

# Environmental Assessment – Terms of Reference

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**Waste Management of Canada Corporation,  
Ottawa Waste Management Facility**



*January 2007*

# Table of Contents

	Page
<b>1. Introduction.....</b>	<b>1</b>
<b>2. The Proponent – Waste Management of Canada Corporation.....</b>	<b>4</b>
<b>3. Purpose of the Proposed Undertaking .....</b>	<b>5</b>
3.1 Problem Assessment .....	6
3.2 Opportunity Assessment .....	6
<b>4. The Contents of the Environmental Assessment Document.....</b>	<b>8</b>
<b>5. Description and Rationale for the Proposed Undertaking.....</b>	<b>8</b>
5.1 Description of the Proposed Undertaking.....	9
5.2 Rationale for the Proposed Undertaking.....	9
<b>6. Description and Rationale for “Alternatives To” the Undertaking.....</b>	<b>11</b>
<b>7. Description and Rationale for “Alternative Methods” of Carrying Out the Undertaking.....</b>	<b>12</b>
<b>8. Description of Environment Potentially Affected by the Proposed Undertaking.....</b>	<b>14</b>
<b>9. Environmental Assessment Methodology.....</b>	<b>18</b>
9.1 Evaluation of “Alternatives To” .....	18
9.2 Evaluation of “Alternative Methods” .....	19
9.3 Detailed Assessment of the Undertaking .....	20
<b>10. Community Commitments Agreement.....</b>	<b>21</b>
<b>11. Monitoring Strategy.....</b>	<b>21</b>
<b>12. Consultation.....</b>	<b>22</b>
12.1 Consultation on the Terms of Reference .....	22
12.2 Consultation Plan for the EA .....	23
12.3 First Nations Consultation .....	25
<b>13. Other Approvals.....</b>	<b>26</b>

## List of Figures

Figure 1. Lands in the Vicinity of the WM Ottawa WMF.....	3
Figure 2. Existing Conditions in the Vicinity of the WM Ottawa WMF.....	16

## Appendices

- A. Environmental Assessment Criteria and Studies

## Supporting Documents

Consultation on the Terms of Reference Supporting Document

## **1. Introduction**

Waste Management of Canada Corporation (WM) is preparing an environmental assessment (EA) to provide additional waste disposal capacity at, or in the vicinity of, its Ottawa waste management facility (WMF), currently located on Lots 3 and 4, Concession 3 in the former Township of Huntley, formerly in the Township of West Carleton, now the City of Ottawa near the intersection of Carp Road and Highway 417. For the purposes of this Terms of Reference, lands in the vicinity of the Ottawa WMF will be considered as consisting of those lands described as being within the area bounded by Highway 417, Carp Road and Richardson Sideroad (see Figure 1). The former Township of Goulbourn and Village of Stittsville are located immediately southeast of the facility.

The WMF is operated under Certificate of Approval A461002, issued on August 17, 1994. The site has a total area of 170.8 ha, of which 35 ha are licensed for waste disposal. The current WMF site is designated in the City of Ottawa Official Plan as a Solid Waste Disposal Site and the active landfill area is supported by the appropriate land use zoning (Waste Management Zone). The WMF will continue to accept non-hazardous waste generated in the Province of Ontario and be positioned to primarily serve the City of Ottawa, and secondarily serve Eastern Ontario.

The reason for preparing this environmental assessment is to systematically gather and evaluate information about WM's proposal to provide additional disposal capacity at, or in the vicinity of, the Ottawa WMF, and its alternatives, so that an informed and environmentally sound decision can be made. The EA will include the consideration of potential environmental effects, and the public interest, as part of its decision for providing additional waste disposal capacity at, or in the vicinity of, the Ottawa WMF. WM will identify and consult with interested stakeholders about the preparation of the EA and its conclusions.

The provision of additional waste disposal capacity at, or in the vicinity of, the Ottawa WMF is a "proposed undertaking" for the purposes of preparing an EA under Ontario's *Environmental Assessment Act* (the "Act"). Section 1 (1) of the *Act* defines an undertaking as:

*"[A] major commercial or business enterprise or activity or a proposal, plan or program in respect of a major commercial or business enterprise or activity of a person or persons,., if an agreement is entered into under section 3.01 in respect of the enterprise, activity, proposal, plan or program"*.

Section 3 of the *Act* specifies that the *Act* does not apply to this proposal unless the proposal is designated by regulation, or unless a written agreement under Section 3.01 of the *Act* is entered into, or unless the proposal is a generation facility that has the capacity to burn 100 tonnes or more of municipal waste per day. WM and the Ontario Minister of the Environment (the Minister) have executed an agreement pursuant to Section 3.01 of the *Act* for this proposal.

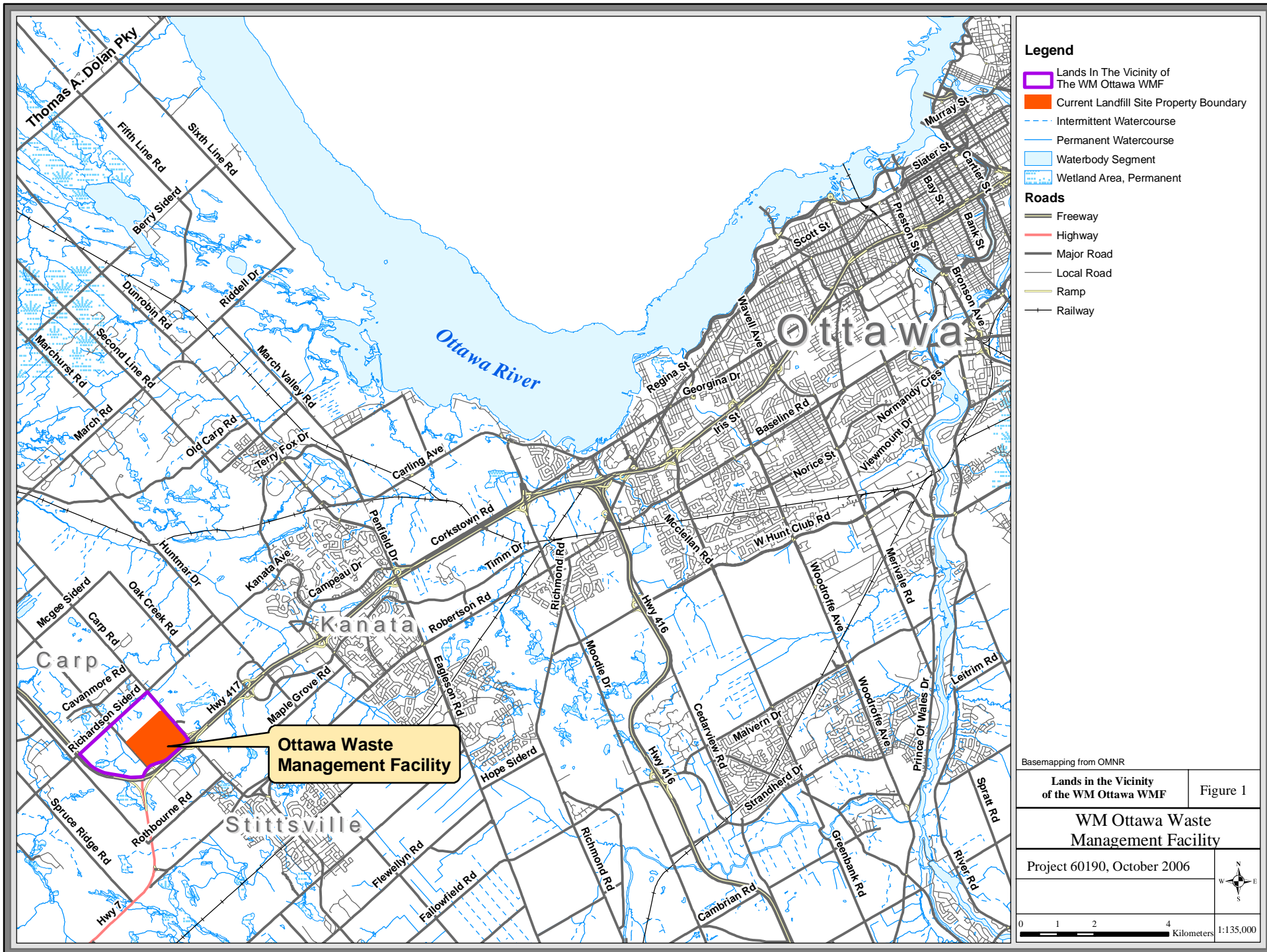
**Environmental Assessment – Terms of Reference**  
**Waste Management of Canada Corporation, Ottawa Waste Management Facility**

The Terms of Reference document sets out in detail the requirements for the preparation of the proposed EA and how it will be carried out. This Terms of Reference (ToR) is the first step in the preparation of an EA. This ToR is submitted to the Ontario Minister of the Environment for approval as required under Section 6 of the *Act*.

These Terms of Reference have been prepared in compliance with Section 6 (2)(c) of the *Act*. The environmental assessment will consist of those items listed in subsection 6.1(2) of the *Act* as described in these Terms of Reference, as permitted by subsection 6.1(3) of the *Act*. Sections 4 to 8 of the ToR provide a more complete description of the elements of the environmental assessment as set out in subsection 6.1(2) of the *Act*.

The relevant section of the *Act* is set out below:

- 6.1 (2) (a) a description of the purpose of the undertaking;*
- (b) a description of and a statement of the rationale for,*
- i. the undertaking,*
  - ii. the alternative methods of carrying out the undertaking, and*
  - iii. alternatives to the undertaking;*
- (c) a description of,*
- i. the environment that will be affected or that might reasonably be expected to be affected, directly or indirectly,*
  - ii. the effects that will be caused or that might reasonably be expected to be caused to the environment, and*
  - iii. the actions necessary or that may reasonably be expected to be necessary to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment, by the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking;*
- (d) an evaluation of the advantages and disadvantages to the environment of the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking; and*
- (e) a description of any consultation about the undertaking by the proponent and the results of the consultation.*



**Environmental Assessment – Terms of Reference**  
**Waste Management of Canada Corporation, Ottawa Waste Management Facility**

WM believes that an environmental assessment conducted in accordance with the Terms of Reference will be consistent with the purpose of the *Act* as set out in Section 2, and will provide for:

*[T]he betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment.*

These Terms of Reference have been prepared following distribution of a draft ToR, and following consideration of comments received through consultation with stakeholders, including the public and government agencies that may be potentially affected, as required by Section 6(3) of the *Act*. A supporting document to these ToR provides details on the consultation undertaken. A summary of comments received, and responses to those comments are provided. Additional documents that relate to the proposal, such as the Certificate of Approval for the Ottawa WMF and the most recent Annual Monitoring Report for the Ottawa WMF are available at [www.ottawalandfilllea.com](http://www.ottawalandfilllea.com).

## **2. The Proponent – Waste Management of Canada Corporation**

Waste Management is a primary service provider in the collection and processing of recyclables and disposal of waste in the City of Ottawa, and the largest non-hazardous solid waste management company in Canada. WM manages its Eastern Canada operations from its regional head office, located in Ottawa, Ontario.

At the date of the ToR, Waste Management employs 3,400 people in 116 operating locations, in 9 provinces across Canada. The company provides waste management services to municipal, industrial, commercial and institutional customers. In total, WM serves 4.5 million residential customers and 170,000 industrial, commercial and institutional customers in Canada, making it the country's largest private sector collector and processor of recyclables and waste. In Canada, WM currently owns and/or operates 20 material recovery facilities and 18 landfill sites.

Waste management is a highly regulated industry in Ontario and the scope of services offered by WM fits within this regulated waste management framework. WM is a sophisticated, vertically integrated waste management company committed to the ongoing development of its waste diversion, recycling, disposal and energy development business operations. It currently owns and operates 10 material recovery facilities, five active landfill sites and a network of waste transfer stations across Ontario to support its collection programs and recycling and disposal facilities.

## **Environmental Assessment – Terms of Reference** **Waste Management of Canada Corporation, Ottawa Waste Management Facility**

WM is Ottawa's largest waste management service provider, employing 250 people in 6 locations across the area. This area includes the City of Ottawa and Eastern Ontario. Within this area, WM is positioned as a contract service provider for the collection, processing and marketing of recyclable materials. In addition, the company meets over 50% of the annual waste disposal requirement for the City of Ottawa, including residential wastes and wastes from about 7,500 industrial, commercial and institutional customers.

WM actively pursues additional opportunities to establish or enhance residential and commercial, industrial and institutional (IC&I) waste management business operations. The parent company is publicly traded on the NYSE (WMI). Waste Management, Inc. operates over 119 recycling facilities, 300 landfills, 17 energy from waste (EFW) facilities, and 32 energy from landfill gas facilities across North America.

### **3. Purpose of the Proposed Undertaking**

The purpose of the proposed undertaking is to provide additional disposal capacity at, or in the vicinity of, the Ottawa WMF, in order to allow WM to continue to manage its current commercial operations and support the growth of its business operations. This includes the provision of waste management infrastructure to the City of Ottawa (the "City") and other customers primarily located in Eastern Ontario.

The Ottawa WMF has historically supplied disposal capacity for residential waste generated within, and managed by, the City. The City has identified this disposal capacity as an integral component of its waste management system in its Integrated Waste Management Master Plan (Phase One). The City initiated Phase 1 of its Integrated Waste Management Master Plan in 2002. This Phase was intended to establish key strategic directions related to waste management for the City. At the conclusion of Phase 1, in March 2003, the City's Environmental Services Committee and Council approved a number of strategic policy directions. These strategic directions recognize the City's continuing interest in reserving capacity at the WM Ottawa WMF.

WM has an agreement with the City to reserve a significant portion of the disposal capacity at the Ottawa WMF for City generated wastes. The Ottawa WMF has historically reserved 90% of its disposal capacity for residential and industrial, commercial and institutional (IC&I) wastes generated within the City of Ottawa.

### **3.1 Problem Assessment**

The WM Ottawa waste management facility presently includes a landfill, and related infrastructure, that is reaching its approved capacity. Because of WM's commitments to the City, other municipalities and its IC&I sector customers, additional disposal capacity at, or in the vicinity of, the existing facility is required within approximately 3 years, at current operating levels. Should this additional disposal capacity not be developed, closure of the existing facility would result in the following problems:

- a) A detrimental impact on the commercial business operations of WM.
- b) WM's customers, including residents, commercial businesses, industries and institutions, from Ottawa and Eastern Ontario, would be faced with a lack of long-term disposal capacity.
- c) The City would be put in the position whereby its own disposal capacity may be utilized more quickly, or face the possibility of finding disposal capacity outside of its political boundaries and having to export its waste.
- d) Other municipalities in Eastern Ontario and commercial businesses, industries and institutions from across the region and broader area would lose access to cost competitive disposal capacity currently represented by the Ottawa WMF.
- e) An important component of the integrated waste management system that exists locally in the City and more broadly in Eastern Ontario will be lost.
- f) WM will lose a key component of its integrated waste management system, and will lose the flexibility to address all of its contractual obligations.

### **3.2 Opportunity Assessment**

In contrast to the potential problems associated with the closure of the WM Ottawa WMF, additional disposal capacity at, or in the vicinity of, the facility can provide WM, the City, other municipalities and IC&I sector clients from across Eastern Ontario with a number of opportunities:

- a) The facility will provide necessary additional waste disposal capacity.
- b) Additional disposal capacity at, or in the vicinity of, the existing facility would make efficient use of the land and infrastructure already in place at the current facility (as compared to siting, permitting and building a completely new facility).

**Environmental Assessment – Terms of Reference**  
**Waste Management of Canada Corporation, Ottawa Waste Management Facility**

- c) Additional waste disposal capacity at, or in the vicinity of, the Ottawa WMF will permit WM to expand customer services that promote diversion and recycling at source, as well as its environmental and waste minimization education and outreach programs.
- d) Building on the infrastructure of the existing facility, WM will be able to enhance its commercial operations by providing a wider range of integrated waste management services supporting waste diversion processing facilities and energy production through utilization of landfill gas.
- e) The City and other municipal jurisdictions within Eastern Ontario would be able to rely on local disposal capacity for their residents, businesses/industries and institutions without the need to export waste outside the area or the Province of Ontario.
- f) The Ottawa WMF will continue to serve as a key component of WM's regional network of waste management facilities located across Ontario and will operate within an integrated system.
- g) The additional waste disposal capacity will also provide local emergency/contingency waste disposal capacity.

The EA will describe the purpose of the undertaking, which will be to provide for additional disposal capacity at, or in the vicinity of, the WM Ottawa WMF in order to allow WM to continue to manage its commercial contracts through the growth and operation of its business, and to provide waste disposal capacity to the City of Ottawa and Eastern Ontario areas over a 25-year planning period.

The EA will determine whether the proposed undertaking is consistent with the purpose of the *Act*. WM is of the opinion that the provision of future waste management infrastructure operated in compliance with applicable legislation will permit the continuation of this essential service for the betterment of the people of Ontario. If the environmental assessment (EA) determines that the undertaking complies with the ToR and the purpose of the *Act*, and if the undertaking obtains approval, it will be carried out in a manner that protects, conserves, and wisely manages Ontario's environment.

## **4. The Contents of the Environmental Assessment Document**

WM has prepared these Terms of Reference in accordance with Section 6(2)(c) of the *Act*, which allows WM to set out in detail the requirements for the preparation of the environmental assessment. The EA will consist of those items listed in subsection 6.1(2) of the *Act* as described in these Terms of Reference, as permitted by subsection 6.1(3) of the *Act*. Upon completing the preparation and public review of its EA document, WM will submit the EA Document for review and approval by the Minister that will contain the following:

- a) A description of the *purpose* of the undertaking.
- b) A *description* of the undertaking.
- c) The *rationale* for the undertaking.
- d) A description of the *environment potentially affected* by the undertaking.
- e) An assessment of the *alternatives to the undertaking* and the *alternative methods* of carrying out the undertaking. WM intends to consider only specific alternatives that are within the means and business mandate of the company, and which in the sole opinion of WM are economically viable.
- f) A description of the *effects* that will be caused or that might reasonably be expected to be caused on the environment by the undertaking or the alternatives to and the alternative methods.
- g) A description of *mitigation measures* that are necessary to prevent or reduce significant adverse effects on the environment.
- h) An evaluation of the *advantages and disadvantages* to the environment as a result of the undertaking and the alternatives.
- i) A description of *consultation* undertaken by WM in association with the environmental assessment.

## **5. Description and Rationale for the Proposed Undertaking**

The completion of the environmental assessment in accordance with these Terms of Reference will result in the identification of a proposed undertaking. As specified in this section of the Terms of Reference, WM will describe the purpose of the proposed undertaking and provide a description of the proposed undertaking to address Sections 6.1(2)(a) and 6.1(2)(b)(i) of the *Act*.

## **5.1 Description of the Proposed Undertaking**

The proposed undertaking, to provide additional waste disposal capacity at, or in the vicinity of, the WM Ottawa WMF, will continue to accept non-hazardous waste generated in the Province of Ontario. It is important for WM to maintain this service area to ensure flexibility within the company's overall integrated waste management system. The WMF will be positioned to primarily serve Ottawa, and secondarily serve the Eastern Ontario region. After the diversion or the beneficial use of appropriate materials at the facility, up to 18,750,000 m<sup>3</sup> of disposal capacity will be provided by the facility for a 25 year period. If WM proceeds with waste combustion, the available landfill capacity may last longer. Contaminated soil permitted to be disposed of at the WMF will be used for daily cover.

The additional disposal capacity at, or in the vicinity of, the WMF would occur on lands owned or controlled by WM. Where the ToR refers to lands in the vicinity of the WMF, those lands were previously described, and are shown on Figure 1. It will include a combination of on-site facilities to form an integrated waste management facility. This combination of waste management facilities may include facilities related to public education, waste diversion, recyclables processing, productive utilization of landfill gas and waste disposal.

The description of the proposed undertaking will be further refined during the EA.

## **5.2 Rationale for the Proposed Undertaking**

The WM Ottawa WMF is expected to reach approved capacity within approximately 3 years based on current operating levels of about 450,000 tonnes/year. Additional waste disposal capacity is required in order for WM to meet its long term commitments to provide waste disposal capacity. One of those long term commitments is the provision of waste disposal capacity to the City based on the City's continuing interest in reserving disposal capacity at the Ottawa WMF, as outlined in their IWMMP.

The proposed undertaking is for up to 18,750,000 m<sup>3</sup> of waste disposal capacity. The volume is based on anticipated capacity required for the next 25 years following the date upon which the Ottawa WMF reaches approved capacity.

The EA will not examine anticipated population growth, changes to waste management strategies which may result in the reduction of the total amount of waste requiring disposal, or other factors which may alter the quantity of waste requiring disposal over the 25 year period. The volume of 18,750,000 m<sup>3</sup> will be used in the EA for the purposes of conducting an assessment of the potential effects on the environment of the undertaking. An annual average of 600,000 tonnes of disposal capacity (exclusive of daily cover material) will be assumed when determining the potential effects of the preferred undertaking. In the event that mitigation of impacts is required, WM will consider changes either to the total volume

## **Environmental Assessment – Terms of Reference**

### **Waste Management of Canada Corporation, Ottawa Waste Management Facility**

(i.e. less than 18,750,000 m<sup>3</sup>) or the average annual disposal rate (i.e. less than 600,000 tonnes/year). Such a change to the total volume could result in a different facility size and may potentially affect the site service life.

WM intends to focus the study area for the undertaking on those lands in the vicinity of the Ottawa WMF consisting of those lands being within the area bounded by Highway 417, Carp Road and Richardson Sideroad. The rationale is as follows:

- In the new City of Ottawa Official Plan, approved on May 13, 2003, the City has designated Solid Waste Disposal Sites in order to recognize their function and potential impact on surrounding land uses. The WM Ottawa WMF is identified in the City's Official Plan as one of these sites.
- The City of Ottawa has undertaken the development of an Integrated Waste Management Master Plan (IWMMP). In 2003, City Council endorsed strategic directions resulting from Phase 1 of the IWMMP. One of the strategic directions includes that the City continue to reserve landfill disposal capacity within the City for locally generated solid waste. The IWMMP specifically identifies that the City reserves capacity at the WM Ottawa site.
- The City of Ottawa prepared the Carp Road Corridor Community Design Plan (May 2004) in order to support the Carp Road Corridor as a rural employment area. This plan outlines land uses within the area including the presence and role of the WM site within the City and the local area.
- The City and WM have entered into a legal agreement outlining the details of how disposal capacity at the WM Ottawa site is to be reserved for the City.
- WM does not own, nor is it aware of, other lands within the City of Ottawa that have been identified as suitable for new waste disposal capacity.
- WM has invested in the development of its Ottawa WMF, including associated physical site infrastructure, environmental controls, site management and desires to fully utilize the investment that has been made by the company.

For descriptive purposes only, the EA will provide:

- a) An inventory of non-hazardous waste generation, diversion and disposal (Ontario and export) for the base year (2005).
- b) A summary of public policy respecting current and future waste diversion targets in Ottawa and Ontario.

**Environmental Assessment – Terms of Reference**  
**Waste Management of Canada Corporation, Ottawa Waste Management Facility**

- c) A description of WM’s business mandate and role within the waste management services sector.
- d) An assessment and description of the business opportunity available to WM locally, regionally, and provincially having regard to (a), (b) and (c) above.

The rationale for the proposed undertaking will include a description of WM’s role in supporting increased waste reduction and diversion of waste from disposal in the City of Ottawa.

## **6. Description and Rationale for “Alternatives To” the Undertaking**

The EA will consider specific “alternatives to” the WM undertaking. Alternatives to the proposed undertaking are functionally different ways of approaching and dealing with additional disposal capacity at, or in the vicinity of, the WM Ottawa WMF. WM intends to consider only those alternatives that are within the business mandate of WM, and which in the sole opinion of WM, are economically viable.

Based on the rationale above, the EA will only consider the following “alternatives to” the undertaking:

- **Do Nothing**  
WM would not undertake future development of the Ottawa WMF.
- **Export to Disposal Capacity outside of the City of Ottawa**  
This alternative consists of the export of wastes, generated within Ottawa and Eastern Ontario and managed by WM, to a WM owned and controlled disposal facility located outside the area. The facility may be located elsewhere in Ontario or within another jurisdiction.
- **Waste Combustion with Energy Recovery (EFW) at, or in the vicinity of, the WM Ottawa WMF**  
This alternative consists of a mass-burn waste combustion facility combined with energy recovery, which WM provides through its related company Wheelabrator Technologies Inc., in combination with new landfill disposal capacity. The alternative would be developed at, or in the vicinity of, the WM Ottawa WMF.

**Environmental Assessment – Terms of Reference**  
**Waste Management of Canada Corporation, Ottawa Waste Management Facility**

- **Develop New Landfill Disposal Capacity at, or in the vicinity of, the WM Ottawa WMF**

WM would develop new landfill disposal capacity at, or in the vicinity of, the WM Ottawa WMF.

The “alternatives to” that are proposed for consideration in the EA will be described in more detail as part of the EA.

## **7. Description and Rationale for “Alternative Methods” of Carrying Out the Undertaking**

The EA will consider specific “alternative methods” of carrying out the undertaking. The “alternative methods” to be considered and evaluated in the EA will be confirmed after identification of the preferred “alternative to”. Based on the “alternatives to” proposed to be evaluated, and in the case where the preferred undertaking involves the development of disposal capacity at, or in the vicinity of, the Ottawa WMF, the following “alternative methods” for carrying out the undertaking are proposed:

- a) **Waste management facility “footprint” alternatives for:**
  - **A combination of waste combustion with energy recovery and landfill; or,**
  - **landfill only.**
- b) **Site access alternatives**
- c) **Leachate treatment alternatives**

The EA, will consider “alternative methods” of carrying out the undertaking to address Section 6.1(2)(b)(ii) of the *Act* as specified in this section of the Terms of Reference, which will include a description of, and rationale for, the following “alternative methods” for carrying out the proposed undertaking.

### **a) Waste Management Facility “Footprint” Alternatives**

The preferred “alternative to” may require the siting of both a mass-burn waste combustion facility (EFW) and landfill, or a landfill only, at, or in the vicinity of, the WM Ottawa WMF.

- (i) **Waste Combustion (EFW)/Landfill Footprint Alternatives** – The waste combustion facility footprint alternatives to be considered will be in conjunction with the landfill footprint alternatives outlined in Section 7 (a)(ii). The EFW facility capacity and associated landfill footprint may vary based on the throughput of the EFW facility. The total proposed capacity of the waste combustion facility will be determined by the volume of waste under the long-term management and control of WM.

**Environmental Assessment – Terms of Reference**  
**Waste Management of Canada Corporation, Ottawa Waste Management Facility**

- (ii) **Landfill Footprint Alternatives** - The total proposed capacity of a landfill footprint alternative will be up to 18,750,000 m<sup>3</sup>.

WM has identified three alternatives for the potential landfill footprint. The configuration of these footprints may be refined as part of the EA. The alternatives to be considered are bounded by Highway 417, Carp Road and Richardson Sideroad. The three alternatives are as follows:

- Build Over Alternative:** Expansion of the facility over the north and south side slopes of the existing landfill and within the existing WM land holdings.
- North Alternative:** Development of a stand-alone facility to the north of the existing landfill on land owned, and not currently owned, by WM.
- West Alternative:** Development of a stand-alone facility to the west of the existing landfill on land not currently owned by WM.

In addition, mining/reclamation of a portion of the existing landfill property may be considered as part of any of these alternatives. Landfill mining/reclamation will not be considered as a discrete or stand alone alternative. Mining/reclamation will only be considered as a component of a landfill footprint alternative, if warranted, due to the need to reclaim an area of the existing fill area in order to develop one of the proposed footprint alternatives. As a result, the potential effects of mining/reclamation would be considered during the comparative evaluation of alternative methods if a footprint alternative includes any reclamation of the existing fill. In the event that the preferred alternative method (i.e. footprint alternatives) includes some reclamation of the existing fill, the potential effects associated with this activity would be considered within the detailed assessment of the undertaking.

The evaluation of these alternative methods will be conducted in accordance with a methodology to be developed by WM that will apply identified landfill design fundamentals, including the requirements of Ontario Regulation 232/98.

**b) Site Access Alternatives**

Four alternative entrances or combination of entrances for accessing the site will be evaluated, dependent on the preferred footprint alternative, as follows.

**Existing Access Entrance:** Carp Road north to the existing site entrance.

**New Access Entrance #1:** Carp Road north to a new entrance on the north side of the site.

**Environmental Assessment – Terms of Reference**  
**Waste Management of Canada Corporation, Ottawa Waste Management Facility**

**New Access Entrance #2:** Carp Road north to Richardson Side Road, west on Richardson Side Road to William Mooney Road, south on William Mooney Road to the new entrance.

**New Access Entrance #3:** Potential to access site directly from the Highway 417 via the westbound exit ramp to Carp Road.

c) **Leachate Treatment Alternatives**

A number of leachate treatment alternatives will be considered for the additional landfill disposal capacity at, or in the vicinity of, the Ottawa WMF, including:

1. full on-site treatment with no liquid effluent discharge;
2. full on-site treatment with discharge of effluent to surface water;
3. on-site pre-treatment with discharge to sewer;
4. off-site trucking to a sewage treatment plant.

Leachate recirculation will be considered during the evaluation of each of these alternative methods. Each leachate treatment alternative may be considered on its own or in combination with another alternative. In the case of the alternative methods, which involve discharge to a sewage treatment plant, the availability of hydraulic and loading capacity of the sewage treatment plants will be considered as well as the need for, and possible terms of, an agreement with the operating authority for the sewage treatment plant for the disposal of the leachate.

## **8. Description of Environment Potentially Affected by the Proposed Undertaking**

The WM Ottawa WMF has the following characteristics:

- a) A land base that is sufficient to contain all waste infrastructure necessary for the current operation of the site;
- b) Efficient and safe vehicle access to the site that avoids any built up areas;
- c) Hydrogeological control of the site;
- d) Surface water management and control on-site with no direct off-site discharge;
- e) Active gas collection and combustion on-site;
- f) Sound operational practices; and,
- g) Corporate experience and track record.

## **Environmental Assessment – Terms of Reference**

### **Waste Management of Canada Corporation, Ottawa Waste Management Facility**

A preliminary description of the existing environment at, and in the vicinity of, the Ottawa WMF that may be affected by the proposed undertaking provides a general outline of subject areas that will be assessed in the EA. The potentially affected environment that will be assessed includes, but will not be limited to: land use, social, cultural and economic; transportation; air quality; terrestrial and aquatic environment; and hydrogeology/groundwater. The proposed criteria, study areas and technical studies to be carried out during the EA, including a more detailed description of the existing environment, are presented in Appendix A. An aerial view of the area in the vicinity of the WM Ottawa WMF is shown in Figure 2.

#### Land Use, Social, Cultural and Economic

The area in the vicinity of the WM Ottawa WMF is situated in a rural industrial setting; with both rural industrial and commercial land uses adjacent the site. However, land use in the immediate area around the site includes a mix of agricultural, rural residential, commercial, industrial, aggregate extraction and Highway 417.

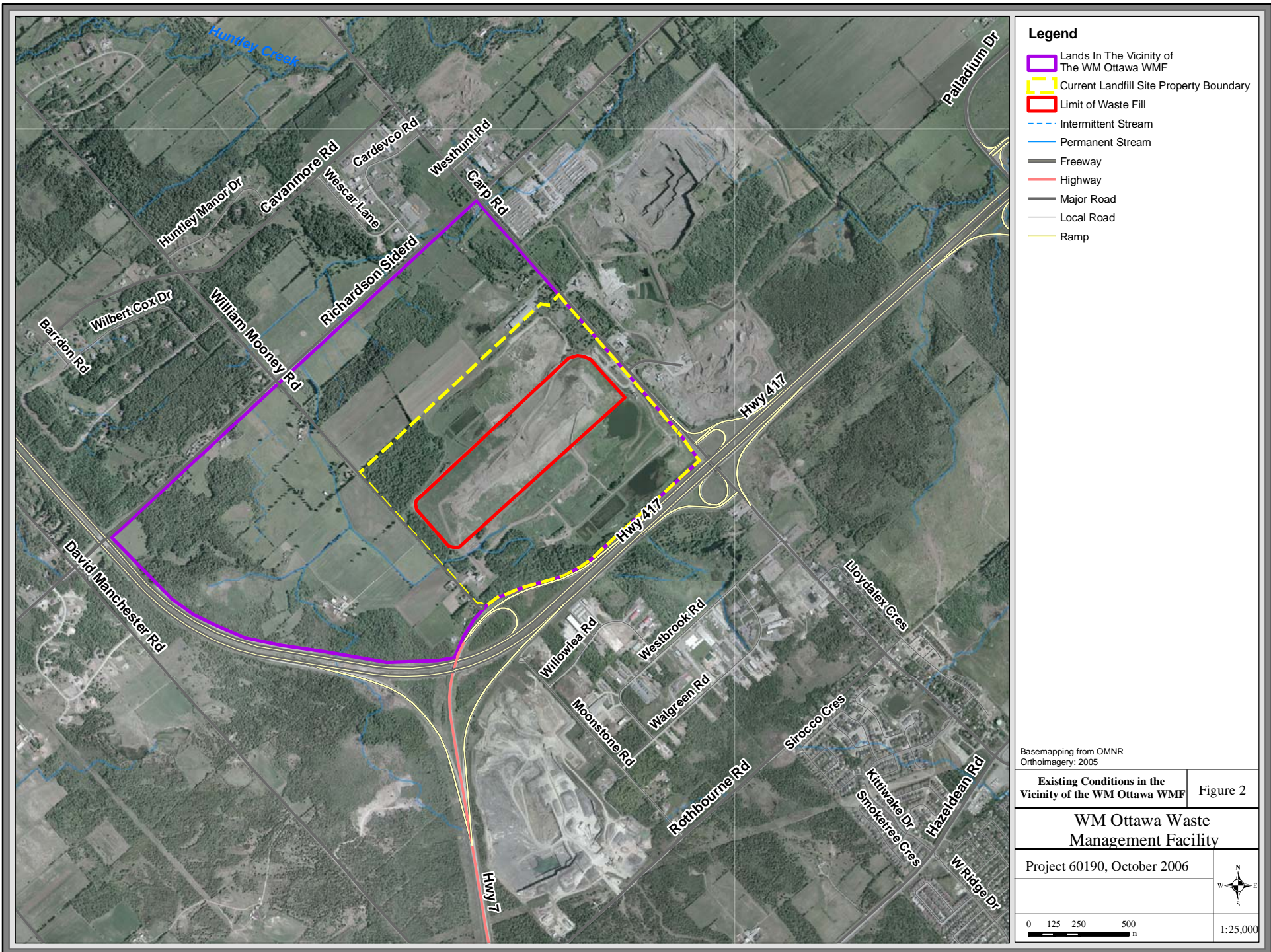
The City of Ottawa has experienced significant economic and land development growth in recent years mainly due to growth in the technology industry and in the public sector. Housing starts have been highest in the last five years in the west suburban area of the City, which includes the former municipalities of Goulbourn, Stittsville, Kanata and Nepean. This development pressure has moved southwest, along the Highway 417 corridor, through Kanata towards West Carleton and the landfill site. Although development pressures do not appear to be imminent in the site area during the short term, this landscape could undergo changes over the future operating life of the landfill.

The WMF and adjacent lands are located within the Carp Road Corridor, an area defined within the City of Ottawa Official Plan as a rural employment area. This nine kilometre corridor extends along Carp Road from Rothburn Road in the south to March Road in the north. The Carp Road Corridor Community Development Plan vision for the corridor is a rural employment area that is an attractive base for a wide range of industrial and commercial uses.

The communities of Stittsville and Kanata located south and west of the WMF are growing communities with a mix of rural and urban character, residential, commercial, industrial and recreational features.

#### Transportation

The area in the vicinity of the Ottawa WMF is bounded by Regional Road 5 (Carp Road) to the northeast, Highway 417 to the southeast and William Mooney Road to the southwest. Richardson Sideroad is the main road to the northwest of the site. Access to the WMF is directly off Carp Road.



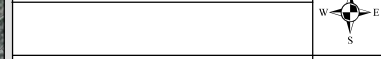
- Legend**
- Lands In The Vicinity of The WM Ottawa WMF
  - Current Landfill Site Property Boundary
  - Limit of Waste Fill
  - Intermittent Stream
  - Permanent Stream
  - Freeway
  - Highway
  - Major Road
  - Local Road
  - Ramp

Basemapping from OMNR  
Orthimagery: 2005

Existing Conditions in the Vicinity of the WM Ottawa WMF Figure 2

**WM Ottawa Waste Management Facility**

Project 60190, October 2006



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## **Environmental Assessment – Terms of Reference** **Waste Management of Canada Corporation, Ottawa Waste Management Facility**

Significant highway transportation corridors in the area include Highway 417 and Highway 7, which intersect a short distance southwest of the site area. This intersection is the main entrance from the west into the City of Ottawa.

The Ottawa/Carp Airport is situated to the north of the WMF. The distance from the current northern property limit of the WMF site to the southern edge of the airport property limit is approximately 4.8 km.

### Air Quality

The area in the vicinity of the Ottawa WMF is a rural environment including industrial land uses. Air quality conditions are highly influenced by these land uses including aggregate extraction, a concrete plant and the landfill.

WM implements various operating practices at the Ottawa WMF to minimize the potential for dust impacts including paving of on-site roads, road cleaning and watering of unpaved surfaces. The WMF has implemented operational practices to control the potential release of odours including a landfill gas collection system and gas flares, combined with appropriate daily and final covering of the waste. In addition, an odour control system to neutralize fugitive odours on-site has been installed on the northeastern side of the WMF property.

### Terrestrial and Aquatic Environment

The topography in the vicinity of the Ottawa WMF ranges from sandy upland areas in the north and west to wetland areas in the east. Parts of the lands under consideration have been disturbed by landfill and prior extraction operations. Other lands include active farming operations; old field and remnant woodlot parcels.

Some seasonal surface water flow discharges from the northwest corner of the Ottawa WMF. The southern branch of Huntley Creek originates in this area, then flows west and north, before flowing northeast toward the main branch of Huntley Creek. Surface water in the vicinity of the Ottawa WMF generally flows north and east toward Huntley Creek and the Carp River. All surrounding properties use groundwater as their source of potable and process water.

### Hydrogeology/Groundwater

The direction of regional groundwater flow is toward the Carp River, located approximately 4 km to the northeast. Locally, groundwater recharge likely occurs along the sand and gravel ridge located to the south and southwest of the site. The direction of shallow groundwater flow is toward the north and northeast, and at the northwest corner groundwater flow diverges to the northwest, generally following the bedrock topography.

**Environmental Assessment – Terms of Reference**  
**Waste Management of Canada Corporation, Ottawa Waste Management Facility**

Waste Management has initiated a Corrective Action Plan to resolve a historical groundwater issue on a downgradient property east of the site. This action included a groundwater remediation and management strategy including the installation of a boundary purge well system, performance monitoring of the system, and the acquisition of land. Monitoring has demonstrated that this strategy is effective in controlling the source of groundwater impacts.

## **9. Environmental Assessment Methodology**

This section presents a description of the work that will be completed for the evaluation of the advantages and disadvantages to the environment of the alternatives to the undertaking and the alternative methods of carrying out the undertaking. A description is also provided of the work that will be completed for the evaluation of the advantages and disadvantages of the undertaking.

### **9.1 Evaluation of “Alternatives To”**

The “alternatives to” the proposed undertaking will consider:

- a) the environment potentially affected;
- b) the effects that may be caused on the environment;
- c) the actions necessary to prevent, change, mitigate or remedy the effects on the environment; and
- d) an evaluation of the advantages and disadvantages to the environment.

The comparative evaluation methodology to be used for the evaluation of the “alternatives to” is described below. A comparative evaluation means that the differential impacts between two or more alternatives will be described and assessed.

1. Prepare a *description* of and *rationale* for each of the “alternatives to” listed previously in Section 6.
2. *Confirm alternative feasibility*. In the consideration of “alternatives to”, it is proposed that the following screening criteria be applied:
  - Must be reasonably capable of meeting the requirements of applicable legislation;
  - Must be technically feasible and proven technology; and,
  - Must be commercially viable, as determined at the sole discretion of WM.

## **Environmental Assessment – Terms of Reference** **Waste Management of Canada Corporation, Ottawa Waste Management Facility**

This will result in the identification of a “short list” of remaining feasible alternatives for further detailed evaluation and the elimination of those alternatives that do not meet the requirements of the feasibility screening criteria.

3. Screen the EA criteria listed in Appendix A against the following two factors:
  - a) must apply to, and be relevant to, the effects that might be caused by the “short list” of alternatives; and,
  - b) must allow for a meaningful differentiation in environmental effects between the “short list” of alternatives;  
resulting in the establishment of a “short list” of comparative evaluation criteria.
4. Develop comparative evaluation indicators, to serve as measures of the potential effect for each of the “short list” comparative evaluation criteria.
5. Describe the *environment potentially affected*, based on the comparative evaluation criteria and indicators, by each of the “short list” alternatives.
6. Describe the *net effects on the environment* for each alternative when compared to each of the other “short list” alternatives, taking into account reasonable *mitigation* methods. The methodology will identify the criteria for determining whether there are significant adverse net effects on the environment for the purposes of determining whether to proceed with an alternative.
7. Evaluate the *advantages and disadvantages to the environment* for each of the “short list” of alternatives, and prepare a rationale for the preferred alternative(s).

The comparative evaluation of “alternatives to” may determine that more than one alternative will be carried forward for consideration at an “alternative methods” level of detail. If WM determines, at its sole discretion, that an “alternative to” is not commercially viable, then WM may choose not to carry forward that “alternative to” for consideration at an “alternative methods” level of detail.

### **9.2 Evaluation of “Alternative Methods”**

The “alternative methods” of carrying out the proposed undertaking will be evaluated in the EA considering:

- The environment potentially affected;
- The effects that will be caused on the environment;
- The actions necessary to prevent, change, mitigate or remedy the effects on the environment; and,
- An evaluation of the advantages and disadvantages to the environment.

## **Environmental Assessment – Terms of Reference**

### **Waste Management of Canada Corporation, Ottawa Waste Management Facility**

A comparative evaluation methodology, consisting of the following steps, is proposed for this purpose and will be applied to each set of alternatives:

1. Prepare a *description* of and *rationale* for each of the “alternative methods” listed previously in Section 7.
2. Screen the EA criteria listed in Appendix A against the following two factors:
  - a) must apply to, and be relevant to, the effects that might be caused by the alternatives; and,
  - b) must allow for a meaningful differentiation in environmental effects between the alternatives;resulting in the establishment of a “short list” of comparative evaluation criteria.
3. Develop comparative evaluation indicators, to serve as measures of the potential effect for each of the “short list” comparative evaluation criteria.
4. Describe the *environment potentially affected* by each of the alternatives, based on the “short list” of comparative evaluation criteria and indicators.
5. Describe the *net effects on the environment* for each alternative relative to the other alternatives, taking into account reasonable *mitigation* methods.
6. Evaluate the *advantages and disadvantages to the environment* for each of the alternatives, and prepare a rationale for the preferred alternative(s).

The comparative evaluation of “alternative methods” may determine that more than one “alternative method” will be carried forward for more detailed impact assessment. If WM determines, at its sole discretion, that an “alternative method” is not commercially viable, then WM may choose not to carry forward that alternative for more detailed impact assessment.

### **9.3 Detailed Assessment of the Undertaking**

A comprehensive impact assessment of the preferred alternative(s) will be completed to determine the net effects that will be caused, or that might reasonably be caused, on the environment (i.e., the advantages and disadvantages to the environment). This includes consideration of any mitigation that might be necessary to reduce or eliminate impacts, and the appropriate monitoring, contingency and impact management plans. WM may determine, at its sole discretion, that a preferred alternative is not commercially viable, in which case WM may choose not to carry forward that preferred alternative for approval. Following the identification of the net effects of the undertaking, if it is determined that there are significant adverse net effects resulting from the undertaking, consideration will be given to the following measures:

## **Environmental Assessment – Terms of Reference**

### **Waste Management of Canada Corporation, Ottawa Waste Management Facility**

- Identification of a maximum daily rate of disposal capacity;
- In the case of a landfill, changes to the landfill height, depth, or footprint; or,
- Implementation of additional specific operational practices to reduce adverse effects.

The baseline conditions for the impact assessment will account for the ongoing operation of the existing waste management facilities and any surrounding land uses. The baseline year for the existing facilities will be 2006, unless otherwise stated. The impact assessment will assume baseline conditions only of the operating landfill. For the purposes of the net effects evaluation only, it will be assumed that the end use of the undertaking will be passive recreational use. The end use of the undertaking will be determined following approval of the EA, and following public consultation at an appropriate time prior to closure of the facility.

The criteria proposed to be used in the assessment are attached as Appendix A, along with the proposed technical studies. The study areas and typical study data sources are also included in Appendix A. The criteria, study areas and study data sources are not intended to be absolute. If significant new issues or concerns arise during the course of the detailed assessment of the undertaking, WM will be flexible in considering their inclusion. The study methods to be used will conform to commonly acceptable industry and government practices.

## **10. Community Commitments Agreement**

WM has entered into an agreement with the City of Ottawa regarding the Ottawa WMF. As part of the agreement, and consistent with the *City of Ottawa Act*, WM pays a host community fee to the City. The total fee paid annually is based on the rate of filling at the facility.

## **11. Monitoring Strategy**

WM will commit to the development of a monitoring strategy for implementing the impact management measures, as part of the EA.

## **12. Consultation**

### **12.1 Consultation on the Terms of Reference**

A detailed description of the consultation activities undertaken, and the stakeholders consulted, for the development of these Terms of Reference and the effect this consultation had on these ToR is described in detail in the supporting document titled “Consultation on the Terms of Reference Supporting Document”. The following is a summary of these activities.

On January 12, 2006, WM publicly announced its environmental assessment and released a draft Terms of Reference for review and comments. In conjunction with the release of the draft ToR, WM notified neighbours and the community of the proposed undertaking through a news release, hand delivered letters and a newsletter. These notices outlined the availability of the draft ToR for review and how comments could be provided. Copies of the draft ToR were provided to the public, review agencies, the City and Aboriginal stakeholders. Subsequently, a wide variety of consultation activities were carried out by WM as part of preparing this ToR including the following:

- Notifications of draft ToR, Request for Comments and Open House/Public Meeting
- One Open House Meeting
- One Public Meeting
- Meetings/Presentations
- Project Website
- Newsletters/Written Correspondence/Telephone Discussions
- Individual Comments
- Community Organization Comments
- Petitions
- First Nations
- Agency Comments

In addition, the following mechanisms were in place to facilitate receipt of comments from the public:

- A project e-mail address ([ottawalandfilllea@gartnerlee.com](mailto:ottawalandfilllea@gartnerlee.com))
- A toll free comment/information line (1-866-332-6145)
- A mailing/postal address

WM requested that any comments on the draft ToR be provided in writing by March 20, 2006. During this period, the comment deadline was extended upon request to May 12, 2006.

**Environmental Assessment – Terms of Reference**  
**Waste Management of Canada Corporation, Ottawa Waste Management Facility**

WM consulted with a broad stakeholder group on the content of the draft Terms of Reference. Based on the comments received, changes were made to the draft document and incorporated into this final Terms of Reference. Comments received directly from the public, community organizations, the City of Ottawa, and agencies have been reviewed by WM, summarized and tabulated, and responses prepared to these issues/concerns. This tabulated information is included in the consultation supporting document. The supporting document also includes a description of the key changes made to the ToR as a result of the comments received as part of the consultation process. A detailed chronology and description of the consultation events and activities during the ToR development is also included in the supporting document.

The aboriginal communities of the Algonquins were provided a copy of the draft ToR and contacted to identify if the communities had any comments or concerns. No comments have been received.

## **12.2 Consultation Plan for the EA**

In accordance with Section 6.1(2)(e) of the *Act*, a description of the consultation plan carried out by WM during the EA, along with the results of that plan, will be documented in the EA. The objective is to promote and obtain public and government agency input into the decision-making process, and demonstrate how this input was incorporated.

WM undertakes to give notice and to consult with the public, City of Ottawa, Aboriginal communities, Province of Ontario, other agencies and stakeholders at the following key milestones:

- a) Upon completion of a draft report or component study on the rationale for the undertaking and on the “alternatives to” the undertaking and the recommended alternative.
- b) Upon completion of a draft report or component study on the “alternative methods” of carrying out the undertaking, including the description of the recommended undertaking. A description of the existing baseline environmental conditions and the proposed facility characteristics (i.e., design concept) of the recommended undertaking will also be consulted on at this time.
- c) Upon completion of a draft report or component study on the potential impacts associated with the recommended undertaking, including the proposed mitigation, monitoring and impact management.

## **Environmental Assessment – Terms of Reference** **Waste Management of Canada Corporation, Ottawa Waste Management Facility**

A consultation forum based on an open house/public meeting format at key decision points or milestones will be utilized throughout the EA. Public notice will be given to the public, City of Ottawa, Aboriginal communities, Province of Ontario, other agencies, and stakeholders at key milestones during the preparation of the EA when draft reports or component studies have been prepared and information is available for review and comment. Information will be released through the use of a website, newsletters and news releases, and interviews, correspondence and meetings with local residents, agencies and municipal representatives. Based on the MOE's Environmental Assessment Government Review Team Master Distribution List and responses received during consultation on the draft ToR, an agency distribution list has been developed by WM for this EA. A copy of this list is included in the Consultation on the Terms of Reference Supporting Document. This list will be regularly reviewed and updated to reflect those agencies with an ongoing interest in this proposed undertaking.

In all cases, a timeline of 60 days will be established for the review and commenting period, related to each of the three key milestones, to ensure that the EA continues to progress in a timely manner. Comments received during the specified review period will be addressed as part of the final EA.

In addition, WM will offer public information sessions throughout the EA. These information sessions will be developed based on input from participants to facilitate a positive conversation with all stakeholders. The initial information sessions will provide an opportunity for WM and area residents to collaboratively outline a process for ongoing informal dialogue related to the Ottawa WMF EA.

In response to stakeholder comments, WM will seek to form a Public Advisory Committee (PAC) as part of the environmental assessment. The role of the PAC will be to review and provide comment on all WM submissions prepared as part of the EA, for which public comments are being requested. The PAC will be comprised of a group of community stakeholders from the broader community. A proposed draft Terms of Reference for the PAC is included in the Consultation on the Terms of Reference Supporting Document.

The role of the PAC will not include peer review or involve public meetings. The PAC will be required to prepare a report of their work at the conclusion of the consultation period. The report of the PAC will become part of the public record and available for review by others. WM will also make available to the PAC all public comments received during the EA plus all technical work plans and reports prepared by or on behalf of WM during the EA process related to the undertaking.

WM will fund a third party facilitator who will be responsible for coordinating the following efforts of the PAC:

- Ensuring effective communication and response by those involved
- Meeting the 60 day consultation timeline specified by WM
- Defining a terms of reference for the PAC
- Report on PAC activities

**Environmental Assessment – Terms of Reference**  
**Waste Management of Canada Corporation, Ottawa Waste Management Facility**

Additional notice to the public, City of Ottawa, Aboriginal communities, Province of Ontario and other agencies will be provided during the course of the EA. WM proposes to provide additional notice at the following points:

- a) Upon receipt of the Minister of the Environment’s decision to approve the Terms of Reference.
- b) Upon completion and submission of the Final EA.

All consultation activities planned for the Environmental Assessment are intended to meet the purpose and intent of the EA Act. The consultation plan may be altered during the EA based on comments or feedback received during the process.

### **12.3 First Nations Consultation**

Aboriginal consultation will be undertaken with the Algonquins of Pikwakanagan, Bonnechere, Greater Golden Lake and Ottawa (urban), and their representatives.

WM intends to forward copies of each draft report or component study and the EA submission to the identified aboriginal communities. WM will request their comments and confirm their interest in meeting to discuss their concerns, if any.

The following steps are proposed for consulting with the First Nations:

- ⇒ Offer an invitation to consult with WM during the process.
- ⇒ Jointly develop and implement a Consultation Plan
- ⇒ Prepare a Consultation Report documenting the activities and the outcomes

The Ontario Secretariat of Aboriginal Affairs and Indian and Northern Affairs Canada will be sent all information related to the First Nations consultation.

## **13. Other Approvals**

In addition to the EA approval, certain other approvals will necessarily be sought. It is intended that Environmental Protection Act approvals, as well as any other statutory approval requirements under Provincial Acts and Regulations, will be sought concurrently with the Environmental Assessment Act approval. The requirement for any Federal approvals, including approvals under the Canadian Environmental Assessment Act, will be determined at the time the preferred alternative(s) is identified.

Dependent on the preferred alternative(s) identified, additional approvals may also be required. The additional approvals include, but are not limited to the following:

- Environmental Protection Act (Certificate of Approval (Waste Disposal), Certificate of Approval (Air))
- Aggregate Resources Act
- Ontario Water Resources Act (Certificate of Approval (Sewage Works))
- Planning Act (City of Ottawa Official Plan and Zoning By-law)

# **Appendix A**

## **Environmental Assessment Criteria and Studies**