Proposed Terms of Reference

For an Environmental Assessment of a New Landfill Footprint at the West Carleton Environmental Centre

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Waste Management of Canada Corporation

WASTE MANAGEMENT

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1. Introduction

Waste Management of Canada Corporation (WM) proposes to complete an Environmental Assessment (EA) for a proposed undertaking consisting of the provision of a new landfill footprint at the existing Ottawa Waste Management Facility (Ottawa WMF). The new landfill footprint will be one component of the proposed West Carleton Environmental Centre (WCEC). The proposed WCEC will be an integrated waste management facility that will include:

- Waste diversion and recycling operations;
- Composting operations;
- Renewable energy facilities;
- Recreational lands for community uses; and,
- A new landfill footprint for disposal of residual waste materials.

The existing Ottawa WMF is 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 proposed Terms of Reference (ToR), the study area considered will be those lands within the area bounded by Highway 417, Carp Road and Richardson Sideroad (see **Figure 1**). WM presently owns or has agreements to purchase lands within this area as shown in **Figure 1**.

These ToR have been prepared in compliance with Section 6(2)(c) of the OEAA. The ToR sets out in detail the requirements for the preparation of the proposed EA and how it will be carried out. The EA will consist of those items listed in subsection 6.1(2) of the OEAA as described in these ToR, as permitted by subsection 6.1(3) of the OEAA.

WM has complied with the Ministry of Environment (MOE) Code of Practice for *Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario* (October 2009). Further, in consultation with the MOE Environmental Assessment Project Coordination Section, WM developed a program for consulting with interested persons during the preparation of the ToR in accordance with the MOE Code of Practice, *Consultation in Ontario's Environmental Assessment Process* (June 2007).

The Notice of Commencement for the ToR was issued on April 13, 2010. These ToR have been prepared following consultation with interested parties, and are being provided to interested parties for the purpose of receiving further comments. A Record of Consultation has been prepared and submitted to the MOE, along with the proposed ToR, describing the consultation and its results.

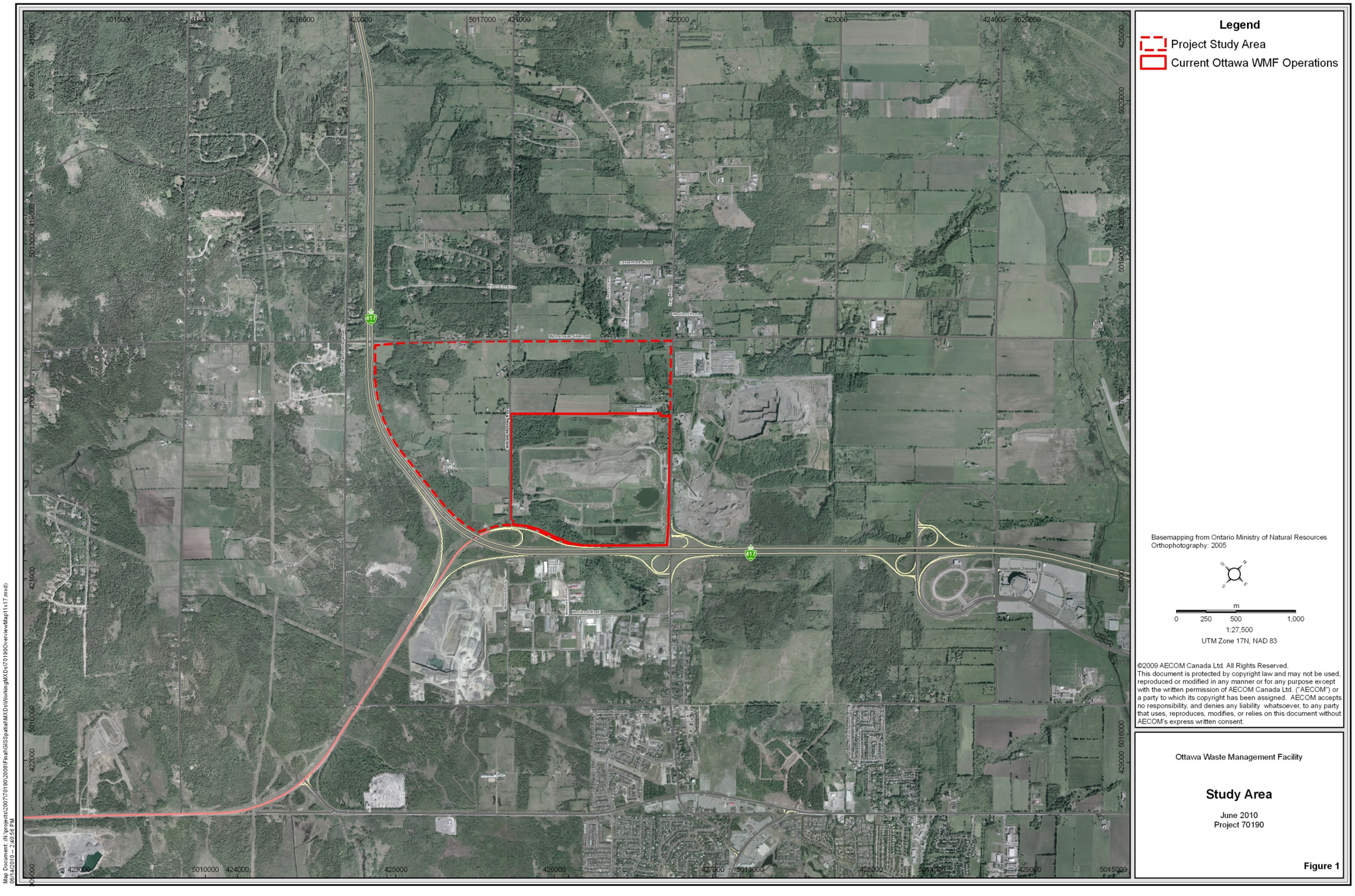


Figure 1. Existing WM Ottawa Waste Management Facility (WMF) and Study Area

1.1 Background

WM owns and operates a waste disposal facility located in the City of Ottawa near the intersection of Carp Road and Highway 417. The facility, known as the Ottawa WMF is expected to reach its current approved capacity by September 2011. WM is preparing to undertake an EA to develop a new landfill footprint to provide waste disposal capacity at the WCEC. WM is a contract service provider for the collection, processing and marketing of recyclable materials plus the disposal of any residual wastes not recycled. WM provides this broad range of integrated waste management services through a network of programs and facilities throughout Ontario. These services are provided under contract to both the public and private sectors within the City of Ottawa and Eastern Ontario. WM reserves between 75-90% of the site capacity for waste generated within the City of Ottawa, including residential wastes and wastes from about 7,500 industrial, commercial and institutional (IC&I) customers. It is the company's intention to continue to provide these services. .

1.2 The Proponent – Waste Management of Canada Corporation

The proponent for the proposed undertaking is Waste Management of Canada Corporation. WM is a primary service provider in the collection and processing of recyclables and disposal of waste in the City of Ottawa and throughout Ontario, and the largest non-hazardous solid waste management company in Canada.

WM is the City's largest waste management service provider, employing nearly 250 people in 6 locations in 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, including residential wastes (historically) and wastes from about 7,500 industrial, commercial and institutional customers. The WM contact for this project is as follows:

Mr. Tim Murphy, MCIP, RPP
Waste Management of Canada Corporation
2301 Carp Road, Carp, Ontario, K0A 1L0

1.3 Overview of Ontario Environmental Assessment Act Requirements

WM has prepared these ToR in accordance with subsection 6(2)(c) of the OEAA, 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 ToR, as permitted by subsection 6.1(3) of the Act. WM intends to follow subsections 6(2)(c) and 6.1(3) to focus the rationale and alternatives in order to address its specific circumstances. The generic aspects of the EA outlined in subsection 6.1(2) that will not be undertaken in this EA are:

- **Subsection 6.1(2)(b)(iii):** A description of and statement of the rationale for alternatives to the undertaking.

All of the other generic requirements stipulated in subsection 6.1(2) will be included in the EA.

Following approval of these ToR, WM will prepare and submit an EA 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 based on the consideration of alternative methods and detailed impact assessment.

c) The *rationale* for the undertaking, as described in Section 4 of these ToR.

d) A description of the *environment potentially affected* by the undertaking.

e) An assessment of the *alternative methods* of carrying out the undertaking. WM intends to consider those alternatives described in Section 6 of these ToR.

f) A description of the *effec*ts that will be caused or that might reasonably be expected to be caused on the environment by the undertaking or 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 alternative methods.

i) A description of *consultation* undertaken by WM in association with the environmental assessment.

Further to the above aspects, the following additional assessments not normally part of the Ontario EA process, are proposed for this EA:

- Assessment of the effects of all components of the WCEC facility;
- Assessment of the cumulative effects of the landfill and other WCEC components with other non-WCEC projects/activities existing, planned and approved or reasonably foreseeable;
- Consideration of valued ecosystem components (VECs); and,
- Assessment of the effects of the environment on the project.

As previously mentioned WM has complied with both of the MOE's Codes of Practice for *Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario* (October 2009) and *Consultation in Ontario's Environmental Assessment Process* (June 2007).

1.4 Justification for Submitting a Focused Terms of Reference

As previously mentioned, WM plans to proceed under subsection 6(2)(c) and 6.1(3) of the OEAA, which allows the proponent to "focus" the EA. The MOE Code of Practice *Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario* (October 2009) outlines the consideration for "focussing" a ToR. The Code of Practice allows a proponent to proceed under subsection 6(2)(c) and 6.1(3) if the proponent is further along in the defined planning process and additional detail is known regarding their proposal. As an example, The Code of Practice states:

> *"…what is reasonable for one proponent to implement may not be reasonable for another when trying to solve a similar problem because the circumstances between proponents may vary widely."*

WM is a privately owned company conducting business in the Province of Ontario. As such, the question as to whether there is a need for the services that we provide is largely based on business decisions. Similarly, the question as to how we might provide these services is a WM business decision. For example, a broad search of alternative technologies, or sites for new landfill footprints within an EA process could result in decisions that would be economically unacceptable or present too great of a risk. Consequently, these assessments and business decisions have been taken by WM prior to carrying out the EA. The assessments that led to these business decisions are contained in two Supporting Documents (SD) to this ToR, SD #1 and SD #2. These assessments were presented and discussed in the consultation process as a part of the development of the ToR. Further, a discussion on the "focussing" of the rationale and the alternatives to is provided in Section 4 and 5 of this ToR.

WM's decision to proceed with the proposed project is in the interest of the public. SD #1 describes the general lack of waste disposal capacity in Ottawa, which is predicted to increase with time. WM's proposed project will help to reduce this deficit. WM's proposed WCEC, with its various diversion facilities, will help the Province achieve its goal of 60% diversion of Industrial, Commercial and Institutional (IC&I) waste from being landfilled. The project will be undertaken in accordance with all applicable regulations and operated in accordance with best management practices, and will ensure the protection of human health and the environment.

1.5 Statement of Environmental Values

WM's proposed ToR, and if approved, the subsequent EA, will incorporate MOE's "Statement of Environmental Values" (SEV). Each of the Ontario Government ministries that are subject to the *Environmental Bill of Rights (EBR)* has a SEV. The ministry must consider its SEV when it makes an environmentally significant decision. It should be noted that although the SEV falls under the purview of the EBR (proclaimed in 1994), the general elements and principles of the SEV are an inherent component of the EA process. These proposed ToR will specifically incorporate the guiding principles of the SEV as follows:

1. **The Ecosystem Approach** – this includes the consideration of the cumulative effects on the environment, the interdependence of air, land, water and living organisms, and the interrelations among the environment, economy and society;
2. **Environmental Protection** – which relates to utilising the precautionary approach when decision-making; and,
3. **Resource Conservation** – specific to the proposed undertaking, this relates to encouraging the 3 R's, Reduce, Reuse, Recycle, in order to divert materials from disposal.

1.6 Purpose and Organization of this Terms of Reference

As noted, the purpose of this ToR is to set out a framework for conducting the EA. This proposed ToR has been prepared in accordance with the following MOE Codes of Practice and guidance documents:

- Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario (October 2009); and,
- Consultation in Ontario's Environmental Assessment Process (June 2007).

This document contains the proposed ToR, four appendices and three supporting documents as follows:

- **Section 1** of this ToR provides background information about the project, identifies the proponent as well as the purpose and organization of this ToR, appendices, and supporting documents;
- **Section 2** describes the previous proposal for this location and the transition to the development of the current WCEC proposal;
- **Section 3** describes the purpose of the proposed undertaking;
- **Section 4** provides an overview of the analysis and rationale to determine the undertaking;
- **Section 5** provides an overview of the alternatives to the undertaking;
- **Section 6** identifies and describes the alternative methods of implementing the proposed undertaking;
- **Section 7** provides an overview of the environment that may be affected by the proposed undertaking and a description of study areas that will be used to characterize existing environmental conditions and to conduct the assessment of effects;
- **Section 8** provides an overview of the proposed methods for conducting the comparative evaluation of alternatives;
- **Section 9** summarizes the consultation plan for developing this TOR and preparing the EA;
- **Section 10** describes the proposed commitments and monitoring strategy;
- **Section 11** discusses the potential for modifications during the EA to allow for flexibility;
- **Section 12** outlines the other approvals potentially required for the undertaking;
- **Appendix A** is a Glossary of Terms;
- **Appendix B** contains a more detailed list of the proposed Evaluation Criteria, Indicators and Data Sources for the evaluation of Alternative Methods;
- **Appendix C** is the proposed work plans for conducting the EA and individual environmental components
- **Appendix D** is a description of the commitments made by WM to develop and implement as part of this proposal;

- **Supporting Document 1** is a presentation of the rationale for WM's proposed undertaking;
- **Supporting Document 2** is an evaluation of the alternatives to the undertaking;
- **Supporting Document 3** is the Record of Consultation.

1.7 Canadian Environmental Assessment Act

The CEAA has been in place since 1995 and provides the legal basis for the Federal EA process, which sets out the responsibilities and procedures for carrying out the EA of projects that involve federal government decision-making. The federal EA process applies whenever a federal authority (such as a federal department or federal agency) has a specified decision-making responsibility in relation to a project, which is also known as a "trigger" for an EA.

While WM does not believe that a federal EA will be triggered, it is possible that a screening could be required should any alteration to South Huntley Creek take place to accommodate a preferred alternative landfill footprint.

2. Development of the WCEC Proposal

2.1 Previous Studies and Terms of Reference Submitted

WM is a provider of comprehensive waste management services, including advanced residential, commercial and industrial collection, recycling and disposal services throughout Canada. WM employs about 3,400 people at 116 operating locations in 9 provinces in Canada, servicing over 4.5 million residential customers and 170,000 industrial and commercial customers. WM owns and/or operates 20 recycling recovery facilities and 18 landfills across Canada.

WM owns and operates the Ottawa WMF in the City of Ottawa, which has been in operation since the mid-1960s. WM took over the site in 1987 and the site is expected to reach its currently approved capacity in September 2011. In January 2006, WM announced to the public that they were developing a ToR for an expansion to the existing Ottawa WMF. During this time, WM consulted with the public and released a draft ToR for review and comments. This ToR raised a number of concerns from the surrounding community, stakeholders and the City of Ottawa. As such, WM decided to revise the ToR and began consulting on the new ToR in late 2006. The amended ToR sought an approval for landfill capacity of 18,750,000 m^3 over a 25 year period. These final ToR were submitted to the Minister of Environment for approval on January 11, 2007. These ToR were also met with significant concerns from a number of residents, stakeholders and the City of Ottawa. A number of these concerns were also related to the operations of the existing landfill site.

In April 2007, WM advised the MOE it was withdrawing its application for approval of the ToR. Since that announcement, WM has implemented a number of operational improvements to address the community concerns and has carried out additional consultation with stakeholders regarding the development of the site.

Between the withdrawal of the ToR in April 2007 and the current date, WM has made significant investments in operational improvements to the site in order to address community issues including:

- Doubled the amount of gas collection wells and placed nearly 11 hectares of final cover on slopes in order to improve odour control from the site;
- Construction of a landfill gas to energy facility that takes the gas collected and converts it into clean, renewable energy; and,
- Implemented a comprehensive tree planting and grasslands program to improve the local aesthetics around the site.

As mentioned, WM has continued to engage local residents and stakeholders throughout the operational improvements phase of the existing landfill, and over the past number of years has:

- Gone door-to-door to hear directly from residents about their issues and concerns and incorporated their suggestions in relation to improving the aesthetics of the site and how the site can be of benefit from a community recreation standpoint; and,
- Established a Community Liaison Committee (CLC) in order to provide the community with another venue for information and receive input about the operations. The CLC membership includes area residents, City Councillors, the MOE and WM, and meets on a monthly basis.

2.2 Developing a New Proposal

WM has heard a clear message from the community, the City of Ottawa and other stakeholders, which is that a more comprehensive, sustainable waste management solution than was proposed in 2006 and 2007, should be sought. The new vision for our waste management services in Ottawa should meet the needs of the communities we serve in a sustainable manner that protects the environment, minimizes energy and raw material use, minimizes waste and builds sustainable economic, ecological and social relationships.

WM recognizes that any new facility proposed would need to include a number of industrial, commercial and residential waste diversion operations that would maximize the value of the resources received and minimize the amount of residual waste requiring disposal in a new landfill footprint.

WM also recognized that any new landfill footprint developed at the site as part of the proposal would require an EA approval. A new landfill footprint would need to be both engineered and operated to modern standards. WM understands that opportunities for production of green energy, incorporation of community facilities and provision of economic benefits to the community should be included in its proposal.

With this context in mind, WM considered the need for the future Ottawa WMF as it relates to the current service it provides. WM undertook an analysis of their business operation to determine the need for the project and the approximate size required for the new landfill footprint component. This analysis is provided in SD #1.

As previously mentioned, WM has been consulting with the public, the City and other stakeholders over the past number of years to gauge opinions on a variety of topics relating to

the current operation as well as future potential development. Further, WM has been engaged in ongoing discussions with staff at the MOE since 2006 in relation to technical issues at the site. These discussions have led to operational improvements to the site as mentioned above.

Given the role of the Ottawa WMF within its business operations and to waste generators within the City of Ottawa, WM wishes to maintain an ongoing role for this facility. WM is aware of the uncertainty associated with a number of factors that may affect the volume of disposal capacity required. As a result, WM proposes to consider the residual waste disposal requirements over a shorter timeframe of approximately 10 years

In order to meet this need, WM considered a number of alternatives to the undertaking and concluded that the best alternative would be to close the existing Ottawa WMF and establish a new integrated waste management facility with enhanced diversion operations, which would be known as the WCEC. The assessment of alternatives to is provided in SD #2 and summarized in Section 5 of this ToR.

As mentioned, WM developed an exciting new concept for this proposal referred to as the WCEC. This proposed facility would have primary major focus on waste diversion and would represent an entirely new approach to managing waste in Ottawa. The new facility would be focused on dividing materials into distinct streams that would allow WM to maximize re-use, recovery and recycling opportunities. This new vision would represent a significant step forward in how WM and the community could reduce dependence on disposal and help make the site a leader in Ontario in responsible waste management. One of the main components of the WCEC is the new landfill footprint to receive those items that cannot be diverted, better known as residual wastes.

2.3 Overview of the WCEC

On April 13, 2010, WM announced the WCEC proposal and commenced the EA process for a new landfill footprint by publishing a Notice of Commencement in local newspapers and distributing Notices to residents, the City of Ottawa, First Nations, Government Agencies and other stakeholders, as appropriate. Copies of these Notices and other consultation events are contained in SD #3 – Record of Consultation, to this ToR submission.

Under the *Waste Management Projects Regulation* (O. Reg. 101/07) made under the OEAA, some waste management projects, regardless of whether the proponent is public or private sector, are designated under the OEAA. According to O. Reg. 101/07 (Section 4), WM's proposed new landfill footprint is subject to the OEAA because it would add more than 100,000 m^3 to the total waste disposal volume. Also according to the Regulations, the project is not subject to exemption and is not subject to fulfilling the requirements of the environmental screening process. Accordingly, WM's project is subject to an Individual EA.

Given the above, it is important to note that only the new landfill footprint is subject to the OEAA and therefore, this EA is seeking approval for that component of the WCEC. Other approval requirements for the new landfill footprint and WCEC facility components are listed in **Section 12.**

The WCEC will focus on waste diversion, diverting as much waste as is feasible away from disposal to reuse and recycling purposes. The WCEC will be aligned with the City of Ottawa's long-term waste management goals and the Province of Ontario's environmental values and policy statements relating to zero waste and green energy generation. It will include additional lands set aside for community sports and recreational purposes; wildlife habitat areas; a modern, engineered landfill to provide secure long term environmental containment for disposal of residual waste, and clean renewable energy generation. The WCEC will include a number of industrial, commercial and residential waste diversion operations that will maximize the value of the resources we receive. The proposed WCEC facilities will be assessed by the EA. The WCEC may include the following facilities:

- **Material Recycling Facility** will accept general commercial recyclables that can be processed into products. The facility will help divert thousands of tonnes of material from disposal, reducing the need for new resources to create products;
- **Construction and Demolition Material Facility** will receive construction and demolition materials for re-use and recycling. There will be an expanded drop-off facility for Habitat for Humanity to collect used building and renovation materials. Many of the materials are valuable and can be re-used, thereby avoiding disposal;
- **Residential Diversion Facility** will allow local residents to drop off household hazardous and electronic waste and household recyclables including scrap wood, tires, plastic, metal, paper, drywall, concrete, paints, and more;
- **Organics Processing Facility** will have the capacity to receive and process compostable waste from industrial, commercial and institutional sources;
- **Landfill Gas to Energy Facility** will collect landfill gas and convert it into green, renewable energy. Further, this same technology will be used at the existing Ottawa WMF site to create enough energy to power a greenhouse that will be constructed for community use; and
- **Electronic Waste Handling Facility** will collect post-consumer electronics and electrical equipment in accordance with the Waste Electronics and Equipment (WEE) Program.

The WCEC builds on WM's long-standing commitment of being an engaged and responsible corporate citizen to create significant community and economic benefits. These benefits include:

- **Economic Development –** The WCEC will create up to 75 new green jobs in waste diversion, disposal and green energy facilities. Economic benefits will

also extend to the larger community through community host agreements, as well as a Community Trust Fund to support local projects. In addition, revenue opportunities will be created from waste diversion activities for local processors and downstream activities related to recycling and re-use;

- **Wildlife Habitat –** An on-site wildlife habitat centre has been opened to the public and will continue to serve as an education centre for the community. The current Ottawa WMF has received international recognition for its contribution to wildlife habitat conservation in the form of a wildlife habitat council (WHC) certification in 2006;
- **Recreation –** WM's current landfill operation has extensive non-operational lands. Some space will be required to support the facility's operation, but other lands will be dedicated for community uses that could include sports fields, biking and hiking trails and a leash-free dog park; and,
- **Community input –** The input of the community is an important part of determining the ultimate use of non-operational areas at the WCEC. Residents and community leaders have told WM that they value increasing the amount of available recreational and community lands and WM is responding by setting aside space surrounding its operations for dedicated community use.

Finally, a new landfill footprint component will be a required component of the WCEC to receive residual wastes. An overview of the new landfill footprint, which will be assessed in the EA, is in the next section.

2.4 Proposed New Landfill Footprint

WM plans to develop a new secure engineered landfill on a new footprint located within the proposed study area. The new landfill is required for disposal of residual waste materials that cannot be recycled, reused or recovered. The new landfill footprint is expected to have a total capacity of about 6.5 million m^3. As concluded in SD #1, provision of 6.5 million m^3 of residual waste disposal capacity would deliver a key service to the waste generators in the City of Ottawa and the surrounding area, while encouraging the achievement of higher diversion rates and development of alternative technologies through the WCEC vision for managing the residual waste stream.

The new landfill footprint will accept a significantly smaller amount of waste than was previously proposed (as discussed in Section 2.5). The main characteristics of the new landfill footprint include:

- The new landfill footprint will be designed and constructed on a new area within the currently owned or optioned lands (the Site). The new landfill footprint will incorporate technology and processes as set out in Ontario Regulation (O. Reg.) 232/98 Landfill Standards to ensure safety and efficiency.
- The new engineered landfill will include a liner system, leachate collection and monitoring system to ensure long-term protection of groundwater and surface water.
- Landfill gas, which is created naturally through the decomposition of waste in landfills, will be collected and used for energy production. Like wind and solar power, landfill gas is a natural resource that can be harnessed to produce clean energy.

2.5 Key Differences from Previous Proposal

WM has learned from the past proposal and has listened to the local residents, stakeholders and City of Ottawa's concerns, criticisms, issues, needs and preferences. With this in mind, WM is now prepared to submit a new proposed undertaking to address the need for waste disposal services in the City of Ottawa. WM recognizes that the new concept for the site will need to be significantly different than the previous one proposed. Table 1 provides an overview of the key changes from the 2007 proposal to the current proposal.

Table 1. Key ToR Differences between 2007 ToR and 2010 ToR

	Key ToR Changes	Comments/Action
1.	**Reduction in Overall Landfill Capacity**	▪ New ToR will revise the total proposed new/additional landfill volume from 18,750,000 m^3 to 6,500,000 m^3. This volume will be used in the EA for the purposes of conducting an assessment of the potential effects of the undertaking on the environment.
2.	**Alternatives To Evaluation will Include Thermal**	▪ The Alternatives To evaluation includes the thermal option as a 'stand-alone' alternative. The thermal option does not represent a viable alternative because WM requires a long term committed and credit worthy source of waste to support the operation and financial viability of such a facility. See Section 5 in the ToR and Supporting Document #2 for further details.
3	**Work Plans and Study Areas**	▪ The study areas identified in the Work Plans in Appendix C are based on professional experience and judgment as well as previous experience in environmental assessment studies. The specific study areas will be confirmed and will be expanded/minimized, as warranted, during the EA.
4.	**Flexibility**	▪ New ToR to include a separate section entitled, 'Modifications During Preparation of the EA' that will identify a broad range of potential modifications: *"Once approved by the MOE, the ToR will provide the framework for preparing*

Table 1. Key ToR Differences between 2007 ToR and 2010 ToR

Key ToR Changes	Comments/Action
	the subsequent EA. However, as identified through the requirements of a ToR in the OEAA and the Code of Practice on preparing ToRs, they are generally not intended to present every detail that will occur throughout the EA process. Therefore, when carrying out the EA, as was contemplated when crafting this ToR, it may become evident that some modifications may be necessary. These modifications may include, but are not limited to: - *additional alternatives* - *additional evaluation criteria or indicators* - *additional evaluation methodologies used to select the preferred alternative method* - *additional consultation activities* - *additional studies on environmental effects* *It should be noted that the preceding list is not inclusive, but provides examples of potential modifications that may be considered within the framework as set out by this ToR."*
5. Public Consultation Program	▪ New ToR will include a Public Consultation Program, which outlines the key milestone consultation events for the public, stakeholder groups, agencies and First Nations.
6. Criteria and Indicators	▪ An initial list of Criteria and Indicators has been provided in order to facilitate discussion and will be refined and added to in the EA as necessary.
7. Notice of Commencement	▪ New ToR included a mandatory Notice of Commencement to announce to the public the start of the ToR. The Notice was published in local newspapers, posted on the WM website and sent out to affected stakeholders via a newsletter, letters and/or email. ▪ A Notice of Commencement for the EA process will also be published.
8. Description of and Rationale for the Undertaking	▪ The description of and Rationale for the Undertaking has been developed in greater detail than the previous ToR submission. The Rationale has been provided in Supporting Document #1 to the ToR.
9. Alternatives To the Undertaking	▪ The description and evaluation of Alternatives To the Undertaking has been developed in greater detail than the previous ToR submission. The rationale for limiting future consideration of the Alternatives To the undertaking has been provided in Section 5 of the ToR and in Supporting Document #2 to the ToR.
10. Additional Assessment Areas	▪ The following additional assessments not normally part of the Ontario EA process, are proposed for this EA: ▪ Assessment of the effects of all components of the WCEC facility; ▪ Assessment of the cumulative effects of the landfill and other WCEC components with other non-WCEC projects/activities existing, planned and approved or reasonably foreseeable; ▪ Consideration of valued ecosystem components (VECs); and, ▪ Assessment of the effects of the environment on the project

In relation to the additional assessments as described in Section 1.3, during consultation on the ToR, WM received comments from stakeholders that all aspects of the WCEC should be considered in the EA, not just the new landfill footprint alternative. WM has chosen to address

this concern by adding an assessment of the predicted likely effects of the non-landfill components of the WCEC facility, and also adding an assessment of the cumulative effects of a new landfill footprint with other current or planned projects in the study area. It is noted that sometimes it is also necessary to identify projects beyond the study area. The assessment of cumulative environmental effects is not an aspect normally considered in the OEAA but is part of the federal EA process under the *Canadian Environmental Assessment Act* (CEAA). The additional assessment of effects of the non-landfill WCEC components is not required under the OEAA, as these components are subject to other approval processes, as described in **Section 8**.

The consideration of VECs and assessment of the effects of the environment on the project will also be included in the EA. These are additional aspects not normally part of the OEAA process (but are part of the federal CEAA process). Their inclusion makes the EA broader and more comprehensive. VECs are features of the environment selected to be a focus of the EA because of their ecological, social or economic value and their potential vulnerability to effects of the project. VECs can be individual valued species or important groups of species within food webs. VECs will be determined early in the EA process in consultation with the public, GRT and Aboriginal communities. We will also consult with the Canadian Environmental Assessment Agency for guidance in conducting aspects of the EA that are normally part of the Federal EA process.

In conjunction with the development of this ToR, WM has also provided a series of commitments to the community associated with the proposed WCEC. These commitments are detailed in **Appendix D** and include:

- Odour Enforcement Mechanism;
- Property Value Protection;
- Community Benefits;
- Continued Waste Programs for Community;
- Community Liaison Committee;
- Commitment of Capacity to Ottawa; and
- Waste Diversion Facilities.

3. Purpose of the Proposed Undertaking

The purpose of the proposed undertaking is to provide additional disposal capacity for solid non hazardous waste at the WCEC in the form of a new landfill footprint, in order to allow WM to continue to manage its current commercial operations and support the continuation of its business operations. The existing facility is expected to reach its currently approved disposal capacity in September 2011. WM is, through this undertaking, proposing to provide disposal capacity for the residual wastes remaining after waste diversion.

In addition to the new landfill footprint, the proposed WCEC facilities will be assessed by the EA. The WCEC may include the following facilities:

- Material Recycling Facility
- Construction and Demolition Material Facility
- Residential Diversion Facility
- Organics Processing Facility
- Electronic Waste Handling Facility

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

4. Description of and Rationale for the Undertaking

WM's proposed undertaking, which will be the subject of an EA, is described in this section of the ToR. SD #1 presents WM's analysis that led to the identification of the proposed undertaking. The final decision for the preferred alternative will be included in the EA once alternative methods have also been evaluated.

4.1 Overview of the Rationale

The existing Ottawa Waste Management Facility (Ottawa WMF) is expected to reach its current approved capacity by September 2011. Accounting for further growth, diversion and the role of the current waste disposal facilities, WM believes there is an on-going need for residual waste disposal capacity services within the City of Ottawa and the surrounding communities. WM intends to consider the future operating role of its facility in Ottawa to meet this disposal need. As noted, the analysis that led WM to this conclusion is presented in SD #1, and is summarized below.

4.2 Problem and Opportunity Assessment

As the proposed site is located in Ottawa, we limited the waste disposal needs assessment to the Ottawa area. WM believes that in order to be consistent with responsible waste management strategies, a local solution be provided. The assessment focused on estimating waste disposal generation and comparing it to estimated disposal capacity while taking into consideration current and future diversion rates.

Waste Generation, Diversion and Disposal in Ottawa

The City of Ottawa's current population projections use a 2006 base population of 870,800 and project growth to a population of 1,136,000 by 2031. This represents annual growth in the order of 1.2%. Projected future waste quantities generated in the City of Ottawa were developed by WM based on population and per capita waste generation.

The City set a target of diverting 60% of the residential waste stream away from disposal by 2008. Based on the City's data, Ottawa currently diverts approximately 33% of the residential waste stream away from disposal. It is assumed that residential waste diversion will reach 60% through enhancement of current residential waste diversion programs and the recently implemented source separated organics program.

In April 2009, the City of Ottawa released "Diversion 2015: An IC&I 3R Waste Diversion Strategy for Ottawa". The strategy outlines the goal of increasing IC&I waste diversion from the current 17% to achieving 60% by 2015. The Diversion 2015 initiative is the City's contribution to assist the IC&I sector in achieving the Province's target of 60% waste diversion. Moving from 17% to 60% diversion (i.e. 43% increase, or more than tripling the 17% rate) of IC&I waste in under six years would be a significant achievement which would require a fundamental change in the way businesses in Ottawa manage their wastes. Significant amounts of recyclables and organic materials will need to be diverted and absorbed through existing and new processing facilities and markets. Absorbing this additional tonnage would be a challenge for existing infrastructure and markets, requiring a comprehensive market development strategy and a substantial planning effort. Based on the uncertainties associated with predicting waste diversion rates, WM has identified an average increase of 2% annually in the IC&I diversion rate is reasonable given changes in policies, regulations and markets. This would mean reaching a 60% IC&I waste diversion rate by the end of 2033.

WM is also aware of the need to provide increased diversion facility capacity in Ontario, in particular to accommodate the desired and anticipated increase in diversion from the IC&I sector. The proposed capacity of the diversion components of the WCEC facility will be determined during the EA process, and will form the basis for the proposed assessment of the predicted effects of the non-landfill components of the WCEC facility and adding an assessment of the cumulative effects of a new landfill footprint in conjunction with non-landfill WCEC components and other current and/or planned projects and reasonably foreseeable projects in the area. WM is committed to developing the diversion facilities at the same time as the new landfill footprint disposal capacity.

Based on the projections developed by WM from available data, it is estimated that in total, 13.5 million tonnes of waste generated within Ottawa will require disposal over the 20 year period from 2014 to 2033. Based on recent estimates (2006) of waste diversion and disposal within Ottawa, approximately 840,000 tonnes of waste generated in the City were disposed.

Role of the WM Ottawa WMF

WM has historically made provisions with the City of Ottawa to reserve between 75% to 90% of their Ottawa WMF landfill disposal capacity for wastes generated within Ottawa. The percentage of the capacity reserved depends on the percentage of the City's residential waste disposed at the WMF. Historically, WM has received up to 30% of the City's residential wastes for disposal, requiring that 90% of the landfill capacity be reserved. While most of the post-diversion wastes received at the Ottawa WMF are generated within Ottawa, the site has historically received post-diversion wastes from waste generators outside the City, including from an area known to WM as the Good Neighbour Zone (GNZ), amongst others.

It is evident that there is an ongoing need to provide disposal capacity for residual wastes remaining after diversion programs within the City of Ottawa. The Ottawa WMF has played a significant role in meeting the needs for both residential and IC&I waste disposal capacity for the City of Ottawa and neighbouring municipalities. Given that the Ottawa WMF will reach its current approved capacity by September 2011, the future generation of residential and IC&I waste within the area serviced by the Ottawa WMF, and the intention of WM to continue its business operations in the City, there is a need to develop additional waste disposal capacity.

The Opportunity

In terms of waste disposal options, there are two city-owned landfill properties in the City of Ottawa (Trail Waste Facility and Springhill landfill) and there are two privately owned landfills (WM's Ottawa WMF and WSI's Navan landfill). Another landfill facility, the Lafleche Environmental Landfill, is located east of the City but does provide some disposal capacity to Ottawa waste generators. Waste from the Ottawa area is now also being disposed at landfill sites located within western New York State. In addition, a pilot or evaluation facility for the thermal treatment of waste has also been developed at the Trail facility through a partnership between the City and Plasco Energy. When the full scale facility is developed, it is assumed that it will be used by the City to manage the residential waste stream. The City of Ottawa has also been considering the potential for alternative technologies to manage the City's residual waste. In 2004, Ottawa completed an environmental scan of the technologies available for processing and disposal of residual waste. Subsequently, in 2006 the City issued a Request for Expressions of Interest (REOI) to confirm the full scope of available technologies. The report identified the next steps as including selection, siting and obtaining Council approval for one or more facilities. The City remains interested in pursuing the development of alternative disposal technologies and the process for implementation of alternative technologies is ongoing.

For planning purposes, WM assumes that the five Ontario based disposal sites presently serving waste generators within Ottawa will continue in the future. These five disposal facilities are assumed to provide all of the required disposal capacity for waste generated within the City of Ottawa during the planning period. If a long term Plasco facility is developed, it is assumed to manage the residential waste stream which historically has been directed to the City's Trail Waste Facility and the Ottawa WMF.

WM has assessed the capacity requirements that the company may provide to address the identified need. WM does not control any of the factors determining the amount of waste being generated, the diversion activities of waste generators, or the approvals being sought for other future waste disposal facilities. Known factors include what is occurring today and the policy directions which the Province and City have stated they would like to take. WM has defined the capacity for the available opportunity. In the event that the waste diversion targets identified by

the City are achieved in a time frame other than what has been assumed, the disposal capacity provided by these facilities will be utilized sooner or potentially last longer. WM will undertake diversion activities defined in conjunction with this EA to support the City of Ottawa in achieving an IC&I waste diversion rate of 60%.

It is also assumed that the Ottawa WMF could continue to receive up to 30% of the City's residential waste (after 60% diversion). The assumption is intended to accommodate the situation where implementation of a Plasco facility may take a period of time such that ongoing disposal of residual residential waste may be required at the Ottawa WMF. This would allow capacity at the Trail Facility to continue to be preserved in the event that approvals and/or construction take longer than expected. WM would continue to reserve up to 90% of its disposal capacity for Ottawa generated wastes. The quantity of material received and utilized as cover material at the site is in addition to the waste volume disposed.

The assumptions related to the achievement of waste diversion rates and alternative technologies have a significant influence on the volume of disposal capacity to be provided by WM in Ottawa. As described earlier, WM believes that additional time is required to develop the markets and infrastructure to achieve the 60% IC&I diversion target. In addition, the schedule with respect to the City's implementation of alternative disposal technologies is not yet known. Based on these factors, WM believes that in the short term it is reasonable to assume that waste disposal capacity is required as waste diversion rates increase and new disposal technologies are implemented.

Typically, long term planning horizons (i.e. 20 years or longer) are used in the planning of major infrastructure projects (e.g. waste, roads, wastewater, etc.). However, WM believes that the planning horizon for the proposed undertaking should be shorter term (i.e. less than 20 years) to recognize the development of required infrastructure and markets to support IC&I diversion, plus the potential approval and development of alternative disposal technologies. Therefore, the planning period WM has identified for new waste disposal capacity, as part of the proposed WCEC, is approximately 10 years.

WM believes that there is a sustainable market opportunity for the company to provide an additional 6.5 million m^3 of waste disposal capacity, including cover material, which for business planning purposes amounts to up to 400,000 tonnes per year of waste received over an approximate 10 year planning period.

In addition, the WCEC will create significant community and economic benefits. These benefits include:

- Economic Development including job creation, community host agreements and a Community Trust Fund;
- An on-site wildlife habitat centre to serve as an education centre for the community;
- Recreational facilities dedicated for community uses that could include sports fields, biking and hiking trails and a leash-free dog park.

Further detail on the Rationale for the Undertaking is provided in SD #1.

5. Consideration of Alternatives To the Undertaking

After reaching the conclusion that there is a need for waste disposal capacity, supported by enhanced waste diversion activities/programs, in Ottawa and more specifically at the Ottawa WMF, and that WM has an opportunity to provide those services, WM looked at different ways of meeting the need. In EA terms this is the assessment of "alternatives to" the proposed undertaking.

Alternatives to the proposed undertaking are functionally different ways of addressing a problem or opportunity. WM identified a number of potential alternatives with respect to the Rationale outlined in **Section 4**. A three step methodology for evaluating the "Alternatives To" was followed and composed of the following steps:

- **Step 1** – Identify and prepare detailed descriptions of reasonable alternatives to meet the need for residual waste disposal capacity within Ottawa and neighbouring municipalities, incorporating public input to reflect the community's interests and comments.
- **Step 2** – Apply screening questions to determine if the alternatives are feasible, reasonable and practicable.
- **Step 3** – Select preferred alternative(s) based on the screening analysis.

5.1 Step 1 – Identify Alternatives To

WM proposes to develop waste disposal capacity infrastructure within the overall concept of an environmental centre. The proposed concept, known as the West Carleton Environmental Centre (WCEC), combines a commitment to ecological stewardship, waste diversion, renewable energy, and local community facilities with an environmentally responsible and secure means of managing residual waste streams not captured by waste diversion activities. WM is committed (see **Appendix D**) to pursuing the development of waste diversion programs and facilities to support the achievement of the City's waste diversion targets. These diversion programs and facilities will be defined in conjunction with this EA for the provision of additional waste disposal capacity.

The alternatives identified and considered to address the need for waste disposal capacity are:

Alternative 1 – Do nothing

Alternative 2 – Develop a thermal destruction (waste to energy) facility at the WCEC

Alternative 3 – Close the current landfill and establish new landfill disposal capacity at the WCEC

Alternative 4 – Establish a new landfill elsewhere

Alternative 5 – Export waste to other facilities

A description of each of the Alternatives To is provided below and further detail is provided in SD #2.

Alternative 1 – Do Nothing

The "do nothing" alternative means that WM would continue to use the existing Ottawa WMF landfill for residual waste disposal until it reaches the currently approved capacity by September 2011. Once this landfill has reached capacity, customers that have historically used the site would be required to find other means of managing their wastes for disposal in the future. This includes municipal solid waste (MSW) from the City of Ottawa residents and IC&I customers from around the City and surrounding communities. The diversion facilities proposed as part of the WCEC concept would also not be developed.

The "do nothing" alternative does not mean that WM would discontinue all waste-related operations at the existing Ottawa WMF. WM will continue to operate its existing leachate and landfill gas management systems at a minimum. Further, WM may also choose to continue to provide waste drop-off and diversion facilities amongst other operations as long as it is economically viable to provide these services without the benefit of on-site residual disposal.

Although the "do nothing" alternative would not achieve the purpose of the proposed undertaking, it is included because it provides a benchmark against which the consequences of the other alternatives can be measured.

Alternative 2 – Develop a Thermal Destruction (Waste to Energy) Facility at the WCEC

A thermal destruction or waste to energy facility would consider the combustion of wastes in order to achieve an overall reduction in the volume of wastes requiring landfill disposal and to create energy. Given the recent activity in Ottawa, Ontario and elsewhere in Canada surrounding the waste to energy industry, and facilities operating in other areas of North America, it is appropriate to consider this as a viable alternative from both a commercial and technical point of view. There is also the potential for capturing energy from this type of facility in the form of heat and/or power, which is an area that WM as a company has expertise in.

While this alternative could consist of a range of technologies including incineration and gasification, WM currently only has commercial operating experience with mass-burn waste to

energy technology for a municipal waste stream. This operating experience is available through WM's subsidiary, Wheelabrator Technologies Inc. Wheelabrator has been one of the most successful developers, owners and operators of commercial waste-to-energy projects in North America and currently operates 17 waste-to-energy facilities. WM hopes that it will be in a position to offer gasification technology through its relationships with S4 Energy Solutions or Enerkem as a viable alternative within the next 10 years. Consequently, WM could propose to construct a mass-burn waste to energy facility as part of the WCEC and handle the non-combustible residuals at an alternate landfill site.

Alternative 3 – Close the Current Landfill and Establish New Landfill Disposal Capacity at the WCEC

Under this alternative, the existing landfill would be closed once it reaches its approved capacity and a new landfill footprint would be established on contiguous WM property north or west of the current landfill as part of the WCEC. Given the role of the existing Ottawa WMF within WM's business operations and to waste generators within the City of Ottawa, developing new landfill disposal capacity will allow WM to continue to provide disposal services and cost effective diversion services. The disposal capacity will be provided for those residual wastes remaining after both residential and IC&I diversion.

Alternative 4 – Establish a New Landfill Elsewhere

Under this alternative, the current landfill would close and new landfill disposal capacity would be developed on a site completely separate from the existing Ottawa WMF. The new landfill capacity would be built elsewhere within the City of Ottawa in order to continue to serve the existing clients and market area for the existing Ottawa WMF. This would require WM to determine an appropriate location and obtain the site for landfill development. In order to achieve this alternative, a site selection process would be undertaken to identify a suitable site within the City of Ottawa, as well as obtaining all necessary regulatory approvals and agreements.

Alternative 5 – Export Waste to Other Facilities

This alternative assumes that the Ottawa WMF would be used until it reaches its currently approved capacity by September 2011. This alternative would see wastes delivered to the site or another location, processed (if necessary) and then transferred to other waste disposal facilities. It is anticipated that the waste would be transferred to other facilities in Ottawa (i.e. Trail Road, Springhill, WSI Navan), eastern Ontario (Lafleche) or New York State. WM has made application for a new landfill footprint at its Beechwood Road Environmental Centre (BREC) in the Town of Greater Napanee. That proposal is focused on providing disposal

capacity for waste generators in eastern Ontario, except for the City of Ottawa. The proposed BREC facility is not yet approved and does not represent an existing or future source of waste disposal capacity for export as described. The availability of potential locations in Ottawa and eastern Ontario is very limited.

The Ministry of Environment (MOE) Code of Practice *Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario* (October, 2009) outlines the consideration of alternatives to by private proponents like WM. The Code of Practice states:

> *"…what is reasonable for one proponent to implement may not be reasonable for another when trying to solve a similar problem because the circumstances between proponents may vary widely. A private sector proponent's inability to expropriate land or implement public programs will influence the range of alternatives it may examine."*

As it relates to WM and its business, the Code of Practice also makes reference to private sector proponents in the waste industry as follows:

> *"The private sector proponent may only consider landfill or on-site diversion because:*
>
> *It cannot implement a municipal waste diversion program such as curbside recycling;*
> *Export would affect their business; and,*
> *Thermal technology is not economically viable because waste volumes are too small."*

Based on the above statements within the Code of Practice, WM has identified and assessed only those alternatives that are appropriate and reasonable for WM to implement. As such, the question as to whether there is a need for the services that WM provides is largely based on business decisions and whether or not the implementation of an appropriate alternative to address these needs is financially acceptable.

5.2 Step 2 – Apply Screening Questions

An assessment of the five alternatives was undertaken to confirm their feasibility with respect to addressing the need/rationale established. A series of questions were applied to each of the alternatives to determine if they were feasible, achievable and reasonable for WM to implement. The questions applied to each of the alternatives include:

- Will the alternative address the need/rationale for additional waste disposal capacity within the City of Ottawa?
- Is the alterative economically viable and acceptable?

- Is the alternative technically feasible?
- Is the alternative consistent with the principles of responsible waste management?

The description for each alternative incorporates a response to each of the screening questions. The screening questions and the assessment of alternatives were presented to stakeholders as part of the public workshops.

5.3 Step 3 – Select Preferred Alternative

An analysis of the five alternatives after the screening questions have been applied is summarized below.

Alternative #1 – Do Nothing

The "do nothing" alternative means that WM would continue to use the existing Ottawa WMF landfill for residual waste disposal until it reaches the currently approved capacity by September 2011. Once this landfill has reached capacity, customers that have historically used the site would be required to find other means of managing their wastes for disposal in the future. The "do nothing" alternative does not satisfy the economic goals for WM within Ottawa and the eastern Ontario region. WM provides a broad range of integrated waste management services for the collection, processing and marketing of recyclable materials plus the disposal of any residual wastes not recycled. The closure of the existing Ottawa WMF operations would create a significant gap in the company's services for the City of Ottawa as it has historically provided approximately 50% of the annual disposal capacity for residual wastes generated within the City. Without access to local disposal capacity, the company's operations within Ottawa would have to be significantly restructured. This alternative would place the company at a significant economic disadvantage within the local marketplace and decrease its ability to compete within the Ontario market. Further, the 'do nothing' alternative would not address the current local waste disposal needs of the City of Ottawa, which would force waste generators within the City to look outside of the municipal boundaries to dispose of locally generated waste. WM does not consider the "do nothing" alternative a reasonable option for its ongoing business, its customers, the City of Ottawa or the Province of Ontario.

Alternative #2 – Develop a Thermal Destruction Waste-to-Energy Facility at the WCEC

With respect to alternative technologies, in 2004, the City of Ottawa completed a review of technologies available for processing and disposal of residual waste as part of their Integrated Waste Management Master Plan (IWMMP) Phase II work. Subsequently, the City issued a Request for Expressions of Interest (REOI) in 2006 to confirm the scope of technologies

available for processing and disposal, excluding landfill. WM made a submission to the City's REOI process under the disposal category for mass-burn incineration with energy recovery through a subsidiary company, Wheelabrator. This work was to be the foundation of a Residual Waste Management Plan to be prepared by the City. WM is not aware of the City's Residual Waste Management Plan being advanced any further. However, the City has contracted with a private composting facility for the processing of source separated organic materials from the residential waste stream.

WM would need to be guaranteed that a certain quantity of waste would be devoted to this alternative technology, to ensure the economic viability. The only sufficiently large quantity of waste controlled by a single source in the area is the residential residual waste stream under the jurisdiction of the City of Ottawa. To ensure the viability of this alternative, WM would need to enter into a long term contract with the City for a fixed annual quantity of waste. WM understands that the City of Ottawa proposes to enter into an agreement with Plasco Energy. Assuming this venture proceeds on a commercial scale, all residual residential wastes are expected to be managed through a Plasco facility based on their thermal technology.

Although thermal destruction is a technically feasible alternative for WM specifically through the use of mass-burn technology, the company is not currently in a position to offer other thermal destruction technologies on a commercial scale for municipal solid waste (i.e. gasification). Finally, since the City has already entered into an agreement with an alternative thermal technology provider and has not proceeded beyond its REOI for alternative technologies, there is no prospect for WM to economically implement this alternative. For the above reasons, WM does not believe that this alternative is a practical or reasonable option.

Alternative #3 – Close the Current Landfill and Establish New Landfill Disposal Capacity at the WCEC

Under this alternative, the existing landfill would be closed once it reaches its approved capacity and a new landfill footprint would be established on contiguous WM property north or west of the current landfill. Given the role of the Ottawa WMF within WM's business operations and to waste generators within the City of Ottawa, developing new landfill disposal capacity will allow the ongoing operation of the WMF. The disposal capacity will be provided for those residual wastes remaining after both residential (MSW) and IC&I diversion.

In short, this alternative would meet WM's stated goal by continuing to provide waste disposal services to its customers and would be constructed and operated as an environmentally sound landfill. WM owns or has options to purchase the necessary contiguous property to construct new landfill disposal capacity and the required infrastructure for the new landfill is already in place or can be put in place in a cost-effective manner.

Further, this alternative is consistent with responsible waste management strategies as it provides a local solution to waste management (no exporting) and will incorporate enhanced waste diversion activities to reduce the overall volume of waste disposal capacity required. Development of this alternative would also provide a reasonable timeframe (i.e. approximately 10 years) for WM to pursue the development and implementation of an alternative thermal technology with the City of Ottawa.

Alternative #4 – Establish a New Landfill Elsewhere

Under this alternative, the current landfill would close and new landfill disposal capacity would be developed on a site completely separate from the Ottawa WMF. The new landfill capacity would be built elsewhere within the City of Ottawa in order to continue to serve the existing clients and market area for the Ottawa WMF. This would require WM to determine an appropriate location and obtain the site for landfill development. In order to achieve this alternative, a site selection process would be undertaken in order to identify a suitable site within the City of Ottawa, as well as obtaining all necessary regulatory approvals and agreements.

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. As a private corporation, WM does not have the powers of expropriation if such a location existed. The development of a new landfill at a site elsewhere in the City of Ottawa is also not an economically attractive option. If a new site was identified and approved, it would require a significant investment with respect to land purchase, building, services and utility construction and creation of infrastructure and management. The ability to utilize the required infrastructure for the new landfill that is already in place at the current WMF operation would be lost. In recent years, WM has also invested a significant amount of money into their Ottawa facility in order to improve some of the legacy issues and operations. These operational investments would be utilized by a new landfill as well.

For the above reasons, WM does not believe that this alternative is a practical or reasonable option.

Alternative #5 – Export Waste to Other Facilities

This alternative would see wastes delivered to the Ottawa WMF site or another location, processed (if necessary) and then transferred to other waste disposal facilities. It is anticipated that the waste would be transferred to other facilities in Ottawa (i.e. Trail Road, Springhill, WSI Navan), eastern Ontario (Lafleche) or New York State. The availability of potential locations in Ottawa and eastern Ontario is very limited.

Relying on a third party for disposal is not economically acceptable as WM's customers would not only be charged for transfer fees as well as disposal fees but also subjected to the risks associated with the trans-boundary movement of wastes. Reliance on a third party disposal facility would put WM at a significant disadvantage competitively. This alternative is also not consistent with responsible waste management strategies or principles as it is not a local solution and relies on shipping waste to other jurisdictions within the province, which are already experiencing an identified shortage of approved disposal capacity. Further, it is no longer acceptable to assume that waste may be exported to the United States because of the gradual restrictions on the seamless transfer of waste across the border. These restrictions include strong political opposition and the Province of Ontario reaching an agreement to phase out shipments of municipal waste to Michigan by the end of 2010. In October 2008, the State of New York introduced legislation that would prohibit the disposal of municipal solid waste generated outside of the U.S., at a landfill or incinerator within the State. In addition to legislative uncertainties, out of province disposal has also been disrupted due to a range of other issues including labour disputes, security risks, and health related concerns. At any time the Canada/U.S. border may be closed to waste shipments and the waste would need to be dealt with at a local level. The MOE has also recognized in the Policy Statement on Waste Management Planning (June 2007) that the export of waste is not a sustainable long term solution. Given the political nature of waste disposal, WM believes that it is in Ottawa's and Ontario's long term economic interests to ensure that the City and surrounding communities are self sufficient in waste disposal capacity.

For the above reasons, WM does not believe that this alternative is a practical or reasonable option.

Summary of Selection of Preferred Alternative

Based on the screening described in SD #2, WM has concluded that **Alternative #3 – Close the Current Landfill and Establish New Landfill Disposal Capacity at the WCEC** is the only reasonable alternative that may be implemented within a 10-year planning horizon for the following reasons:

- Under this alternative, the existing landfill would be closed once it reaches its approved capacity and a new landfill footprint would be established on contiguous WM property north or west of the current landfill as part of the WCEC. Given the role of the existing Ottawa WMF within WM's business operations and to waste generators within the City of Ottawa, developing new landfill disposal capacity will allow WM to continue to provide disposal services and cost effective diversion services. The disposal capacity will be provided for those residual wastes remaining after both residential (MSW) and IC&I diversion.

- This alternative would meet WM's stated goal by continuing to provide waste disposal services to its customers and would be constructed and operated as an environmentally sound landfill. WM owns or has options to purchase the necessary contiguous property to construct new landfill disposal capacity and the required infrastructure for the new landfill is already in place or can be put in place in a cost-effective manner.
- This alternative is consistent with responsible waste management strategies as it provides a local solution to waste management (no exporting) and will incorporate enhanced waste diversion activities to reduce the overall volume of waste disposal capacity required. It should be noted that these waste diversion activities support the Province's and the City's diversion targets.
- Development of this alternative would also provide a reasonable timeframe (i.e. approximately 10 years) for WM to pursue the development and implementation of an alternative thermal technology within the City of Ottawa.

This preferred alternative is WM's proposed undertaking, which will be considered further in the EA.

An analysis of the preferred Alternative To the Undertaking as it relates to the Statement of Environmental Values (SEV) has also been completed and it meets the three guiding principles of the SEV through the screening evaluation undertaken.

Further detail on the Alternatives To the Undertaking is provided in SD #2.

6. Description and Rationale for "Alternative Methods" of Carrying Out the Undertaking

Identification and evaluation of 'Alternative Methods' or different ways that the project can be developed is a key element of the Environmental Assessment process. The focus of the alternative methods at the ToR stage was to determine what constraints currently exist within the Study Area that would ultimately shape potential landfill envelopes to be developed and assessed at the EA stage.

An assessment of leachate treatment alternatives will be assessed in the EA. WM is required to meet the design and performance standards of O. Reg 232/98 for liner, leachate collection and final cover system designs. Landfill gas management requirements for the new landfill footprint are also mandated by O. Reg. 232/98 and O. Reg. 216/08, i.e., use of an active gas collection system. Other system components, such as stormwater management, will be determined once a preferred landfill footprint alternative has been determined and preliminary conceptual design plans have been formulated.

WM identified the study area within which alternative methods will be identified for consideration in the EA as the area bounded on the southeast and southwest sides by Highway 417; on the northeast by Carp Road; and on the northwest by Richardson Side Road. The study area is bisected by William Mooney Road to the southwest of the existing Ottawa WMF. The lands within this study area are contiguous with the existing Ottawa WMF, owned and operated by WM. Development of new landfill disposal capacity as part of the WCEC within this area will allow WM to utilize existing established infrastructure, including land. Within this study area, constraints were identified in order to determine where potential landfill envelopes should be studied in the EA.

WM also owns some smaller areas of land on the northeast side of Carp Road, outside of the study area. The land is utilized by WM for the purposes of groundwater contaminant attenuation zones (CAZ). This land is excluded from potential development by WM because it is insufficient in size, the presence of an active quarry operation and the physical separation of this area from the existing Ottawa WMF infrastructure by a major road (i.e., Carp Road).

Preliminary envelopes within the study area for potential development of landfill footprint alternatives will be developed during the EA stage and will include possible areas for siting the various non-landfill WCEC components as well. During the EA, the preferred landfill footprint envelope will be refined and finalized in consultation with the public, government review team, First Nations communities and other stakeholders. Specific alternative landfill footprints will then be identified within the envelope area and refined. The updated assessment will include a

consideration of property boundaries and adjacent land uses. A detailed comparative evaluation of alternative landfill footprints will be conducted and a detailed impact assessment on the preferred landfill footprint will be carried out. As noted previously, the assessment process will include opportunities for residents, the City, First Nations communities, GRT members and interested persons to become involved in the process.

WM has identified the following items as constraints for consideration when developing potential development envelopes:

- Ownership of land by WM or the option to purchase land,
- Existing natural environment features,
- Land use constraints,
- Perimeter buffer zones,

The application of these site-specific factors within the study area is shown in **Figure 2**. The application of the site-specific factors within the two potential development envelopes is described further in the following sub-sections.

6.1 Land Ownership

WM owns or has options to purchase a large portion of the lands within the study area. These lands are shaded in grey on **Figure 2**, and include land to the northeast and southwest immediately adjacent to the existing Ottawa WMF (hereafter referred to as the “north envelope” and “west envelope” respectively). The land within the study area that WM does not own or have the option to purchase is shaded in red on **Figure 2**.

6.2 Natural Environment Features

Of great significance is the Goulbourn Wetland Complex is a provincially significant wetland complex in a the south-western portion of the Study Area. This wetland is protected under the provincial *Planning Act* and the Provincial Policy Statement from any development or site alteration. In addition, the City of Ottawa Official Plan (2003, Consolidated 2007) requires that any development within 120 m of the boundary of a designated Wetland undertake an Environmental Impact Statement (EIS).

Existing databases show that there are butternut trees (Juglans cinerea) within the study area. Butternut is listed as an endangered species under the provincial *Endangered Species Act* and the federal *Species at Risk Act*.

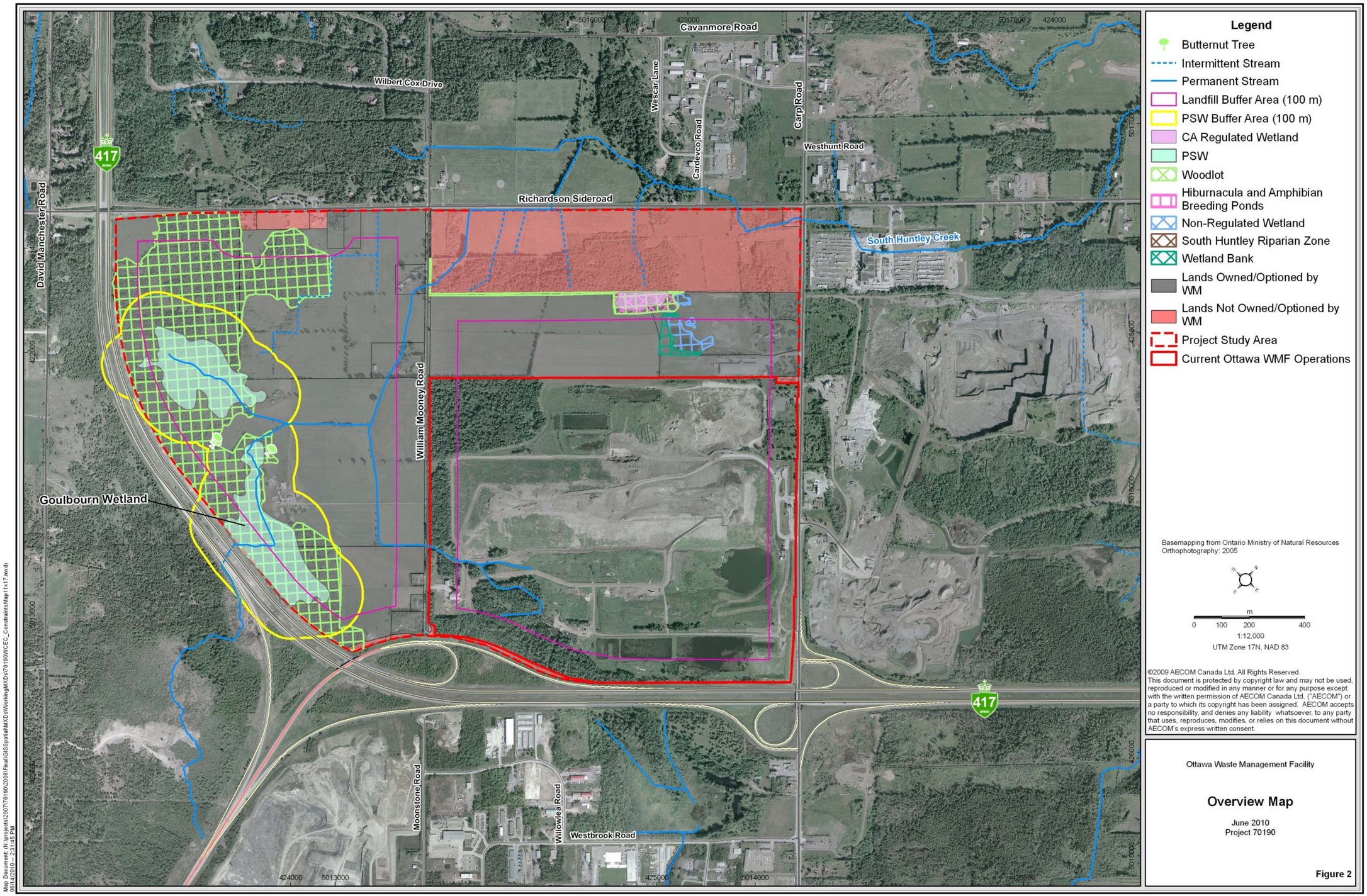


Figure 2. Alternative Methods Constraints

A number of ditches and channels exist within the Study Area. Under the federal *Fisheries Act*, no project may create a "harmful alteration, disruption or destruction" (also known as a HADD) of fish habitat, unless authorized by the Minister. Further in relation to watercourses, under the generic regulations of the *Conservation Authorities Act*, incompatible development is normally prohibited within 15 m of any floodplain, wetland, river valley, or meander belt. To the north of the existing Ottawa WMF, there are two on-line wetlands. These features are regulated by the Mississippi Valley Conservation Authority.

6.3 Land Use Constraints

The existing Ottawa WMF lands are designated *Solid Waste Disposal Site, Sand and Gravel Resource Area,* and *Carp Road Corridor Rural Employment Area* in the City of Ottawa Official Plan (2003, Consolidated 2007).

To the north of the existing Ottawa WMF, the lands are designated as *Carp Road Corridor Rural Employment Area*. Within the Carp Road Corridor Community Design Plan, this land is designated as *Light Industrial Area*.

To the west of William Mooney Road, this area is generally designated as *General Rural Area*, and the Goulbourn Wetland Complex is designated *Significant Wetlands*.

6.4 Perimeter Buffer Zones

If the ToR and subsequent EA are approved, WM must ensure the landfill area is completely surrounded by a buffer area. A proposed buffer of 100 metres is shown in **Figure 2.**

6.5 Envelopes for Potential Development

Two distinct development envelopes exist within the study area in relation to the existing Ottawa WMF. These envelopes are referred to by their proximity to the Ottawa WMF, namely to the west of William Mooney Road and to the north of the existing Ottawa WMF.

As a result of this constraints review, the north and west envelopes have been identified as the area within which the Alternative Methods for Carrying out the Undertaking will be analysed in the EA.

Once the selection of the preferred landfill envelope has been determined in the EA, alternatives will be identified during the EA within the preferred envelope. The alternatives will comprise different landfill footprint dimensions (variation in height, width, length, etc.), location of entrance, infrastructure, waste diversion facilities and community facilities.

After a preferred alternative for a new landfill is determined, WM will then prepare conceptual level designs of the complete facility, showing locations of the site entrance, access roads, proposed landfill and other components of the WCEC facility such as proposed community and recreation facilities.

7. Existing Environmental Conditions

A preliminary description of the existing environment at the WCEC that will be used to assess the potential effects of the various alternatives on the environment is described in this section reflecting the broad definition of the OEAA. The OEAA defines "environment" broadly to include:

i) air, land or water
ii) plant or animal life, including human life
iii) social, economic, and cultural conditions influencing the life of humans or a community
iv) any building, structure, machine or other device or thing made by humans
v) any solid, liquid, gas, odour, heat, sound, vibration, or radiation resulting directly or indirectly from the human activities
vi) any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario

The environmental components that will be assessed are described in **Section 7.1**. The following is a summary of the existing environmental conditions in the site vicinity study area.

7.1 Study Areas

The proposed On-Site and Site-vicinity study areas for the EA are listed below:

On-Site .....the lands owned or optioned by WM and required for the new landfill. The Site is bounded by Highway 417, Carp Road and Richardson Sideroad;

Site-Vicinity.....the lands in the vicinity of the site extending about 500 metres in all directions; and,

Regional.....the lands within approximately 3 - 5 kilometres (km) of the Site for those disciplines that require a larger analysis area (i.e. socio-economic, odour, etc).

It should be noted that these are generic study areas that may be modified during the EA to suit the requirements of each environmental component. Each technical discipline will modify the study area as required (e.g., surface water study area will extend along watershed boundaries).

7.2 Environmental Components

It is proposed that the EA will address the following components of the environment that may be affected by the alternative methods of carrying out the undertaking:

- Atmosphere;
- Geology and Hydrogeology;
- Surface Water;
- Biology;
- Archaeological/ Cultural Heritage Resources;
- Transportation;
- Land Use;
- Agriculture;
- Socio-economic;
- Design and Operations; and,
- Aboriginal.

These components are proposed as a starting point and will be further refined during the EA. The criteria, indicators and data sources proposed for the assessment are set out in **Appendix B**.

7.3 Existing Environmental Conditions

Land Use, Agricultural, Socio-Economic, Archaeological/Cultural

The area in the vicinity of the WCEC 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 lands in this area are designated in the City of Ottawa Official Plan as General Rural Area, Sand and Gravel Resource Area, Solid Waste Disposal and Significant Wetlands.

The current Ottawa 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 City 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 Ottawa WMF. 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 WCEC.

The Ottawa 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 Ottawa WMF are growing communities with a mix of rural and urban character, residential, commercial, industrial and recreational features.

There are nine registered archaeological sites within approximately four kilometres of the existing Ottawa WMF. None of the sites are within the area identified as in the vicinity of the Ottawa WMF. Most of the sites are historic homesteads and farmsteads. Built heritage features and cultural landscapes exist within the vicinity of the Ottawa WMF. These include houses, roadscapes and farm complexes. There are no designated structures under Part IV of the *Ontario Heritage Act* within this area.

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 Ottawa WMF is directly off Carp Road.

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

Atmospheric (Air Quality, Odour and Noise)

The area in the vicinity of the 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 Ottawa WMF has implemented operational practices to control the potential release of odours including a landfill gas collection system combined with appropriate daily and final covering of the waste. The gas collection system reached its operating capacity and since the latter part of 2006, WM has expanded the system by doubling the number of collection wells and installing additional flares and a gas to energy facility.
The noise environment in the vicinity of the Ottawa WMF is influenced by the landfill operations (i.e. equipment noise from landfill activities, truck noise on haul routes, pest control devices), quarries, cement plant operations and adjacent roadways, including Highway 417.

Biology (Terrestrial and Aquatic Environment) and Surface Water

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 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.

A provincially significant wetland is located in the southwestern portion of the study area lands for the proposed undertaking. This is in the area immediately northwest of the intersection of Highways 7 and 417. Any alternatives will be configured to minimize potential effects on these areas.

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.

WM has initiated a corrective action plan to resolve a groundwater issue which originated during the time that the land was owned by a previous owner on downgradient properties east and south of the site. These areas are better known to the public as the Contamination Attenuation Zone or CAZ. 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.

7.4 Additional Field Work and Studies

Additional field studies and data collection have been ongoing since the previous ToR withdrawl in 2007. This includes hydrogeologic, air quality, terrestrial biology field surveys, and water quality sampling. During the EA, and following approval of work plans by the GRT, the project team will collect further information and conduct studies (desktop and field) to describe components and sub-components of the environment identified in the ToR that may be affected by the undertaking. The environmental components, sub-components, rationale, indicators and data sources that will be used in the analysis of each component are presented in **Appendix B** and the assessment methodology that will be used for each environmental component is **Section 8**.

8. Environmental Assessment Methodology

This Section summarizes the proposed methodology that will be used to conduct the EA. The outcome of the EA, which will be carried out in accordance with the approved ToR, will involve the identification of the preferred undertaking. The proposed methodology (work plan) to conduct the EA and assess the individual components of the environment is presented in **Appendix C**. The proposed work plans, which were provided to the GRT for review, are general and will be discussed and finalized during the EA with the GRT.

8.1 Evaluation of "Alternative Methods"

The evaluation of "alternative methods" of carrying out the proposed undertaking will consider:

- 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.

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

1. Prepare a further ***description*** of each of the "alternative methods".
2. Describe the ***environment potentially affected*** for each alternative in relation to the proposed evaluation criteria and indicators.
3. Describe the ***net effects on the environment*** for each alternative relative to the other alternatives, taking into account reasonable mitigation methods (i.e. methods for which there is a reasonable expectation that they can be implemented both technically and economically by WM).
4. 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.

8.2 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.

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 one or more of the following measures:

- Implementation of additional specific operational practices to eliminate or reduce adverse effects.
- In the case of the new landfill footprint proposed, changes to the landfill height, depth, or footprint configuration.

In the case of the actual annual waste quantity disposed being lower than predicted, the EA will consider the effect of an extended service life on the environment.

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 impact assessment will assume baseline conditions include the operating landfill through its approved capacity life. For the purposes of the net effects evaluation only, it will be assumed that the end use of the undertaking will be passive use.

The criteria proposed to be used in the assessment are attached as **Appendix B**. The study areas and typical study data sources are also included in **Appendix C**. 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. The study areas identified for each technical study are based on provincial policies and guidelines, and experience of professional experts conducting these types of studies. During the EA, if existing or predicted impacts go beyond any of the proposed study areas, those study areas will be expanded.

9. Consultation Plan

An overview of the results of the consultation process undertaken during the ToR is presented in the following section and the detailed consultation results are documented in SD #3. The proposed Consultation Plan for conducting the EA is also presented in this final section. The MOE's Codes of Practice for *Consultation in Ontario's Environmental Assessment Process* (June 2007) was referred to when preparing the consultation plan for the ToR and future EA.

9.1 Consultation on the ToR

As required by Section 5.1 of the OEAA, review agencies, Aboriginal communities and the public were consulted during preparation of these ToR. A detailed description of the consultation activities which have been undertaken, which will be undertaken, the interested parties that have been consulted, and any additional interested person to be consulted, is summarized below.

9.1.1 Stakeholders

WM consulted with a broad stakeholder group on the content of the draft ToR, including review agencies, Aboriginal communities, adjacent residents, and the public. This list was updated throughout the ToR process, as appropriate.

All appropriate review agencies were contacted during development of the ToR, including federal ministries and departments, provincial ministries, City of Ottawa, conservation authorities, emergency services, school boards, and utilities, etc.

The following First Nations and Métis organizations were contacted during development of the ToR:

- Algonquins of Pikwakanagan
- Algonquins of Bonnechere
- Algonquins of Greater Golden Lakes
- Algonquins of Ottawa (urban)
- Métis Nation of Ontario
- Métis National Council

Nearby residents were contacted via unaddressed mailings within the vicinity of the Ottawa WMF. In addition, public stakeholder individuals and groups who became interested in the

project were added to the list of stakeholders, including those who attended open houses, or submitted comments.

9.1.2 Consultation Activities

During the development of the ToR, a wide variety of consultation activities were carried out by WM as part of preparing this ToR including the following:

- Public Advisory Committee
- Open House Meetings in six different locations
- Workshops in three different locations
- Question and Answer session
- Meetings/Presentations with interested stakeholders
- Project Website, e-mail, and toll free telephone number
- Newsletters
- Project Office
- Written Correspondence and telephone calls with interested stakeholders

On April 13, 2010, WM publicly announced its environmental assessment through a Notice of Commencement. In conjunction with the Notice of Commencement, WM notified neighbours and the community of the proposed undertaking through a news release, hand delivered letters, a newsletter, notification on the project website, and advertisements in the local newspapers.

Comments received directly from the public, community organizations, the City of Ottawa, and agencies were reviewed by WM and responded to. A summary of the comments received and how comments were considered is included in the Record of Consultation SD #3.

On June 18, 2010, WM formally submitted an EA ToR for the WCEC to the MOE. Notification of the submission was published in local newspapers and provided on the WM project website, through email distribution and letters to neighbours and stakeholders.

Following the preparation of the ToR, it was issued to review agencies, Aboriginal communities, and the public for review and comment. Stakeholders were notified through a Notice and news release, mailed letters to review agencies and other interested stakeholders, a newsletter, and advertisements in the local newspapers. These notices outlined the availability of the ToR for review and how comments could be provided. Copies of the ToR were provided to review agencies, the City and Aboriginal stakeholders, and placed at public record locations.

A detailed chronology and description of the consultation events and activities during the ToR development, dating from April 2010, is included in the Record of Consultation SD #3.

9.2 Summary of Issues and Concerns Raised during the Terms of Reference Development

The issues and concerns raised by the stakeholders are provided in SD #3 of the TOR submission. The issues and concerns are summarized in a table that provides the issue and the method in which it has been considered in the preparation of the TOR.

9.3 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.

The consultation activities undertaken during the preparation of these ToR will be built upon and implemented in the EA reflecting the following principles:

a) The process will be clear, open and inclusive;
b) Stakeholder concerns will be identified early in the process, and addressed in the EA;
c) There will be multiple consultation opportunities, using a number of techniques throughout the EA; and,
d) Issues and concerns, and responses to them will be documented as part of the EA.

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

- Alternative Methods
  - Confirm the preferred Alternative To the Undertaking
  - Obtain feedback on the alternative landfill footprints
  - Obtain feedback on the evaluation criteria and indicators
  - Obtain feedback on the results of the comparative evaluation and preferred alternative landfill footprint
- Impact Assessment of the Preferred Alternative
  - Obtain feedback on the results of the impact assessment of the preferred alternative landfill footprint

Notwithstanding these key decision-making milestones, consultation will be ongoing throughout the WCEC EA.

9.3.1 Stakeholders

WM undertakes to give notice and consult with the public, the City, Aboriginal communities, the Province of Ontario, other (government and non-government) agencies.

Input will be obtained from interested participants through a variety of means specific to each of the following three participant groups:

Review Agencies

Based on the MOE's Environmental Assessment Government Review Team Master Distribution List and responses received during consultation on the previous ToR, an agency distribution list has been developed by WM for this EA. A copy of this list is included in the Record of Consultation for the ToR (Supporting Document #3). This list will be regularly reviewed and updated to reflect those agencies with an ongoing interest in this proposed undertaking. Input from interested review agencies will be received primarily through written correspondence and individual or group meetings.

Aboriginal Communities

Consultation with Aboriginal communities will be through a similar process as the ToR. It is proposed that consultation activities associated with Aboriginal communities will include the following:

- Letters to each Aboriginal organization (Algonquins of Ontario, Metis Nation of Ontario, Metis National Council) inviting them to consultation events, soliciting input and comments, and providing updates on the EA process; and,
- Meetings to be held at the request of Aboriginal communities to engage them and obtain feedback on their interests and concerns.

It is proposed that consultation with the Métis Nation of Ontario reflect the framework set out in the "Metis Consultation and Accommodation: A Guide for Government and Industry on Engaging Métis in Ontario".

Public

Consultation with members of the public, including individuals, groups or associations, property owners, residents, and business owners, will be primarily through open houses at key milestones throughout the EA.

9.3.2 Proposed Consultation Activities

The following key consultation activities will be undertaken during the development of the EA:

Project Advisory Committee (PAC)

The PAC formed during the ToR stage will be continued during the EA. 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 is comprised of 10 members as follows:

- Six forming members including:
  - Two members from the community liaison committee;
  - Two West -End Councillors; and
  - Two employees of WM.
- Four (4)-community members, one from each of the West End wards.

Individual members of the PAC will be asked to prepare a report of their work at the conclusion of the consultation period. If they do so, the reports will inevitably be circulated and 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.

All consultation activities planned for the EA are intended to meet or exceed the purpose and intent of the OEAA. The consultation plan will be flexible and may be amended during the EA based on comments or feedback received during the process.

EA Open House #1

EA Open House #1 will present the approved TOR and introduce the EA Study Work Plans. An overview of existing environmental conditions will be presented as well as work plans intended to characterize the environment for the EA. The consultation program and opportunities for the public to get involved in the process will be presented.

Workshop #1

Workshop #1 will offer an opportunity for the participants identify and develop new landfill footprints and locations for the various WCEC facility components within the constrained areas.

EA Open House #2

EA Open House #2 will provide an opportunity for attendees to speak directly with WM and the consulting team on the alternative methods and ancillary facilities of proceeding with the new landfill. This will also provide an opportunity to further refine the criteria, indicators and measures proposed as part of the evaluation process. Information on current studies (baseline studies), approval process and planned consultation activities will also be provided.

Workshop #2

Workshop #2 will discuss the comparative evaluation methodology and invite participants to provide input on the relative importance of evaluation criteria.

EA Open House #3

Open House #3 will present a summary of studies to describe existing environmental conditions. The methodology to present the comparative evaluation of alternative methods and the identification of the preferred alternative will be presented.

Workshop #3

Workshop #3 will invite participants to discuss and provide input to the comparative evaluation of alternative methods and identification of a preferred alternative.

EA Open House #4

EA Open House #4 will present the comparative evaluation of alternative methods (landfill footprints) and will identify a preferred alternative method (footprint). Further, this Open House will present the detailed impact assessment results of the preferred alternative for each discipline on the Project Team and the cumulative impact assessments of a new landfill footprint and other projects in the future in the area. Renderings and visualizations of the preferred alternative method will also be presented.

EA Open House #5

EA Open House #5 will present a summary of the EA Report.

Roundtable Discussion Meetings

Roundtable Discussion Meetings with a small number of people, initiated by either the consulting team or the community, will provide an opportunity to obtain further feedback on the study and community expectations for the landfill. These Roundtable Discussion meetings will be triggered by a request from the interested stakeholders.

Special Technical Sessions

If necessary, Special Technical Sessions on specific topics, (e.g., hydrogeology, landfill engineering and leachate management, etc.) for an invited group, will be organized to provide more information than can be presented in an Open House forum.

Review of Draft Reports and Component Studies

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. WM will fund an independent review of the EA and will work with the City of Ottawa in determining the individuals involved as well as appropriate terms of engagement. The details of this independent review will be finalized during the EA stage.

Consultation Reports

Consultation Reports will be prepared following each Open House and workshop, outlining the consultation process, including the comments received at the events and via email.

Other Consultation Methods

The Project Website will be used as an effective way to inform the public on the EA process and public consultation activities. Email Blasts may provide timely and detailed information to interested stakeholders and can, through the use of electronic comment sheets, be used to obtain immediate feedback during the EA process.

If there is significant interest in particular issues, or need for more discussion, or if requested, WM may hold additional Open Houses or consultation events.

A timeline will be established for the review and commenting period for draft reports and component studies. Comments received during the specified review period will be considered by WM in the preparation of the final EA document.

10. Commitments and Monitoring Strategy

10.1 TOR and EA Commitments

As part of preparing this ToR, a number of commitments are being made by WM that will need to be fulfilled during preparation of the WCEC EA. **Appendix D** provides a description of the following commitments:

- Odour Enforcement Mechanism;
- Property Value Protection;
- Community Benefits;
- Continued Waste Programs for Community;
- Community Liaison Committee;
- Commitment of Capacity to Ottawa; and
- Waste Diversion Facilities.

If approval of the ToR is granted by the Minister of the Environment, the list of commitments will be finalized and included in the EA Report, documenting where and how they were dealt with during preparation of the WCEC EA.

Similarly, commitments may be made by WM during preparation of the WCEC EA that will need to be fulfilled if approval of the ToR is granted by the Minister of the Environment. Where such commitments are made, a comprehensive list of EA commitments will be documented in the EA Report, including where and how they will be dealt with if the proposed ToR is approved.

10.2 Environmental Effects and EA Compliance Monitoring

WM is committed to developing a monitoring framework during preparation of the WCEC EA that will address environmental effects and, as applicable, EA compliance. The purpose of the environmental effects monitoring will be to monitor the net effects associated with the construction, operation, and maintenance of the proposed undertaking, as necessary, and implement further mitigation measures, monitoring, and contingency plans, where possible, so that:

1. Predicted net negative effects are not more than expected
2. Unanticipated negative effects are addressed
3. Predicted benefits are realized

The purpose of the EA compliance commitment monitoring will be to track the commitments made by WM during preparation of the WCEC EA, as well as any conditions of OEAA approval, so that they are followed through as applicable in the construction, operation, and maintenance of the proposed undertaking.

The EA Report will include a strategy on how and when the commitments will be fulfilled and how WM will report on this to MOE and other regulatory agencies, as appropriate, on compliance.

11. Modifications During Preparation of the EA

If approval of the ToR is granted by the Minister of the Environment, the ToR would provide the framework for preparing the subsequent EA. However, as identified through the requirements of a ToR in the OEAA and the Code of Practice on preparing ToRs, they are generally not intended to present every detail that will occur throughout the EA process. Therefore, when carrying out the EA, as was contemplated when crafting this ToR, it may become evident that some modifications may be necessary. These modifications may include, but are not limited to:

- additional alternatives
- additional evaluation criteria or indicators
- additional evaluation methodologies used to select the preferred alternative method
- additional consultation activities
- additional studies on environmental effects

It should be noted that the preceding list is not inclusive, but provides examples of potential modifications that may be considered within the framework as set out by this ToR.

12. 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.

Although it is not possible at this time to state which approvals will be required, the following is a list of some approvals that potentially apply:

- Ontario Environmental Protection Act (EPA);
- Ontario Water Resources Act (OWRA);
- Aggregate Resources Act;
- Planning Act/Municipal (i.e. Official Plan and Zoning By-Law Amendments);
- The Environmental Bill of Rights (EBR);
- Conservation Authority Approvals; and,
- Federal Approvals.

It should be noted that this list is not exhaustive and that other requirements may apply depending on the preferred alternative method of implementing the undertaking.

Appendix A

Glossary of Terms

Table A-1: Definition of Acronyms	
Acronym	**Definition**
AAQC	Ambient Air Quality Criteria
ANSI	Area of Natural and Scientific Interest
ASL	Above Sea Level
C of A	Certificate of Approval
C&D	Construction and Demolition
CAZ	Contamination Attenuation Zone
CDR	Conceptual Design Report
CEAA	Canadian Environmental Assessment Act
CH_4	Methane
CLI	Canada Lands Inventory
CO	Carbon monoxide
CO_2	Carbon dioxide
D&O	Design & Operations
SCFM	Standard Cubic Feet per Minute
EA	Environmental Assessment
EASR	Environmental Assessment Study Report
EBR	Environmental Bill of Rights
ELC	Ecological Land Classification
EMP	Environmental Monitoring Plan
EPA	*Environmental Protection Act*
EPR	Extended Producer Responsibility
ESA	Ecologically sensitive area
GHG	Greenhouse Gases
GRT	Government Review Team
GWP	Global Warming Potential
IC&I	Industrial Commercial and Institutional
INAC	Indian and Northern Affairs Canada
IWMMP	Integrated Waste Management Master Plan
LFG	Landfill Gas
MHSW	Municipal Hazardous and Special Waste
MOE	(Ontario) Ministry of the Environment

MNR	(Ontario) Ministry of Natural Resources
MP	Member of Parliament
MPP	Member of Provincial Parliament
MSW	Municipal solid waste
N_2O	Nitrous oxide
NO_2	Nitrogen dioxide
O_3	Ozone
OEAA	Ontario Environmental Assessment Act
OH	Open House
OMAA	Ontario Ministry of Aboriginal Affairs
Ottawa WMF	Ottawa Waste Management Facility
OWRA	*Ontario Water Resources Act*
PAC	Public Advisory Committee
PM	Particulate matter
PM10	Particulate Matter 10 microns (µm) in diameter or less
PM2.5	Particulate Matter 2.5 microns (µm) in diameter or less
POR	Points of Reception
PVPP	Property Value Protection Plan
PWQO	Provincial Water Quality Objectives
ROW	Right-of-way
RUL	Reasonable Use Limits
SAR	Species at Risk
SD	Supporting Documents
SEV	Statement of Environmental Values
SO_2	Sulphur dioxide
SWM	Storm Water Management
TAGA	Trace Atmospheric Gas Analyser
ToR	Terms of Reference
TSD	Technical Support Document
VEC	Valued Ecosystem Components
VOC	Volatile organic compounds
WCEC	West Carleton Environmental Centre
WEEE	Waste electrical and electronic equipment
WHC	Wildlife Habitat Council
WM	Waste Management of Canada Corporation
WPCP	Water Pollution Control Plant

Table A-2: Definition of Units	
Unit	**Definition**
ha	hectare
km	kilometre
L	litre
m	metre
m^3	cubic metres
tcy	tonnes per capita per year

Table A-3: Glossary of Terms	
Term	**Definition**
Approval	Permission granted by an authorized individual or organization for an undertaking to proceed. This may be in the form of program approval, certificate of approval or provisional certificate of approval
Background concentration	The amount of chemical in the soil, groundwater, air or sediment in the environment that would be considered representative of typical conditions in a given area or locality
Buffer area	That part of a landfilling site that is not a waste fill area
Certificate of Approval (Waste)	A licence or permit issued by the Ministry of the Environment for the operation of a waste management site/facility
Composting	The controlled microbial decomposition of organic matter, such as food and yard wastes, in the presence of oxygen, into humus, a soil-like material. Humus can be used in vegetable and flower gardens, hedges, etc
Construction and demolition (C&D) waste	Solid waste produced in the course of residential, commercial, industrial or institutional building construction, demolition or renovation (e.g., lumber, brick, concrete, plaster, glass, stone, drywall, etc.)
Cover material	Material used to cover the waste in the disposal cells during or following landfilling operations. May be daily, intermediate or final
Design and operations (D&O) plan	A document required for obtaining a Certificate of Approval, which describes in detail the function, elements or features of the landfill site/facility, and how a landfill site/facility would function including its monitoring and control/management systems
Design capacity (Total Disposal Volume)	The maximum total volume of air space available for disposal of waste at a landfill site for a particular design (typically in m3); includes both waste and daily cover materials, but excludes the final cover
Environment	As defined by the Environmental Assessment Act, environment means: (a) air, land or water, (b) plant and animal life, including human life, (c) the social, economic and cultural conditions that influence the life of humans or a community, (d) any building, structure, machine or other device or thing made by humans, (e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or (f) any part or combination of the foregoing and the interrelationships between any two or more of them (ecosystem approach)

Environmental Assessment	A systematic planning process that is conducted in accordance with applicable laws or regulations aimed at assessing the effects of a proposed undertaking on the environment
Evaluation criteria	Evaluation criteria are considerations or factors taken into account in assessing the advantages and disadvantages of various alternatives being considered
Haul route	Private and/or public roadway(s) used by vehicles transporting waste to and from a landfill site
Hazardous waste	Any residual hazardous materials which by their nature are potentially hazardous to human health and/or the environment, as well as any materials, wastes or objects assimilated to a hazardous material. Hazardous waste is defined by Ontario Regulation 347 and may be explosive, gaseous, flammable, toxic, radioactive, corrosive, combustive or leachable
Impacted soils	Impacted soils are soils that contain more than background concentrations of contaminants, but not at levels that classifies them as hazardous
Indicators	Indicators are specific characteristics of the evaluation criteria that can be measured or determined in some way, as opposed to the actual criteria, which are fairly general
Industrial, commercial and institutional (IC&I) wastes	Wastes originating from the industrial, commercial and institutional sectors
Landfill gas	The gases produced from the wastes disposed in a landfill; the main constituents are typically carbon dioxide and methane, with small amounts of other organic and odour-causing compounds
Landfill site	An approved engineered site/facility used for the final disposal of waste
Leachate	Liquid that drains from solid waste in a landfill and which contains dissolved, suspended and/or microbial contaminants from the breakdown of this waste
Methane gas	A colourless, odourless highly combustible gas often produced by the decomposition of decomposable waste at a landfill site. Methane is explosive in concentrations between 5% and 15% volume in air
Non-hazardous waste	Non-hazardous wastes includes all solid waste that does not meet the definition of hazardous waste and includes designated wastes such as asbestos waste
Proponent	A person who: (a) carries out or proposes to carry out an undertaking, or (b) is the owner or person having charge, management or control of an undertaking
Service life	The period of time during which the components of a properly designed and maintained engineered facility will function and perform as designed
Site life	The period of time during which the landfill can continue to accept wastes

Appendix B

Environmental Assessment Criteria

INTRODUCTION

This appendix to the TOR describes the assessment criteria, indicators and data sources that are proposed to evaluate the different alternative methods of carrying out the project. The outcome of the EA, which will be carried out in accordance with the approved TOR, will include the identification of a preferred alternative method of carrying out the project.

Table B-1 presents the set of assessment criteria proposed for the EA. The assessment criteria are grouped into three categories: environmental, socio-economic and technical (site operation and design). Each criterion includes a statement of rationale, indicators that will be used for measurement and data sources.

Table B- 1: Proposed Assessment Criteria, Rationale, Potential Indicators and Data Sources

Environmental Component	Environmental Sub-component	Rationale	Indicators	Data Sources
Atmospheric Environment	Air quality	Waste disposal facilities and associated operations can produce gases containing contaminants that degrade air quality if they are emitted to the atmosphere. Construction and operation activities at a waste disposal facility can lead to increased levels of particulates (dust) in the air. Changes in air quality may affect human health.	• Modelled air concentrations of indicator compounds (organics, particulates) • Number of off-site receptors potentially affected (residential properties, public facilities, businesses, and institutions)	• Environment Canada or the Ministry hourly meteorological data and climate normals • Site studies, reports and air quality monitoring data • Aerial photographic mapping and field reconnaissance • Air quality assessment
	Noise	Construction and operation activities at the facility may result in increased noise levels resulting from the site.	• Predicted site-related noise • Number of off-site receptors potentially affected (residential properties, public facilities, businesses, and institutions)	• Site equipment noise measurements • Aerial photographic mapping and field reconnaissance • Noise prediction assessment
	Odour	Continued operation of the waste disposal facility may result in changes in the degree and frequency of odours from the site	• Predicted odour emissions • Number of off-site receptors potentially affected (residential properties, public facilities, businesses and institutions).	• Published and odour source data • Environment Canada or the Ministry hourly meteorological data • Odour complaints history • Aerial photographic mapping and field reconnaissance • Odour assessment

[1] *"Potentially affected" means that the project has the potential to interact with the environment.*

Environmental Component	Environmental Sub-component	Rationale	Indicators	Data Sources
Geology & Hydrogeology	Groundwater quality	Contaminants associated with waste disposal sites have the potential to enter the groundwater and impact off-site groundwater or surface water.	• Predicted effects to groundwater quality at property boundaries and off-site.	• Hydrogeological and geotechnical studies • Water well records • Determination of water well users in the area • Annual Site Monitoring Reports • Proposed leachate control concept designs • Environment Canada Canadian Climate Normals • Leachate generation assessment
Surface Water Resources	Surface water quality	Contaminants associated with waste disposal sites have the potential to seep or runoff into surface water.	• Predicted effects on surface water quality on-site and off-site.	• Topographic maps • Air photos • Facility layout and drainage maps and figures • Proposed on-site stormwater management concept designs for new landfill footprint alternatives • Proposed leachate control concept designs for new landfill footprint alternatives • Annual monitoring reports • Interviews and discussions with WM staff, the Ministry, Conservation Authorities, and Environment Canada • Published water quality and flow information from the Ministry, Environment Canada and conservation authorities • Site reconnaissance • On-site and off-site surface water and leachate monitoring programs
	Surface water quantity	The construction of physical works may disrupt natural surface drainage patterns and may alter runoff and peak flows. The presence of the facility may also affect base flow to surface water.	• Change in drainage areas; • Predicted occurrence and degree of off-site effects	

Environmental Component	Environmental Sub-component	Rationale	Indicators	Data Sources
Terrestrial Environment	Terrestrial ecosystems	Waste disposal facility construction and operations may remove or disturb the functioning of natural terrestrial habitats and vegetation, including rare, threatened or endangered species.	• Predicted impact on vegetation communities due to project; • Predicted impact on wildlife habitat due to project; and • Predicted impact of project on vegetation and wildlife including rare, threatened or endangered species.	• Site surveys • Published data sources
Aquatic Environment	Aquatic ecosystems	Waste disposal facility construction and operations may remove or disturb the functioning of natural aquatic habitats and species, including rare, threatened or endangered species.	• Predicted changes in water quality; • Predicted impact on aquatic habitat due to project; and • Predicted impact on aquatic biota due to project.	
Archaeology & Cultural Heritage	Cultural and heritage resources	Cultural/heritage resources could be displaced by the construction of waste disposal facility components. The use and enjoyment of cultural resources may also be disturbed by the ongoing operation.	• Cultural and heritage resources on-site and in vicinity • Predicted impacts to cultural and heritage resources on-site and in vicinity.	• Published data sources • Stage 1 and Stage 2 (possibly Stage 3 and 4) archaeological and cultural/heritage assessments • Commemorative statements
	Archaeological resources	Archaeological resources are non-renewable cultural resources that can be destroyed by the construction and operation of a waste disposal facility.	• Presence of archaeological resources on-site; and • Significance of on-site archaeology resources potentially displaced/disturbed.	

Environmental Component	Environmental Sub-component	Rationale	Indicators	Data Sources
Transportation	Effects on airport operations	There is the potential for bird strikes for aircraft using Carp Airport.	• Bird strike hazard to aircraft in Local Study Area.	• Transport Canada data sources • Traffic study
	Effects from truck transportation along access roads	Truck traffic associated with the landfill footprint may adversely affect residents, business, institutions and movement of farm vehicles in the site vicinity.	• Potential for traffic collisions; • Disturbance to traffic operations; and • Proposed road improvement requirements.	
Land Use	Effects on current and planned future land uses	The facilities may not be fully compatible with certain current and/or planned future land uses. Current land uses (e.g., agriculture) may be displaced by facility development. Waste disposal facilities can potentially affect the use and enjoyment of recreational resources in the vicinity of the site.	• Current land use; • Planned future land use; and • Type(s) and proximity of off-site recreational resources within 500 m of landfill footprint potentially affected • Type(s) and proximity of off-site sensitive land uses (i.e., dwellings, churches, cemeteries, parks) within 500 m of landfill footprint potentially affected.	• Official Plans for the City of Ottawa • Aerial photographic mapping and field reconnaissance • Published data on public recreational facilities/ activities • City of Ottawa Zoning • Provincial Policy Statement, 2005
	Displacement of agricultural land	Agricultural land will be displaced by the development of the facility if the facility is located away from the lands currently designated to accommodate waste management facilities.	• Current land use • Predicted impacts on surrounding agricultural operations; • Type(s) and proximity of agricultural operations (i.e., organic, cash crop, livestock).	• Provincial Policy Statement, 2005 • Official Plans for the City of Ottawa • Aerial photographic mapping and field reconnaissance • City of Ottawa Zoning • Canadian Lands Inventory (CLI) mapping

Environmental Component	Environmental Sub-component	Rationale	Indicators	Data Sources
Economic	Effects on the cost of services to customers	The costs of continued operation of a waste disposal facility will affect the price of tipping fees, subsequently affecting the cost of service to customers. The greater the air space achieved for a lower capital cost will enable a lower cost of services to be provided.	• Ratio of air space achieved to volume of soil to be excavated and area of cell base and leachate collection system to be constructed	• New landfill footprint alternatives
	Continued service to customers	The Ottawa WMF provides an important and affordable service to its users, particularly in the east end of Ottawa.	• Total optimized site capacity and site life	• New landfill footprint alternatives
	Economic benefit to local municipality	The continued use of the facility will provide economic benefits to the local community in the form of new employment opportunities in both the construction and day-to-day operation. This also has the potential for increased employment opportunities in local firms.	• Employment at site (number and duration) • Opportunities to provide products or services	• New landfill footprint alternatives
Social	Visual impact of the facility	The contours of a waste disposal facility can affect the visual appeal of a landscape.	• Predicted changes in perceptions of landscapes and views	• New landfill footprint alternatives • Site grading plans • Aerial mapping and field reconnaissance • Visual simulations • Canadian Society of Landscape Architects reference library • Ontario Horticultural Trades Association reference manual
	Local Residents	Waste disposal facilities can potentially affect local residents in the vicinity of the site	• Number of residents	• Aerial mapping • Field reconnaissance

Environmental Component	Environmental Sub-component	Rationale	Indicators	Data Sources
Social	Recreational Facilities	Waste disposal facilities can potentially affect the use and enjoyment of recreational resources in the vicinity of the site.	• Type(s) and proximity of off-site recreational resources within 500 m of landfill footprint potentially affected	• Official Plans for the City of Ottawa • Aerial photographic mapping and field reconnaissance • Published data on public recreational facilities/ activities • City of Ottawa Zoning • Provincial Policy Statement, 2005
Aboriginal	Potential effects on aboriginal communities	The facility construction and operations may adversely affect local aboriginal communities.	• Potential effects on use of lands for traditional purposes	• Discussions with local First Nations
Site Design & Operations	Site design and operations characteristics	The characteristics of the existing and proposed site design and engineered system requirements, will affect site activities and operational and maintenance requirements.	• Complexity of site infrastructure • Operational flexibility	• Existing and proposed site environmental control system designs and operational requirements • New landfill footprint alternatives and associated phasing of operations • Potential daily cover and soil/aggregate quantities

Appendix C

Environmental Assessment Work Plans

Draft Work Plan for Environmental Assessment of Proposed New Landfill Footprint in Ottawa

Submitted by:
Waste Management of Canada Corporation

June 2010

1.0 INTRODUCTION

The purpose of this document is to present the proposed work plan for the environmental assessment (EA) of Waste Management Corporation of Canada's (WM) new landfill footprint at the existing Ottawa Waste Management Facility (Ottawa WMF). Comments from the Government Review Team (GRT) and interested parties are welcome and will be considered in the preparation of the Terms of Reference (TOR).

This proposed work plan, which is part of the TOR, presents the scope of work required to complete the EA, including the scope of technical studies for each of the environmental components, public consultation, effects assessment, mitigation, EA documentation and submission. The work plan also presents proposed schedules for the technical studies. Work plans for the individual technical disciplines are included in **Attachments 1** to **10**.

2.0 EA APPROACH

2.1 Phased Approach

It is proposed that the EA work will be undertaken in three phases as follows:

- Phase 1 –Characterize Existing Environment and Predict Effects of the Proposed Alternatives;
- Phase 2 – Identify Preferred Alternative; and
- Phase 3 – Prepare and Submit EA Documentation.

Consultation with the public, agencies and other stakeholders will be ongoing throughout the EA process.

2.2 Environmental Components

The environmental components that will be evaluated in the EA, sub-components, rationale, indicators and data sources are listed in the attached **Tabie 1-1** to **Table 1-10**.

Environmental Components

- Atmospheric Environment
- Geology and Hydrogeology
- Surface Water
- Biology – Terrestrial and Aquatic
- Cultural Heritage Resources
- Transportation
- Land Use
- Agriculture
- Socio-economic

Technical Criteria

- Site Design and Operations

2.3 Study Areas

Data for the EA will be collected and analyzed for three generic study areas that will be presented in the TOR, as follows:

- On-site – the lands owned and/or optioned by WM for the proposed new landfill footprint;
- Site Vicinity – the lands in the vicinity of the current Ottawa WMF (within 500 metres (m) of the alternative West Carleton Environmental Centre (WCEC) waste footprints, which will be developed during the EA); and
- Regional – the lands within approximately 1-5 km of the Site, depending on the discipline and the factors which are relevant.

2.4 Time Frame

The EA will consider potential effects on the environment associated within three timeframes as follows:

- Construction;
- Operations (10 years); and
- Post-closure.

3.0 WORK SCOPE

3.1 Phase 1 – Characterize Existing Environment and Predict Effects of Proposed Alternatives

This initial phase of the EA studies comprises four tasks, which involve identifying alternative methods, characterizing existing environmental conditions, determining mitigation measures that will be incorporated into the design of alternatives, and predicting the effects of the alternatives on the environment.

3.1.1 Task 1 - Identifying Alternative Methods for New Landfill Footprint

Preliminary envelopes within the study area (See attached Figure) for potential development of landfill footprint alternatives will be developed during the EA stage and will include possible areas for siting the various non-landfill WCEC components as well. Early in the EA studies, a reasonable number of alternative landfill footprints will be developed by the project team in consultation with the public and GRT. The new landfill footprints will provide approximately 6.5 million cubic metres of air space and will be required to meet all applicable Ministry of the Environment (MOE) requirements. Two distinct development envelopes exist within the study area in relation to the existing Ottawa WMF. These envelopes are referred to by their proximity to the Ottawa WMF, namely to the west of William Mooney Road and to the north of the existing Ottawa WMF. WM is proposing that the height of the new landfill footprint alternatives will be lower than the current landfill height.

The alternative new landfill footprints that will be developed will comprise a range of features and variables, including for example, footprint configuration, location of entrance, access roads, location of WCEC components such as materials recycling facility, construction and demolition facility, organics facility, landfill gas to energy facility, greenhouses, community features, etc.

During the EA, the project team will describe the alternative new landfill footprints and associated facilities in sufficient level of detail (i.e., conceptual designs) for assessment by individual environmental component leads. A draft Concept Design Report (CDR) will be prepared and distributed to each of the environmental component leads for further analysis. The characteristics of the existing and proposed site

design and engineering system requirements, including in-design mitigation measures, can affect the environment and site activities such as operational and maintenance requirements. These potential effects will be assessed in the EA.

3.1.2 Task 2 - Describing Environment Potentially Affected

The project team will collect information and conduct studies (desktop and field) to describe components and sub-components of the environment identified in the TOR that may be affected by the undertaking. This will be done for each of the alternative method identified in the previous task. The environmental components, subcomponents, rationale, indicators and data sources that will be used in the analysis of each component are presented in **Attachments 1** to **10**.

3.1.3 Task 3 - Identifying Mitigation Measures to be Incorporated in the Design of Each Alternative

Following identification of a reasonable number of alternatives (Task 1) and the characterization of existing environmental conditions (Task 2), the project team will conduct a preliminary assessment of potential effects. Potential mitigation measures to be incorporated into the conceptual design of the alternatives will also be developed. The project team will then finalize the CDD, updating the conceptual designs, including in-design mitigation measures. The CDR will serve as the common basis for conducting the assessment of alternatives.

3.1.4 Task 4 - Predict Environmental Effects for Each Alternative

In this final task for phase 1, the project team will predict the effects of each alternative (i.e., including in-design mitigation measures) on the environment. The assessment will be done for each component of the environment based on the existing environmental conditions (determined in Task 2) and the conceptual designs for each alternative including mitigation (determined in Task 3).

3.2 Phase 2 - Assess Effects and Identify Preferred Alternative

3.2.1 Task 5 - Refine Mitigation Measures and Determine Net Effects

The EA project team will identify linkages (i.e., direct or indirect effects of the undertaking on an environmental component via another component, such as groundwater discharge to surface water). Linkage diagrams will be prepared by the environmental component leads. These diagrams will serve as the basis for conducting an integrated assessment of effects.

Prediction of future environmental conditions associated with each alternative landfill footprint will be undertaken by each discipline lead using modelling and other methods. Assessment of potential effects will be done using appropriate objectives, standards, policies and legislation. Further mitigation measures, if required, will be identified and refined as necessary. The project team will update and revise the conceptual design plans for the alternative footprints. The final conceptual designs will be documented in the final EA Report. The remaining effects or “net effects”, if any, will be documented.

3.2.2 Task 6 - Compare Alternatives

At this point, the project team may also consider additional alternative landfill footprints that may have been identified by the public or other parties during the EA process. Should an additional alternative(s) be developed, it would also be subjected to the analysis described in Task 3.

Following the completion of Task 5, the net effects of each Alternative Method, or landfill footprints will be comparatively evaluated using a Reasoned Argument (or Trade-off) Method as a means of selecting the

recommended Alternative Method. Application of this assessment method will be based on identifying the advantages or disadvantages of each Alternative Method, and then using them to establish preferences among the alternatives. Each alternative will be compared using the criteria, indicators, criteria weighting and data sources presented in the TOR. This analysis will be undertaken by the EA project team. The information generated through the comparison of the short-listed Alternative Methods will be summarized in a series of tables and documented in the EA Report.

3.2.3 Task 7 - Identify Preferred Alternative and Detailed Assessment

In this task, the advantages and disadvantages of the alternative landfill footprints will be described based on the comparative evaluation. The relative importance of the criteria will be as described in the TOR. The outcome of this ranking exercise will be the identification of a preferred alternative.

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.

3.2.4 Task 8 – Conduct Cumulative Effects Assessment

The assessment of cumulative effects is routinely included in federal environmental assessments, but not in Ontario EAs. WM is proposing to conduct this additional analysis, which will consider the combined or cumulative effects on the environment of "net effects" identified previously, with the effects of other projects that occur during the same timeframe and geographic area. For example, the cumulative effects assessment will consider the combined effects of the new landfill footprint with other WCEC components such as materials, recycling facility, construction and demolition facility, etc.

3.3 Phase 3 - Prepare and Submit EA Documentation

The third and final phase of the EA will be the preparation and submission of the EA documentation. The EA Report will be based on the results of the individual technical studies and the consultation program, which will be documented in Technical Support Documents (TSDs) and a series of consultation reports, respectively.

3.3.1 Task 9 - Prepare EA Reports/TSDs

Key information and findings from the TSDs and consultation reports will be compiled into the EASR by the EA Team. During the preparation of the TSDs and EA Report, the project team will conduct meetings or telephone calls with the MOE, key agencies and other government staff to discuss the EA studies and findings. Input and comments received from the public, aboriginal groups, government agencies and other stakeholders will be considered in the preparation of the final reports.

3.3.2 Task 10 - Submit Draft EA Reports to MOE & GRT

This task is the submission of the EA Reports in draft form to the MOE and includes tracking and follow-up to ensure all reports are received by the GRT. WM propose to hold a meeting with MOE and GRT to review the document as a group and provide a forum for questions on the project and documentation.

3.3.3 Task 11 - Submit Final EA Report to MOE

This task is the formal submission of the revised EA Report, based on comments received from the GRT and the MOE in Task 10.

3.3.4 Task 12 - Technical Support During Review Period

The Project Team including WM, AECOM and other sub-consultant staff, will be available for technical support during the review period. This will include answering questions/comments received and documenting responses. It is anticipated that comments and responses will be presented in a separate report.

3.4 Consultation

The detailed work plan for completing the consultation program (Consultation Plan) will be provided as a Supporting Document to the TOR. This will include the proposed consultation approach for First Nations and Aboriginal groups. The following sections provide a summary of the consultation tasks.

3.4.1 Task 13 – EA Open House #1

EA Open House #1 will present the approved TOR and introduce the EA Study Work Plans. An overview of existing environmental conditions will be presented as well as work plans intended to characterize the environment for the EA. The consultation program and opportunities for the public to get involved in the process will be presented.

3.4.2 Task 14 - Workshop #1

Workshop #1 will offer an opportunity for the participants identify and develop new landfill footprints and locations for the various BREC facility components within the constrained areas.

3.4.3 Task 15 - Open House #2

EA Open House #2 will provide an opportunity for attendees to speak directly with WM and the consulting team on the alternative methods and ancillary facilities of proceeding with the new landfill. This will also provide an opportunity to further refine the criteria, indicators and measures proposed as part of the evaluation process. Information on current studies (baseline studies), approval process and planned consultation activities will also be provided.

3.4.4 Task 16 – Workshop #2

Workshop #2 will discuss the comparative evaluation methodology and invite participants to provide input on the relative importance of evaluation criteria;

3.4.4 Task 17 - Open House #3

Open House #3 will present a summary of studies to describe existing environmental conditions. The methodology to present the comparative evaluation of alternative methods and the identification of the preferred alternative will be presented;

3.4.5 Task 18 – Workshop #3

Workshop #3 will invite participants to discuss and provide input to the comparative evaluation of alternative methods and identification of a preferred alternative.

3.4.5 Task 19 – Open House #4

EA Open House #4 will present the comparative evaluation of alternative methods (landfill footprints) and will identify a preferred alternative method (footprint). Further, this Open House will present the detailed impact assessment results of the preferred alternative for each discipline on the Project Team and the cumulative impact assessments of a new landfill footprint and other projects in the future in the area. Renderings and visualizations of the preferred alternative method will also be presented.

3.4.5 Task 20 – Open House #5

EA Open House #5 will present a summary of the EA Report.

3.4.6 Task 21 - Roundtable Discussions and Special Technical Sessions

Roundtable Discussion Meetings with a small number of people, initiated by either the consulting team or the community, will provide an opportunity to obtain further feedback on the study and community expectations for the landfill. These Roundtable Discussion meetings will be triggered by a request from the interested stakeholders. Special Technical Sessions, if necessary, on specific topics, (e.g., hydrogeology, landfill engineering and leachate management, etc.) for an invited group, will provide more information than what can be presented in an Open House forum.

3.4.7 Task 22 – Aboriginal Consultation

The following Aboriginal communities were contacted during the TOR phase and will be invited to participate in the EA:

- Algonquins of Pikwakanagan
- Algonquins of Bonnechere
- Algonquins of Greater Golden Lakes
- Algonquins of Ottawa (urban)
- Métis Nation of Ontario
- Métis National Council

Consultation activities associated with Aboriginal communities will include the following:

- Letters to each Aboriginal organization inviting them to consultation events, soliciting input and comments, and providing updates on the EA process; and
- Meetings to be held at the request of Aboriginal communities to engage them and obtain feedback on their interests and concerns.

Consultation with Algonquins of Ontario will be co-ordinated through the Algonquins of Ontario Consultation Office.

It is proposed that consultation with the Métis Nation of Ontario reflect the framework set out in the “Metis Consultation and Accommodation: A Guide for Government and Industry on Engaging Métis in Ontario”.

3.4.8 Task 23 - Website, EA Newsletters and Email Blasts

In this task, drafts and final text will be prepared for the WM website, EA Newsletters and email blasts. These communication vehicles are intended to be effective ways of providing information to the public and other stakeholders.

3.4.9 Task 24 - Agency Coordination and Meetings

To ensure that agency contacts are coordinated and documented fully, AECOM will serve as coordinator to be a one-window point of contact with agencies. It is anticipated that meetings will be required between members of the project team and various regulatory agencies during the preparation of the EA. Further, as mentioned in Task 10, a separate working session with the GRT will be held to review the final EA Report.

4.0 SCHEDULE

The TOR is anticipated to be submitted to the MOE at in mid-June 2010 and it is expected that it will be posted on the EBR for public comment during the months of June and July 2010. A decision by the Minister on the TOR is expected this summer. Assuming that the Minister approves the TOR, the EA is expected to begin in October 2010.

As noted previously, the EA will be undertaken in three phases. Phase 1 is initiation of the EA process, Phase 2 is assessment of effects and identification of a preferred alternative and Phase 3 is preparation and submission of the EA documentation. At the completion of Phase 1 of the EA studies, existing environmental conditions will be characterized and conceptual designs for the landfill footprint development alternatives will be completed, including mitigation measures, as required. The bulk of the work in this phase will be the development of predictions for the various environmental components. At the completion of Phase 2 of the EA, a preferred alternative will be identified. The analysis methods for undertaking the comparative evaluation will be developed during the preparation of the draft TOR, and the detailed comparative evaluation task can be completed after the effects prediction analysis is complete.

In the Phase 3 of the EA, the EA documentation will be prepared, reviewed by the WM team and submitted to the MOE.

Attachment 1 - Agricultural Work Plan

The agriculture environmental component has the sub-component of effects on agricultural land and agricultural operations. The following tasks will be will be undertaken to characterize existing environmental conditions, predict and assess potential environmental effects, determine mitigation measures and compare alternative methods of carrying out the undertaking.

- Compile and interpret information from defined background sources including:
  - Provincial Policy Statement 2005;
  - Official Plans for City of Ottawa;
  - Zoning By-laws for City of Ottawa;
  - Aerial photographic mapping and field reconnaissance;
  - Published information on agricultural land classification and agricultural or agri-related uses in the area; and,
  - Reconnaissance to confirm data from information sources.
- Meet with municipal officials to determine planned agricultural operations, including any applications for approval currently submitted;
- Based on the Conceptual Design Report, and considering in-design mitigation measures, identify potential adverse effects on agricultural land and agricultural operations;
- Compare these predictions to the existing conditions. Determine if mitigation measures are required, and if so develop conceptual mitigation;
- Compare the degree of potential effects using the criteria and indicators for the agriculture component, rank the alternatives, and identify the preferred alternative from an agricultural perspective;
- Document the factual information, analysis and comparative assessment in a Agriculture Technical Support Document (TSD) that will form an appendix to the EA;
- Participate in meetings with the government review agencies as required; and
- Provide technical support during the review of the draft EA by the regulatory agencies and public.

TABLE 1-1 – CRITERIA, INDICATORS AND DATA SOURCES

Component	Criteria	Rationale	Indicators	Data Sources
Agricultural	Displacement of agricultural land	Agricultural land will be displaced by the development of the facility if the facility is located away from the lands currently designated to accommodate waste management facilities.	• Current land use • Predicted impacts on surrounding agricultural operations • Type(s) and proximity agricultural operations (i.e. organic, cash crop, livestock)	• Provincial Policy Statement, 2005 • Official Plan for the City of Ottawa • Aerial photographic mapping and field reconnaissance • Published data on public recreational facilities/ activities • City of Ottawa Zoning • Canadian Lands Inventory (CLI) mapping

Attachment 2 - Atmosphere Work Plan

The atmospheric environment is comprised of three sub-components: air quality, noise and odour. The following tasks will be undertaken to characterize existing environmental conditions, predict and assess potential environmental effects, determine mitigation measures (if required) and compare alternative methods of carrying out the undertaking:

- Compile and interpret information from existing data sources, including information available from the following resources:
    - Atmospheric studies from the previous EA;
    - Ongoing monitoring assessments for the current landfill;
    - Environment Canada and MOE air quality monitoring data from local stations; and,
    - Review site records related to air emission (odour) and noise complaints;

- Conduct site reconnaissance to confirm site information compiled from existing documentation and finalize location and nature of potential off-site receptors.
- Determine "linkages" with other components and data generation/transfer requirements (e.g., link with natural environment, link with transportation component).
- Consult with the MOE and other members of the GRT to decide on air dispersion / noise modeling approach and protocols to be used in the assessment.
- Based on consultation with MOE, the review of existing information and the project description, identify information gaps and data needs.
- Conduct on-site air quality/ odour sampling to characterize sources of odour and provide data for input to the air quality and odour assessments.
- Conduct noise measurement surveys to determine baseline noise levels at potential sensitive points of reception, and along haul routes, and to determine noise levels from on-site sources, i.e., landfill equipment operations.
- Define baseline conditions for the project, based on available monitoring data.

Upon collection of data required for the assessment of air quality and odour emissions, embark on the following studies:

- Assessment of Alternatives: This study will focus on the subject of the Environmental Assessment (i.e., the landfill) and assess emissions from the various alternatives. Emissions from each alternative (including delivery of raw wastes, LFG collection system, haul roads, excavation operations etc.) will be estimated. This will be followed by the execution of an atmospheric dispersion model for each alternative. The results of this study will be predicted maximum air quality and odour effects associated with each of the alternatives. This study will focus on property line and sensitive receptors. Results will be used to assist in ranking of project alternatives.

- Ontario Regulatory Permitting Assessment: This study will focus on the final selected alternative based on input from the various technical components, and specifically on the sources at the larger integrated waste management site that require regulatory permitting in Ontario under O.Reg.419/05. These sources include the proposed landfill gas collection system, the material recycling facility, and the organics composting operation. Emission estimates will be generated for each of the sources that will require regulatory permitting. These estimates will be input to an atmospheric dispersion model for the site to predict the maximum off-property effects of operations, and to determine the ability of the site to comply with the MOE's air quality criteria and odour guidelines. This study will be based on the Ontario regulatory receptor grid, and discrete sensitive receptors.
- Cumulative Assessment: This study will assess the combined impact of the larger integrated waste management site including sources of emissions that are exempt from regulatory

permitting, such as roads and aggregate piles and other sources of air emissions within the local area. One option for achieving this will be combining model predictions of the proposed waste management site with available ambient monitoring data. This study will focus on receptors that represent the locations of monitoring stations, or areas of interest identified by the study team.

In support of the air quality and odour studies listed above the following will be completed:

- The development of an AERMOD atmospheric dispersion model for the site, which will be used to predict effects of the proposed operations. Based on the complexity (or simplicity) of local conditions, changes to the selected atmospheric dispersion model may be made. Changes to the dispersion model will be done in consultation with the MOE.
- Development of a site-specific meteorological dataset will be compiled, based on available well established datasets. The sources of the data will be reviewed with the MOE prior to finalization of the modelling dataset.
- Assessment of mitigation measures inherent in the project design and those that may be necessary to improve operations.

Upon collection of data required for the assessment of noise emissions, embark on the following studies:

- Assessment of Alternatives: This study will focus on the subject of the Environmental Assessment (i.e., the landfill) and assess emissions from the various alternatives. Emissions from equipment operating within each alternative (including LFG collection system, haul roads, excavation operations etc.) will be based on measurements from the existing landfill or emissions data from the existing database of similar noise sources. This will be followed by the execution of a noise prediction model for each alternative. The results of this study will be predicted worst-case hour operation associated with each of the alternatives. This study will focus on off-site sensitive points of reception. Results will be used to assist in ranking of project alternatives.

- Ontario Regulatory Permitting Assessment: This study will focus on the final selected alternative based on input from the various technical components, and specifically on the sources at the larger integrated waste management site that require regulatory permitting in Ontario in accordance with MOE noise guidelines. These sources include the proposed landfill gas collection system, the material recycling facility and the organics composting operation. Source noise emissions will be based on data from the existing database of similar noise sources and/or manufacturer's specifications. This data will be input to a noise prediction model for the site to predict the off-site noise emissions associated with the worst-case hour operations, and to determine the ability of the site to comply with the MOE's noise guidelines.

In support of the noise study listed above the following will be completed:

- The development of an ISO 9613 prediction model for the site, which will be used to predict effects of the proposed operations.
- Haul route noise assessment, using STAMSON or other approved prediction models, to predict the effects of the proposed haul route on sensitive points of reception.
- Provide acoustic specifications for mitigation measures inherent in the project design and those that may be necessary to improve operations and ensure compliance with MOE noise guidelines.
- Generate predictions (air quality, odour and noise) for use in non-atmospheric EA components (e.g., terrestrial component).
- Compile and document climate normals for the project site, and document the existing climatic conditions;
- Prepare a monitoring program appropriate for the preferred alternative, and conceptual contingency plan approaches;
- Document the assessments listed above, data sources and assessment results in an Atmospheric Technical Support Document (TSD) that will form an appendix to the EA;
- Participate in meetings with the government review agencies as required; and
- Provide technical support during the review of the draft EA by the regulatory agencies and public.

TABLE 1-2 – CRITERIA, INDICATORS AND DATA SOURCES

Component	Criteria	Rationale	Indicators	Data Sources
Atmospheric Environment	Air quality	Waste disposal facilities and associated operations can produce gases containing contaminants that degrade air quality if they are emitted to the atmosphere. Construction and operation activities at a waste disposal facility can lead to increased levels of particulates (dust) in the air. Changes in air quality may affect human health.	• Modelled air concentrations of indicator compounds (organics, particulates) • Number of off-site receptors potentially affected (residential properties, public facilities, businesses, and institutions)	• Environment Canada or MOE hourly meteorological data and climate normals • Site studies, reports and air quality monitoring data • Aerial photographic mapping and field reconnaissance • Air quality assessment
	Noise	Construction and operation activities at the facility may result in increased noise levels resulting from the site.	• Predicted site-related noise • Number of off-site receptors potentially affected (residential properties, public facilities, businesses, and institutions)	• Site equipment noise measurements • Aerial photographic mapping and field reconnaissance • Noise prediction assessment
	Odour	Continued operation of the waste disposal facility may result in changes in the degree and frequency of odours from the site	• Predicted odour emissions • Number of off-site receptors potentially affected (residential properties, public facilities, businesses, and institutions)	• Published and odour source data (including previous reports completed on site) • Environment Canada or MOE hourly meteorological data • Odour complaints history • Aerial photographic mapping and field reconnaissance • Odour assessment

Attachment 3 - Biology Work Plan

The biology environmental component has the sub-components terrestrial ecosystems and aquatic ecosystems. The following tasks will be will be undertaken to characterize existing environmental conditions, predict and assess potential environmental effects, determine mitigation measures and compare alternative methods of carrying out the undertaking.

- Compile and interpret information from defined background sources including:
- Biology reports from previous EA and ongoing terrestrial and aquatic surveys;
- Published information from MNR, DFO and Conservation Authority, including potential Species at Risk (SAR); and Aerial photos and topographic and drainage mapping.
- Characterize terrestrial environment baseline conditions in the area of the proposed expansion and vicinity including occurrence and distribution of wetlands, vegetation communities and wildlife (e.g., birds, mammals, reptiles, amphibians by means of breeding bird surveys, amphibian surveys, rare plant and insect assessment, snake/turtle surveys, mammal surveys, specific surveys for any identified SAR); natural areas such as significant wetlands, woodlands, valley lands and wildlife habitat, and habitat for endangered and threatened species;
- Characterize existing aquatic ecosystems, including drainage ditches and natural watercourses by fish community surveys, aquatic habitat assessment, benthic invertebrate sampling programs, water quality and flow information;
- Based on the Conceptual Design Report, and considering in-design mitigation measures, assess potential impacts of the proposed new landfill alternatives on the natural environment;
- Determine if mitigation and/or habitat compensation measures are required to avoid or reduce potential adverse impacts and, if so, develop conceptual mitigation;
- Prepare natural environment monitoring program for the preferred alternative that is integrated with the proposed surface water monitoring program, and develop conceptual contingency measure approaches;
- Document the factual information, analysis and comparative assessment in a Natural Environment Technical Support Document (TSD) that will form an appendix to the EA;
- Participate in meetings with the government review agencies as required; and
- Provide technical support to the regulatory agencies and public during the review of the draft EA.

TABLE 1-3 – CRITERIA, INDICATORS AND DATA SOURCES

Component	Criteria	Rationale	Indicators	Data Sources
Terrestrial Environment	Terrestrial ecosystems	Waste disposal facility construction and operations may remove or disturb the functioning of natural terrestrial habitats and vegetation, including rare, threatened or endangered species.	• Predicted impact on vegetation communities due to project • Predicted impact on wildlife habitat due to project • Predicted impact of project on vegetation and wildlife including rare, threatened or endangered species	• Site surveys • Published data sources
Aquatic Environment	Aquatic ecosystems	Waste disposal facility construction and operations may remove or disturb the functioning of natural aquatic habitats and species, including rare, threatened or endangered species.	• Predicted changes in water quality • Predicted impact on aquatic habitat due to project • Predicted impact on aquatic biota due to project	

Attachment 4 - Cultural Heritage Work Plan

The Cultural Heritage Resources environmental component has the sub-components of archaeological resources and cultural heritage resources. It should be noted that the Ministry of Culture provided the Project Team with confirmation that the site has low to no archaeological potential. Therefore, we do not anticipate that the archaeological heritage component will be carried forward past the baseline conditions stage of the EA.

The following tasks will be will be undertaken to characterize existing environmental conditions, predict and assess potential environmental effects, determine mitigation measures and compare alternative methods of carrying out the undertaking.

Compile and interpret information from defined background sources including:

- Archaeology reports from the previous EA and available from the Ministry of Culture;
- Ministry of Tourism and Culture has indicated that site area has low archaeological potential, therefore work will not be undertaken past the existing conditions stage;
- Complete Built Heritage Resources and Cultural Heritage Landscapes Checklist and submit to the Ministry of Culture to determine if a qualified heritage consultant needs to be retained to carry out a Heritage Impact Assessment;
- Complete Stage 1 Archaeological Assessment to confirm Ministry of Tourism and Culture's opinion that the site has low to no archaeological potential;
- Provide mitigation measures, as required, to manage potential impacts and/or preserve/protect significant features;
- Based on the Conceptual Design Report, predict and assess potential impacts on cultural heritage resources associated with each of the proposed expansion alternatives;
- Compare the degree of potential effects using the criteria and indicators for the cultural heritage components, rank the alternatives, and identify the preferred alternative from a surface water perspective;
- Document the factual information, analysis and comparative assessment in a Cultural Heritage Technical Support Document (TSD) that will form an appendix to the EA;
- Complete submissions to the Ministry of Tourism and Culture to obtain the required approvals and clearances;
- Participate in meetings with the government review agencies as required; and
- Provide technical support during the review of the draft EA Report by the regulatory agencies and public.

TABLE 1-4 – CRITERIA, INDICATORS AND DATA SOURCES

Component	Criteria	Rationale	Indicators	Data Sources
Archaeology and Cultural Heritage	Cultural landscapes and heritage resources	Cultural/heritage landscapes and resources could be displaced by the construction of waste disposal facility components. The use and enjoyment of cultural resources may also be disturbed by the ongoing facility operation.	• Cultural and heritage landscapes and resources on-site and in vicinity • Predicted impacts to cultural and heritage resources on-site and in vicinity	• Published data sources • Previous Stage 1 Archaeological Assessments • Commemorative statements
	Archaeological resources	Archaeological resources are non-renewable cultural resources that can be destroyed by the construction and operation of a waste disposal facility.	• Presence of archaeological resources on-site • Significance of on-site archaeology resources potentially displaced/disturbed	

Attachment 5 - Geology and Hydrogeology Work Plan

The geology and hydrogeology environmental component includes the sub-components groundwater quality and groundwater flow. The following tasks will be undertaken to characterize existing environmental conditions, predict and assess potential environmental effects, determine mitigation measures and compare alternative methods of carrying out the undertaking.

- Compile and interpret information from defined background sources;
- Compile and review published geological and hydrogeological maps and reports, water well data, regional groundwater and wellhead protection studies, regional and local topographic and drainage mapping, previous subsurface investigation findings, properties and interpretation;
- Compile and review current conceptual geological and hydrogeological model of site and existing landfill; and
- Develop groundwater flow model for new landfill footprint alternatives.
- On the basis of the current models, prepare preliminary conceptual model of geological and hydrogeological conditions in the area of proposed new landfill expansion alternatives (envelopes);
- Conduct additional subsurface investigations to characterize the overburden and bedrock geology and physical properties in the area of the proposed new landfill expansion alternatives to an EA level of detail (i.e., cored boreholes; rotary/percussion drilled holes);
- Install an array of nested groundwater monitors completed at different elevations in order to characterize both the horizontal and vertical groundwater flow regime;
- Characterize the hydraulic conductivity of the bedrock formations and zones, (i.e., possibly using packer testing, rising or falling head tests in monitoring wells);
- Determine seasonal variation in groundwater levels and flow orientations;
- Collect groundwater samples to characterize background groundwater quality;
- Determine soil characteristics and distribution of soil thickness across area of proposed new landfill alternatives;
- Develop final conceptual model of geological and hydrogeological conditions in the area of proposed new landfill expansion alternatives, including groundwater and surface water interaction;
- Develop calibrated groundwater flow model for use in simulation of potential effects of proposed new landfill expansion;

Based on the Conceptual Design Report:

- Conduct predictive modelling of landfill performance (flow and transport modelling) and contaminating lifespan as per Ont. Reg. 232/98 for each of the alternatives;
- Based on the proposed conceptual design alternatives, in-design mitigation measures and the results of predictive modelling, complete an evaluation of potential effects of each alternative on the hydrogeological environment;
- Compare the degree of potential effects using the criteria and indicators for the geological and hydrogeological component, rank the alternatives, and identify the preferred alternative from the geological and hydrogeological perspective;
- Prepare groundwater monitoring program for the preferred alternative, and conceptual contingency plan approaches;
- Document the factual information, analysis and comparative assessment in a Geological and Hydrogeological Technical Support Document (TSD) that will form an appendix to the EA;
- Participate in meetings with the government review agencies as required; and
- Provide technical support during the review of the draft EA by the regulatory agencies and public.

TABLE 1-5 – CRITERIA, INDICATORS AND DATA SOURCES

Component	Criteria	Rationale	Indicators	Data Sources
Geology and Hydrogeology .	Groundwater quality	Contaminants associated with waste disposal sites have the potential to enter the groundwater and impact off-site groundwater or surface water.	• Predicted effects to groundwater quality at property boundaries and off-site	• Hydrogeological and geotechnical studies • Water well records • Determination of water well users in the area • Annual Site Monitoring Reports • Proposed leachate control concept designs • Environment Canada Canadian Climate Normals • Leachate generation assessment
	Groundwater flow	Groundwater flow rates and directions are important considerations in the transport of potential contaminants.	• Predicted groundwater flow characteristics	• Hydrogeological studies and water level measurements • Water well records • Groundwater flow modelling

Attachment 6 - Land Use Work Plan

The land use environmental component has the sub-component of effects on current and planned future land uses. The following tasks will be will be undertaken to characterize existing environmental conditions, predict and assess potential environmental effects, determine mitigation measures and compare alternative methods of carrying out the undertaking.

- Compile and interpret information from defined background sources including:
  - Provincial Policy Statement 2005;
  - Official Plans for City of Ottawa;
  - Zoning By-laws for City of Ottawa;
  - Aerial photographic mapping and field reconnaissance;
  - Published information on public recreational facilities and activities;
  - Reconnaissance to confirm data from information sources;

- Meet with municipal officials to determine planned development and land use, including any applications for approval currently submitted;
- Based on the Conceptual Design Report, and considering in-design mitigation measures, identify potential adverse effects on current and planned future land use;
- Compare these predictions to the existing conditions. Determine if mitigation measures are required, and if so develop conceptual mitigation;
- Compare the degree of potential effects using the criteria and indicators for the land use component, rank the alternatives, and identify the preferred alternative from a land use perspective;
- Document the factual information, analysis and comparative assessment in a Land Use Technical Support Document (TSD) that will form an appendix to the EA;
- Participate in meetings with the government review agencies as required; and
- Provide technical support during the review of the draft EA by the regulatory agencies and public.

TABLE 1-6 – CRITERIA, INDICATORS AND DATA SOURCES

Component	Criteria	Rationale	Indicators	Data Sources
Land Use	Effects on current and planned future land uses	The facilities may not be fully compatible with certain current and/or planned future land uses. Current land uses (e.g., agriculture) may be displaced by facility development. Waste disposal facilities can potentially affect the use and enjoyment of recreational resources in the vicinity of the site.	• Current land use • Planned future land use • Type(s) and proximity of off-site recreational resources within 500 m of landfill footprint potentially affected • Type(s) and proximity of off-site sensitive land uses (i.e. dwellings, churches, cemeteries, parks) within 500 m of landfill footprint potentially affected	• Provincial Policy Statement, 2005 • Official Plan for the City of Ottawa • Aerial photographic mapping and field reconnaissance • Published data on public recreational facilities/ activities • City of Ottawa Zoning

Attachment 7- Socio-Economic Work Plan

The socio-economic environmental component has the sub-component of effects on the cost of services to customers, continued service to customers, economic effects on the local municipality, effects on recreational resources and visual impact. The following tasks will be will be undertaken to characterize existing environmental conditions, predict and assess potential environmental effects, determine mitigation measures and compare alternative methods of carrying out the undertaking.
The indicators associated with the first three sub-components listed in Table 1 utilize information that comes directly from or is calculated from the Conceptual Design Report. As such, there are no work plan tasks specific to these sub-components.

Visual Impact Assessment

- Define the existing visual conditions of the site from off-site viewpoints, and document through written and photographic record;
- Determine the viewpoints (directions, distances) from which the proposed landfill expansion alternatives will be visible and take photographs from those viewpoints;
- Using Visual Software integrated with photographs, a digital terrain model of the site and surrounding area, and site grading plans from the Conceptual Design Report, superimpose each of the proposed new expansion alternative landforms to establish the appearance of the site from off-site viewpoints, both during operations and post-closure;
- Using the Visual Software, assess the effects of vegetation growth over time, during both operational and post-closure periods; and
- Develop strategies to mitigate visual impacts and improve the appearance of the site, as required.

Local Residents

- Define the distance parameters and number of residents within the vicinity of the facility.

Recreational Resources

- Define existing recreational resources in the study areas, including parks, trails, playing fields and other facilities;
- Define opportunities to provide new recreational resources as part of the Project;
- Assess the effects of the alternatives on existing resources and opportunities to provide new resources; and
- Develop strategies to mitigate adverse effects and maximize benefits to recreational resources.

Comparison of Alternatives

- Compare the degree of potential effects using the criteria and indicators for the socio-economic component (including quantitative assessment of visual impact for off-site receptors), rank the alternatives, and identify the preferred alternative from a socio-economic perspective;
- Document the factual information, analysis and comparative assessment in a Socio-economic Technical Support Document (TSD) that will form an appendix to the EA;
- Participate in meetings with the government review agencies as required; and
- Provide technical support during the review of the draft EA Report by the regulatory agencies and public.

TABLE 1-7 – CRITERIA, INDICATORS AND DATA SOURCES

Component	Criteria	Rationale	Indicators	Data Sources
Economic	Effects on the cost of services to customers	The costs of continued operation of a waste disposal facility will affect the price of tipping fees, subsequently affecting the cost of service to customers. The greater the air space achieved for a lower capital cost will enable a lower cost of services to be provided.	• Ratio of air space achieved to volume of soil to be excavated and area of cell base and leachate collection system to be constructed	• Site expansion alternatives
	Continued service to customers	The Ottawa WMF provides an important and affordable service to its users, particularly in the east end of Ottawa.	• Total optimized site capacity and site life	• Site expansion alternatives
	Economic benefit to local municipality	The continued use of the facility will provide economic benefits to the local community in the form of new employment opportunities in both the construction and day-to-day operation. This also has the potential for increased employment opportunities in local firms.	• Employment at site (number and duration) • Opportunities to provide products or services	• Site expansion alternatives
Social	Visual impact of the facility	The contours of a waste disposal facility can affect the visual appeal of a landscape.	• Predicted changes in landscapes and views	• Site expansion alternatives • Site grading plans • Aerial mapping and field reconnaissance • Visual simulations • Canadian Society of Landscape Architects reference library • Ontario Horticultural Trades Association reference manual
	Local Residents	Waste disposal facilities can potentially affect local residents in the vicinity of the site	• Number of residents	• Site expansion alternatives • Census data
	Recreational Facilities	Waste disposal facilities can potentially affect the use and enjoyment of recreational resources in the vicinity of the site	• Type(s) and proximity of off-site recreational resources within 500 m of landfill footprint potentially affected	• Site expansion alternatives • Aerial mapping and field reconnaissance • Municipal recreation information

Attachment 8 - Surface Water Work Plan

The surface water environmental component has the sub-components surface water quantity and surface water quality. The following tasks will be will be undertaken to characterize existing environmental conditions, predict and assess potential environmental effects, determine mitigation measures and compare alternative methods of carrying out the undertaking.

- Compile and interpret information from defined background sources including:
  - Surface water reports from previous EA and annual monitoring reports;
  - Topographic mapping and aerial photography to define drainage network and drainage watersheds/sub-watersheds, discharge locations; and
  - Published sources (annual reports, MOE, Environment Canada, Conservation Authority) to characterize water quality and stream flow.

- Conduct site reconnaissance to confirm the information from available sources;
- Establish surface water flow and water quality monitoring station locations and monitoring program to obtain representative information;
- Summarize existing surface water flow and quality representative of conditions upstream and downstream of proposed new landfill expansion alternatives;
- Using a hydrological model, calculate surface water runoff and peak flows in the area of the proposed expansion under existing conditions, using designs storms as set out in Ont. Reg. 232/98;
- Based on the Conceptual Design Report, predict and assess future surface water runoff and peak flows and quality conditions associated with each of the proposed expansion alternatives;
- Compare these predictions to the existing conditions; determine changes and potential adverse effects on downstream water courses. Determine if mitigation measures are required, and if so develop conceptual mitigation, i.e., engineered stormwater management measures/facilities;
- Based on the proposed conceptual design alternatives, in-design mitigation measures and the results of predictive modelling, complete an evaluation of potential effects of each alternative on the surface water environment;
- Compare the degree of potential effects using the criteria and indicators for the surface water component, rank the alternatives, and identify the preferred alternative from a surface water perspective;
- Prepare a stormwater monitoring program appropriate for the preferred alternative, and conceptual contingency plan approaches;
- Document the factual information, analysis and comparative assessment in a Surface Water Technical Support Document (TSD) that will form an appendix to the EA;
- Participate in meetings with the government review agencies as required; and
- Provide technical support during the review of the draft EA Report by the regulatory agencies and public.

TABLE 1-8 – CRITERIA, INDICATORS AND DATA SOURCES

Component	Criteria	Rationale	Indicators	Data Sources
Surface Water Resources	Surface water quality	Contaminants associated with waste disposal sites have the potential to seep or runoff into surface water.	• Predicted effects on surface water quality on-site and off-site	• Topographic maps • Air photos • Facility layout and drainage maps and figures • Proposed on-site stormwater management concept designs for site expansion alternatives • Proposed leachate control concept designs for alternatives • Annual monitoring reports • Interviews and discussions with WM staff, MOE, Conservation Authority, and Environment Canada • Published water quality and flow information from MOE, Environment Canada and Conservation Authority • Site reconnaissance • On-site and off-site surface water and leachate monitoring programs
	Surface water quantity	The construction of physical works may disrupt natural surface drainage patterns and may alter runoff and peak flows. The presence of the facility may also affect base flow to surface water.	• Change in drainage areas • Predicted occurrence and degree of off-site effects	

Attachment 9 - Transportation Work Plan

The transportation environmental component has the sub-components of airport and access roads. The following tasks will be will be undertaken to characterize existing environmental conditions, predict and assess potential environmental effects, determine mitigation measures and compare alternative methods of carrying out the undertaking.

- Compile information from background sources including:
- Traffic volumes and mix;
- Vehicular operating speeds;
- Roadway and intersection geometrics (including horizontal and vertical curves; passing zones; turning radii, etc.);
- Traffic controls as well as regulatory signage and pavement markings;
- Historical collision records;
- Trip generation information from other comparable landfill sites operated by Waste Management;
- Active and passive methods successfully used by Waste Management and other landfill operators for bird control at sites within close proximity to airports.
- Refine the study area for each sub-component based on the expected influence area. In the case of the road network, impacts on the road geometrics and operations will be assessed for an area that includes roads (independent of classification or jurisdiction) that directly link the site to the nearest interchange on the provincial highway system. In the case of airport operations, the study area will extend to an appropriate distance relative to the airport facility.
- Undertake necessary liaison with members of the Government Review Team (GRT) to achieve early consensus on study area; extent of impact (e.g., trip generation rate, collision frequency/severity); and expected effectiveness of potential mitigation measures (e.g., bird control strategies).
- Provide input to the assessment of alternative landfill footprints, site accesses and haul routes, placement of weight stations or control gates; as well as site development sequencing/phasing.
- Compare the alternatives using the criteria and indicators for the Transportation component, rank the alternatives, and identify the preferred alternative from a Transportation perspective;
- Predict the expected change in traffic volumes; traffic mix; and collision frequency/severity.
- Identify road improvements (e.g., addition of auxiliary lanes or extension in the length of existing auxiliary lanes; intersection improvements (e.g., modification to lane configuration and turning radii); introduction/upgrading of traffic controls; and changes to passing zones.
- Document the analysis assumptions, findings and mitigation measures in a Technical Support Document that will form an appendix to the EA.
- Participate in meetings with the government review agencies as required.
- Provide technical support during the review of the draft EA Report by the regulatory agencies and public.

TABLE 1-9 – CRITERIA, INDICATORS AND DATA SOURCES

Component	Criteria	Rationale	Indicators	Data Sources
Transportation	Effects on airport operations	There is the potential for bird strikes for aircraft using Carp airport	• Bird strike hazard to aircraft in Local Study Area	• Transport Canada data • Traffic Study
	Effects from truck transportation along access roads	Truck traffic associated with the landfill may adversely affect residents, business, institutions and movement of farm vehicles in the site vicinity.	• Potential for traffic collisions • Disturbance to traffic operations • Proposed road improvement requirements	

Attachment 10 - Site Design and Operations Work Plan

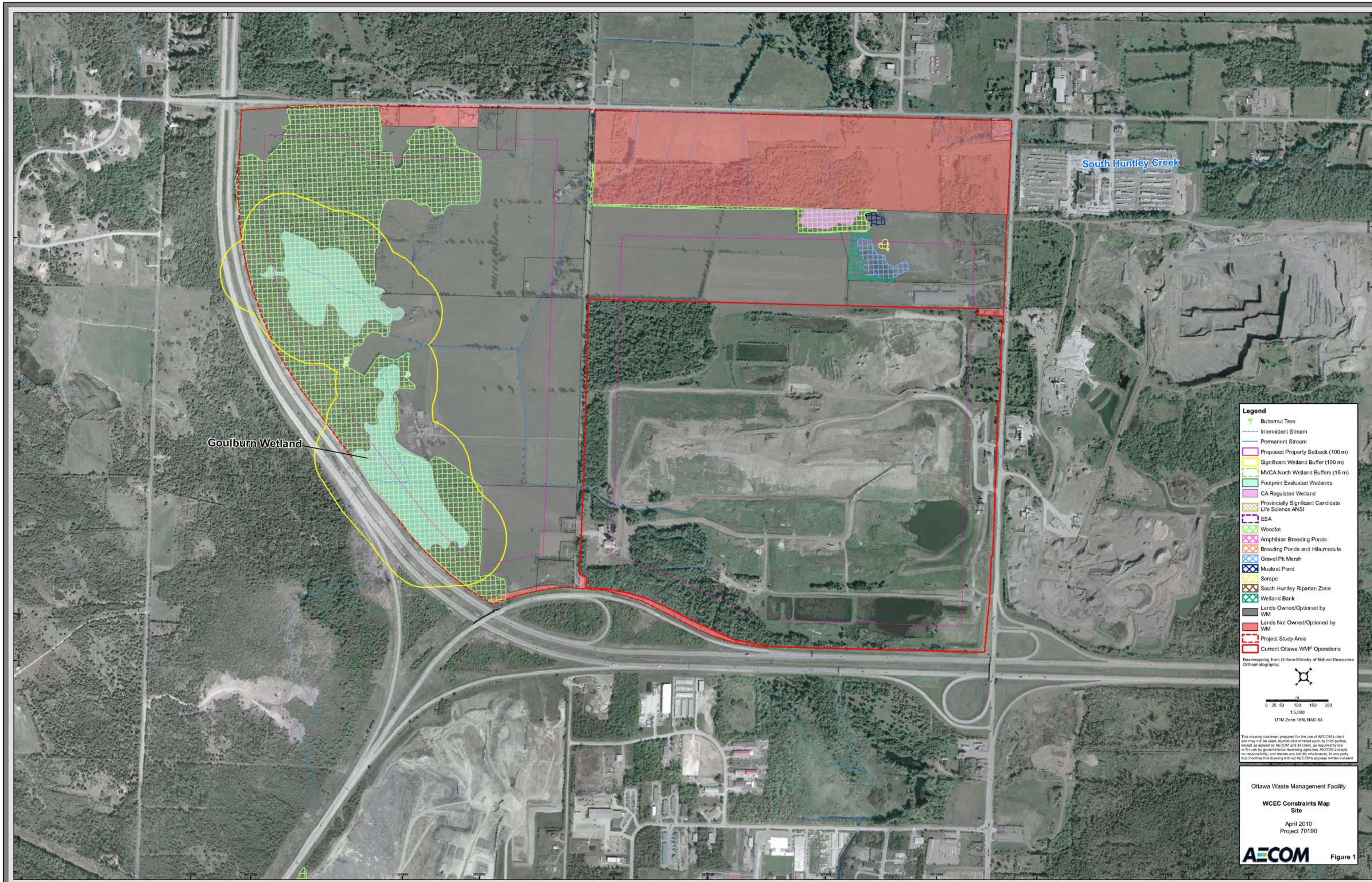
The Site Design & Operations (D&O) environmental component has the sub-component of site design & operations characteristics. The following tasks will be will be undertaken to characterize existing environmental conditions, predict and assess potential environmental effects, determine mitigation measures and compare alternative methods of carrying out the undertaking.

- Compile information from background sources including:
  - Digital topographic mapping, drainage features, ground cover;
  - Aerial photography;
  - Existing site infrastructure and facilities; and
  - Requirements for site design specified in Ont. Reg. 232/98 Landfill Standards.

- Develop alternative landfill footprints and grading plans to reasonably represent the characteristics of the possible range of alternatives within the envelope identified for the new landfill expansion. This includes landfill base elevations, height, sideslope geometry and top area contours;
- Calculate total footprint area, total airspace, corresponding estimated waste tonnage capacity and site operational period;
- Integrate alternative footprints with overall site development concept (i.e., WCEC waste diversion components, site roads, screening berms, buffer zones, etc.) and develop landfill site sequencing/phasing plans;
- Estimate excavation and fill quantities and construction and operations materials requirements, and prepare overall soil balance for each alternative;
- Complete geotechnical assessment (static and seismic stability and settlement analysis) of alternatives;
- Prepare conceptual design of leachate containment and management system (liner and leachate collection system), following the requirements on Ont. Reg. 232/98;
- Prepare conceptual design of final cover system;
- Prepare estimate of landfill gas generation and prepare conceptual design of landfill gas management system;
- Prepare Draft Conceptual Design Report and circulate to other EA component disciplines to serve as common basis for their individual assessments;
- Based on the findings and requirements as a result of the EA component disciplines, make necessary modifications and update the Draft Conceptual Design Document to Final status, which will form a Technical Support Document (TSD) to the EA;
- Compare the alternatives using the criteria and indicators for the D&O component, rank the alternatives, and identify the preferred alternative from a D&O perspective;
- Participate in meetings with the government review agencies as required; and
- Provide technical support during the review of the draft EA Report by the regulatory agencies and public.

TABLE 1-10 – CRITERIA, INDICATORS AND DATA SOURCES

Component	Criteria	Rationale	Indicators	Data Sources
Site Design and Operations	Site design and operations characteristics	The characteristics of the existing and proposed site design and engineered system requirements will affect site activities and operational and maintenance requirements.	• Complexity of site infrastructure • Operational flexibility • Interaction with existing site infrastructure • Soil management requirements	• Existing and proposed site environmental control system designs and operational requirements • Site expansion alternatives and associated phasing of operations • Potential daily cover and soil/aggregate quantities


South Huntley Creek
Goulburn Wetland
Legend
Butternut Tree
Intermittent Stream
Permanent Stream
Proposed Property Setback (100 m)
Significant Wetland Buffer (100 m)
MVCA North Wetland Buffers (15 m)
Footprint Evaluated Wetlands
CA Regulated Wetland
Provincially Signficant Candidate Life Science ANSI
ESA
Woodlot
Amphibian Breeding Ponds
Breeding Ponds and Hiburnacula
Gravel Pit Marsh
Muskrat Pond
Scrape
South Huntley Riparian Zone
Wetland Bank
Lands Owned/Optioned by WM
Lands Not Owned/Optioned by WM
Project Study Area
Current Ottawa WMF Operations
Basemapping from Ontario Ministry of Natural Resources Orthophotography:
m
0 25 50 100 150 200
1:5,000
UTM Zone 18N, NAD 83
This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent
Ottawa Waste Management Facility
WCEC Constraints Map
Site
April 2010
Project 70190
AECOM
Figure 1

Appendix D

Community Commitments

WASTE MANAGEMENT

WEST CARLETON ENVIRONMENTAL CENTRE

SOME WASTE MANAGEMENT COMMITMENTS TO THE COMMUNITY

June, 2010

We have heard recently is that it is fine for us to talk in very general ways about how we will address the community's concerns, but will we really follow through? To help in showing you that we will, we offer the following series of statements of our commitments on some of the more common concerns that have surfaced recently.

Please contact us with your questions and comments.

Odour – We understand the community concern about odour.. As evidence of our commitment that any future odour impacts will be rare, minor and addressed promptly, we are proposing an Odour Enforcement Mechanism to supplement existing remedies. A preliminary statement of principles as to how the mechanism would operate is attached.

Property value protection - Some residents have expressed concern about the impact of our project on land values. We are committed to construct and operate the project so as to ensure that any adverse impact will be very limited. We understand, though, that some are not convinced of this. As a result, we are prepared to commit that we will provide to qualified owners of real estate protection against reduction in value of their homes by reason of the new project. Details as to how the plan would work and what residences qualify will be developed in consultation with stakeholders as part of the environmental assessment.

Community benefits – We think it is critical that the community benefit generously from a project such as ours in ways that are more tangible and immediate than the contribution the project makes to waste management infrastructure within the city. The forms that these benefits take vary from community to community, but typically include:

- on-site recreational and other amenities,
- off-site contributions to identified programs and groups,
- subsidized disposal for local businesses,
- preferred local hiring and procurement, and
- trust funds (often in excess of $1 million per year) administered by local councillors or other representatives.

We look forward to discussing with you and your councillors at the appropriate time the ways in which the community may benefit.

Continued waste programs for community -- The site will continue to offer public drop off of recyclables including electronic waste, tires, plastic, wood, scrap steel and other recyclables

Community liaison committee - We will continue to participate on and support the site's critically important community liaison committee. In addition to its normal function in relation to operations of the site, we will ask the committee to help establish a group to make recommendations as to aesthetics and beautification at the existing landfill site which will be closing in the near future.

Commitment of Capacity to Ottawa - We will continue to reserve the vast majority of the capacity at the site for waste generated within the City of Ottawa.

Waste diversion facilities -- The waste diversion facilities - directed to general commercial recyclables and construction and demolition materials - will be built at the same time as the other project components. They will be able to process more than 75,000 tonnes of material annually. Actual throughput will depend upon market conditions.

Principles of Odour Enforcement Mechanism

Purpose

The purpose of the mechanism is not to establish a definitive and conclusive resolution of all odour related issues at the site. Rather it is to provide enough clarity and concreteness that members of the community feel it will supply an effective and important additional inducement to WM to ensure odour impacts are rare, minor and addressed promptly.

Fund

A lump sum will be deposited in escrow on opening of the new project. If the fund is depleted in any given year, it will be topped up at the beginning of the following year. There would be normal provisions for investment in safe investments and income adding to the fund.

Administration

The escrow would be administered by the four west end councillors. All references to the councillors operate on the assumption that the councillors will be amenable to their involvement.

Referee

A person or agency who is technically qualified and trained in odour assessment and identification would be designated as the “odour referee” by the west end councillors and WM. If at any stage any of the councillors or WM becomes dissatisfied with the objectivity of the incumbent referee, they will discuss the matter in good faith with a view to resolving the matter. There will be provision for removal and replacement of the odour referee. Ideally this will be as a result of consensus between the councillors and WM, but a fair method of resolving any lack of consensus will be identified.

Claim

At any time, a person or group of people may claim to the referee that they have suffered adverse impact. In this protocol, "adverse impact" means an odour impact which:

- persists over a specified period,
- materially and adversely affects people’s enjoyment of their residential properties in the area, and
- is attributable to operations at the site

There will be provision for filing of the appropriate written claim and responses to the claim.

The costs of the decision-maker will be paid by WM.

Investigation

The referee will investigate the situation on the basis of such written evidence as it is available (including any written ministry conclusions and written submissions by the complainant, WM and other community members). The referee will, within no more than a specified time after the original claim was made, issue a final decision (with reasons) as to whether there has been an adverse impact. The matter will not, unless all parties agree otherwise, be considered to be confidential.

Payment to local cause

If the referee decides that there was an adverse impact, a payment of a specified amount (to be settled upon with the councillors) will be made from the escrow fund to such cause benefitting the local community as the councillors may designate.

No credit

WM will not claim any credit for the donation. This will not prevent WM from describing in simple and objective terms its role in the process.

Not a substitute for other remedies

None of this affects the rights of individual residents to pursue whatever other remedies they may have -- whether with the Ministry as a regulatory matter or with the courts as a civil action against WM or otherwise.