Legal Description of Land Parcels for
Brady Road Resource Management Facility

1387094	All that portion of OTM Lot 91 Parish of St. Norbert which lies to the west of the western limit of Road Plan 24391 WLTO exc parcel "B" Plan 13724 WLTO
1233799	Parcels "A" and "B" Plan 13724 WLTO exc Public Road Plan 24391 WLTO in OTM Lot 91 Parish of St. Norbert and in closed government road allowance between OTM Lot 91 and 92 of said Parish
1233807	All that portion of parcel "A" Plan 19793 WLTO which lies to the west of the western limit of Road Plan 24391 WLTO in OTM Lots 92 and 93 Parish of St. Norbert
1240481	All that portion of OTM Lot 94 Parish of St. Norbert taken for Public Work Plan 6493 (now closed) exc public road plans 6788 WLTO and 24391 WLTO
1240483	OTM Lot 94 Parish of St. Norbert exc firstly: Public Work Plan 6493 WLTO (Closed) and secondly: Public Road Plans 6788 WLTO and 24391 WLTO
1233797	All that portion of OTM Lot 95 Parish of St. Norbert which lies to the south west of the north eastern limit of Public Road Plan 6788 WLTO exc firstly: said Road Plan 6788 and secondly: Public Road Plan 24391 WLTO
1233785	All those portions of OTM Lot 101 and of the S ½ of OTM Lot 102 of the Parish of St. Norbert which lie to the south west of the south-western limit of Public Road Plan 6788 WLTO
1233784	All those portions of OTM Lot 103 and of the N 1/2 of OTM Lot 102 Parish of St. Norbert which lie to the south west of the south-western limit of Public Road Plan 6788 WLTO
1240478	All those portions of OTM Lots 104, 105 and 106 Parish of St. Norbert which lie to the SW of Public Highway Plan 6788 WLTO exc all mines and minerals as the same are more fully setforth in transfer No. A37539 WLTO and Exc out of said Lot 106, Plan 21972 WLTO

APPENDIX 'C'
TO ENVIRONMENT ACT LICENCE NO. 3081 R

City of Winnipeg Brady Road Resource Management Facility Master Plan

****A COPY OF THE LICENCE MUST BE KEPT ON SITE AT THE DEVELOPMENT AT ALL TIMES****

APPENDIX 'D'
TO ENVIRONMENT ACT LICENCE NO. 3081 R

City of Winnipeg Brady Road Resource Management Facility
Landfill Cell Location Plan

APPENDIX 'E'
TO ENVIRONMENT ACT LICENCE NO. 3081 R

City of Winnipeg Brady Road Resource Management Facility
Community Liaison Committee

Responsibility

The City of Winnipeg will establish and chair the Community Liaison Committee for the Brady Road Resource Management Facility.

Representation

The Committee shall consist of the following representatives, at minimum:

City of Winnipeg Water and Waste Division, Chair
Rural Municipality of Macdonald
Rural Municipality of Ritchot
LADCO Representative
Citizen Representatives – 1 appointed by each Rural Municipality that participates and 3 appointed by the City of Winnipeg
Manitoba Conservation and Water Stewardship

A secretary will be assigned, by the Chair, to record discussion and decisions for each meeting when the meeting is called to order.

Terms of Reference

The Committee shall meet as required by planning, construction and operational activities, but not less frequently than twice a year for the first five years. The first meeting shall occur within six (6) months of the issuance of this Licence. Following construction; meeting frequency is to be determined by the Committee.

The Chair of the Committee shall notify Manitoba Conservation and Water Stewardship 14 days prior, of the time and location of the next meeting. Minutes from the meetings shall be documented and the Chair will be required to have meeting minutes submitted to an Environment Officer within sixty (60) days following a meeting called by the Chair.

The Committee shall provide advice to the Licencee and the Director respecting the following:

1. The development of the landscaping plan required in Licence Clause 21.
2. The extent and frequency of noise and odour monitoring required in Licence Clause 41.
3. Measures to mitigate the impact of construction activities on the local environment.
4. Measures to mitigate the impact of operational activities on the local environment.

APPENDIX 'F'
TO ENVIRONMENT ACT LICENCE NO. 3081 R

COMPREHENSIVE WATER QUALITY CHEMICAL AND MICROBIOLOGICAL PARAMETERS

Parameter	Notes
Alkalinity-bicarbonate	Dissolved
Alkalinity-carbonate	Dissolved
Alkalinity-hydroxide	Dissolved
Alkalinity-total	Dissolved
Hardness- as $CaC0_3$	Dissolved
pH-units	Dissolved
Specific Conductivity	Dissolved
Turbidity-NTU	
Residue-filterable	
Residue-non filterable	
Residue-total	
Chloride	Dissolved
Sulphate	Dissolved
Cyanide-total	Dissolved
Ammonia	Dissolved
Nitrate-Nitrite-Nitrogen	Dissolved
Total Kjeldhal Nitrogen	
Phosphorus	Dissolved
Arsenic	Dissolved
Barium	Dissolved
Beryllium	Dissolved
Cadmium	Dissolved
Calcium	Dissolved
Chromium	Dissolved
Copper	Dissolved
Iron	Dissolved
Lead	Dissolved

APPENDIX 'F' (cont'd.)
TO ENVIRONMENT ACT LICENCE NO. 3081 R
COMPREHENSIVE WATER QUALITY CHEMICAL AND MICROBIOLOGICAL PARAMETERS

Parameter	Notes
Magnesium	Dissolved
Manganese	Dissolved
Mercury	Total
Nickel	Dissolved
Potassium	Dissolved
Selenium	Dissolved
Silver	Dissolved
Sodium	Dissolved
Zinc	Dissolved
Naphthalene	
Benzo a pyrene	
Anthracene	
CCME Petroleum Hydrocarbon Fraction 1	
CCME Petroleum Hydrocarbon Fraction 2	
CCME Petroleum Hydrocarbon Fraction 3	
CCME Petroleum Hydrocarbon Fraction 4	
Leachable Lead	
Benzene	
Ethylbenzene	
Toluene	
Xylene	
Vinyl Chloride	
Diazinon	
2, 4-D	
Coliforms	Fecal & Total
*E.*Coli	

APPENDIX 'G'
TO ENVIRONMENT ACT LICENCE NO. 3081 R

SURFACE WATER QUALITY CHEMICAL AND MICROBIOLOGICAL PARAMETERS

Parameter	Notes
Alkalinity-bicarbonate	Dissolved
Alkalinity-carbonate	Dissolved
Alkalinity-hydroxide	Dissolved
Alkalinity-total	Dissolved
Hardness as $CaCo_3$	Dissolved
pH-units	Dissolved
Specific Conductivity	Dissolved
Turbidity-NTU	
Residue-filterable	
Residue-non filterable	
Residue-total	
Chloride	Dissolved
Sulphate	Dissolved
Cyanide-total	Dissolved
Ammonia	Dissolved
Nitrate-Nitrite-Nitrogen	Dissolved
Total Kjeldhal Nitrogen	
Phosphorus	Dissolved
Arsenic	Dissolved
Barium	Dissolved
Beryllium	Dissolved
Cadmium	Dissolved
Calcium	Dissolved
Chromium	Dissolved
Copper	Dissolved
Iron	Dissolved
Lead	Dissolved
Magnesium	Dissolved
Manganese	Dissolved
Mercury	Dissolved
Nickel	Dissolved
Potassium	Dissolved
Selenium	Extractable
Sodium	Dissolved
Zinc	Dissolved
Coliforms	Fecal & Total
COD & BOD	
*E.*Coli	

APPENDIX 'H'
TO ENVIRONMENT ACT LICENCE NO. 3081 R

SOIL SAMPLING

1. The Licencee shall provide a drilling rig, acceptable to the designated Environment Officer, to extract soil samples from the specified liner of the structure. This includes all liners constructed with clay. The drill rig shall have the capacity to drill to the maximum depth of the clay liner plus an additional 2 metres. The drill rig shall be equipped with both standard and hollow stem augers. The minimum hole diameter shall be 5 inches.
2. For liners placed or found at the surface of the structure, the Licencee shall provide a machine, acceptable to the designated Environment Officer, capable of pressing a sampling tube into the liner in a straight line motion along the centre axis line of the sample tube and without sideways movement.
3. Soil samples shall be collected and shipped in accordance with ASTM Standard D 1587 (Standard Practice for Thin-Walled Tube Sampling of Soils), D 4220 (Standard Practice for Preserving and Transporting Soil Samples) and D 3550 (Standard Practice for Ring-Lines Barrel Sampling of Soils). Thin-walled tubes shall meet the stated requirements including length, inside clearance ratio and corrosion protection. An adequate venting area shall be provided through the sampling head.
4. At the time of sample collection, the designated Environment Officer shall advise the Licencee as to the soil testing method that must be used on each sample. The oedometer method may be used for a sample were the Environment Officer determines that the soil sample is taken from an undisturbed clay soil which has not been remoulded and which is homogeneous and unweathered. The triaxial test shall be used for all samples taken from disturbed and remoulded soils or from non homogenous and weathered soils.
5. The Licencee shall provide a report on the collection of soil samples to the designated Environment Officer and to the laboratory technician which includes but is not limited to: a plot plan indicating sample location, depth or elevation of sample, length of advance of the sample tube length of soil sample contained in the tube after its advancement, the soil test method specified by the Environment Officer for each soil sample and all necessary instructions from the site engineer to the laboratory technician.
6. All drill and sample holes shall be sealed with bentonite pellets after the field drilling and sampling has been completed.

APPENDIX 'H' (cont'd.)
TO ENVIRONMENT ACT LICENCE NO. 3081 R

SOIL TESTING METHODS

1. Triaxial Test Method
   a) The soil samples shall be tested for hydraulic conductivity using ASTM D 5084 (Standard Test Method for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter).
   b) Soil specimens shall have a minimum diameter of 70 mm (2.75 inches) and a minimum height of 70 mm (2.75 inches). The soil specimens shall be selected from a section of the soil sample which contains the most porous material based on a visual inspection. The hydraulic gradient shall not exceed 30 during sample preparation and testing. Swelling of the soil specimen should be controlled to adjust for: the amount of compaction measured during sample collection and extraction from the tube and the depth or elevation of the sample. The effective stress used during saturation or consolidation of the sample shall not exceed 40 kPa (5.7 psi) or the specific stress level, that is expected in the field location were the sample was taken, which ever is greater.
   c) The complete laboratory report, as outlined in ASTM D 5084, shall be supplied for each soil sample collected in the field.

2. Oedometer Test Method
   a) The soil samples shall be tested for hydraulic conductivity using ASTM D 2435 (Standard Test Method for One-Dimensional Consolidation Properties of Soils).
   b) Soil specimens shall have a minimum diameter of 50 mm (2 inches) and a minimum height of 20 mm (0.8 inches). The soil specimens shall be selected from a section of the soil sample which contains the most porous material based on a visual inspection. The soil specimen shall be taken from an undisturbed soil sample. The soil specimen shall be completely saturated.
   c) The complete laboratory report, as outlined in ASTM D 2435, shall be supplied for each soil sample collected in the field.

****A COPY OF THE LICENCE MUST BE KEPT ON SITE AT THE DEVELOPMENT AT ALL TIMES****