

**PROJECT DESCRIPTION  
REPORT**

**LINDSAY – OPS LANDFILL SITE  
RENEWABLE ENERGY GENERATION FACILITY  
Lindsay, Ontario**

Prepared for

**CITY OF KAWARTHA LAKES**

Lindsay – Ops Landfill Site  
51 Wilson Road  
Lindsay, Ontario  
K9V 4R3

Prepared by

**COMCOR ENVIRONMENTAL LIMITED**

320 Pinebush Road, Suite 12  
Cambridge, Ontario  
N1T 1Z6

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RENEWABLE ENERGY GENERATION FACILITY**

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RENEWABLE ENERGY GENERATION FACILITY**

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## 1.0 INTRODUCTION

Comcor Environmental Limited (Comcor) was retained by the City of Kawartha Lakes (City) to prepare this Project Description Report (PDR) for the operation of a Renewable Energy Generation Facility (Facility) at the Lindsay – Ops Landfill Site (Site) in Lindsay, Ontario.

This Report has been prepared in accordance with Ontario Regulation (O.Reg.) 359/09 and is being submitted as part of a Renewable Energy Approval (REA) application for the Facility.

### 1.1 General Information

The City proposes to construct and operate a landfill gas fired generator to power its on-site Water Pollution Control Plant (WPCP) and landfill facilities. The official name of the project is:

*Lindsay – Ops Landfill Site Renewable Energy Generation Facility*

The Facility will be entirely contained within a lockable fenced compound at the City owned Lindsay – Ops Landfill Site and WPCP. Electricity will be sent to the WPCP and landfill facilities via buried transmission lines. The Site is located approximately 1 kilometre north of the Town of Lindsay and is legally described as Lots 25, 26 and 27, Concession 6, City of Kawartha Lakes. A site location map is provided as Figure 1.

### 1.2 Contacts

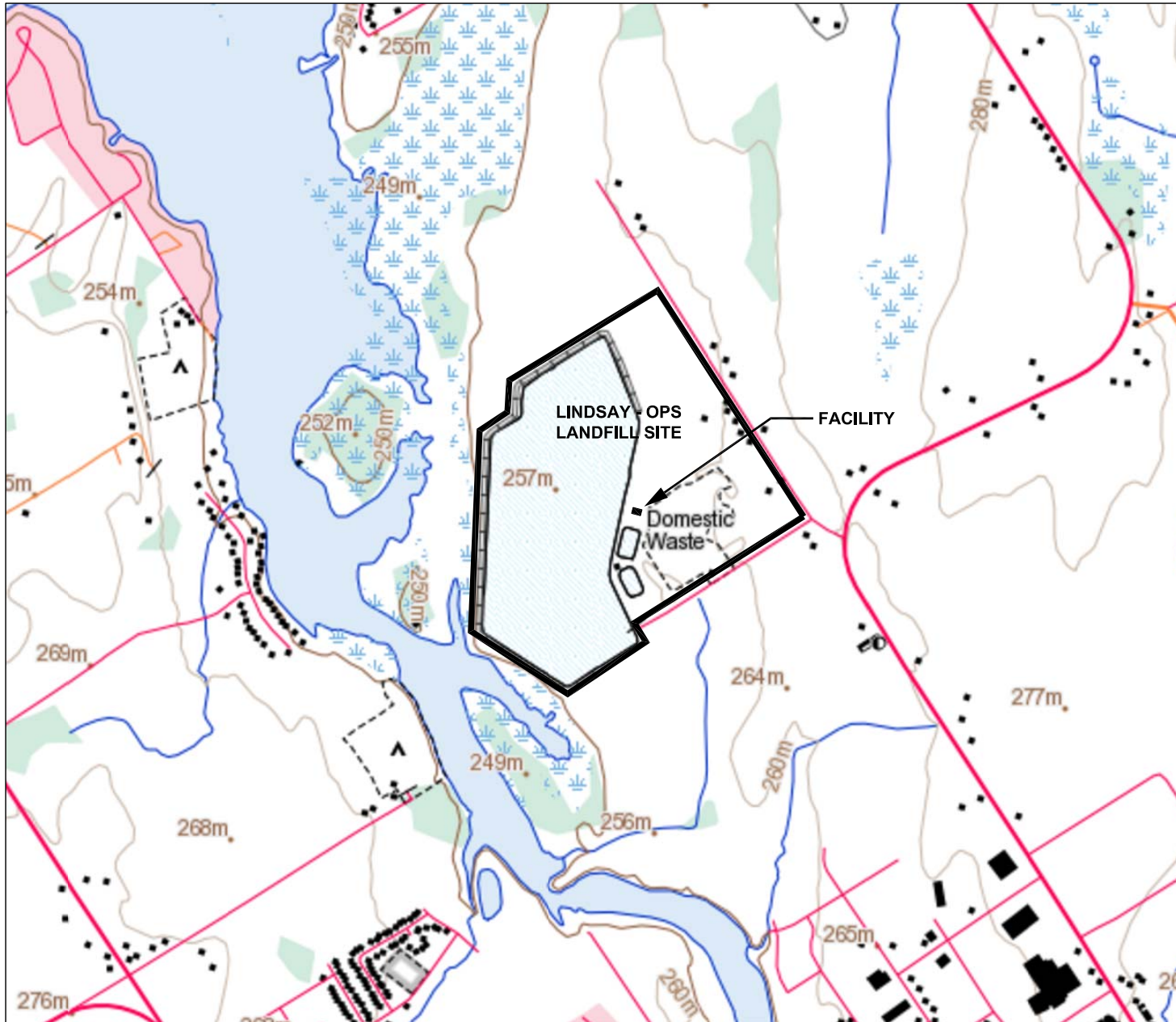
The City of Kawartha Lakes is the applicant and Comcor Environmental Limited is the engineering consultant representing the City. Contact information for the City and Comcor is provided below:

David Kerr, P.Geo  
Manager of Environmental Services  
City of Kawartha Lakes  
Solid Waste Services  
12 Peel Street, 2nd Floor  
Lindsay, Ontario K9V 3L8  
Tel: 705-324-9411 ext. 1118  
Fax: 705-328-3122

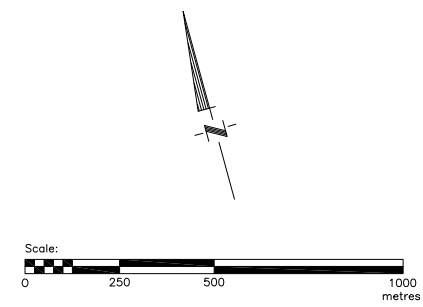
Denise Burgess, P.Eng.  
Project Engineering Manager  
Comcor Environmental Limited  
320 Pinebush Road, Suite 12  
Cambridge, Ontario N1T 1Z6  
Tel: 519-621-6669 ext. 236  
Fax: 519-621-9944

### 1.3 Authorizations Required/Federal Involvement

No other authorizations, other than the REA approval, are required for this project. Additionally, no federal involvement is required for this project.



KEY PLAN  
N.T.S.



**COMCOR**  
ENVIRONMENTAL LIMITED  
Consulting Engineers and Landfill Gas Specialists



**CITY OF KAWARTHA LAKES**  
**ENVIRONMENTAL SERVICES**

**LINDSAY - OPS LANDFILL SITE**

Figure 1  
PROJECT  
LOCATION MAP

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## 2.0 PROJECT INFORMATION

### 2.1 Energy Sources

Landfill gas is the main fuel source used to power the electricity generating equipment. Landfill gas is produced as a by-product of the biological decomposition of organic matter in refuse, and is typically composed of 38 to 58% methane by volume, 30 to 48% carbon dioxide by volume, and other trace compounds.

If left uncollected, landfill gas is fugitively released to the atmosphere contributing to odour and anthropogenic methane emissions. The Facility's combustion equipment has a methane destruction efficiency greater than 97%, significantly reducing greenhouse gas emissions.

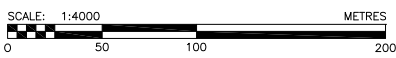
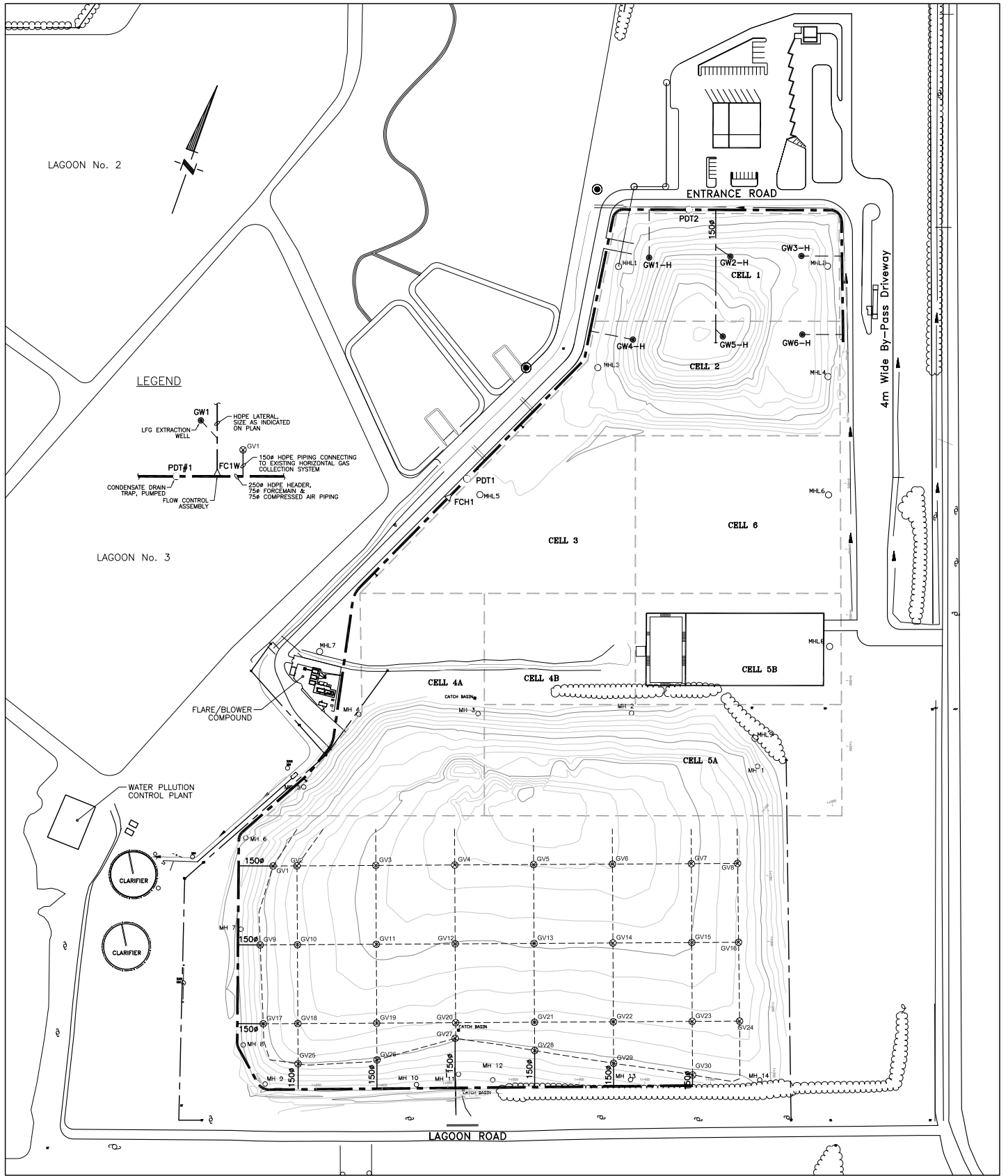
Other energy sources used at the Facility include electricity from the grid to power the mechanical equipment (i.e. blower, instrumentation and valving), and small amounts of propane gas used to operate the pilot ignition systems.

### 2.2 Project Components

Landfill gas will be collected by extraction wells drilled vertically into the waste. The gas will then be conveyed to the Facility via a network of buried high density polyethylene (HDPE) piping as shown in Figure 2. Recent amendments to Regulation 347 mandate that all operating landfills larger than 1.5 million cubic metres are required to install collection systems to control fugitive landfill gas emissions. Since the Lindsay – Ops Landfill Site has a total waste disposal capacity of 2.34 million cubic metres (including the south closed fill area and the north expansion fill area), a landfill gas collection and control system is required by regulation. A copy of the Site's Certificate of Approval (CofA) (Waste) is provided in Appendix A.

A regenerative blower will be used to apply a vacuum and extract the landfill gas from the wellfield. Compressed gas from the blower will then be cooled, dehydrated and filtered by the conditioning system, which will consist of an aftercooler, dryer, filter coalescer and siloxane filter. Condensate collected from the conditioning system will be sent to a sealed concrete chamber within the Facility compound. From the chamber, condensate will be pumped to the landfill's leachate collection system where it will be sent for treatment at the WPCP.

Treated gas will be combusted in one (1) four-stroke, spark ignited reciprocating Jenbacher JGC208 engine (Genset). The engine will be direct coupled to a 335 kW generator. Based on a methane concentration 50% by volume, the Genset will consume on the order of 195 cubic metres per hour ( $\text{m}^3/\text{hr}$ ) (115 cubic feet per minute (cfm)) of landfill gas. The Genset will be equipped with an exhaust gas silencer capable of reducing the residual sound pressure to a safe level in compliance with the Ontario Ministry of the Environment (MOE) NPC-205 noise guidelines.



<p><b>COMCOR</b> ENVIRONMENTAL LIMITED Consulting Engineers and Landfill Gas Specialists</p>	<p>City of <b>KAWARTHA LAKES</b> Cité de Kawartha Lakes</p> <p><b>CITY OF KAWARTHA LAKES ENVIRONMENTAL SERVICES</b></p> <p><b>LINDSAY - OPS LANDFILL SITE</b></p>	<p>Figure 2 SITE PLAN</p>
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In the event of a Genset shutdown, an enclosed flare will operate as a back-up landfill gas control device. The flare has been designed to combust landfill gas at a flow rate of up to 425 m<sup>3</sup>/hr (250 cfm), which is approximately the maximum quantity expected to be recovered from the Site. The flare will have a fully enclosed flame with a 100% smokeless capacity and operate free of pulsation and vibration.

The Facility will be operated by a programmable logic controller (PLC) for safe overall system operation and control. If any component deviates from its operating setpoints, the PLC will shut down the Facility. All system failures and/or alarms will be displayed on the PLC control panel. Any alarms which shut down the Facility are also transmitted to system operators via a dedicated internet connection. Emergency stop switches will be located in several locations around the Facility for rapid shutdowns.

The Facility will be connected to the electricity grid through the Net Metering Program. Under this program, when the WPCP or landfill facilities require power, it will selectively consume electricity generated by the Facility, displacing the need for electricity from the grid. If more power is generated than consumed, the Net Meter will register a credit at the same rate the City is charged for grid power. Credits can be applied towards usage based charges on the next meter read invoice. If more electricity is needed than supplied by the Facility, the City will be billed at the going rate of grid electricity.

A process flow diagram for the main Facility components is provided as Figure 3.

### ***2.3 Renewable Energy Generation Facility Class***

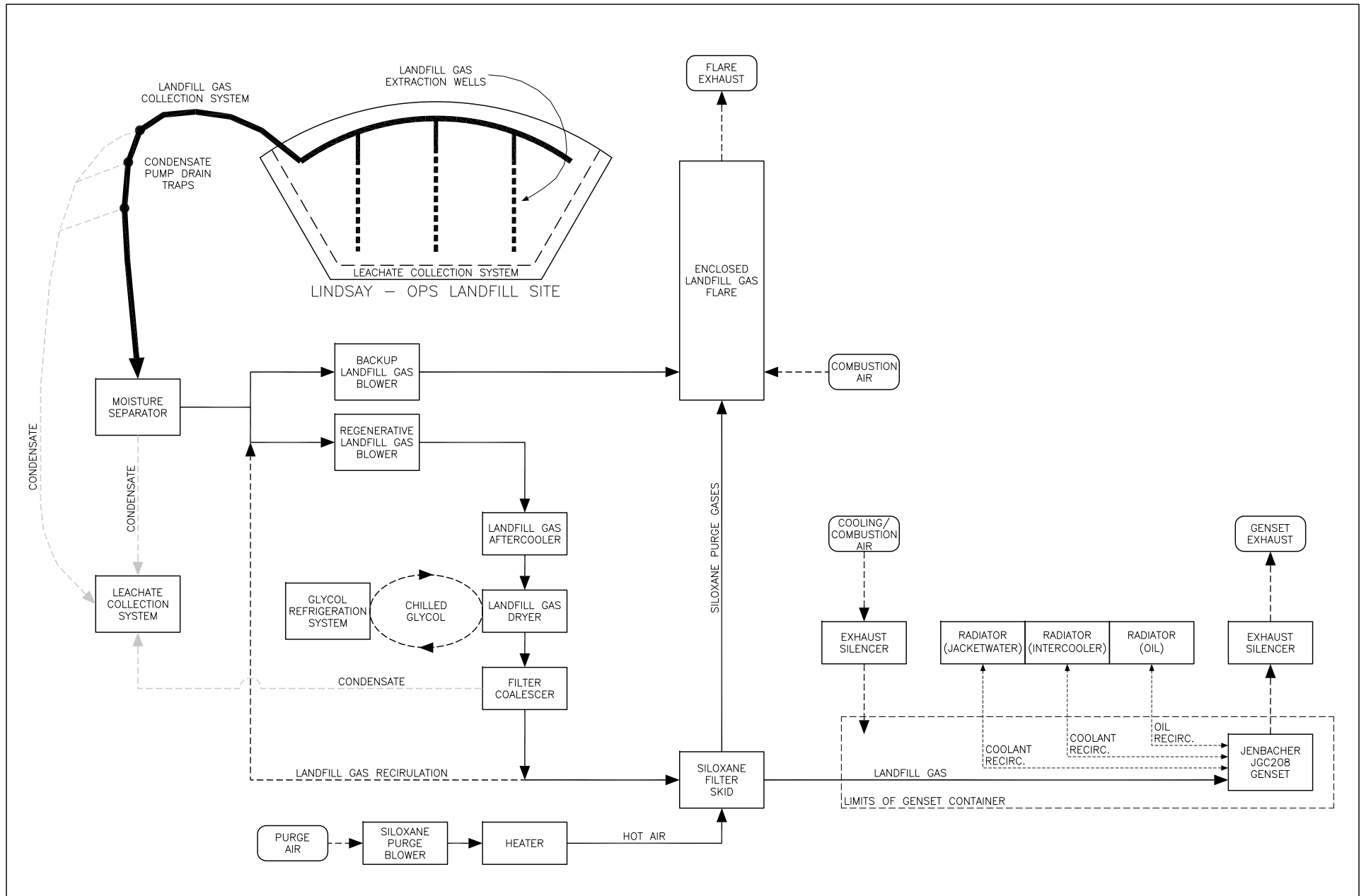
The Lindsay – Ops Landfill Site Renewable Energy Generation Facility will be of the Bio-energy type and will use biogas as its main fuel source. As stated in Section 2.2, electricity will be generated by a Jenbacher JGC208 internal combustion engine direct coupled to a 335 kW generator.

### ***2.4 Project Activities***

During construction of the Facility, the Ontario Health and Safety Act and associated Regulations will be adhered to. Primary health and safety concerns include, but are not limited to, trenching and excavation, confined space entry, hot work, and electrical hazards. All construction staff will be trained and certified in their respective fields of work.

Operation of the Facility is regulated by the Technical Standards and Safety Act (TSSA). After the Facility is constructed, the TSSA will perform an inspection to ensure that the following Codes and Regulations are being met:

- Ontario Regulation 212/04 – Gaseous Fuels
- CAN/CGA-B105-M93 – Code for Digester Gas and Landfill Gas Installations



- CAN/CSA-B149.3-05 – Natural Gas and Propane Installation Codes

It is anticipated that the Facility will be installed and commissioned by December 31<sup>st</sup>, 2011. However, the City recognizes that there may be some overlap into 2012. The Genset has been sized according to the amount of landfill gas expected to be recovered from the Site, and the power requirements of the City's WPCP. The peak landfill gas recovery rate is estimated to be on the order of 425 m<sup>3</sup>/hr (250 cfm). Since the Genset will consume on the order of 195 m<sup>3</sup>/hr (115 cfm), it is unlikely that an expansion or modification to increase the electrical generation capacity will ever be considered.

Solid wastes produced by the Facility will include used oil filters and siloxane filter media. Oil filters will be changed approximately every 1,000 hours, and siloxane filter media will be changed once per year. All solid wastes will be disposed of according to Provincial Regulations. Liquid wastes include used engine oil and glycol coolant. Engine oil will be changed approximately every 1,000 hours, and glycol will be changed once per year. All liquid wastes will be managed according to Provincial Regulations. No other liquid or potential hazardous materials will be used or produced as by-products at the Facility.

Air emissions will be produced by the Genset and enclosed flare. Expected pollutants include combustion by-products and small amounts of uncontrolled landfill gas constituents. The Genset and enclosed flare will destroy the majority of trace gases present in the landfill gas, such as hydrogen sulphide, significantly reducing odour emissions. An Emission Summary and Dispersion Modelling Report will be completed to ensure that air emissions are below the standards stated in O.Reg. 419/05: Air Pollution – Local Air Quality. Preliminary modelling indicates that the Genset and enclosed flare are well within the air quality standards for all air emissions.

The landfill gas extraction blower, Genset and enclosed flare will also produce noise emissions. Noise emissions from the enclosed flare will be minimal and the Genset will be equipped with an exhaust gas silencer capable of reducing the residual sound pressure to a safe level. O.Reg 359/09 does not specify a minimum setback distance for biogas projects, but does require a Noise Study Report to be completed to ensure that noise emissions are below Ontario's standards. This report is in the process of being completed.

The Facility will use the Site's existing ground elevation contours to manage stormwater. Surface water runoff will be directed towards existing perimeter ditches. No buried stormwater management piping will be installed. As described in Section 2.2, condensate removed by the landfill gas conditioning system will be stored in a concrete chamber and ultimately treated at the WPCP. There will be no water-taking activities associated with the Facility.

## **2.5 Nameplate Capacity**

The Jenbacher JGC208 has a nameplate capacity of 335 kW.

## ***2.6 Land Ownership***

The Renewable Energy Generation Facility and associated power transmission lines will be installed entirely on the City owned Lindsay – Ops Landfill Site. The Landfill Site is legally described as Lots 25, 26 and 27, Concession 6, City of Kawartha Lakes.

## ***2.7 Description of Environmental Effects***

### ***2.7.1 Heritage and Archaeological Resources***

In the year 2000, the former County of Victoria submitted an application to the MOE for the Continued Use and North Expansion of the Lindsay – Ops Landfill Site. As part of the application, a Stage 1 Archaeological/Heritage Assessment was completed.

Results of the Assessment revealed that the historic land use had been agricultural with the area settled in the mid nineteenth century. No archaeological or heritage resources were identified within a 1000 metre radius of the study area. The Assessment also revealed a railway bridge abutment situated on the west bank of the Scugog River, approximately 1000 metres from the landfill's property line. However, it was concluded that the abutment was not officially designated and that continued use of the landfill would have no negative impact on the structure.

The Renewable Energy Generation Facility is unlikely to have any additional negative environmental effects on surrounding heritage and archaeological resources.

### ***2.7.2 Natural Heritage Resources***

Over the past 20 years, several assessments of the natural environment have been undertaken. Assessments of significance include:

- Lindsay – Ops Landfill Site Biological Assessment Report (Totten Sims Hubiki, 1991)
- Landfill Assessment and Wetland Impact Study (Golder Associates Ltd., 2008)
- Continued Use and North Expansion of Existing Lindsay – Ops Landfill: Natural Environment Assessment (Earth Tech Canada Inc., 2000)

A Landfill Assessment and Wetland Impact Study is completed every 5 years, the most recent of which was completed in 2008.

The Assessments identify a Class 1 Provincially Significant Wetland, referred to as the Sturgeon Lake Wetland, located approximately 500 m west of the proposed Facility location. The City's WPCP sewage lagoons are located between the Facility and Wetland.

The Ministry of Natural Resources (MNR) designates the Scugog River and Sturgeon Lake as warm water fisheries areas containing walleye, muskellunge, small and large mouth bass, and yellow perch. The river and wetlands also provide a habitat for waterfowl, osprey and other migratory birds. Significant species present in habitats surrounding the Site include the Least Bittern and Black Tern. The Least Bittern is listed as threatened by the Committee on the Status of Endangered Wildlife (COSEWIC), and the Black Tern is listed as a special concern by the MNR.

The Site lies within the Huron-Ontario Section of the Great Lakes – St. Lawrence Forest Region. The area surrounding the Site is predominantly agricultural (old fields and scrublands), and extensive forest tracts no longer exist. Existing forested areas appear mostly as isolated woodlots scattered between agricultural and urbanized areas.

The nearest provincial park/conservation area is the Ken Reid Conservation Area, which is located 2 km northwest of the Site.

The Impact Assessment provided in Earth Tech’s Natural Environment Assessment concluded that the continued use and north expansion of the landfill would have a “Low to No” net effect on the natural environment.

The Renewable Energy Generation Facility is unlikely to have any additional negative environmental effects on surrounding natural heritage resources.

### 2.7.3 *Water Bodies*

The Scugog River is located approximately 1000 m west of the proposed Facility location. The River is part of the Trent-Severn Waterway and flows north approximately 20 km from Lake Scugog emptying into Sturgeon Lake. The section of river closest to the Facility varies in width between 70 m and 300 m.

The existing contours of the Site have been designed to divert all surface water towards perimeter stormwater ditches. Surface drainage from non-contaminated areas, such as road areas and landfill areas with final cover, are conveyed to stormwater management ponds where suspended sediment is allowed to settle. The stormwater is tested for several parameters before being released to the Scugog River. The perimeter ditches and ponds are designed to handle a 100-year storm event, which ensures no increase in flood risk or erosion in the downstream watercourses.

Surface drainage from potentially contaminated areas, such as active filling areas and waste storage areas, is contained on-site with berms, and pumped to the leachate collection system.

The City has a rigorous surface water and groundwater monitoring program in place to ensure that the Site is not adversely affecting the surrounding environment. Surface water and groundwater are regularly monitored throughout the year. To date, the stormwater management plan at the Site is operating as intended.

The Renewable Energy Generation Facility will use the Site's existing ground elevation contours to direct stormwater towards existing perimeter ditches. To protect surface water and groundwater from accidental spills to the environment, oil and glycol tanks will be double-walled and surrounded by concrete spill containment dikes. Therefore, the Facility is unlikely to have any additional negative environmental effects on surrounding water bodies.

#### *2.7.4 Air, Odour, Dust*

The Genset and enclosed flare will emit combustion by-products such as carbon dioxide, carbon monoxide, nitrogen dioxide, particulate matter, sulphur dioxide and hydrogen chloride. The control efficiency of the Genset and Flare is on the order of 97%, meaning 97% of landfill gas constituents, such as hydrogen sulphide, will be destroyed during combustion. The result will be a significant decrease in odour emissions, since all landfill gas is currently being directly emitted to the atmosphere as fugitive emissions. Dust emissions are not expected to be released from the Facility.

An Emission Summary and Dispersion Modelling Report will be completed to ensure that air emissions are below the standards stated in O.Reg. 419/05: Air Pollution – Local Air Quality. Preliminary modelling indicates that the Genset and enclosed flare are well within the air quality standards for all air emissions.

#### *2.7.5 Noise*

The landfill gas extraction blower, Genset and enclosed flare will produce noise emissions. To minimize noise emissions, the Genset will be equipped with an exhaust gas silencer capable of reducing residual sound pressure to a safe level, and the enclosed flare will be designed to operate free of pulsation and vibration.

O.Reg 359/09 does not specify a minimum setback distance for biogas projects, but does require a Noise Study Report to be completed to ensure that noise emissions are below Ontario's standards. Experience with other landfill gas utilization facilities with multiple Gensets suggests that the proposed Facility will be well within Ontario's noise emission standards.

#### *2.7.6 Land Use and Resources*

The Renewable Energy Generation Facility will be constructed entirely on the existing, City owned Lindsay – Ops Landfill Site. The landfill began receiving municipal solid waste in 1980 and is projected to remain open for at least another twenty (20) years.

Historic and current land use surrounding the Site is predominantly agricultural. Non-agricultural land uses located approximately 1000 m from the Site include a seasonal trailer park, residential cottage dwellings, and the Central East Correctional Centre. No known aggregate resources, petroleum wells, recreation areas or forest resources exist within 300 m of the Site.

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The Renewable Energy Generation Facility is unlikely to have any additional negative environmental effects on surrounding land use and resources.

#### *2.7.7 Provincial and Local Infrastructure*

Since the Facility is located entirely on the City owned Lindsay – Ops Landfill Site, no negative environmental effects to provincial and local infrastructure are expected.

#### *2.7.8 Public Health and Safety*

The Facility will be entirely contained within a lockable fenced compound to ensure that the public has no access to any equipment. All power transmission lines to the WPCP will be buried. The Facility will be operated by a programmable logic controller for safe overall system operation and control. If any component deviates from its operating setpoints, the PLC will shut down the Facility. Emergency stop switches will be located in several locations around the Facility for rapid system shutdowns.

Aside from the air and noise emissions described in Sections 2.7.4 and 2.7.5, respectively, the Renewable Energy Generation Facility is unlikely to have any additional negative environmental effects on public health and safety.

#### *2.7.9 Areas Protected under Provincial Plans and Policies*

The Lindsay – Ops Landfill Site is not located in the Protected Countryside and or Natural Heritage System as described in the Greenbelt Plan and Greenbelt Act. The Site is also not located in the Oak Ridges Moraine Conservation Plan Area, Niagara Escarpment Plan Area, or Lake Simcoe Watershed Plan Area.

### 3.0 CONCLUSIONS

This Project Description Report has been prepared in accordance with O.Reg. 359/09 and is being submitted as part of a Renewable Energy Approval (REA) application for the Lindsay – Ops Landfill Site Renewable Energy Generation Facility. This Report provides a general description of the Facility and a summary of its potential negative environmental effects.

All of which is Respectfully Submitted  
**COMCOR ENVIRONMENTAL LIMITED**

Jonathan Petsch, EIT  
Engineering Project Coordinator

Denise Burgess, P.Eng.  
Project Engineering Manager

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**APPENDIX A**

Certificate of Approval (Waste) No. A321504

DRAFT



Ministry  
of the  
Environment

Ministère  
de  
l'Environnement

AMENDED PROVISIONAL CERTIFICATE OF APPROVAL  
WASTE DISPOSAL SITE  
NUMBER A321504  
Issue Date: January 25, 2008

Ontario

The Corporation of the City of Kawartha Lakes  
12 Peel Street  
Lindsay, Ontario  
K9V 3L8

Site Location: Lindsay - Ops Landfill Site  
51 Wilson Road, Lot 25,26,27, Concession 6, former Ops Township  
Kawartha Lakes City,

*You have applied in accordance with Section 27 of the Environmental Protection Act for approval of:*

**The continued use and north expansion of the Lindsay-Ops Landfill Site**, consisting of a **21.2 hectare waste fill area** (existing fill area and north expansion fill area) within a total site area of **53.9 hectares** (36.9 hectares north of Lagoon Road right-of-way, 17 hectares south of Lagoon Road right-of-way), as shown on Map 1-2, Surrounding Land Use, and Map 2-1, Property Plan, Earth Tech Canada Inc., March 2001 (Item 35(m) in Schedule "A" attached to this Certificate), and more particularly described in Item 35(c) and Item 22 in Schedule "A" attached to this Certificate.

to be used for the landfilling of the following types of waste:

**solid non-hazardous municipal waste** (as defined in Reg. 347) generated within the boundaries of the City of Kawartha Lakes, including wastes generated by residential, commercial, institutional and industrial sectors, contaminated fill, and biosolids (processed organic waste) restricted to treated and dewatered sewage sludge from the Lindsay Water Pollution Control Plant (WPCP).

Note: Use of the site for any other type of waste is not approved under this Certificate, and requires obtaining a separate approval amending this Certificate.

*For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:*

- a. "*Certificate*" means this Provisional Certificate of Approval, including all terms, conditions and Schedules attached to and forming part of this Certificate, as amended by the Director.
- b. "*Director*" means the Director under Section 39 of the *Environmental Protection Act*.
- c. "*District Manager*" means the District Manager of the Peterborough District Office, Eastern Region, Ontario Ministry of the Environment, or his/her representative.
- d. "*EPA*" means the *Environmental Protection Act*, R.S.O. 1990, c. E.19, as amended.
- e. "*Existing Fill Area*" means the existing 10 hectare waste disposal fill area, as shown on Map 2-1, Property Plan, Earth Tech Canada Inc., dated March 2001 (Item 35(m) in Schedule "A" attached to this Certificate).
- f. "*MOE*" or "*Ministry*" means the Ontario Ministry of the Environment.
- g. "*North Expansion Fill Area*" means the 13.24 hectare expansion waste disposal fill area, as shown on Map 2-1, Property Plan, Earth Tech Canada Inc., dated March 2001 (Item 35(m) in Schedule "A" attached to this Certificate).
- h. "*Owner*" or "*City*" means the Corporation of the City of Kawartha Lakes.
- i. "*OWRA*" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended.

## CONTENT COPY OF ORIGINAL

j. "*Professional Engineer*" means an engineer licenced to engage in the practice of professional engineering, as defined in the *Professional Engineers Act*, R.S.O. 1990, c. P-28, as amended.

k. "*PRC*" means the Public Review Committee for this landfilling site, as described in the conditions in this Certificate.

l. "*Reg. 232*" means Ontario Regulation 232/98, Landfill Standards, made under the EPA, as amended.

m. "*Reg. 347*" means Ontario Regulation 347 of Revised Regulations of Ontario, 1990 (General - Waste Management), made under the EPA, as amended.

n. "*Regional Director*" means the Director of Eastern Region, Ontario Ministry of the Environment.

o. "*Site*" means the entire waste disposal site, including the waste fill area and all buffer lands, including lands used for contaminant attenuation, approved by this Certificate.

p. "*Waste Fill Area*" means the area on the surface of the landfilling site beneath which or above which waste is disposed of by landfilling, including the existing and north expansion fill areas at this Site.

*You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:*

### TERMS AND CONDITIONS

#### GENERAL

1. This Certificate replaces all Provisional Certificates of Approval and Notices of Amendment identified by Provisional Certificate of Approval No. A321504 issued prior to the date of this Certificate.
2. The Owner shall ensure that all communication made pursuant to this Certificate refers to this Certificate of Approval No. A321504.
3. This waste disposal site shall be designed, developed, operated, monitored, inspected and maintained in accordance with the documents listed in the attached Schedule "A", with the terms and conditions in this Certificate, and with applicable standards in Reg. 232, as specified in the conditions. If there is a conflict between a provision of any document listed in Schedule "A" and a provision of any term or condition in this Certificate, the provision in the term or condition shall apply. If there is a conflict between documents listed in Schedule "A", the document bearing the most recent date shall apply.
4. The requirements of this Certificate are severable. If any requirement of this Certificate, or the application of any requirement of this Certificate to any circumstances, is held invalid, the application of such requirement to other circumstances and the remainder of this Certificate shall not be affected thereby.
5. Requirements specified in this Certificate are minimum requirements and do not abrogate the need for the Owner to take all reasonable steps to avoid violating the provisions of applicable legislation and regulations.
6. The Owner shall ensure compliance with all the terms and conditions of this Certificate. Any non-compliance constitutes a violation of the EPA and is grounds for enforcement.
7. Any information relating to this Certificate and contained in Ministry files for this Certificate may be made available to the public in accordance with the provisions of the *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, C. F-31.

#### CERTIFICATE OF REQUIREMENT

8. (1) Pursuant to Section 197 of the EPA, **no person** having an interest in the Site shall deal with the Site in any way without first giving a copy of this Certificate of Approval to each person acquiring an interest in the Site as a result of the dealing.

(2) The Owner shall:

## CONTENT COPY OF ORIGINAL

(i) Within 60 days of the date of the issuance of this Certificate, submit to the Director for their review, two copies of a completed Certificate of Requirement and a registerable description of the Property; and

(ii) Within 10 calendar days of receiving the Certificate of Requirement authorized by the Director, register the Certificate of Requirement in the appropriate Land Registry Office on title to the Property and submit to the Director the duplicate registered copy immediately following registration.

### TRANSFERRAL OR ENCUMBRANCE OF SITE

9. No portion of this Site shall be transferred or encumbered prior to or after closing of the Site, unless the Director is notified in advance in writing and is satisfied with the arrangements made to ensure that all terms and conditions of this Certificate will be carried out and sufficient financial assurance (EPA, Part XII) is deposited with the Ministry, if requested by the Director, to ensure that these terms and conditions will be carried out.

### INSPECTIONS BY PROVINCIAL OFFICERS

10. The Owner shall forthwith allow Provincial Officers, upon request and presentation of credentials, to carry out any and all inspections authorized by the EPA, the OWRA and the *Pesticides Act* of any place to which this Certificate relates, and without restricting the generality of the foregoing, to carry out the following activities:

- a. Enter upon the premises or the location where the records required by the conditions of this Certificate are kept;
- b. Have access to and copy, at reasonable times, any records required by the conditions of this Certificate;
- c. Inspect, at reasonable times, any facilities, equipment (including environmental monitoring and control equipment), practices or operations required by the conditions of this Certificate; and
- d. Sample and monitor, at reasonable times, for the purposes of assuring compliance with the conditions of this Certificate.

### REQUESTS FOR INFORMATION BY THE MINISTRY

11. (1) The Owner shall, forthwith upon request of the Director, Regional Director, District Manager, or Provincial Officer (as defined in the EPA), furnish any information requested by such persons with respect to compliance with this Certificate, including but not limited to, any records required to be kept under this Certificate; and

(2) In the event the Owner provides the Ministry with information, records, documentation or notification in accordance with this Certificate (for the purposes of this condition referred to as "Information"),

- a. the receipt of Information by the Ministry;
- b. the acceptance by the Ministry of the completeness or accuracy of the Information; or
- c. the failure of the Ministry to prosecute the Owner, or to require the Owner to take any action, under this Certificate or any statute or regulation in relation to the Information;

shall not be construed as an approval, excuse or justification by the Ministry of any act or omission of the Owner relating to the Information, amounting to non-compliance with this Certificate or any statute or regulation.

### SERVICE AREA

12. Wastes generated only from within the geographic boundaries of the **City of Kawartha Lakes** may be received for disposal at this Site. No waste shall be received for disposal at this Site from outside the approved service area.

#### WASTE TYPES

13. Only **solid non-hazardous municipal waste**, including wastes generated by residential, commercial, institutional and industrial sectors, contaminated fill, and biosolids (processed organic waste) restricted to treated and dewatered sewage sludge from the Lindsay WPCP, shall be received for disposal at this Site. No hazardous waste or liquid industrial waste, as defined in Reg. 347 and amended by Reg. 558/00, shall be disposed of at this Site.

#### WASTE FILL RATE

14. The maximum rates at which this Site may receive waste are **240 tonnes per day** and **58,200 tonnes per calendar year**. Receipt of waste in excess of the daily maximum fill rate may only be allowed on a limited short-term basis, on no more than two consecutive operating days, and only with prior notification and concurrence from the District Manager.

#### SITE CAPACITY

15. The total waste disposal capacity of the Site expansion in the north expansion fill area, including waste, daily cover and interim cover, is **1,487,240 cubic metres**. This volume does not include the composite liner, leachate collection system and final cover. The total waste disposal capacity of the Site (existing fill area and the north expansion fill area), including waste, daily cover and interim cover, is approximately 2.34 million cubic metres.

#### WASTE PLACEMENT

16. No waste shall be landfilled outside of the **limit of fill area** for the existing and expansion waste disposal fill areas shown on Map 2-1, Property Plan, dated March 2001 (Item 35(m) in Schedule "A" attached to this Certificate).

17. No waste shall be landfilled below the **base contours** shown on Map 4-5, Proposed Base Contours, dated March 2001 (Item 35(m) in Schedule "A" attached to this Certificate).

18. No waste shall be landfilled at any time above the **final contours** shown on Map 4-6, Proposed Final Contours, dated March 2001 (Item 35(m) in Schedule "A" attached to this Certificate). The maximum elevation of the north expansion fill area shall be **278 metres above sea level**, including final cover. Final slopes above grade at the time of site closure within the waste fill area shall be within the range of 4H:1V (25%) and 20H:1V (5%).

19. No waste shall be landfilled in the contaminant attenuation zone described in Items 23, 24, 25 and 26 in Schedule "A" attached to this Certificate.

#### SITE STAFF TRAINING PLAN

20. The City shall develop and maintain a training plan for current and new Site operations employees and shall ensure that all Site operations employees have been adequately trained and receive on-going training with respect to the following, as amended:

- a. Terms, conditions and operating requirements of this Certificate;
- b. The operation, inspection, and maintenance of the Site with respect to the approved design and operations documents;
- c. Relevant waste management legislation and regulations;
- d. Environmental concerns related to waste management at the Site;
- e. Occupational health and safety concerns related to waste management at the Site; and
- f. Emergency procedures and contingency plans in cases of fire, spills, off-site impacts and any other

emergency situations.

## CONTINUED USE AND NORTH EXPANSION

21. The City shall design, develop and operate the continued use and north expansion of the Site in accordance with Items 28 to 37 in Schedule "A" attached to this Certificate, and the terms and conditions in this Certificate. Prior to receipt of waste in the north expansion fill area, the City shall prepare and submit to the Director and District Manager a consolidated **Design Report** and a consolidated **Maintenance & Operations Report** (Items 28(b) & 28(c) in Schedule "A"), based on Items 30 to 37 in Schedule "A" attached to this Certificate. The Maintenance & Operations Report shall be kept on the Site as a reference document for landfill operations staff and for inspection by Ministry staff, and shall be updated as required.

## DETAILED DESIGN AND OPERATIONS

22. Detailed design of engineered facilities, including the composite liner, leachate containment / collection / transmission system, landfill gas venting system, low permeability final cover, and ancillary facilities, including the household hazardous waste (HHW) facility, reuse centre, and leaf and yard waste facility to be constructed at the Site shall be submitted by the City to the Director, copied to the District Manager, and approved in writing by the Director prior to the commencement of construction of such works.

23. The detailed design shall be prepared to reflect the conceptual design of the works, as presented in the Design Report and the Maintenance & Operations Report, Items 28(b) and 28(c) in Schedule "A", and subsequent revisions in Items 30 to 37 in Schedule "A" attached to this Certificate. Any design optimization or modification shall be clearly identified, along with an explanation of the reasons for the change. The plans and specifications pertaining to the detailed design and operations of the landfill shall include the following:

- a. Design drawings and technical specifications for the engineered facilities, including material descriptions and requirements for delivery, storage, installation and sampling;
- b. A detailed quality assurance / quality control (QA/QC) program for construction of the leachate containment and collection system (low permeability final cover for existing fill area, composite liner and leachate collection system for common north slope and north expansion fill area);
- c. Detailed calculations to delineate areas that may require depressurization of the bedrock during cell excavation and construction in the north expansion fill area, based on Section 4.3.5 in the Design Report (Item 28(b) in Schedule "A" attached to this Certificate);
- d. The portion of the leachate granular drainage layer overlying the toe of the north slope of the existing fill area shall be thickened from 0.3 metres to 0.5 metres for at least 5 metres up the slope from the toe to minimize the potential for biochemical clogging; and
- e. Application for Approval under Section 9 of the EPA for emissions from the landfill gas vent risers to be installed in the existing fill area.

24. The City shall construct and operate the landfill in accordance with the approved final detailed design and operations and shall implement the QA/QC activities and procedures as approved by the Director.

## SITE PREPARATION REPORT

25. The City shall not commence landfilling in a newly prepared cell in the north expansion fill area until a written report has been submitted to the Director and District Manager documenting all construction, QA/QC activities and procedures, and confirming that the Site conditions and details of the construction of the fill area are in accordance with the approved design plans and specifications for the Site, and including sufficient baseline data from existing and new monitoring installations to support environmental monitoring programs for the Site.

## COMPACTED SOIL LINER

26. The soil liner in the north expansion fill area (base and sideslopes, except common north slope of existing fill area) shall be placed and compacted to a minimum thickness of **750 mm**, compacted in at least **5 lifts** of no more than **0.15 metres** in compacted thickness each, and to achieve a hydraulic conductivity of  **$1 \times 10^{-7}$  cm/sec or less**, in addition to the design recommendations in Section 4.3.3 in the Design Report, Item 28(b) in Schedule "A", as amended in Items 35 and 37 in Schedule "A" attached to this Certificate.

27. During installation of the compacted soil liner, care shall be taken to:

- a. control soil properties and water content;
- b. ensure the breakup of clods;
- c. control lift thickness and compaction;
- d. remove stones larger than 100 millimetres in diameter;
- e. prevent desiccation of the compacted clayey liner;
- f. prevent damage to the compacted clayey liner due to freezing;
- g. prevent damage to the compacted clayey liner from vehicular traffic;
- h. prevent damage to the compacted clayey liner due to rodents; and
- i. prevent damage to the compacted clayey liner due to differential settlement.

28. As part of the liner construction protocol, the City shall ensure that a soils technician, under the direction of a suitably qualified geotechnical professional engineer (Condition 34), shall be on the Site full-time during construction of the compacted soil liner. Responsibilities shall include maintaining the quality of the liner in terms of evaluating soil suitability, water content, compaction effort and density, and to verify that the liner is placed according to the technical specifications.

29. The report of a suitably qualified geotechnical professional engineer shall be included in each Site Preparation Report (Condition 25) and must confirm that there is no evident cracking in the constructed liner or significant occurrence of clods, stones, branches or other material that could shorten the service life of the constructed liner or significantly increase the hydraulic conductivity of the liner.

30. In addition to the trial soil liner construction (Item 28(d)(iv) in Schedule "A"), additional test pits shall be excavated during the detailed design stage to estimate the quantity of suitable liner material available from the excavation of each cell and from the City-owned lands south of the existing fill area. Prior to the actual construction of the landfill base liner system in the north expansion fill area at this Site with a new source of liner material, the City shall submit a report prepared by a suitably qualified geotechnical professional engineer to the Director and District Manager which demonstrates and ensures that the materials and installation/construction procedures will produce a liner system that will meet the liner design specifications and performance objectives.

31. The owner shall notify the District Manager in writing prior to placement of the compacted soil liner that a qualified geotechnical engineer has inspected and approved the native soil sub-grade for placement of the overlying compacted soil liner.

32. No later than seven (7) days after completion and inspection of the base excavation, the owner shall submit to the District Office an interim inspection report for the base excavation and preparation. The report shall be prepared by a qualified geotechnical engineer.

## **GEOMEMBRANE**

33. The geomembrane to be installed in the north expansion fill area shall be made of high density polyethylene (HDPE) and shall be installed in direct and uniform contact with the underlying compacted soil liner.

34. The geomembrane shall be protected against puncturing and load-induced damage at all times, including during installation. During installation, care shall also be taken to:

- a. remove wrinkles in the geomembrane;
- b. minimize stress concentration;
- c. ensure high quality seams;

- d. minimize differential settlement;
- e. minimize exposure to ultraviolet light;
- f. prevent damage due to sliding;
- g. prevent damage due to installation in cold conditions; and
- h. prevent damage due to rodents.

### **GEOSYNTHETIC CLAY LINER (GCL) AND GEOMEMBRANE**

35. To ensure that the geosynthetic products specified in the design have been supplied and installed in accordance with the design drawings and specifications, a qualified inspector(s) shall be on the Site during construction to sample, test and confirm installation in accordance with the recommendations of the manufacturers, design drawings and specifications, and QA/QC procedures.

### **GEOTECHNICAL INSPECTION AND ASSESSMENT**

36. Excavation within and preparation of the foundation soils underlying the Site and construction of the base liner of the leachate containment system in a new cell shall be inspected by a suitably qualified geotechnical professional engineer to ensure that preparation and construction proceeds in accordance with approved detailed design plans, technical specifications and QA/QC activities and procedures. The results of inspections shall be included in the Site Preparation Reports (Condition 25) and subsequent inspection reports for the Site. No landfilling of wastes shall occur on any portion of the liner and leachate collection system until the Director and District Manager have received an inspection report from the engineer indicating that the portion of the base liner of the leachate containment system has been constructed as required by this Certificate.

Inspections with respect to the base liner system shall include assessment of the following:

- a. The adequacy of extracted till material from the landfill excavation and/or clayey material from the clay borrow pit(s) for base liner construction and leachate/liner compatibility;
- b. The acceptability of foundation conditions to ensure adequate bearing capacity and slope stability, adequate provisions to prevent basal heave or blowout, absence of standing water, and absence of potential conduits for leachate and landfill gas migration; and
- c. Compliance with liner installation specifications and QA/QC procedures related to items such as grain size distribution and clay content of native and borrow materials, clod size limits, removal of stones, Atterberg limits, compaction moisture content, compaction effort, required Standard Proctor Density, lift thickness, scarification between lifts, permeability, and procedures to avoid desiccation of the clayey liner.

37. During excavation for landfill base preparation, any intersected granular lenses, interbed layers, wells, boreholes, agricultural drains, or other possible groundwater conduits encountered in the excavation, shall be adequately mapped, and removed/over-excavated or sealed with appropriately engineered low permeability materials, as necessary, prior to liner construction and landfilling.

### **RECORD DRAWINGS**

38. The City shall ensure that record drawings for all constructed engineered facilities related to the landfill design and operations are available on the Site for inspection.

### **PRE-LOADING OF NORTH SLOPE**

39. The north slope of the existing fill area shall be pre-loaded with soil for a minimum of five (5) years to expedite the waste settling process prior to placement of the GCL, geomembrane and leachate collection system for the north expansion fill area on the common north slope, and in accordance with Section 4.3.4 in the Design Report and Section 3.2.4 in the Maintenance & Operations Report, Items 28(b) & 28(c) in Schedule "A", as revised in Items 31 to 37 in Schedule "A" attached to this Certificate.

40. Settlements during the pre-loading stage shall be monitored and reported using standard settlement plates installed at the locations shown on Figures E-1 and E-2 (Item 35(e) in Schedule "A" attached to this Certificate). Three inclinometers shall be installed near the west, central and east end of the north slope, after the pre-loading fill has been removed and prior to construction of the liner over the north slope, based on the typical installation detail shown on Figure E-3 (Item 35(e) in Schedule "A" attached to this Certificate). Settlements shall be monitored and reported after the pre-loading stage using these installations.

#### **CELL DEVELOPMENT**

41. Waste landfilling operations shall generally move from north to south in the north expansion fill area to accommodate the pre-loading and to allow for settling of the north slope area of the existing fill area. Cell designation and initial development is shown on Map 4-2, Initial Cell Development Plan, dated March 2001 (Item 35(m) in Schedule "A" attached to this Certificate), and shall proceed as follows: 1, 2, 3, 6, 4A, 4B, 5A, 5B.

#### **LEACHATE CHARACTERIZATION**

42. Upon commencement of landfilling in the north expansion fill area, the City shall conduct a leachate characterization study, based on representative samples of leachate obtained from the leachate collection systems, for the purposes of determining the current and projected leachate quality and quantity generated at this Site, and implementing an appropriate long-term leachate management plan for this Site. The results of the study shall be included in the Annual Report for this Site, as required by this Certificate. Loadings to the Lindsay WPCP shall be closely monitored to determine the need for plant upgrades.

#### **LEACHATE DISPOSAL**

43. Leachate generated and collected at the landfill Site shall be disposed of in accordance with Section 8.0 in the Design Report, Item 28(b) in Schedule "A", as amended by Items 35 and 37 in Schedule "A" attached to this Certificate. Leachate from the leachate collection system shall be discharged to the Lindsay WPCP, unless prior approval of the Director is obtained for alternative leachate management and disposal.

#### **LANDFILL GAS MANAGEMENT**

44. Landfill gas generated and collected at the landfill Site shall be managed and monitored in accordance with Section 9 in the Design Report and Section 7.5 in the Maintenance & Operations Report, Items 28(b) and 28(c) in Schedule "A", as amended by Items 35 and 37 in Schedule "A" attached to this Certificate.

45. The six additional monitoring probe nests near the existing fill area, identified in Sections 9.5 and 11.5 in the Design Report and Section 7.5 in the Maintenance & Operations Report, shall be installed within two months of the date of this Certificate. The four additional monitoring probe nests near the north expansion fill area shall be installed at least six months prior to commencement of landfilling in the north expansion fill area.

46. All landfill gas monitoring probes shall be monitored monthly (methane concentration and pressure) during frozen ground conditions and at least quarterly otherwise.

#### **SUBSURFACE MIGRATION OF LANDFILL GAS**

47. The City shall ensure that all buildings and structures to be built on the Site shall be situated, constructed and monitored in a manner which minimizes the potential for explosive hazards due to landfill gas. Methane detection and alarm equipment, with active venting or with an effective passive venting system to relieve any possible landfill gas accumulation, shall be installed and maintained for all enclosed buildings on the Site which at times are occupied by people. Routine monitoring for explosive methane gas levels shall be conducted in all buildings on the Site, especially enclosed structures which at times are occupied by people.

48. The design of the Site and any plans, specifications and descriptions for the control of landfill gas must ensure that the subsurface migration of landfill gas meets the following limits from Reg. 232, Landfill Standard #14(2):

- a. The concentration of methane gas below the surface of the land at the boundary of the Site must be less

than 2.5 per cent by volume;

b. The concentration of methane gas must be less than 1.0 per cent by volume in any on-Site building or enclosed structure, and in the area immediately outside the foundation or basement floor of the building or structure, if the building or structure is accessible to any person or contains electrical equipment or a potential source of ignition;

c. Sub-condition (b) does not apply to a leachate collection, storage or treatment facility or a landfill gas collection or treatment facility for which specific health and safety measures and procedures are in place relating to the risk of asphyxiation and the risk of explosion; and

d. The concentration of methane gas from the Site must be less than 0.05 per cent by volume in any off-Site building or enclosed structure, and in the area immediately outside the foundation or basement floor of the building or structure, if the building or structure is accessible to any person or contains electrical equipment or a potential source of ignition.

49. The City shall follow the landfill gas trigger level and contingency response plan described in Section 9.6 in the Design Report, Item 28(b) in Schedule "A", as amended by Items 35 to 37 in Schedule "A" attached to this Certificate. If the measured gas concentration at a gas probe exceeds the applicable Reg. 232 limit, the reading shall be re-measured immediately and daily for a period of up to 3 consecutive days. If these readings confirm the applicable limit has been exceeded, appropriate control measures shall be implemented as soon as possible thereafter.

#### **SURFACE WATER MANAGEMENT**

50. Surface water and stormwater shall be managed in accordance with the stormwater management plan in the Design Report (Section 6.0) and the Maintenance & Operations Report (Section 4.1), Items 28(b) and 28(c) in Schedule "A", as amended by Items 35 and 37 in Schedule "A" attached to this Certificate. Prior to construction of the works, the City shall submit an application and obtain approval under Section 53 (sewage works) of the OWRA for surface water management works, including the stormwater management pond.

51. During the detailed design stage, trigger levels for the stormwater management pond discharge shall be established for closing the pond outlet valve, based on existing water quality monitoring data and the Scugog River background information.

52. Stormwater runoff generated from the active waste fill area shall be considered contaminated and treated as leachate. Operational methods shall ensure that any precipitation falling onto active waste fill areas, not under final cover, shall be directed to the leachate collection system. If necessary, granular sumps shall be dug into the waste to facilitate drainage of contaminated stormwater towards the leachate collection system.

#### **ADDITIONAL CONSTRUCTION REQUIREMENTS**

53. (1) Groundwater monitors and landfill gas monitors shall be protected from potential damage during construction of the ancillary facilities.

(2) Erosion and sediment control measures, including silt fencing and flow check dams, shall be employed and function properly for the construction period. Installation of the erosion and sediment control measures shall be completed prior to commencement of construction. The measures shall be inspected regularly and maintained during construction and decommissioned once the site has been stabilized. Any problems that are found during inspections shall be rectified as soon as practicable. Accumulation of sediment in traps and along silt fences shall be cleared as required.

#### **CONSTRUCTION APPROVALS**

54. (1) Pursuant to Conditions 22 and 23 in the Certificate of Approval, approval is hereby granted for the detailed design for the Cell 1 base liner and leachate collection system, all in accordance with the documentation in Schedule "A" in the Certificate of Approval.

## CONTENT COPY OF ORIGINAL

(2) Pursuant to Conditions 22 and 23 in the Certificate of Approval, approval is hereby granted for the detailed design for the Cell 2 base liner and leachate collection system, all in accordance with the documentation in Schedule "A" in the Certificate of Approval.

(3) Pursuant to Conditions 22 and 23 in the Certificate of Approval, approval is hereby granted for the detailed design of ancillary facilities associated with landfill expansion, including new site entrance and roads, weigh scales and scale house, multi-use operations building (administration, vehicle maintenance, re-use depot and recycling depot), household hazardous waste (HHW) depot, leaf and yard waste composting facility, and public waste drop-off container station, all in accordance with the documentation in Schedule "A" in the Certificate of Approval.

### **SITE SUPERVISION AND SECURITY**

55. No waste shall be received, landfilled or removed from the Site unless a site supervisor or attendant is present and supervises the operations during operating hours. The Site shall be closed when a site attendant is not present to supervise landfilling operations.

56. During non-operating hours, the City shall ensure that the Site entrance and exit gates shall be locked and the Site shall be secured against access by unauthorized persons.

### **HOURS OF OPERATION**

57. The maximum operating hours for the Site for receipt of waste for disposal, site preparation, site maintenance and daily cover activities are from **Monday through Saturday** between the hours of **7:00 am and 7:00 pm**.

58. The hours of operation may be amended from time to time to accommodate seasonal or unusual demand, based on prior consultation with the PRC and concurrence from the District Manager.

### **SIGNAGE**

60. Signs shall be placed at the landfill Site entrance/exit indicating, at a minimum, the following:

- a. Name of the landfill and name of the owner/operator;
- b. MOE Certificate of Approval Number;
- c. Days and hours of operation and public use;
- d. Telephone number/contact at City of Kawartha Lakes;
- e. Area served by the landfill;
- f. Types of waste accepted and prohibited;
- g. Overview of landfill complaints procedure, including a phone number for registering a complaint;
- h. Unauthorized entry is prohibited; and
- i. A warning against dumping wastes outside the Site.

61. Signs shall also be posted along internal access roads controlling vehicle speed, turning movements and to direct vehicles to the working face and other designated areas and facilities on the Site, as appropriate. All landfill signs shall be kept legible, in good repair, and cleaned when required.

### **PUBLIC REVIEW COMMITTEE (PRC)**

62. The City shall forthwith take all reasonable steps to establish, maintain and participate in a landfill Public Review Committee (PRC), which is to function within terms of reference for the PRC, as prepared in consultation with the interested members of the affected public, and as amended from time to time according to appropriate amending procedures. A copy of the terms of reference shall be provided to the District Manager. The PRC shall serve as a focal point for dissemination, consultation, review and exchange of information regarding the operation of the landfill Site, including environmental monitoring, maintenance, complaint resolution, and new approvals or amendments to existing approvals related to the operation of this landfill Site.

63. The City shall develop Terms of Reference for the PRC in consultation with interested parties, including landowners within a minimum 500 metre distance of the Site and other individuals and groups affected by the continued use and north expansion of the landfill Site. The membership of the PRC shall include at least one member from the City and at least two members from interested parties.

64. Copies of all reports or other submissions required by the conditions of this Certificate shall be made available to the PRC in accordance with the deadlines specified in the Conditions.

65. The City shall provide to members of the PRC and to any neighbouring residents reasonable notice and opportunities to make comments regarding any proposed amendment to this Certificate. The City shall forward to the Director for consideration any written comments received by the City and advise the Director of the essence of any verbal comments received by the City regarding such proposed amendment.

#### **COMPLAINTS PROCEDURE**

66. The City, in conjunction with the PRC, shall establish a public complaints response procedure for the landfill Site, based on Section 6.8 in the Maintenance & Operations Report (Item 28(c) in Schedule "A" attached to this Certificate), as amended. The City shall establish and publicise a telephone number as a "hot line" for complaints about the operation and maintenance of the landfill Site. The City shall be responsible for responding to a complaint in accordance with the public complaints response procedure.

#### **ON-SITE METEOROLOGICAL STATION**

67. The City shall install an on-site meteorological station to measure weather conditions during the operating life of the Site. Ambient temperature (minimum, mean, maximum), precipitation events, barometric pressure and wind speed and direction shall be recorded daily. Data shall be used to confirm estimates of infiltration and leachate generation, and to correlate with any nuisance complaints and landfill gas monitoring data.

#### **DAILY, INTERIM AND FINAL COVER**

68. Daily, interim and final cover material shall be applied in accordance with the Design Report and the Maintenance & Operations Report, Items 28(b) and 28(c) in Schedule "A", as amended by Items 35 and 37 in Schedule "A" attached to this Certificate, and as follows:

a. Daily Cover - By the end of each working day, the entire working face shall be compacted and covered with a minimum thickness of 150 mm of soil cover or an approved thickness of alternative cover material. Prior to placing waste at the start of the next operating day, the existing daily cover material shall be scarified or removed to ensure vertical hydraulic connection is maintained between layers of waste and to promote percolation of leachate downwards to the leachate collection system. The daily soil cover material shall be applied with appropriate wide-track or rubber tire equipment, not the waste compactor. Where weather conditions or operational problems prevent the daily application of cover material, the City shall immediately notify the District Manager and the PRC.

b. Interim Cover - In areas where landfilling has been temporarily discontinued for 3 months or more, a minimum thickness of 300 mm of soil cover or an approved thickness of alternative cover material shall be placed and vegetated, as required.

c. Final Cover - Shall be applied progressively as areas of the landfill reach final waste elevations within the existing fill area, subject to Response #66 in Item 37 in Schedule "A", and within the north expansion fill area. All areas of final cover shall be graded and vegetated as soon as practically possible. The final soil cap shall be regularly inspected and maintained following application and during the post-closure period. Without limiting the above, the City shall ensure for a minimum of five years after completion of the cap that the Site shall be inspected at least on a quarterly basis to ensure that there is positive drainage along the cap and that during the frost free period of the first two years following completion, such inspections shall be monthly. If any inspection indicates that there is an area of ponding or zero slope, the City shall take all steps necessary to provide positive drainage and rehabilitate the final cap as soon as practically possible.

## ALTERNATIVE DAILY AND INTERIM COVER MATERIAL

69. Alternative materials to soil may be used as daily and interim cover material, based on an application with supporting information and applicable fee for a trial use or permanent use, submitted by the City to the Director, copied to the District Manager and the PRC, and as approved by the Director via an amendment to this Certificate. The alternative material shall be non-hazardous according to Reg. 347 and will be expected to perform at least as well as soil in relation to the following functions:

- a. Control of blowing litter, odours, dust, landfill gas, gulls, vectors, vermin and fires;
- b. Provision for an aesthetic condition of the landfill during the active life of the Site;
- c. Provision for vehicle access to the active tipping face; and
- d. Compatibility with the design of the Site for groundwater protection, leachate management and landfill gas management.

## SITE OPERATIONS

70. Landfilling operations shall be conducted in accordance with the Maintenance & Operations Report, Item 28(c) in Schedule "A", as amended by Items 35 to 37 in Schedule "A" attached to this Certificate. The City shall take all reasonable steps to prevent off-site nuisance impacts from landfill operations at the Site and shall take all reasonable steps to ensure that the Site is inspected regularly by trained personnel for any situation which may cause an adverse effect, as defined in the EPA, and to ensure that the Site is being operated in accordance with this Certificate.

71. The City shall implement control measures for dust, odour, litter, noise, birds, vector and vermin in accordance with Sections 6.2 to 6.7 in the Maintenance & Operations Report, Item 28(c) in Schedule "A", as amended by Items 35 to 37 in Schedule "A" attached to this Certificate. Effectiveness of the control measures shall be reviewed and monitored regularly and updated/revised, as required, based on operational experience and complaints.

72. (1) Litter from the Site shall be picked up on a daily basis along the Site's perimeter and access roads.

(2) Upon the consent of neighbouring residents, the City shall, at its own expense, remove landfill-related litter from neighbouring properties on a daily basis. Landfill-related litter on municipal or public roads within 500 metres of the Site shall be removed monthly by the City, upon the consent of the authorities having jurisdiction over such roads.

73. Visual screening shall be installed, inspected and maintained as required during the operating life of the landfill Site.

74. The City shall carry out a program to minimize dust, based on dust control measures in Section 6.2 in the Maintenance & Operations Report, Item 28(c) in Schedule "A", as amended by Items 35 to 37 in Schedule "A" attached to this Certificate. Accurate records shall be kept of the use of any chemical dust suppressants, including date and location of application on the Site. Effectiveness of the dust suppression plan shall be reviewed and monitored regularly and updated/revised, as required, based on operational experience and complaints. Measures shall be taken to prevent mud-tracking off the Site.

75. Burning of wastes on the Site is prohibited.

76. The City shall ensure that there is no scavenging (as defined in Reg. 347) at the Site. Controlled removal of reusable material from the Site may only occur in a designated and supervised area on the Site.

77. The City shall conduct appropriate inspections and ensure that appropriate controls are in place to prevent the acceptance of liquid industrial waste and hazardous waste and to prevent the acceptance of waste from outside the approved service area. Records of violations by haulers or waste generators shall be recorded in the daily records for the Site operations. The City shall forthwith notify the District Manager of any and all waste load refusals at the Site related to requirements in this Certificate, including service area and waste types.

78. All spills and upsets shall be immediately reported to the Ministry's Spills Action Centre (SAC) and shall be recorded in a log as to the nature of the spill or upset, and the action taken for clean-up, correction and prevention of future occurrences.
79. The access roads and on-Site roads shall be provided and maintained so that vehicles hauling waste to and on the Site may travel readily on any operating day.
80. The City shall ensure that any surface water contaminated with leachate shall be directed to the leachate collection/treatment system, recirculated back into the landfill, or removed off-site for disposal at an approved facility.
81. The leachate collection system piping for the existing fill area and constructed portions of the north expansion fill area shall be cleaned out at least once per year with a high pressure wash, and with video inspections conducted to confirm that the pipes are clean and to determine the need for more frequent cleaning. Assessment of the need to amend the cleaning frequency shall be based on regular inspections of the leachate collection system and monitoring results. Inspection and maintenance of the leachate collection pipes, pumping station and forcemain shall be carried out in accordance with Sections 4.2.1 and 4.2.2 in the Maintenance & Operations Report, Item 28(c) in Schedule "A", and Response #72 in Item 35 in Schedule "A" attached to this Certificate.
82. Heavy equipment, such as the landfill compactor, shall not be allowed to pass over the composite liner and leachate collection system in the north expansion fill area until at least 1.5 metres of waste has been placed over the leachate collection system and liner.
83. A thickness of at least 5 metres of compacted waste and cover material shall be maintained between any landfilled sludge (solid non-hazardous as per Reg. 347) and the granular leachate collection layer and leachate monitoring wells.
84. Leachate generated at this Site shall be collected and treated as long as necessary following closure of this Site for protection of the natural environment. Leachate collection and treatment may be discontinued following written approval by the Director, based on consultation with the PRC and an application by the City to the Director with supporting documentation to confirm that leachate collection and treatment is no longer necessary, including monitoring results which indicate that the levels of contamination in the leachate have decreased to acceptable levels with respect to groundwater and surface water impacts.
85. The City shall thoroughly inspect the landfill Site, at least once per month, for evidence of leachate seepage or leachate springs. Incidences of leachate breakout are to be reported monthly to the PRC and District Manager, and annually to the Regional Director in the Annual Report, together with a description of the remedial action taken.

## **NOISE CONTROL**

86. Noise shall be controlled in accordance with the Design Report, Section 10.0 and the Maintenance & Operations Report, Section 6.5 (Items 28(b) and 28(c) in Schedule "A"). Noise from or related to the operation of the landfill shall be kept to a minimum and in any event, the City shall comply with the criteria set out in the Ministry's "Noise Guidelines for Landfill Sites":
- a. The limits for sound levels due to the landfilling Site operation at a point of reception are 45 dBA in any hour of the night, 7:00 p.m. - 7:00 a.m., and 55 dBA in any hour of the day, 7:00 a.m. - 7:00 p.m. These levels are expressed in terms of the One Hour Equivalent Sound Level (Leq).
  - b. For impulsive sound, other than quasi-steady impulsive sound, from a pest control device employed to deter birds from the landfilling Site, the applicable sound level limit at a point of reception expressed in terms of the Logarithmic Mean Impulse Sound Level (LLM) is 70 dBAI.
  - c. For quasi-steady impulsive sound, but not including other impulsive sound from a pest control device employed to deter birds from the landfilling Site, the applicable sound level limit at a point of reception expressed in terms of the One Hour Equivalent Sound Level (Leq) is 60 dBA.

## GULL CONTROL

87. The City shall implement and carry out the Gull Control Program (Habitat Management, Active and Lethal Control Measures, Contingency Exclusions Measures, Personnel and Training, Monitoring and Reporting) for the landfill Site, in accordance with Item 30 in Schedule "A", as soon as possible following issuance of this Certificate, acquisition of required permits and specific equipment, and staff training.

88. Bare soil surfaces on the landfill Site shall be minimized and vegetated, as necessary, to prevent loafing by gulls. Specifically, bare soil areas that will remain unused for extended periods of time (4 months or more) shall be seeded with a grass/weed seed mixture to establish tall vegetation (> 20 cm).

89. (1) The *Owner* shall empty the open-air garbage bins at the Residential Container Station at the Site when they are near capacity. No waste materials other than approved by this *Certificate* shall be placed/stored outside of the bin.

(2) In the event gulls become a nuisance at the station, the *Owner* shall implement the approved gull control measures as approved by this *Certificate*.

(3) In the event the approved gull control measures are unsuccessful in alleviating gull nuisances at the station, the *Owner* shall submit to the *Director* for approval, a plan that provides alternative methods (from those already approved) to minimize nuisance created by gulls at the station.

90. The Site shall be actively monitored to eliminate pools of standing water and reduce the attraction to gulls for loafing. Areas of standing water shall be regraded or filled with soil as soon as practically possible.

91. The stormwater management pond for this landfill Site shall be designed and constructed to discourage use of the pond by gulls as a loafing site during the day. Pond design shall consider high perimeter berms and dense planting of trees or tall shrubs on the berms.

92. Construction of berms on the Site using a mixture of soil and waste shall not use waste that contains food scraps.

93. Any long-term soil stockpiles on the Site shall be seeded with a grass/weed seed mixture to establish vegetation in order to minimize soil erosion, dust and attraction by gulls for loafing.

94. The City shall ensure that one full-time staff member at the landfill Site shall be designated as the Control Officer responsible for directing daily gull control program activities.

95. Prior to the implementation of the gull control program and on a regular basis thereafter, all staff directly responsible for daily operation of the landfill shall be trained on all aspects of the program in accordance with Section 5 in Item 30 in Schedule "A" of this Certificate, as amended.

96. The City shall make its best efforts to communicate and cooperate with management staff of the Lindsay Airport regarding the effectiveness of the gull control program for the landfill Site. The Annual Report (Condition 126(c)) shall be made available to management staff of the Lindsay Airport.

## PAVED ROADS AND PARKING LOTS

97. Use of chloride-based de-icing salts on paved surfaces (on-site roads and parking areas) shall be minimized in order to limit the potential for groundwater contamination and interference with groundwater / leachate monitoring for the landfill site. Alternative de-icing products may be used to ensure safe vehicle operations during winter conditions. Accurate records of application of de-icing products (type, date, amount, location) shall be prepared and maintained.

## ENVIRONMENTAL MONITORING

98. The City shall carry out monitoring programs for waste, groundwater, leachate, surface water, and landfill gas, as described in the Design Report (Section 11) and the Maintenance & Operations Report (Section 7), Items 28(b) and 28(c) in Schedule "A", as amended in Items 35 to 37 in Schedule "A" attached to this Certificate, as summarized in Schedules "B", "C", "D", "E", "F" and "G" attached to this Certificate, and in accordance with any related OWRA approvals issued for

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this Site. The Owner shall ensure that any proposed changes to the monitoring programs under this Certificate shall be approved in advance by the Director via an amendment to this Certificate.

99. The current groundwater monitoring program for the existing fill area (Schedule "B.1"), including the current trigger mechanism (Item 28(d)(v) in Schedule "A" attached to this Certificate), shall be carried forward until such time that key monitoring wells 8-90-3 and 22-91-3 are decommissioned due to landfill expansion in the north expansion fill area or until final cover is constructed over the existing fill area, whichever occurs first. A revised groundwater monitoring program for the Site (existing fill area and north expansion fill area), based on Condition 92 and Schedules "B.1" and "B.2", shall then commence and a revised groundwater trigger mechanism for the existing fill area shall be prepared and submitted to the Director for approval. The trigger mechanism shall account for the effect on groundwater flow rate in the upper bedrock aquifer beneath the existing fill area, due to the placement of the low permeability final cover over the existing fill area. Consideration shall be given to re-instating wells 27-93 and 28-93 as trigger monitoring wells. Prior to decommissioning of wells 8-90-3 and 22-91-3, new trigger monitoring wells shall be installed and developed to replace wells 8-90-3 and 22-91-3.

100. By the end of 2002, the City shall establish new background groundwater monitoring wells for the overburden and the upper bedrock aquifer, remote from any potential impacts from the existing fill area or the north expansion fill area, based on Response #96 in Item 37 in Schedule "A" attached to this Certificate. These new wells shall be included in the groundwater monitoring program for the Site.

101. Prior to commencement of the 2002 surface water monitoring program, additional surface water sampling stations shall be established in the Scugog River embayments into the Sturgeon Lake Wetland, as part of the routine surface water monitoring program for the landfill, based on Response #90 in Items 35 and 37 in Schedule "A" attached to this Certificate. Appropriate sampling stations shall be determined and reviewed with the MOE prior to implementation.

102. If failure of a vibrating wire piezometer (shown on Map 7-2, Proposed Leachate Monitoring Locations, dated September 2001 - Item 37 in Schedule "A") is detected within the contaminating life span of the landfill, it shall be replaced with a slotted PVC standpipe installed through the waste, or another device or method acceptable to the Director.

### **GROUNDWATER WELLS/MONITORS**

103. The City shall ensure that all groundwater monitoring wells which form part of the monitoring program shall be properly capped, locked and protected from damage.

104. Where landfilling is to proceed around monitoring wells, suitable extensions shall be added to the wells, and the wells shall be properly re-secured and protected.

105. Any groundwater monitoring wells included in the ongoing monitoring program that are damaged shall be assessed, repaired, replaced or decommissioned by the City, as required.

106. The City shall repair or replace any monitoring well which is destroyed or in any way made to be inoperable for sampling, but still required as part of the monitoring program, such that no more than one regular sampling event is missed.

107. All monitoring wells which are no longer required as part of the groundwater monitoring program, and have been approved by the District Manager for abandonment, shall be decommissioned by the City, as required, in accordance with Ontario Regulation 903. A report on the decommissioning of the well shall be included in the Annual Report for the reporting period during which the well was decommissioned.

### **TRIGGER MECHANISMS AND CONTINGENCY PLANS**

108. In the event of a confirmed exceedance of a site-specific trigger level relating to leachate mounding or groundwater or surface water impacts due to leachate, the City shall immediately notify the District Manager, and an investigation into the cause and the need for implementation of remedial or contingency actions shall be carried out by the City in accordance with the approved trigger mechanisms and associated contingency plans described in the Design Report (Sections 11 and 12) and the Maintenance & Operations Report (Section 7), Items 28(b) and 28(c) in Schedule "A", as amended in Items 7 and 35 to 37 in Schedule "A" attached to this Certificate.

109. The City shall ensure that any proposed changes to the site-specific trigger levels for groundwater and surface water impacts due to leachate shall be approved in advance by the Director via an amendment to this Certificate.

110. If monitoring results, investigative activities and implementation criteria indicate the need to implement contingency measures, the City shall ensure that the following steps are taken:

- a. The Director, District Manager and PRC shall be notified by the City as soon as possible of the need to implement contingency measures;
- b. Detailed plans, specifications and descriptions for the design, operation and maintenance of the contingency measures shall be prepared and submitted by the City to the Director for approval; and
- c. The contingency measures shall be implemented by the City upon approval by the Director.

#### **LANDFILL ASSESSMENT AND WETLAND IMPACT STUDY**

111. Study B in the Landfill Assessment and Wetland Impact Study, Item 21(b) in Schedule "A", shall be reviewed and updated by the City every 5 years, starting in 2003, and included with the Annual Report for the Site.

#### **BIOMONITORING**

112. In accordance with Section 11.6 in the Design Report and Section 7.8 in the Maintenance & Operations Report, (Items 28(b) and 28(c) in Schedule "A"), Response #93 in Item 35 in Schedule "A" and the request for amendment (Item 51 in Schedule "A") attached to this Certificate, the City shall conduct the following monitoring each year during the month of February at a location downstream of the Lindsay WPCP effluent outfall culvert and acceptable to the Regional Director:

- a. An annual benthic invertebrate community survey consisting of triplicate sampling (to be performed in accordance with the Ministry's BIOMAP protocol). The survey results shall be summarized in a manner suitable for determining the number of taxa, individual taxa abundance and the presence or absence of indicator taxa.
- b. An annual analysis for bioaccumulation consisting of the collection of two 5 gram samples of each of resident blackfly (larval) population and caddisfly (larval) population shall be undertaken (if available). One 5 gram sample shall be analysed for metals and the other for organics including PCBs (polychlorinated biphenyls) and VOCs. Monitoring parameters to be analyzed shall include, as a minimum:
  - i. Metals - aluminium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, thallium, vanadium, zinc, antimony, arsenic, selenium, toluene.
  - ii. Volatile Organic Compounds, Halogenated and Non-Halogenated (refer to Schedule 1 - Analytical Test Groups 16 and 17, O. Reg. 695/88).
  - iii. Analytical Test Group 27, O. Reg. 695/88 (PCBs).
- c. The annual program shall continue for at least the operating life of the landfill. Its continuance and monitoring parameters shall be reviewed periodically based on its effectiveness.

113. If either:

- a. the number of taxa identified for any year under 112(a) above shows a reduction of 1/3 or more from the number in the first year's sampling [1995] for the blackfly and in the first year's sampling [2005] for the caddisfly in 112(a); or
- b. the bioaccumulation assessment under 112(b) above indicates a 30% or greater increase in metal parameter concentrations and/or organics analyzed for from the concentration in the initial year's sampling [1995] and in the first

year's sampling [2005] for the caddisfly under 112(b);

then a further investigation of the cause of the decrease and/or increase shall be undertaken to determine the source and cause of the impact and the degree and area of impairment.

114. An annual report documenting the findings of biomonitoring under conditions 112 and 113 shall be submitted to the Regional Director and the office of the Trent-Severn Waterway per the Annual Report condition in this Certificate. The annual report shall include an appropriate statistical comparison of biomonitoring data from the current reporting period with biomonitoring data from previous years.

#### **RECYCLING DEPOT**

115. The Recycling Depot shall be operated in accordance with Regulation 101/94, Part III - Municipal Waste Recycling Depots, Section 19.

#### **LEAF AND YARD WASTE COMPOSTING FACILITY**

116. Prior to commencement of composting operations in Cell 5B, the City shall submit to the Director and District Manager a water monitoring program for the stormwater management pond on the west side of the compost pad.

117. The Leaf and Yard Waste Composting Facility shall be operated in accordance with Regulation 101/94, Part V - Leaf and Yard Waste Composting Sites, Sections 31 to 33.

118. The Site Preparation Report (Condition 25) for landfilling in Cell 5B shall provide details of the decommissioning of the leaf and yard waste composting facility.

#### **SEPTAGE WASTE DROP OFF STATION**

119. The manhole(s) for the septage waste drop-off station shall be covered at all times when not in use.

#### **HOUSEHOLD HAZARDOUS WASTE (HHW) DEPOT**

120. Prior to commencement of operations, the City shall submit to the Director and District Manager an Operating Plan describing the operations of the HHW Depot, including procedures and equipment for unloading, handling, storage and loading of HHW, acceptable and prohibited wastes, maximum amounts of HHW that can be received and stored, maximum storage times, record keeping, staff training, safety procedures, emergency response procedures and contingency plans.

121. PCB waste, pathological waste and radioactive waste shall not be received at the HHW Depot.

122. The City shall ensure that the HHW Depot is operated in a safe and secure manner, and that all wastes are properly handled, packaged, bulked, contained and stored so as not to pose any threat to the general public, site operations employees, and the natural environment.

123. Those wastes, which by reason of their type and/or quantity, which are to be bulked and leave the HHW Depot, shall be transported, processed, or disposed by companies which are licensed for such transport, processing, or disposal by the Ministry.

#### **RECORD KEEPING**

124. The City shall ensure that daily records of Site operations are made for each operating day during the operation of the Site, in accordance with Section 6.10 in the Maintenance & Operations Report, Item 28(c) in Schedule "A", and that the records are retained at the Site for at least two years after they are made.

125. Daily records shall be maintained at the Site in a log book and shall include:

- a. the type, date and time of arrival, hauler, and quantity (tonnes) of all waste and cover material received at

the Site, and of all waste refused by the Site;

b. the area of the Site in which waste disposal operations are taking place;

c. any complaints from the public received by the City concerning landfilling operations and a description of the action taken by the City in response;

d. the amount of any leachate removed, or treated and discharged from the Site;

e. a record of litter collection activities and the application of dust suppressants;

f. a record of the inspections of any control, treatment, disposal or monitoring facilities; and

g. a description of any out-of-service period of any control, treatment, disposal or monitoring facilities, the reasons for the loss of service, and action taken to restore and maintain service.

## ANNUAL REPORT

126. The City shall prepare an Annual Report on the development, operations and monitoring of the Site, based on Section 11.8 in the Design Report and Section 7.7 in the Maintenance & Operations Report (Items 28(b) and 28(c) in Schedule "A" attached to this Certificate, as amended). The report shall be submitted to the Regional Director, the District Manager and the PRC, by **April 30** each year, and shall cover the preceding calendar year. The report shall include the following:

a. The results and an interpretive analysis of the results of all leachate, groundwater, surface water, landfill gas and biology monitoring, including an assessment of the need to amend the monitoring programs and trigger mechanisms or to implement contingency measures. This will include a discussion on the monitoring parameters and locations required by the Certificate and the deletion of any parameter or location. In addition, this will include a discussion on the analyse(s) and location(s) on any additional sampling parameter(s) and/or sampling location(s) in which the Owner completed that is not currently required by this Certificate.

b. Mapping of concentrations of chloride, ammonia-N, phosphorus, toluene and phenols in the upper bedrock aquifer and estimates of contaminant mass loadings to the Scugog River from the landfill via leachate migration and from the WPCP lagoons through the upper bedrock aquifer, for chloride, ammonia-N, phosphorus, toluene and phenols, based on Response #98 in Items 35 and 37 in Schedule "A";

c. Review and assessment of the effectiveness of the gull control program, including the following information:

- i. Implementation and status of habitat management activities;
- ii. Implementation and effectiveness of active control measures;
- iii. Summaries of gull activity at the landfill Site;
- iv. Monthly summaries of the number and species of gulls shot for the lethal gull control program;
- v. Documentation of complaint records and actions taken in response;
- vi. Status of required permits; and
- vii. Changes undertaken, or required, to improve the effectiveness of the gull control program.

d. An assessment of the operation and performance of all engineered facilities, the need to amend the design or operation of the Site, and the adequacy of and need to implement the contingency plans;

e. Site plans showing the existing contours of the Site; areas of landfilling operation during the reporting period; areas of intended operation during the next reporting period; areas of excavation during the reporting period; the progress of final cover, vegetative cover, and any intermediate cover application; the progress of liner placement and leachate collection system placement; previously existing site facilities; facilities installed during the reporting period; and site preparations and facilities planned for installation during the next reporting period;

- f. Calculations of the volume of waste, daily and intermediate cover, final cover, and liner and leachate collection system material deposited or placed at the Site during the reporting period and a calculation of the total volume of Site capacity used during the reporting period;
- g. A calculation of the remaining capacity of the Site and an estimate of the remaining Site life;
- h. A summary of the quantity of any leachate or pre-treated leachate removed from the Site or leachate treated and discharged from the Site during each operating week;
- i. Summaries of the monthly, maximum daily (as available), and total annual quantity (tonnes) of waste received at the Site;
- j. A summary of any public complaints received by the City and the responses made;
- k. A discussion of any operational problems encountered at the Site and corrective action taken;
- l. The status of compliance with all conditions of this Certificate, including the inspection, monitoring and reporting requirements in the conditions of this Certificate; and
- m. Any other information with respect to the Site which the Regional Director or District Manager may require from time to time.

#### SITE CLOSURE PLAN

127. i. The low permeability final cover system for the completed south area of the landfill shall be completed in accordance with Item 50 in Schedule "A".

ii. In the event any changes to the low permeability final cover system identified in Condition 134(i) should occur due to approval process to obtain a Ontario Water Resources Act Section 53 Approval required for the proposed final cover system, the *Owner* shall within fourteen (14) days of being notified in writing by the ministry that changes to the proposed surface water management system for the south portion of the landfill are needed, submit for approval detailed design drawing(s) showing the changes to the low permeability final cover system for the south portion of the landfill.

128. (1) The Owner shall complete the following until the Ontario Water Resources Act Section 53 Approval for the proposed work identified in Condition 127(i) has been obtained:

- i. Collect and analyze surface water samples from the outfall of the proposed two corrugated steel culverts located in the southwest corner of the *Site* on a weekly basis during construction, on a weekly basis for the first month after construction is completed and then on a monthly basis thereafter.

- ii. Analyze the samples collected at this location for the current approved surface water parameter list for the *Site*.

(2) Any changes to the monitoring requirements outlined in Condition 128 prior to finalizing the OWRA Section 53 approval requires the Director's approval via amendment to the Certificate prior to amending the monitoring requirements

(3) By no later than **March 1, 2008**, the *Owner* shall submit to the *Director* for approval, with copies to the *District Manager*, a report detailing any new structures, changes to the stormwater management facilities, any proposed discharges locations and request approval for the changes to be included as amendments in Certificate of Approval Municipal and Private Sewage Works Number 8632-5MCQFH.

129. At least two (2) years prior to the anticipated date of closure of this Site or the date 90 per cent of the total waste disposal volume is reached, whichever occurs first, the City shall submit to the Director for approval, with copies to the District Manager and the PRC, a detailed Site Closure Plan pertaining to the termination of landfilling operations at this Site,

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post-closure inspection, maintenance and monitoring, and end use, based on Section 13 in the Design Report and Section 9 in the Maintenance & Operations Report, Items 28(b) and 28(c) in Schedule "A", as amended by Items 35 to 37 in Schedule "A". The plan shall include the following:

- a. A plan showing Site appearance after closure;
- b. A description of the proposed end use of the Site;
- c. Descriptions of the procedures for closure of the Site, including:
  - i. Advance notification of the public of the landfill closure;
  - ii. Posting of a sign at the Site entrance indicating the landfill is closed and identifying any alternative waste disposal arrangements;
  - iii. Completion, inspection and maintenance of the final cover and landscaping;
  - iv. Site security;
  - v. Removal of unnecessary landfill-related structures, buildings and facilities; and
  - vi. Final construction of any control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas;
- d. Descriptions of the procedures for post-closure care of the Site, including:
  - i. Operation, inspection and maintenance of the control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas;
  - ii. Record keeping and reporting; and
  - iii. Complaint contact and response procedures;
- e. An assessment of the adequacy of and need to implement the contingency plans for leachate and landfill gas; and
- f. An updated estimate of the contaminating life span of the Site, based on the results of the monitoring programs to date.

### SCHEDULE "A"

This Schedule "A" forms part of this Certificate. If there is a conflict between documents listed in Schedule "A", the document bearing the most recent date shall apply:

#### Selected Supporting Documentation - Interim Expansion

1. Hydrogeological Investigation and Design Plan of a Proposed Sanitary Landfill, Lot 26, Concession 6, Township of Ops, prepared by Hydrology Consultants Limited, dated August 1978.
2. Surface Water Quality Assessment Report, prepared by Senes Consultants Limited, dated March 1991.
3. Biological Assessment Report, prepared by Totten Sims Hubicki Associates, dated September 1991.
4. Survey attached to letter from W. R. Coe, William R. Coe Limited, to J. Tidball, Miller Thomson, dated December 2,

1991.

5. Supplementary Report [Hydrogeology], Town of Lindsay/Township of Ops Interim Landfill Expansion, prepared by Hydroterra Limited, dated May 1993.

6. Leachate Impact on Township of Ops Sewage Treatment Plant, prepared by Totten Sims Hubicki Associates, dated May 1993.

Conceptual Purge Well System (approved June 24, 1994)

7. Document entitled CONCEPTUAL PURGE-WELL SYSTEM, dated February 2, 1994, included as an attachment to the LINDSAY-OPS LANDFILL INTERIM EXPANSION HEARING Outline of Evidence of Leon Bryck and Bob Kearse, shown as Exhibit Number 33 at the Environmental Assessment Board hearing, including Figure entitled Town of Lindsay Lindsay-Ops Landfill Site Conceptual Bedrock Purge Well System, dated February 1994, shown as Exhibit Number 33(a) at the Environmental Assessment Board hearing.

Expansion of the Leachate Collection System (approved January 25, 1995)

8. Document entitled "Lindsay/Ops Landfill Site Leachate Collection System Expansion", dated September 1994 and prepared by Totten Sims Hubicki Associates.

9. Drawing No. G1 (Legend and Abbreviations), dated October 20, 1994 and prepared by Totten Sims Hubicki Associates.

10. Drawing No. P1 (Leachate Collector and Forcemain), dated October 20, 1994 and prepared by Totten Sims Hubicki Associates.

11. Drawing No. P2 (Leachate Collector - Profile), dated October 20, 1994 and prepared by Totten Sims Hubicki Associates.

12. Drawing No. P3 (Leachate Collector - Profile), dated October 20, 1994 and prepared by Totten Sims Hubicki Associates.

13. Drawing No. D1 (Details), dated October 20, 1994 and prepared by Totten Sims Hubicki Associates.

14. Letter from I. Parrott, Ministry of Environment and Energy to S. Blakey, Totten Sims Hubicki Associates, dated December 5, 1994, re: Review Comments on Leachate Collection System.

15. Letter from S. Blakey, Totten Sims Hubicki Associates to I. Parrott, Ministry of Environment and Energy, dated December 6, 1994, re: Response to Ministry Review Comments of December 5, 1994.

Eastward Extension to Existing Shallow Leachate Collection System along South Side of Landfill Site (approved February 29, 1996)

16. Letter dated December 27, 1995, from S. J. Blakey of Totten Sims Hubicki Associates to D. Staseff of MOEE Approvals Branch, including:

a. Tender Documents dated December 1995.

b. Drawing No. G1 entitled "Leachate Collection System - Legend and Abbreviations", dated December 1995.

c. Drawing No. 1 entitled "Leachate Collector - Profile", dated December 1995.

d. Drawing No. 2 entitled "Leachate Collector - Profile", dated December 1995.

e. Application for Approval of a Waste Disposal Site, signed by P. Jeffrey Seaton, County Engineer, County of Victoria, dated December 19, 1995.

17. Letter dated January 4, 1996 from D. Staseff of MOEE Approvals Branch to S. J. Blakey of Totten Sims Hubicki

Associates - comments on design.

18. Letter dated January 11, 1996 from S. J. Blakey of Totten Sims Hubicki Associates to D. Staseff of MOEE Approvals Branch - response to comments on design.

19. Letter dated January 30, 1996 from S. J. Blakey of Totten Sims Hubicki Associates to D. Staseff of MOEE Approvals Branch, including revised Tender Document, Section 11200, Page 3.

20. Letter dated February 2, 1996 from S. J. Blakey of Totten Sims Hubicki Associates to D. Staseff of MOEE Approvals Branch, including revised Drawing No. D1 entitled "Details".

Landfill Assessment and Wetland Impact Study (February 1996)

21. Report entitled "Landfill Assessment and Wetland Impact Study, Lindsay/Ops Landfill", prepared by Golder Associates Limited, dated February 1996, including:

a. Study A - Hydrogeological Assessment of Lindsay/Ops Landfill.

b. Study B - Assessment of Impacts from Lindsay/Ops Landfill and Lindsay WPCP on Surgeon Lake Wetland and Scugog River.

Contaminant Attenuation Zone (approved March 8, 1999)

22. Property description and legal survey Plan 57R-7810, dated June 19, 1997, attached to letter dated February 23, 1999, from W. Abbott, P. Eng., County of Victoria, to D. Staseff, P. Eng., Ministry of the Environment.

23. Letter dated September 30, 1998, from W. Abbott, P. Eng., County of Victoria, to A. Dominski, Ministry of the Environment.

24. Application for Approval of a Waste Disposal Site, signed by W. Abbott, P. Eng., Waste Management Engineer, County of Victoria, dated September 30, 1998.

25. Letter dated September 22, 1998, from S. Richardson, Clerk-Treasurer, Corporation of the Township of Ops, to W. Abbott, County of Victoria.

26. Letter dated February 23, 1999, from W. Abbott, P. Eng., County of Victoria, to D. Staseff, P. Eng., Ministry of the Environment.

Approval under the *Environmental Assessment Act*

27. Order in Council dated May 31, 2000, and *Environmental Assessment Act*, Section 9, Notice of Approval to Proceed with the Undertaking, Re: An Environmental Assessment for the Provision of Long Term Waste Disposal Capacity for the County of Victoria - specifically with respect to those matters that are subject to Part V of the *Environmental Protection Act* and for the purposes of Section 12.2(2) in the *Environmental Assessment Act*.

Application under Part V *Environmental Protection Act* for Continued Use & North Expansion

28. Letter and Application for a Certificate of Approval under Part V of the *Environmental Protection Act* for the Continued Use and North Expansion of the Lindsay-Ops Landfill (MOE Ref. #3722-4NPK9T), signed by David Moy, Corporation of the County of Victoria, dated August 25, 2000, including the following supporting documentation dated July 2000 (except where noted otherwise):

a. **EPA Summary Report**, prepared by Earth Tech Canada Inc.

b. **Design Report**, prepared by Earth Tech Canada Inc.

c. **Maintenance & Operations Report**, prepared by Earth Tech Canada Inc.

**d. Hydrogeological / Geotechnical Assessment Reports:**

- i. Preliminary Modelling for Lindsay/Ops Landfill Expansion - Golder Associates Ltd., June 16, 1998.
- ii. Evaluation of Native Till as Potential Landfill Liner Material, Lindsay/Ops Landfill - Golder Associates Ltd., July 1998.
- iii. Estimation of Ammonia-N Loadings Due to Leakage from the Sewage Lagoon System, Lindsay/Ops Landfill Site - Golder Associates Ltd., December 1998.
- iv. Trial Soil Liner Construction, Lindsay/Ops Landfill Expansion Study - Golder Associates Ltd., July 21, 1999.
- v. Letter report dated November 19, 1999 from Frank Barone, Golder Associates Limited, to Julie Preslie, County of Victoria, Re: Revised "Trigger Mechanism", Lindsay/Ops Landfill.
- vi. Geotechnical Assessment of the Proposed Cover System for the Existing Lindsay/Ops Landfill - Golder Associates Ltd., February 18, 2000.
- vii. Leachate Generation Rates, Proposed Lindsay/Ops Landfill Expansion - Golder Associates Ltd., February 22, 2000.
- viii. Estimated Quantity and Quality of Groundwater Collected from the Proposed Contingency Groundwater Purge Well System, Lindsay/Ops Landfill - Golder Associates Ltd., March 17, 2000.
- iv. Hydrogeological Conditions and Assessment of Ammonia-N Loadings, Proposed Lindsay/Ops Landfill Expansion - Golder Associates Ltd., June 2000, including Appendix A - Site Specific Analysis of Leachate Collection System Service Life [200 years].

e. **Agricultural Study**, prepared by Stovel and Associates Inc.

f. **Air Quality Impact Assessment**, prepared by Earth Tech Canada Inc.

g. **Archaeology Assessment**, prepared by Heritage Quest Inc. (revised July 13, 2000).

h. **Bird Hazard Assessment**, prepared by Jacques Whitford Environment Limited.

i. **Leachate Disposal Study**, prepared by Earth Tech Canada Inc.

j. **Natural Environment Assessment**, prepared by Earth Tech Canada Inc.

k. **Noise Impact Assessment**, prepared by Aercoustics Engineering Limited (revised July 25, 2000).

l. **Surface Water Assessment / Stormwater Management Plan**, prepared by Earth Tech Canada Inc.

m. **Traffic Assessment**, prepared by Earth Tech Canada Inc.

n. **Visual Impact Assessment**, prepared by Earth Tech Canada Inc.

Gull Control

29. Letter dated September 26, 2000, from Greg Taras, Greg Taras Planning Consultants Ltd., to David Staseff, Ministry of the Environment, Re: **Wildlife Control Program** for the Continued Use and North Expansion of the Existing Lindsay-Ops Landfill, including:

a. Attachment "A" - Letter dated September 19, 2000, from Ron Huizer, Jacques Whitford Environment Limited, to David Moy, County of Victoria, Re: Lindsay-Ops Landfill Wildlife Control Program - Work Plan.

b. Attachment "B" - Letter dated September 15, 2000, from David Moy, County of Victoria, to Anne Mehnart, Lindsay Airport Authority, Re: Wildlife Awareness & Control Program for Lindsay Airport.

30. Final Report, City of Kawartha Lakes, Continued Use & North Expansion of the Lindsay-Ops Landfill, **Gull Control Program**, prepared by Jacques Whitford Environment Limited, dated September 2001.

#### Slope Modifications

31. Letter dated February 9, 2001, from Joe Ovcjak, Earth Tech Canada Inc., to Dave Staseff, Ministry of the Environment (response to letter dated February 1, 2001, from Dave Staseff, Ministry of the Environment, to Greg Taras, Greg Taras Planning Consultants Ltd.), including:

a. Drawing No. A1-99252-G1, entitled "Revised Final Contour Plan (2001), Existing Lindsay-Ops Landfill", dated February 2001.

b. Drawing No. A1-99252-G2, entitled "Cross Section A-A' and B-B' Plan, Existing Lindsay-Ops Landfill", dated February 2001.

32. Letter dated March 15, 2001, from J. J. Ovcjak, Earth Tech Canada Inc., to D. Staseff, Ministry of the Environment, Re: Proposed Slope Modifications, Lindsay-Ops Landfill Site (response to letter dated March 2, 2001, from Dave Staseff, Ministry of the Environment, to Joe Ovcjak, Earth Tech Canada Inc.), including attached letter dated March 9, 2001, from Frank S. Barone, Golder Associates Limited, to Joe Ovcjak, Earth Tech Canada Inc., Re: Proposed Slope Modifications, Lindsay-Ops Landfill Site.

33. Letters dated April 2 & 17, 2001, from Julie Preslie, City of Kawartha Lakes, to Dave Staseff, Ministry of the Environment, Re: Proposed Slope Modifications, Lindsay-Ops Landfill Site, including attachments re: public consultation pursuant to Condition 7 in Certificate of Approval No. A321504 (dated June 24, 1994).

#### Name Change - City of Kawartha Lakes

34. Letter dated March 6, 2001, from Julie Preslie, City of Kawartha Lakes, to Dave Staseff, Ministry of the Environment, Re: Confirmation of Amalgamation and Name Change (County of Victoria to City of Kawartha Lakes), including attachment (copy of May 6, 2000 edition of Ontario Gazette - Order of the Commission made under the *Municipal Act*, R.S.O. 1990, c. M. 45 re: County of Victoria).

#### EPA Application - Responses to MOE Comments

35. Letter dated May 2, 2001, from P. Jeffrey Seaton, City of Kawartha Lakes, to Dave Staseff, Ministry of the Environment, Re: Response to MOE Comments [January 19, 2001, February 1, 2001, and March 19, 2001] re: Part VEPA Application for Continued Use & North Expansion of the Lindsay-Ops Landfill, City of Kawartha Lakes, including binder with Responses to MOE Comments (pages 1 to 78) and the following attachments:

a. Attachment A - Existing Lindsay-Ops Landfill Perimeter Leachate Collection System Design Drawings.

b. Attachment B - Estimated Service Life of the Existing Perimeter Leachate Collection System for the Existing Lindsay-Ops Landfill, Golder Associates Ltd., April 17, 2001.

c. Attachment C - Legal Survey of Properties (5) Purchased by the City of Kawartha Lakes & Compiled Plan of Landfill Property.

d. Attachment D - Settlement Calculations for North Slope, Golder Associates Ltd., April 17, 2001.

e. Attachment E - Inclinometer Locations and Settlement Monitoring for Common North Slope, Golder Associates Ltd. - Figure E-1: Location of Settlement Plates over the North Slope of the Existing Landfill (March 2001), Figure E-2: Installation Detail for Settlement Plates on the North Slope of the Landfill (March 2001), Figure E-3: Typical Schematic of Inclinometer Installation along North Slope (February 2001).

- f. Attachment F - City of Kawartha Lakes Council Resolution No. CW2001-123 Identifying Contaminant Attenuation Zone.
- g. Attachment G - Figure G-1: Conceptual Design of a Contingency Leachate Purge Well for the Expansion Area of the Landfill, Golder Associates Ltd., February 2001.
- h. Attachment H - Conceptual Design Calculations for Leachate Purge Wells in the Landfill, Golder Associates Ltd., April 17, 2001.
- i. Attachment I - Figure 2: Regional Cross-Section A-A', Ops Township, Victoria County, Golder Associates Ltd., February 2000.
- j. Attachment J - Figure J-1: Variation in Ammonia-N Source Concentration With Time - Landfill Expansion Area, Golder Associates Ltd., April 2001.
- k. Attachment K - Groundwater Flow Direction and Monitoring Locations - Figure K-1: Overburden Groundwater Flow Direction (October 1999), Figure K-2: Upper Bedrock Groundwater Flow Direction (October 1999), Golder Associates Ltd., April 2000.
- l. Attachment L - Impacts of Projected Leachate Loadings on the Lindsay Water Pollution Control Plant Aeration Requirements: Sample Calculations for Aerator Preference & Power Requirements for Mixing, Tables 4-1b.1 & 4-1b.2 (revised), "Projected Leachate Loadings - Impact on the WPCP", Earth Tech Canada Inc., March 2001.
- m. Attachment M - Revised Maps and Figures from the Part V EPA Application (August 2000) for the Continued Use and Northerly Expansion of the Existing Lindsay-Ops Landfill Site, Earth Tech Canada Inc., March 2001:

Design Report

- Map 1-1 Site Location Plan
- Map 1-2 Surrounding Land Use
- Map 2-1 Property Plan
- Map 2-2 Existing Site Conditions (November 2000)
- Map 4-1 Features of the Proposal
- Map 4-2 Initial Cell Development Plan
- Map 4-3 Cell 2 Development Plan
- Map 4-4 Cell 4 Development Plan
- Map 4-5 Proposed Base Contours
- Map 4-6 Proposed Final Contours
- Figure 4-1 Typical Cross Sections of Fill Area
- Figure 4-2 Cross Sections and Anchor Trench Details
- Map 6-1 Existing Stormwater Ditches and Catchment Areas
- Map 6-2 Final Stormwater Ditches, Catchment Areas and Surface Water Monitoring Locations
- Map 6-3 Proposed Stormwater Facility Conceptual Design
- Map 7-1 Existing Leachate Management System
- Map 7-2 Proposed Leachate Management System
- Figure 7-1 Leachate Underdrain Pipe and Landfill Base Details
- Figure 7-2 Leachate Manhole and Sidewall Detail
- Map 9-1 Landfill Gas Management and Monitoring System
- Figure 9-1 Typical Gas Vent Trench and Gas Monitoring Probe
- Map 11-1 Existing and Proposed Groundwater Monitoring Well Locations Adjacent to the Landfill Expansion Area (Monitoring Plan for Landfill Expansion Area) - Golder Associates Ltd.

Maintenance & Operations Report

- Map 7-4 Scugog River Surface Water Sampling Locations

## CONTENT COPY OF ORIGINAL

Re: Response to MOE Comments re: Part V EPA Application for Continued Use & North Expansion of the Lindsay-Ops Landfill (corrected page 31).

37. Letter dated September 17, 2001, from Stan Irwin, City of Kawartha Lakes, to Dave Staseff, Ministry of the Environment, Re: Response to Additional MOE Comments [August 27, 2001] on The City of Kawartha Lakes Application for a Certificate of Approval Under Part V of the Environmental Protection Act for the Continued Use and Expansion of the Lindsay-Ops Landfill, including responses to MOE comments (pages 1 to 9) and the following attachments:

- a. Revised Map 7-2: Proposed Leachate Monitoring Locations, Golder Associates Ltd., September 2001.
- b. Manhole Penetration Detail 'A', Urban & Environmental Management Inc., September 2001.

38. Report entitled, "*Detailed Design for Cell 1 Base Liner and Leachate Collection System and Overview of Future Design Submissions - Lindsay-Ops Landfill Expansion*", prepared by Gartner Lee Ltd., in association with Golder Associates and TSH, dated August 2002, including:

### Detailed Design Drawings

1. Existing Conditions - Rev. 1 - Aug 07/02
2. Facility Layout - Rev. 1 - Aug 07/02
3. Site Preparation - Rev. 1 - Aug 07/02
4. Grading Plan - Cell 1 - Base Excavation - Rev. 1 - Aug 07/02
5. Grading Plan - Cell 1 - Top of Clay Liner - Rev. 1 - Aug 07/02
6. Grading Plan - Cell 1 - Leachate Collection System Layout - Rev. 1 - Aug 07/02
7. Grading Plan - Cell 1 - Top of Leachate Collection Granular Blanket - Rev. 1 - Aug 07/02
8. Typical Sections and Details - Rev. 1 - Aug 07/02
9. Typical Sections and Details - Rev. 2 - Aug 22/02
10. Typical Sections and Details - Rev. 1 - Aug 07/02
11. Manhole 1 and 2 Details - Rev. 1 - Aug 07/02

### Appendices

A. *Report on Geotechnical and Hydrogeological Data/Analyses for the Detailed Design of the Lindsay/Ops Landfill Expansion [Cell 1]*, prepared by Golder Associates Ltd., dated August 2002.

B. *Cell 1 Base Liner and Leachate Collection System Construction Specifications*, prepared by Gartner Lee Ltd., dated August 8, 2002.

39. Letter dated September 27, 2002 from Mark Sungaila, P. Eng., Gartner Lee Ltd., to Dave Staseff, P. Eng., Ministry of the Environment, Re: Response to MOE Comments [September 25, 2002] on Detailed Design of Cell 1, Lindsay-Ops Landfill Site, Certificate of Approval No. A321504.

40. Letter dated September 27, 2002 from Frank Barone, P. Eng., Golder Associates Ltd., to Dave Staseff, P. Eng., Ministry of the Environment, Re: Responses to MOE Comments on Detailed Design for Lindsay/Ops Landfill Expansion (MOE Letter dated September 25, 2002).

41. Letter dated October 1, 2002 from Frank Barone, P. Eng., Golder Associates Ltd., to Dave Staseff, P. Eng., Ministry of the Environment, Re: Responses to MOE Comments [September 27, 2002] on Construction Specifications for Cell 1 - Base Liner and Leachate Collection System, Lindsay/Ops Landfill - North Expansion.

42. Letter dated October 2, 2002 from Mark Sungaila, P. Eng., Gartner Lee Ltd., to Dave Staseff, P. Eng., Ministry of the Environment, Re: Response to MOE Comments [dated September 27, 2002 on Construction Specifications] on Detailed Design of Cell 1, Lindsay-Ops Landfill Site, Certificate of Approval No. A321504, including:

- a. Construction Specifications (Section 13) for Geosynthetic Clay Liner (GCL), dated September 3, 2002.

## CONTENT COPY OF ORIGINAL

43. Letter dated March 24, 2003 from Mark Sungaila, P. Eng., Gartner Lee Limited, to Dave Staseff, P. Eng., Ministry of the Environment, Re: Detailed Design of Site Infrastructure for Lindsay-Ops Landfill Expansion ( C of A No. A321504 ).

44. Report entitled "Detailed Design of Site Infrastructure for Lindsay-Ops Landfill Expansion ( C of A No. A321504 )", prepared by Gartner Lee Limited, in association with TSH and Golder Associates, dated March 2003, including design brief and the following drawings:

### Detailed Design Drawings

1. GA1 - General Facility Layout - Rev. 2 - March 12, 2003
2. R1 - Access Road 'A' - Sta. 0+000 to Sta. 0+083.378 - Rev. 2 - March 12, 2003
3. R2 - Access Road 'B' - Sta. 0+000 to Sta. 0+300 - Rev. 2 - March 12, 2003
4. R3 - Access Road 'B' - Sta. 0+300 to Sta. 0+600 - Rev. 2 - March 12, 2003
5. R4 - Access Road 'B' - Sta. 0+600 to Sta. 0+870 - Rev. 2 - March 12, 2003
6. R5 - Scale House and Scale By-Pass Area - Rev. 2 - March 12, 2003
7. R6 - Typical Sections and Details - Rev. 2 - March 12, 2003
8. CF1 - Leaf and Yard Compost Facility - Facility Layout - Rev. 2 - March 12, 2003
9. CF2 - Leaf and Yard Compost Facility - Detailed Facility Layout - Rev. 2 - March 12, 2003
10. CF3 - Leaf and Yard Compost Facility - Typical Sections and Details - Rev. 2 - March 12, 2003
11. CF4 - Leaf and Yard Compost Facility - Details - Rev. 2 - March 12, 2003
12. SG-1 - Site Grading Plan - Buildings - Rev. 2 - March 12, 2003
13. M01 - Scale House & Hazardous Waste Depot - Plan S - Rev. 2 - March 12, 2003

45. Report entitled "Detailed Design for Cell 2 Base Liner and Leachate Collection System - Lindsay-Ops Landfill Site" prepared for the City of Kawartha Lakes by Gartner Lee Limited, in association with Golder Associates and TSH, dated June 2004.

### Detailed Design Drawings

1. Existing Conditions - Issued for MOE Approval June 30, 2004;
2. Facility Layout/Site Preparation - Issued for MOE Approval June 30, 2004;
3. Grading Plan - Cell 2 Base Excavation - Issued for MOE Approval June 30, 2004;
4. Grading Plan - Cell 2 Top of Soil Liner - Issued for MOE Approval June 30, 2004;
5. Grading Plan - Cell 2 Leachate Collection System Layout - Issued for MOE Approval June 30, 2004;
6. Grading Plan - Cell 2 Top of Leachate Collection Granular Blanket - Issued for MOE Approval June 30, 2004;
7. Typical Sections and Details - Issued for MOE Approval June 30, 2004;
8. Typical Sections and Details - Issued for MOE Approval June 30, 2004;
9. Typical Sections and Details - Issued for MOE Approval June 30, 2004; and
10. Manhole 3 and 4 Details - Issued for MOE Approval June 30, 2004.

### Appendices

A. Geotechnical and Hydrogeological Data/Analyses for the Detailed Design of the Lindsay/Ops Landfill Expansion (Cell 2), prepared by Golder Associates Ltd., dated June 2004.

B. Cell 2 Base Liner and Leachate Collection System Construction Specifications, prepared by Gartner Lee Limited and Golder Associates, dated June 30, 2004 and June 15, 2004, respectively.

46. Letter dated July 29, 2004 from Mark Sungaila, P.Eng. Gartner Lee Limited to Dale Gable, P.Eng. Ministry of the Environment, Re: 40-504 - Responses to Review Comments - City of Kawartha Lakes, Detailed Design of Lindsay-Ops Landfill Site - Cell 2, MOE Reference Number 8240-62LQ9T.

47. Report letter entitled "Monitoring Plan for Compost Pad Facility Lindsay/Ops Landfill" and supporting documentation to Mr. Ian Parrott, Ministry of the Environment from Mr. Frank Barone, Golder Associates Ltd. dated February 9, 2005.

48. Letter and supporting documentation dated June 12, 2006 addressed to Mr. Dale Gable, Ministry of the Environment

## CONTENT COPY OF ORIGINAL

from Mr. Frank Barone, Golder Associates Ltd. submitted to satisfy Condition No. 22. The supporting documentation includes the following:

- i. Report entitled "*Detailed Design Brief - Low Permeability Final Cover System for Completed South area of Lindsay-Ops Landfill*" prepared for the City of Kawartha Lakes by Golder Associated Ltd dated June 2006;
- ii. Construction Specifications - Low Permeability Final Cover System for Completed South Area of Lindsay-Ops Landfill prepared by Golder Associated Ltd. dated June 2006;
- iii. Dwg. No. 1 - Title Page - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
- iv. Dwg. No. 2 - Existing Conditions - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
- v. Dwg. No. 3 - Cut and fill Depths for Landfill Surface Regrading - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
- vi. Dwg. No. 4 - Regrading Surface Prior to Geomembrane Placement - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
- vii. Dwg. No. 5 - Cross Sections - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
- viii. Dwg. No. 6 - Landfill Gas Venting System Layout - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
- ix. Dwg. No. 7 - Geocomposite Outlet Tubing Layout - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
- x. Dwg. No. 8 - Top of Final Cover Surface - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
- xi. Dwg. No. 9 - Details - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
- xii. Dwg. No. 10 - Details - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006; and
- xiii. Dwg. No. 11 - Details - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006.

### SCHEDULE "B"

This Schedule "B.1" forms part of this Certificate.

#### GROUNDWATER MONITORING PROGRAM - EXISTING FILL AREA

##### 1. Landfill Monitors: 6-90-R1 and 7-90-R1

Parameters: alkalinity, conductivity, pH, BOD, COD, DOC, barium, chloride, fluoride, iron, manganese, hardness, calcium, magnesium, potassium, sodium, TKN, nitrate, nitrite, ammonia, phenols, phosphorus, sulphate, benzene, toluene, xylene, aluminium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, thallium, vanadium, zinc, antimony, arsenic, selenium.

Frequency: Two times per year (May and October)

Parameters: Volatile Organic Compounds, Halogenated and Non-Halogenated, and PCBs (refer to Schedule 1 - Analytical Test Groups 16, 17 and 27 of O. Reg. 695/88).

Frequency: Once per year (May)

##### 2. Overburden Monitors:

North - 2-90-1/2, 10-90-1/2, 32-93-1/2/3

East - 12-91-1/2, 49-96-1/2/3

West - 15-91-1/2, 16-91-1/2, 17-91-1/2, 19-91

South - 13-91-1/2, 14-91, 18-91, 23-91, 25-91, 29-93, 35-93-1/2, 36-93, 37-93-1/2, 38-93, 39-93-1/2

## CONTENT COPY OF ORIGINAL

Parameters: alkalinity, conductivity, pH, COD, DOC, barium, chloride, fluoride, iron, manganese, hardness, calcium, magnesium, potassium, sodium, nitrate, nitrite, ammonia, phenols, phosphorus, sulphate, benzene, toluene, xylene, aluminium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, vanadium, zinc.

Frequency: twice per year (May and October)

### 3. Bedrock Monitors:

8-90-1/2/3, 20-91-1/2/3, 21-91-1/2/3, 22-91-1/2/3, 25-96, 27-93, 28-93, 55-98-1/2,

Parameters: alkalinity, conductivity, pH, COD, DOC, barium, chloride, fluoride, iron, manganese, hardness, calcium, magnesium, potassium, sodium, nitrate, nitrite, ammonia, phenols, phosphorus, sulphate, benzene, toluene, xylene, aluminum, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, vanadium, zinc.

Frequency: twice per year (May and October)

### 4. Residential Wells #1 to #9:

Parameters and frequency to be determined by the City commencing with the 2002 monitoring program, based on Section 1(d) in Schedule "C" of the Certificate of Approval dated June 24, 1994, and with concurrence from the Regional Director.

### 5. Water Levels:

All monitors (excludes Residential Wells, lagoon well and office well) - 4 times per year (February, May, July, October)

Residential Wells - to be determined by the City commencing with the 2002 monitoring program, and with concurrence from the Regional Director.

## **SCHEDULE "B.2"**

This Schedule "B.2" forms part of this Certificate.

## **GROUNDWATER MONITORING PROGRAM - LANDFILL EXPANSION**

**CONTENT COPY OF ORIGINAL**

<b>Well Identification (see Map 7-1 dated February 2000 in M&amp;O Report)</b>	<b>Hydrogeologic Unit Monitored</b>	<b>Sample Parameters (Schedule D)</b>	<b>Sampling Frequency (per year)</b>
<u>Existing Wells</u> 32-93-1	silty sand till	Indicator Comprehensive	2 x 1 x
32-93-2	silty sand till	Indicator Comprehensive	2 x 1 x
32-93-3	silty sand till	Indicator Comprehensive	2 x 1 x
44-93-1	sandy silt till	Indicator Comprehensive	2 x 1 x
44-93-2	sandy silt till	Indicator Comprehensive	2 x 1 x
45-93	silty sand to sandy silt till	Indicator Comprehensive	2 x 1 x
11-90	limestone bedrock	Indicator Comprehensive	2 x 1 x
52-98	limestone bedrock	Indicator Comprehensive	2 x 1 x
53-98	limestone bedrock	Indicator Comprehensive	2 x 1 x
55-98-1/2	limestone bedrock	Indicator Comprehensive	2 x 1 x
<u>Proposed Additional Wells</u> P-1-1	limestone bedrock	Indicator Comprehensive	2 x 1 x
P-1-2	overburden	Indicator Comprehensive	2 x 1 x
P-2-1	limestone bedrock	Indicator Comprehensive	2 x 1 x
P-2-2	overburden	Indicator Comprehensive	2 x 1 x
P-3-1	overburden	Indicator Comprehensive	2 x 1 x
P-4-1	limestone bedrock	Indicator Comprehensive	2 x 1 x
P-4-2	overburden	Indicator Comprehensive	2 x 1 x

1. P-series wells to be installed as development for the north landfill expansion area progresses southward.
2. Water levels to be measured at the time of sampling at all monitoring locations.

**SCHEDULE "C"**

This Schedule "C" forms part of this Certificate.

**LEACHATE QUALITY AND QUANTITY MONITORING**

**CONTENT COPY OF ORIGINAL**

Existing Fill Area:

Location	Parameters	Frequency
<i>Quality:</i> Existing Leachate Pumping Chamber	conductivity, chloride, nitrate, nitrite, ammonia, TKN, sulphate, barium, iron, lead, cadmium, chromium, BOD, COD, DOC, phenols, phosphorus, benzene, toluene, xylene	Monthly (unless samples collected in accordance with the Lindsay WPCP OWRA Certificate of Approval are available as surrogates)
Existing Leachate Pumping Chamber	arsenic, boron, free cyanide, fluoride, mercury, NTA, pesticides, radionuclides, selenium, silver, trihalomethanes	Twice per year (May and October)
<i>Quantity:</i> Existing Leachate Pumping Chamber	flow volume	continuous

North Expansion Fill Area:

Location	Parameters	Frequency
<i>Quality:</i> North Expansion Leachate Pumping Chamber	Comprehensive List in Schedule "D"	Annual
North Expansion Leachate Pumping Chamber	Indicator List in Schedule "D"	Twice per year
<i>Quantity:</i> North Expansion Leachate Pumping Chamber	flow volume	continuous

**Leachate heads** acting on the composite liner in the north expansion fill area shall be monitored **three (3) times per year** using **vibrating wire piezometers (VWPs)** installed on the liner surface at eight locations shown on Map 7-2, Proposed Leachate Monitoring Locations, Golder Associates, September 2001 (Item 37(a) in Schedule "A").

**SCHEDULE "D"**

This Schedule "D" forms part of this Certificate.

**GROUNDWATER AND LEACHATE MONITORING PARAMETERS**

<b>Comprehensive List</b>	<b>Indicator List</b>
<i>Inorganics</i>	Alkalinity
Alkalinity	
Ammonia-N	Ammonia-N
Arsenic	
Barium	Barium
Boron	Boron
Cadmium	
Calcium	Calcium

**CONTENT COPY OF ORIGINAL**

Chloride	Chloride
Chromium	
Conductivity (lab)	Conductivity (lab)
Conductivity (field)	Conductivity (field)
Copper	
Iron	Iron
Lead	
Magnesium	Magnesium
Manganese	
Mercury	
Nitrate	Nitrate
Nitrite	
Total Kjeldahl Nitrogen (TKN)	
pH (lab)	pH (lab)
pH (field)	pH (field)
Total Phosphorus	
Potassium	
Sodium	Sodium
Suspended Solids (Leachate Only)	Suspended Solids (Leachate Only)
Total Dissolved Solids (TDS)	Total Dissolved Solids (TDS)
Sulphate	Sulphate
Zinc	
<i><u>Volatile Organics</u></i>	
Benzene	
1,4 Dichlorobenzene	
Dichloromethane	
Toluene	
Vinyl Chloride	
<i><u>Other Organics</u></i>	Biochemical Oxygen Demand (BOD <sub>5</sub> )
Biochemical Oxygen Demand (BOD <sub>5</sub> )	
Chemical Oxygen Demand (COD)	Chemical Oxygen Demand (COD)
Dissolved Organic Carbon (DOC)	Dissolved Organic Carbon (DOC)
Phenols	
PCBs	

**SCHEDULE "E"**

This Schedule "E" forms part of this Certificate.

**SURFACE WATER MONITORING PROGRAM**

**CONTENT COPY OF ORIGINAL**

Stations	Parameters	Frequency
<i>Drainage Ditches:</i> SW1, SW2, SW4, SW14, SW15, SW16	conductivity, pH, alkalinity, hardness, COD, chloride, fluoride, nitrite, nitrate, total phosphorus, sulphate, calcium, sodium, potassium, iron, manganese, phenols, DOC, ammonia, in situ dissolved oxygen, in situ temperature, in situ conductivity, in situ pH, aluminium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, thallium, vanadium, zinc, antimony, arsenic, selenium, suspended solids, turbidity	Four (4) times per year - samples shall be collected within 12 hours of the first rainfall greater than 15 mm, starting from February 1, May 1, August 1, and October 1
<i>Upgradient and Downgradient:</i> SW3, SW13, Scugog River (1 upgradient, 1 downgradient)	conductivity, pH, alkalinity, hardness, COD, chloride, fluoride, nitrite, nitrate, total phosphorus, sulphate, calcium, sodium, potassium, iron, manganese, phenols, DOC, ammonia, in situ dissolved oxygen, in situ temperature, in situ conductivity, in situ pH, aluminium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, thallium, vanadium, zinc, antimony, arsenic, selenium, suspended solids, turbidity	Four (4) times per year - samples shall be collected within 12 hours of the first rainfall greater than 15 mm, starting from February 1, May 1, August 1, and October 1
SW3, SW13, Scugog River (1 upgradient, 1 downgradient)	Volatile Organic Compounds, Halogenated and Non-Halogenated (refer to Schedule 1 - Analytical Test Groups 16 & 17, O. Reg. 695/88)	Biannual (every two years)

1. For surface water sampling station locations, see Map 7-3, Final Stormwater Ditches, Catchment Areas and Surface Water Monitoring Locations, and Map 7-4, Scugog River Surface Water Sampling Stations (from Items 28(c) and 35(m) in Schedule "A").

**SCHEDULE "F"**

This Schedule "F" forms part of this Certificate.

**LANDFILL GAS MONITORING**

Monitoring Probe (see Map 9-1, Landfill Gas Management and Monitoring System - Item 35(m) in Schedule "A")	Parameters	Frequency
<i>Existing:</i>  12-91, 13-91, 14-91, 16-91, 17-91, 6-90-R1, 7-90-R1, 33-93	methane concentration	monthly during frozen ground conditions and quarterly otherwise
<i>Proposed:</i>  GP1, GP2, GP3, GP4, GP5, GP6, GP7, GP8, GP9, GP10	methane concentration	monthly during frozen ground conditions and quarterly otherwise

**SCHEDULE "G"**

This Schedule forms part of the Certificate of Approval No. A321504. It describes the groundwater and surface water monitoring program for the compost pad.

**C.1. Groundwater**

*C.1.1 Groundwater Monitoring Program Objectives*

The overall goal of the groundwater monitoring program is to detect and assess effects of the compost pad on local water resources.

*C.1.2 Monitoring Plan*

The groundwater monitoring plan shall be carried out by the Owner to address the stated objectives and will include:

C.1.2.1 Compost Pad Groundwater Monitoring Frequency

The groundwater monitoring program shall be conducted twice per year during the spring and fall.

C.1.2.2 Groundwater Monitor Sampling Locations

Table C-1 identifies the groundwater monitors sampling locations. If a monitoring well is dry or damaged then that well does not have to be sampled that sampling event. Static water levels shall be collected in all the groundwater monitors prior to purging and sampling:

**Table C-1: Groundwater Sampling Locations**

5-90-I	5-90-II	9-90
22-91-III	26-91	32-93-I
32-93-II	41-93-I	41-93-II
43-93-I	43-93-II	55-98-I

C.1.2.3 Analytical Parameters

The parameters which shall be measured in the field, along with the chemical and physical laboratory analyses which shall be collected on the groundwater samples from the groundwater monitors, shall include the following:

**Table C-2: Analytical Parameters**

**CONTENT COPY OF ORIGINAL**

pH (field)	Magnesium	Aluminum
pH (lab)	Potassium	Boron
Temperature(field)	Sodium	Cadmium
Conductivity (field)	Dissolved Organic Carbon	Chromium
Conductivity (lab)	Biological Oxygen Demand	Cobalt
Total Alkalinity (as CaCO <sub>3</sub> )	Chemical Oxygen Demand	Copper
Total Dissolved Solids	Ammonia	Iron
Total Suspended Solids	Phosphorus (Total)	Lead
Hardness	Total Kjeldahl Nitrogen	Manganese
Chloride	Phenols	Nickel
Sulphate	Mercury	Vanadium
Nitrate	Arsenic	Zinc
Nitrite	Barium	Antimony
Calcium	Fluoride	Beryllium
Molybdenum	Selenium	Silver
Strontium	Thallium	

**C.1.2.4 Groundwater Monitor Inspections**

Any groundwater monitoring well found to be damaged, not functioning or otherwise improperly maintained, shall within a reasonable time be properly repaired or replaced. The District Manager shall be notified prior to any well being replaced.

**C.1.2.5 Groundwater Monitoring Protocols**

Standard and/or generally accepted groundwater sampling (including well development, sample collection, storage and transport) and analytical protocols shall be adhered to during all groundwater monitoring sessions. Groundwater elevation measurements shall be of the static groundwater elevation within the groundwater monitoring well measured prior to well development.

**C.1.2.6 Method Detection Limits**

All laboratory analyses on groundwater samples shall be performed by an accredited analytical laboratory and the detection limits (MDLs) for the specific analyses should commensurate with the standards established in the current Ontario Drinking Water Standards.

**C.2. Surface Water**

**C.2.1 Surface Water Monitoring Program Objectives**

The primary goal of the Surface Water Monitoring Program is to monitor for any impairment of surface water being discharged from the Compost Pad Facility to the Stormwater Management Facility.

**C.2.2 Monitoring Plan**

The surface water monitoring plan shall be carried out by the Owner to address the stated objectives and will include:

**C.2.2.1 Compost Pad Surface Water Monitoring Frequency**

The surface water monitoring program shall be conducted twice per year during the spring and late summer/early fall.

**C.2.2.2 Surface Water Sampling Locations**

**Table C-3: Surface Water Sampling Locations**

Comp. Pad - A	Comp. Pad - B	Comp. Pad - C
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C.2.2.3 Analytical Parameters

The parameters which shall be measured in the field, along with the chemical and physical laboratory analyses which shall be collected on the surface water samples, shall include the following:

**Table C-4: Analytical Parameters**

pH (field)	Magnesium	Aluminum
pH (lab)	Potassium	Boron
Temperature (field)	Sodium	Cadmium
Conductivity (field)	Dissolved Organic Carbon	Chromium
Conductivity (lab)	Thallium	Cobalt
Total Alkalinity (as CaCO <sub>3</sub> )	Chemical Oxygen Demand	Copper
Total Dissolved Solids	Ammonia	Iron
Strontium	Phosphorus (Total)	Lead
Hardness	Total Kjeldahl Nitrogen	Manganese
Chloride	Phenols	Nickel
Sulphate	Mercury	Vanadium
Nitrate	Arsenic	Zinc
Nitrite	Barium	Antimony
Calcium	Fluoride	Beryllium
Molybdenum	Selenium	Silver

C.2.2.4 Surface Water Monitoring Protocols

Standard and/or generally accepted surface water sampling (sample collection, storage and transport) and analytical protocols shall be adhered to during all surface water sampling sessions.

C.1.2.5 Method Detection Limits

All laboratory analyses on surface water samples shall be performed by an accredited analytical laboratory and the detection limits (MDLs) for the specific analyses should commensurate with the standards established in the current Provincial Water Quality Objectives.

*The reasons for the imposition of these terms and conditions are as follows:*

1. The reason for **Condition 1** is to clarify the status of this Certificate of Approval as it relates to previous approvals.
2. The reason for **Condition 2** is to ensure that all correspondence relevant to this Certificate of Approval is properly identified by the Certificate of Approval number for ease of reference.
3. The reason for **Conditions 3 and 21** is to ensure that the landfill Site is designed, developed, operated, monitored and maintained in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider.
4. The reason for **Conditions 4, 5, 6, 7 and 11** is to clarify the legal rights and responsibilities of the Owner.
5. **Condition 8** is included, pursuant to subsection 197(1) of the EPA, to provide that any persons having an interest in the

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Site are aware that the land has been approved and used for the purposes of waste disposal.

6. The reasons for **Condition 9** are to restrict potential transfer or encumbrance of the Site without the approval of the Director and to ensure that any transfer of encumbrance can be made only on the basis that it will not endanger compliance with this Certificate of Approval.
7. The reason for **Condition 10** is to ensure that appropriate Ministry staff have ready access to the Site for inspection of facilities, equipment, practices and operations required by the conditions in this Certificate of Approval. This condition is supplementary to the powers of entry afforded a Provincial Officer pursuant to the EPA and OWRA.
8. The reasons for **Conditions 12, 13 and 14** are to specify the approved area from which waste may be accepted at the Site, the types of waste that may be accepted for disposal at the Site, and the maximum rates at which this Site may receive waste, based on the Owner's application and supporting documentation.
9. The reason for **Conditions 15, 16, 17, 18 and 19** is to specify restrictions on the extent of landfilling at this Site based on the Owner's application and supporting documentation. These limits define the approved volumetric capacity of the site.
10. The reason for **Condition 20** are to ensure that the Site is operated by properly trained staff in a manner which does not result in a hazard or nuisance to the natural environment or any person.
11. The reason for **Conditions 22, 23 and 24** is to ensure that the Site is designed, constructed and operated in an environmentally acceptable manner, based on the conceptual design and operations for the Site. Condition 23 allows for optimization of design based on operating experience and monitoring results.
12. The reason for **Condition 25** is to confirm that Site conditions are as expected and the Site has been prepared and constructed in accordance with the approved design.
13. The reasons for **Conditions 26, 27, 28, 29, 30, 33, 34 and 35** are to ensure that the engineered facilities are properly installed and constructed to meet the design specifications and performance objectives.
14. The reasons for **Conditions 31 and 32** are to ensure the Ministry is updated on construction progress and to ensure the long-term protection of the health and safety of the public and the environment;
15. The reasons for **Conditions 36 and 37** are to ensure that preparation and construction within a new landfill cell proceeds in accordance with approved detailed design plans, technical specifications and QA/QC activities and procedures.
16. The reason for **Condition 38** is to ensure the availability of record drawings for inspection and information purposes.
17. The reasons for **Conditions 39 and 40** are to expedite and monitor the waste settling process prior to placement of the GCL, geomembrane and leachate collection system for the north expansion fill area on the common north slope.
18. The reasons for **Condition 41** are to accommodate the pre-loading and to allow for settling of the north slope area of the existing fill area by landfilling in a north-south direction within the north expansion fill area.
19. The reason for **Condition 42** is to determine the current and projected leachate quality and quantity generated at this Site and landfilling proceeds, and to implement an appropriate long-term leachate management plan for this Site.
20. The reason for **Condition 43** is to ensure that leachate generated at this Site is disposed of in an environmentally acceptable manner.
21. The reason for **Conditions 44 to 49** is to ensure that landfill gas generated at this Site is managed in an environmentally acceptable manner.
22. The reason for **Conditions 50 to 52** is to ensure that surface water and stormwater is managed in an environmentally acceptable manner.

23. The reasons for **Condition 54** is for approving the detailed design for Cell 1, Cell 2 and the ancillary facilities associated with landfill expansion are to comply with Conditions 22 and 23 in the Certificate of Approval, and to allow the City to develop and operate the landfill site expansion in accordance with the approved final detailed design, as required in Condition 24.
24. The reasons for **Conditions 55 and 56** are to ensure that the Site is supervised by properly trained staff in a manner which does not result in a hazard or nuisance to the natural environment or any person and to ensure the controlled access and integrity of the Site by preventing unauthorized access when the Site is closed and no site attendant is on duty.
25. The reasons for **Conditions 57 and 58** are to specify the hours of operation for the landfill Site and a mechanism for amendment of the hours of operation, as required.
26. The reason for **Conditions 59 and 60** is to ensure that users of the Site are fully aware of important information and restrictions related to Site operations and access under this Certificate of Approval.
27. The reason for **Conditions 61 to 64** is to establish a forum for the exchange of information and public dialogue on activities carried out at the landfill Site. Open communication with the public and local authorities is important in helping to maintain high standards for site operation and protection of the natural environment.
28. The reason for **Condition 65** is to ensure that any complaints regarding landfill operations at this Site are responded to in a timely and efficient manner.
29. The reason for **Condition 66** is to confirm estimates of infiltration and leachate generation, and to correlate data with any nuisance complaints and landfill gas monitoring data.
30. The reason for **Condition 67** is to ensure that daily and intermediate cover is used to control potential nuisance effects, to facilitate vehicle access on the site, and to ensure an acceptable site appearance is maintained. The proper closure of a landfill site requires the application of a final cover which is aesthetically pleasing, controls infiltration, and is suitable for the end use planned for the site.
31. The reason for **Condition 68** is to specify the approval requirements for use of alternative cover material at the Site.
32. The reason for **Conditions 69, 70, 71, 72, 73, 76, 77, 78, 79, 83, 84 and 96** is to ensure that the Site is operated in an environmentally acceptable manner for protection of the natural environment and public health and safety.
33. The reason for **Condition 74** is that open burning of municipal waste is unacceptable because of concerns with air emissions, smoke and other nuisance affects, and the potential fire hazard.
34. The reasons for **Condition 75** are the protection of public health and safety and minimization of the potential for damage to environmental control, monitoring and other works at the landfill Site. Scavenging is the uncontrolled removal of material from waste at a landfill site.
35. The reasons for **Condition 80** are to minimize the potential for clogging of leachate collection pipes and to ensure effective operation of the leachate collection system components for as long as they are required. Failure to clean out these components on a regular basis may result in a decrease in their service lives. Regular cleaning of the leachate collection pipes is especially important during stages of landfilling when the level of both organic and inorganic constituents in the leachate is high and, consequently, the potential for clogging due to encrustation is greatest.
36. The reason for **Condition 81** is to ensure protection of the composite liner and leachate collection system in the north expansion fill area.
37. The reasons for **Condition 82** are to minimize the potential for clogging of the leachate drainage layer and to minimize temperature effects on the leachate collection system. Failure to maintain the specified minimum thickness of waste and cover material may result in a decrease in the service life of the drainage layer.
38. The reason for **Condition 85** is to ensure that noise from landfill operations are controlled to minimize any impacts to

receptors.

39. The reasons for **Conditions 86 to 95** are to minimize and control the use of the landfill Site by gulls with the goal to prevent the potential for gull/aircraft interaction.

40. The reasons for **Conditions 97 to 101** are to demonstrate that the landfill site is performing as designed and the impacts on the natural environment are acceptable. Regular monitoring allows for the analysis of trends over time and ensures that there is an early warning of potential problems so that any necessary remedial/contingency action can be taken.

41. The reasons for **Conditions 102 to 106** are to ensure protection of the natural environment and the integrity of the groundwater monitoring network at the Site.

42. The reasons for **Conditions 107 to 109** are to ensure that the Owner follows a plan with an organized set of procedures for identifying and responding to unexpected but possible problems at the Site. A remedial action / contingency plan is necessary to ensure protection of the natural environment and public health and safety.

43. The reason for **Condition 110** is to ensure that potential impacts on the local wetland are reviewed/updated at regular intervals.

44. The reason for **Conditions 111 to 113** is to ensure that monitoring and reporting mechanisms are in place so that the Scugog River wetland and ecosystem are not adversely affected by landfill leachate.

45. The reasons for **Conditions 114, 116, 117, 118, 120, 121, 122 and 123** are to ensure that these facilities are operated in an environmentally acceptable manner for the protection of the natural environment and public health and safety.

46. The reasons for **Condition 115** are to ensure that water quality is monitored in the stormwater management pond and any potential contamination from composting operations is not discharged to natural environment.

47. The reason for **Condition 119** is to ensure that the HHW Depot is operated in accordance with an Operating Plan for operations staff in an environmentally acceptable manner.

48. The reasons for **Conditions 124 and 125** are to provide for the proper assessment of effectiveness and efficiency of site design and operation, their effect or relationship to any nuisance or environmental impacts, and the occurrence of any public complaints or concerns. Record keeping is necessary to determine compliance with this Certificate of Approval, the EPA and its regulations.

49. The reasons for **Condition 126** are to ensure that regular review of site development, operations and monitoring data is documented and any possible improvements to site design, operations or monitoring programs are identified. An annual report is an important tool used in reviewing site activities and for determining the effectiveness of site design.

50. The reasons for **Condition 127** is to incorporate and approve the submission to satisfy Condition No. 22 for a low permeability final cover for the south portion of the landfill. Approving and incorporating the proposed design into the Certificate is to ensure the long-term health and safety of the public and the environment by reducing the leachate generation rate at the site. The Condition is also added is to address the potential design changes that may occur to obtaining the Ontario Water Resources Act Section 53 Approval for the proposed works and to ensure that these potential changes are approved and incorporated into the Certificate.

51. The reasons for **Condition 128** is to address potential impacts to the surface water until the Ontario Water Resources Act Section 53 Approval has been issued and monitoring and reporting requirements have been established in that approval. This is to ensure the long-term health and safety of the public and the environment

52. The reasons for **Condition 129** are to ensure that final closure of the Site is completed in an aesthetically pleasing manner and to ensure the long-term protection of the natural environment.

**This Provisional Certificate of Approval revokes and replaces Certificate(s) of Approval No. A321504 issued on December 14, 2001**

*In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:*

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the waste disposal site is located;

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
2300 Yonge St., Suite 1700  
P.O. Box 2382  
Toronto, Ontario  
M4P 1E4

AND

The Director  
Section 39, *Environmental Protection Act*  
Ministry of the Environment  
2 St. Clair Avenue West, Floor 12A  
Toronto, Ontario  
M4V 1L5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*The above noted waste disposal site is approved under Section 39 of the Environmental Protection Act.*

DATED AT TORONTO this 25th day of January, 2008

Tesfaye Gebrezghi, P.Eng.  
Director  
Section 39, *Environmental Protection Act*

DG/

c: District Manager, MOE Peterborough  
Bill Pickard, Manager of Solid Waste, The Corporation of the City of Kawartha Lakes


 AMENDMENT TO PROVISIONAL CERTIFICATE OF APPROVAL  
 WASTE DISPOSAL SITE

NUMBER A321504

Notice No. 1

Issue Date: July 25, 2008

The Corporation of the City of Kawartha Lakes  
 50 Wolfe St  
 Lindsay, Ontario  
 K9V 2J2

Site Location: Lindsay - Ops Landfill Site  
 51 Wilson Rd Lots 25-27, Concession 6  
 Kawartha Lakes City,

*You are hereby notified that I have amended Provisional Certificate of Approval No. A321504 issued on January 25, 2008 for the continued use and north expansion of the Lindsay-Ops Landfill Site, consisting of a 21.2 hectare waste fill area (existing fill area and north expansion fill area) within a total site area of 53.9 hectares, as follows:*

Detailed Design and Operations - Cells 3 and 6 (northern half) and Leachate Collection System

Pursuant to Conditions 22 and 23 in this Certificate of Approval, technical approval is hereby granted for the detailed design for the Cells 3 and 6 (northern half) base liner and leachate collection system, all in accordance with the following documentation, hereby added to Schedule "A" of this Certificate of Approval:

49. Letter to the Ministry of the Environment from Golder Associates Ltd., dated January 29, 2008 which describes the proposed development of the northern half of Cells 3 and 6, which differs from the original plan and explains the operational benefits of this change.
50. Construction Specifications Report prepared by Golder Associates Ltd., dated January 2008 and associated Drawings Nos. 1 to 12, Project No. 07-1113-0326.
51. Geotechnical and Hydrogeological Data/Analyses for the Detailed Design of the Cells 3 and 6 (Northern Half) Lindsay/Ops Landfill Expansion, prepared by Golder Associates Ltd., dated January 2008.

The reason for this amendment to the Certificate of Approval is as follows:

The reason for this amendment is to ensure that the Site is designed, constructed and operated in an environmentally acceptable manner, based on the conceptual design and operations for the Site.

**This Notice shall constitute part of the approval issued under Provisional Certificate of Approval No. A321504 dated January 25, 2008. All other terms and Conditions not affected by this amendment shall remain in effect.**

*In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:*

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

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3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the waste disposal site is located;

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, 15th Floor  
Toronto, Ontario  
M5G 1E5

AND

The Director  
Section 39, *Environmental Protection Act*  
Ministry of the Environment  
2 St. Clair Avenue West, Floor 12A  
Toronto, Ontario  
M4V 1L5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*The above noted waste disposal site is approved under Section 39 of the Environmental Protection Act.*

DATED AT TORONTO this 25th day of July, 2008

Ian Parrott, P.Eng.  
Director  
Section 39, *Environmental Protection Act*

JG/  
c: District Manager, MOE Peterborough  
Frank Barone, Golder Associates Ltd.


**AMENDMENT TO PROVISIONAL CERTIFICATE OF APPROVAL  
 WASTE DISPOSAL SITE**

NUMBER A321504

Notice No. 2

Issue Date: October 9, 2009

The Corporation of the City of Kawartha Lakes  
 12 Peel St  
 Lindsay, Ontario  
 K9V 3L8

Site Location: Lindsay - Ops Landfill Site  
 51 Wilson Rd Part of Lots 25,26,27 Concession 6  
 Kawartha Lakes City,

*You are hereby notified that I have amended Provisional Certificate of Approval No. A321504 issued on January 25, 2008 and amended July 25, 2008 for the continued use and north expansion of the Lindsay-Ops Landfill site , as follows:*

**I. Conditions 120, 121, 122 and 123 are hereby revoked and replaced with:**
**HOUSEHOLD HAZARDOUS WASTE (HHW) DEPOT**

120. a) The HHW depot shall be built and operated in accordance with Items 52 and 53 of Schedule "A". Administrative amendments to Item 52 of Schedule "A" (i.e. HHW Depot Operations Manual) shall be submitted to the District Manager for approval;

b) The operation of the HHW Depot is limited to the receipt and transfer of household hazardous waste consisting of classes 112, 113, 114, 122, 123, 135, 145, 146, 147, 148, 212, 213, 221, 232, 241, 242, 252, 261, 263, 269, 312 and 331 as defined in the "New Ontario Waste Classes" dated January 1986 or as amended;

c) The Depot may receive HHW at the Depot from 9:00 am to 6:00 pm, Monday - Saturday;

d) The total amount of liquid waste stored at the HHW Depot, at any one time, shall not exceed 2,270 litres (2.27 cubic metres) or equivalent;

e) The total amount of solid waste stored at the HHW Depot, at any one time, shall not exceed 40 tonnes;

f) No HHW shall be stored at the Depot for a period longer than three (3) months without approval of the District Manager.

121. a) The HHW depot shall not receive any pathological waste (class 312) other than syringes, lancets and needles.

b) No radioactive wastes shall be accepted at the Depot.

c) No PCBs (class 243) shall be accepted at the Depot. Oil and oil-based paints which have been manufactured prior to 1972, or whose manufacturing date cannot be determined, may contain PCBs, and shall be handled in the following manner;

i) Oil and oil-based paints shall not be mixed or bulked with other paints prior to testing. Paints which are lab-packed are not considered to be mixed under this Certificate.

ii) The oil and oil-based paints shall be tested by a certified laboratory for PCB content. If the oil and oil-based

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paints are found to contain PCBs at or above levels identified in subcondition 121(c)(iii), it shall be forthwith reported to the District Manager and the PCB waste shall be managed in accordance with Regulation 362/92 and stored or removed from the Depot to an approved PCB storage site, in accordance with written instructions from the District Manager.

iii) The oil and oil-based paints shall not be distributed for reuse if they have any measurable PCB content. The oil and oil-based paint is considered to be a PCB waste, if measured levels are equal to or greater than 50 parts per million.

d) Except as specified in subcondition 121(c)(iii), paints collected at the Depot may be returned or sold to the general public for reuse provided all transactions are recorded by invoice. Information on the type and volume of paint returned to the public through this Depot shall be recorded in a log book kept at the Depot.

e) The Owner shall maintain a log book at the HHW Depot which shall record, on each day of operation;

- i) date of record
- ii) types, quantities and source of waste received
- iii) quantities of waste stored at the Depot
- iv) quantities and destination of waste shipped from the Depot
- v) quantities of paints returned or sold to the general public
- vi) results of routine, visual inspection of the Depot
- vii) any reporting of spills or upsets and actions taken to contain and manage.

122. a) The HHW Depot shall only operate when under the supervision of staff trained in accordance with Item 52 of Schedule "A", the HHW Depot Operations Manual;

b) Sufficient numbers of drums and lab-packed containers shall be available at the Depot such that all HHW, in quantities unanticipated or otherwise, can be safely stored;

c) The Owner shall ensure that the waste are properly handled, packaged, contained or stored in a safe and secure manner so as not to pose any threat to the general public, site personnel and the natural environment, and that the operation of this Depot does not interfere with any other activities associated with this waste disposal site;

d) Emergency response in the event of a spill or upset shall be undertaken in accordance with Item 52 of Schedule "A", the HHW Depot Operations Manual. This Manual shall be kept at the Depot at all times and made easily accessible to all staff;

e) The Owner shall ensure that all contingency and emergency response equipment and materials are immediately available at the Depot at all times, in a good state of repair and fully operational;

f) The Owner shall conduct routine, visual inspections of the entire Depot area to ensure its security and to minimize off-site impacts such as odour, dust, litter and other nuisance factors.

123. Within four (4) months of the scheduled closure of the Depot, the Owner shall submit a detailed Closure Plan for approval by the Director. The Plan shall include, as a minimum, description of the work required to close the Depot, schedule of works and decommissioning of the HHW area.

## **II. The following items are added to Schedule "A":**

52. Application for a Provisional Certificate of Approval for a Waste Disposal Site dated January 16, 2009 and signed by Andrew Boyd, Supervisor, Solid Waste Services including the City of Kawartha Lakes Household Hazardous Waste (HHW) Depot Operations Manual dated January 2009.

53. E-mail dated August 21, 2009 (4:08 PM) from Heather Van Bruinessen, Regulatory Compliance Officer to B. Wilkinson, MOE re: storage of batteries (on shelving unit with roof) & oil bins (double-lined walls).

54. E-mail dated September 8, 2009 (10:22 AM) from Heather Van Bruinessen, Regulatory Compliance Officer to B. Wilkinson, MOE re: maximum solid waste.

*The reason for this amendment to the Certificate of Approval is to specify operational requirements of the Household Hazardous Waste Depot.*

**This Notice shall constitute part of the approval issued under Provisional Certificate of Approval No. A321504 dated January 25, 2008, as amended.**

*In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:*

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the waste disposal site is located;

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, 15th Floor  
Toronto, Ontario  
M5G 1E5

AND

The Director  
Section 39, *Environmental Protection Act*  
Ministry of the Environment  
2 St. Clair Avenue West, Floor 12A  
Toronto, Ontario  
M4V 1L5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*The above noted waste disposal site is approved under Section 39 of the Environmental Protection Act.*

DATED AT TORONTO this 9th day of October, 2009

Tesfaye Gebrezghi, P.Eng.  
Director  
Section 39, *Environmental Protection Act*

BW/  
c: District Manager, MOE Peterborough  
Roberta Perdue, The Corporation of the City of Kawartha Lakes


 AMENDMENT TO PROVISIONAL CERTIFICATE OF APPROVAL  
 WASTE DISPOSAL SITE

NUMBER A321504

Notice No. 3

Issue Date: October 30, 2009

The Corporation of the City of Kawartha Lakes  
 12 Peel St  
 Lindsay, Ontario  
 K9V 5R8

Site Location: Lindsay - Ops Landfill Site  
 51 Wilson Rd Part of Lots 25,26,27 Concession 6  
 Kawartha Lakes City

*You are hereby notified that I have amended Provisional Certificate of Approval No. A321504 issued on January 25, 2008 and amended on July 25, 2008 for a Waste Disposal Site (Landfill), consisting of a 21.2 hectare waste fill area within a total site area of 53.9 hectares, as follows:*

I. This Notice of Amendment approves the use of non-hazardous waste fine material from Rancor Wood Recycling Inc. located at 197 Putnam Road in Belleville, Ontario ("Rancor Waste Fines") as alternative daily cover pursuant to condition 69 of this *Certificate* and in accordance with the items amended to Schedule "A". As a result, the following conditions are hereby added to this *Certificate*:

**Use of Rancor Waste Fines as Alternative Daily Cover**

130. The *City* is approved to use *Rancor Waste Fines* in accordance with Condition 69 of this *Certificate*.

131. Use of the *Rancor Waste Fines* shall be discontinued should the material be shown to not be performing the minimum functions required in Condition 69 of this *Certificate*.

132. Use of the *Rancor Waste Fines* shall be discontinued upon the receipt of written direction to do so from the *Director* or *District Manager*.

133. All *Rancor Waste Fines* to be used as alternative daily cover shall be stored in the active cell area only and any surface water run-off from the stockpiled material shall be collected in the *Site's* leachate collection system.

II. Condition 126 (*Annual Report*) is hereby amended to include a requirement to report any performance issues related to the use of the alternative daily cover approved under this Notice of Amendment.

**Annual Report**

126. n. A discussion of any operational or performance issues related to the use of alternative daily cover at the *Site*.

III. The following items are hereby added to Schedule "A" of this *Certificate*:

52. Application for a Provisional Certificate of Approval for a Waste Disposal Site signed by Andrew Boyd, Supervisor, Solid Waste Division, The Corporation of the City of Kawartha Lakes, including all attached supporting information.

53. E-mail dated October 1, 2009, from Andrew Boyd, Supervisor, Solid Waste Division, The Corporation of the City of Kawartha Lakes, to Cathy Curlew, Senior Environmental Officer, Ministry of the Environment. Re: Use of Rancor Materials for Landfill Cover.

54. E-mail dated October 2, 2009, from Andrew Boyd, Supervisor, Solid Waste Division, The Corporation of the City of Kawartha Lakes, to David Lee, Senior Review Engineer, Ministry of the Environment. Re: Application for a Provisional CofA - Use of Rancor Fines as ADC.

55. E-mail dated October 13, 2009, from Heather Van Bruinessen, Regulatory Compliance Officer, The Corporation of the City of Kawartha Lakes to David Lee, Senior Review Engineer, Ministry of the Environment. Re: Use of Rancor Fines as ADC.

56. E-mail dated October 14, 2009, from Andrew Boyd, Supervisor, Solid Waste Division, The Corporation of the City of Kawartha Lakes, to David Lee, Senior Review Engineer, Ministry of the Environment. Re: Application for a Provisional CofA - Use of Rancor Fines as ADC.

The reasons for this amendment to the Certificate of Approval are follows:

*The reason for Conditions 130, 131, 132 and 133 are to approve the use of Rancor Waste Fines as alternative daily cover pursuant to Condition 69 of this Certificate and to ensure use of the material is discontinued should it not perform the standard requirements of daily cover material.*

*The reason for Condition 126 is to ensure that analysis of the performance of the alternative daily cover is included in the Annual Report required as per this Certificate.*

**This Notice shall constitute part of the approval issued under Provisional Certificate of Approval No. A321504 dated January 25, 2008.**

*In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:*

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the waste disposal site is located;

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, 15th Floor  
Toronto, Ontario  
M5G 1E5

AND

The Director  
Section 39, *Environmental Protection Act*  
Ministry of the Environment  
2 St. Clair Avenue West, Floor 12A  
Toronto, Ontario  
M4V 1L5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*The above noted waste disposal site is approved under Section 39 of the Environmental Protection Act.*

**CONTENT COPY OF ORIGINAL**

DATED AT TORONTO this 30th day of October, 2009

Tesfaye Gebrezghi, P.Eng.  
Director  
Section 39, *Environmental Protection Act*

DL/

c: District Manager, MOE Peterborough  
Area Supervisor, MOE Belleville  
Randy Corfield, Rancor Wood Recycling Inc.



**AMENDMENT TO PROVISIONAL CERTIFICATE OF APPROVAL**  
**WASTE DISPOSAL SITE**  
 NUMBER A321504  
 Notice No. 4  
 Issue Date: April 8, 2010

The Corporation of the City of Kawartha Lakes  
 50 Wolfe St  
 Lindsay, Ontario  
 K9V 2J2

Site Location: Lindsay - Ops Landfill Site  
 51 Wilson Rd Part of Lots 25,26,27 Concession 6  
 Kawartha Lakes City,

*You are hereby notified that I have amended Provisional Certificate of Approval No. A321504 issued on January 25, 2008 and amended on July 25, 2008, October 9, 2009, and October 30, 2009 for a Waste Disposal Site (Landfill), consisting of a 21.2 hectare waste fill area within a total site area of 53.9 hectares, being known as the Lindsay - OPS Landfill Site, as follows:*

The following conditions are hereby added to this Certificate:

44.1 (1) Phase 1 of the landfill gas collection and flaring system shall be constructed and operated in accordance with Items 57 through 59 in Schedule "A".

(2) For the future phases of the landfill gas collection and flaring system, the *Owner* shall submit the final detailed design to the *Director* for approval, with copies to the *District Manager* prior to construction.

44.2 Prior to construction of the landfill gas collection and flaring system, the *Owner* shall have in place, and available for MOE review upon request, the following:

- i. An odour control plan to minimize odour impacts off-site during the construction phase;
- ii. A monitoring plan for odour and air emissions during the construction phase of the work and post-construction phase;
- iii. A sediment/erosion control plan to be implemented during the construction and post-construction for the installation of the landfill gas collection and flaring system.
- iv. A construction schedule for the installation of the landfill gas collection and flaring system;

44.3 Within ninety (90) days of commissioning the landfill gas collection and flaring system, the *Owner* shall submit to the *District Manager* a construction report detailing the construction activities and any design changes made to the system during construction. This report shall include but not be limited to the following topics:

- i. "as-built" drawing(s) of the location of the landfill gas collection and flaring system;
- ii. a description of the various construction stages;
- iii. quality assurance/quality control plan for the construction; and
- iv. any changes to the design of the landfill gas collection and flaring system.

44.4 No later than ninety (90) days after the commissioning of the landfill gas collection and flaring system, the *Owner* shall submit to the *Director* for approval, with copies to the *District Manager*, the Operation and Maintenance Manual for the gas collection and flare system. The report shall provide, but not be limited to, details on inspection and maintenance schedules, documentation procedures, shut-down procedures, Ministry contact procedures, flare operations, and

maintenance.

44.5 (1) In the event a gas well needs replacing due to damage or the well is deemed to be not functioning properly, the *Owner* may replace the gas well.

(2) The *Owner* shall notify the *District Manager* in writing that a well is being replaced, no later than fourteen (14) days prior to replacement of the well. The replacement well shall be located at the same location as the replaced well or in the immediate vicinity of the well it is replacing.

(3) For any other major repairs, replacements and/or upsets of the landfill gas collection and flaring system, the *Owner* shall notify the *District Manager* in writing within thirty (30) days of the changes. Such changes shall also be included in the landfill annual report.

44.6 Certificate of Approval (Air) for the gas flare shall be obtained prior to installation.

The following items are hereby added to Schedule "A":

57. Report entitled "Ontario Regulation 347 Design Report Lindsay/OPS Landfill Site Lindsay, Ontario" dated June 26, 2009 prepared by Comcor Environmental Limited.

58. Letter dated January 15, 2010 addressed to Rick Li, Ministry of the Environment from Denise Burgess, Comcor Environmental Limited providing a response to the MOE comments on the design report (Item 57).

59. Letter dated February 25, 2010 addressed to Rick Li, Ministry of the Environment from Denise Burgess, Comcor Environmental Limited providing a response to the MOE comments on the header pipe trench and liner penetration detail.

The reasons for this amendment to the Certificate of Approval are as follows:

*1. The reason for Condition 44.1 is to ensure the gas collection and flaring system shall be built and operated as per the submission and supporting documentation.*

*2. The reasons for Condition 44.2 are to ensure the Owner has plans in place during the construction of the system to address potential off-site impacts and construction timing.*

*3. The reason for Condition 44.3 is to ensure the Owner documents the construction activities and provides this information in a report to the District Manager.*

*4. The reason for Condition 44.4 is to ensure that there are established operation, maintenance and inspections programs in place for the system. This is to ensure the long-term health and safety of the public and the environment.*

*5. The reasons for Condition 44.5 are to ensure the proper maintenance of the gas collection system and the District Manager is informed of any changes to the gas wells.*

*6. The reason for Condition 44.6 is to clarify approval requirement for the operation of gas flare.*

**This Notice shall constitute part of the approval issued under Provisional Certificate of Approval No. A321504 dated December 14, 2001**

*In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:*

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
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**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*The above noted waste disposal site is approved under Section 39 of the Environmental Protection Act.*

DATED AT TORONTO this 8th day of April, 2010

Tesfaye Gebrezghi, P.Eng.  
Director  
Section 39, *Environmental Protection Act*

RL/  
c: District Manager, MOE Peterborough  
Jonathan Petsch, Comcor Environmental Limited