



# WEST CARLETON ENVIRONMENTAL CENTRE

Site Plan Control Application

Ottawa Waste Management Facility Expansion  
Planning Rationale

Revised September 2015



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## 1 Introduction

Waste Management of Canada (WM) has retained FOTENN Consultants Inc. to prepare a Planning Rationale in support of a Site Plan Control application for the West Carleton Environmental Centre (WCEC). The WCEC is located on the lands municipally known as 2301 to 2437 Carp Road (odd numbers only) and 512 William Mooney Road in Ottawa (the “subject lands”), as identified in Figure 1.

The City of Ottawa approved By-law 2014-276 on July 9<sup>th</sup>, 2014, which rezoned the subject lands to Rural Heavy Industrial Exception Holding (RH[787r]-h). A Holding Zone was assigned to the lands, which is eligible to be lifted upon Site Plan Control approval. The purpose of the rezoning and this Site Plan Control application is to permit an expansion to the existing waste disposal facility, including a new landfill footprint. The plans for the site also include a minor expansion to the existing waste processing and transfer facility, as well as a minor reconfiguration of existing buildings and infrastructure.

The submitted Site Plan Control application is the final planning permission required in order to proceed with the development of the site.



Figure 1: Location map



## 2 Background

In response to increased demand for its services, Waste Management requires an expansion of the West Carleton Environmental Centre. The facility is located on the west side of Carp Road, immediately north of Highway 417. The proposed development on the subject lands includes a new landfill footprint north of the existing landfill, as well as the reconfiguration of associated buildings and infrastructure.

Waste Management initiated an Environmental Assessment (EA) for the proposed new landfill footprint, which was approved by the Minister of the Environment (now Minister of the Environment and Climate Change) on September 6, 2013. The approved EA contains a rationale and demonstrates the need for new waste disposal capacity for industrial, commercial and industrial (IC&I) waste in the region.

Following acceptance of the EA, Waste Management submitted a Zoning By-law Amendment application for the WCEC expansion area. City of Ottawa Council approved By-law 2014-276 on July 9<sup>th</sup>, 2014, which rezoned the subject lands to Rural Heavy Industrial Exception Holding (RH[787r]-h). A Holding Zone was assigned to the lands, which is eligible to be lifted upon Site Plan Control approval.

Since the approval of the Zoning By-law Amendment, Waste Management has submitted an Environmental Compliance Approval (ECA) application to the Ministry of the Environment and Climate Change. Comments on the ECA application have been received and final approval from the Ministry is pending.

This Site Plan Control application seeks City of Ottawa approval for detailed designs related to the entire WCEC site. A series of location-specific Site Plan Agreements currently apply to the site, including:

- An agreement for the Waste Transfer Facility (2011);
- An agreement for the Leachate Treatment Facility (2011);
- An agreement for the Gas-to-Energy Facility (2007);
- An agreement to extend municipal water supply to the property (1988); and
- An agreement for a building, details unknown (1988).

City of Ottawa Staff has stipulated that the Site Plan Agreement for the expanded site shall encompass the entire WCEC facility, effectively replacing the above agreements. The submitted materials are prepared to apply to the entire WCEC facility. The Agreement will also apply to lands between the WCEC facility and Richardson Side Road to include areas that will feature landscape screening.

### 2.1 Public Consultation

Waste Management and its partners have consulted extensively with members of the community surrounding the WCEC as an essential component of each application. Public consultation requirements were met, and exceeded, throughout the Environmental Assessment, Zoning By-law Amendment, and Environmental Compliance Approval processes. Numerous open houses and public meetings have been held, providing a forum for questions and concerns to be raised from community members. Waste Management, experts from the project team, and City Staff have been available at these events, and through correspondence, to clarify approvals processes and inform the





public about proposals for development on the subject lands. Surrounding Ward Councillors have also been directly involved at several events and have responded to inquiries from community members.

## 2.2 Subject Lands

The subject lands are located near the intersection of Carp Road and Highway 417, south of the Village of Carp. The lands comprise an assembly of parcels known municipally as 2301 to 2437 Carp Road and 512 William Mooney Road. The lands municipally known as 2485 Carp Road are also included in the Site Plan area to include lands that will feature landscape elements for visual screening. The assembled lot has frontage on Carp Road to the east and William Mooney Road to the west. The subject lands total approximately 175 hectares in area, with the additional lands between the WCEC facility and Richardson Side Road totaling approximately 40 hectares.

The majority of the surrounding lands are used for aggregate pits and quarries, agriculture, and wooded areas. Some neighbouring properties are developed with residential uses and active livestock operations. Industrial parks are located to the north and south of the subject lands, including the Cardevco-West Hunt Industrial Area north of Richardson Side Road and the A.G. Reed Industrial Park south of Highway 417. Lands on the east side of Carp Road are used primarily for quarrying and associated industrial activities. A park-and-ride and other light industrial uses are also located south of Highway 417.

## 3 Proposed Development

The Site Plan Control application is designed to encompass the existing WCEC facility, as well as a proposed expansion to the north.



Figure 2: The existing WCEC landfill has been capped.



### *Existing Development*

The WCEC facility features a capped landfill extending lengthwise between Carp Road and William Mooney Road, as shown in Figure 2. Road access is provided from Carp Road, along with parking facilities and a truck scale. An office building adjacent to the parking area accommodates administration staff and provides a point of contact for visitors.

A gas-to-energy facility and a flare and blower building are located at the southeast area of the facility. The gas-to-energy facility processes gases from the landfill (Figure 3), providing energy to the electrical grid, while the flare and blower building removes excess gases. A poplar grove is located on the east side of the facility to process landfill leachate. A recycling facility is located at the southwest portion of the facility, providing tipping areas for construction and demolition materials. A maintenance and storage garage is located near the recycling facility.

Access roads run throughout the facility to provide vehicular access to pertinent locations. Access and egress to the site are provided from Carp Road on the east side of the facility and William Mooney Road on the west side of the facility.

Surface runoff is collected in two (2) stormwater management ponds. One pond is located along the south edge of the facility, while the other is situated immediately north of the existing landfill in the centre of the site.



Figure 3: The WCEC gas-to-energy facility

### *Proposed Development*

The proposed development is permitted by the Rural Heavy Industrial Exception Zone Holding (RH[787r]-h) that applies on the subject lands. Specifically, a new landfill



footprint is proposed to the immediate north of the existing landfill. Other uses and infrastructure on the site are proposed to be added or reconfigured.

A new landfill footprint is proposed to the north of the existing capped landfill. The new facility will be designed to provide up to 6.5 million cubic metres (m<sup>3</sup>) of disposal capacity and will reach a maximum height of approximately 33 metres. The total area of the new landfill footprint is 37.8 hectares.

The landfill footprint is proposed to be set back approximately 365 metres from Carp Road and 118 metres from William Mooney Road. A buffer is also maintained between the toe of slope of the existing landfill and proposed new landfill, thus allowing sufficient area for a new waste haul road to the new landfill, and for general maintenance and monitoring. The haul road is proposed to access the waste mound from the south side of the new landfill. The 118-metre buffer between William Mooney Road and the proposed landfill footprint will retain portions of the existing wooded area and new plantings will be introduced along the portion of the buffer that is currently cropland.

The primary entrance from Carp Road is proposed to be relocated to the north to facilitate access to the new proposed facilities. A widening of Carp Road and associated modifications will ensure that traffic circulates safely and efficiently around the new entrance.

New access roads are proposed to connect to the existing access road network. All major destinations within the WCEC facility will be accessible from the access road network. The existing weigh scale and attendant booth are proposed to be relocated to the north to connect with the new access road. A new kiosk and mini-transfer area is also proposed near the main entrance.

Two (2) existing buildings on the current Laurysen's Kitchen property will be retained for re-use. The current retail office/showroom building (726 m<sup>2</sup>) is proposed to be used as administrative offices, and the large industrial building (4,878 m<sup>2</sup>) is anticipated to be used for equipment storage/maintenance or waste diversion activities in the future. These buildings will be accessed via a separate driveway from Carp Road, and the existing parking facilities are sufficient for the anticipated uses.

The existing concrete pad adjacent to the waste transfer building at the southwest area of the WCEC site is proposed to be expanded to accommodate a new cardboard storage facility. The bins on the existing pad are proposed to be relocated to the north adjacent to the waste transfer building. The expanded pad would be enclosed for weather protection. A photograph of the existing concrete pad is shown as Figure 4.





**Figure 4: Existing concrete pad at waste transfer facility**

New stormwater management ponds and infiltration basins are proposed at the northeast corner of the subject lands to ensure adequate flow and quality of surface drainage. The ponds and basins will be surrounded by landscaping to ensure visual screening and erosion control.

The existing poplar irrigation grove is proposed to remain. Four (4) additional poplar irrigation areas are proposed to the north and northwest of the existing groves to accommodate the increased volume of leachate from the new landfill operations.

The existing wetland and stormwater management pond at the south end of the subject lands is proposed to be retained.

New landscaping will be provided throughout the subject lands, particularly around the perimeter of the facility. Significant portions of the existing vegetation will be retained and supplemented as required. New plantings will be configured in natural arrangements and will consist of native species, including a variety of coniferous and deciduous trees.

Figures 5 and 6, respectively, show the north and south portions of the proposed WCEC facility.

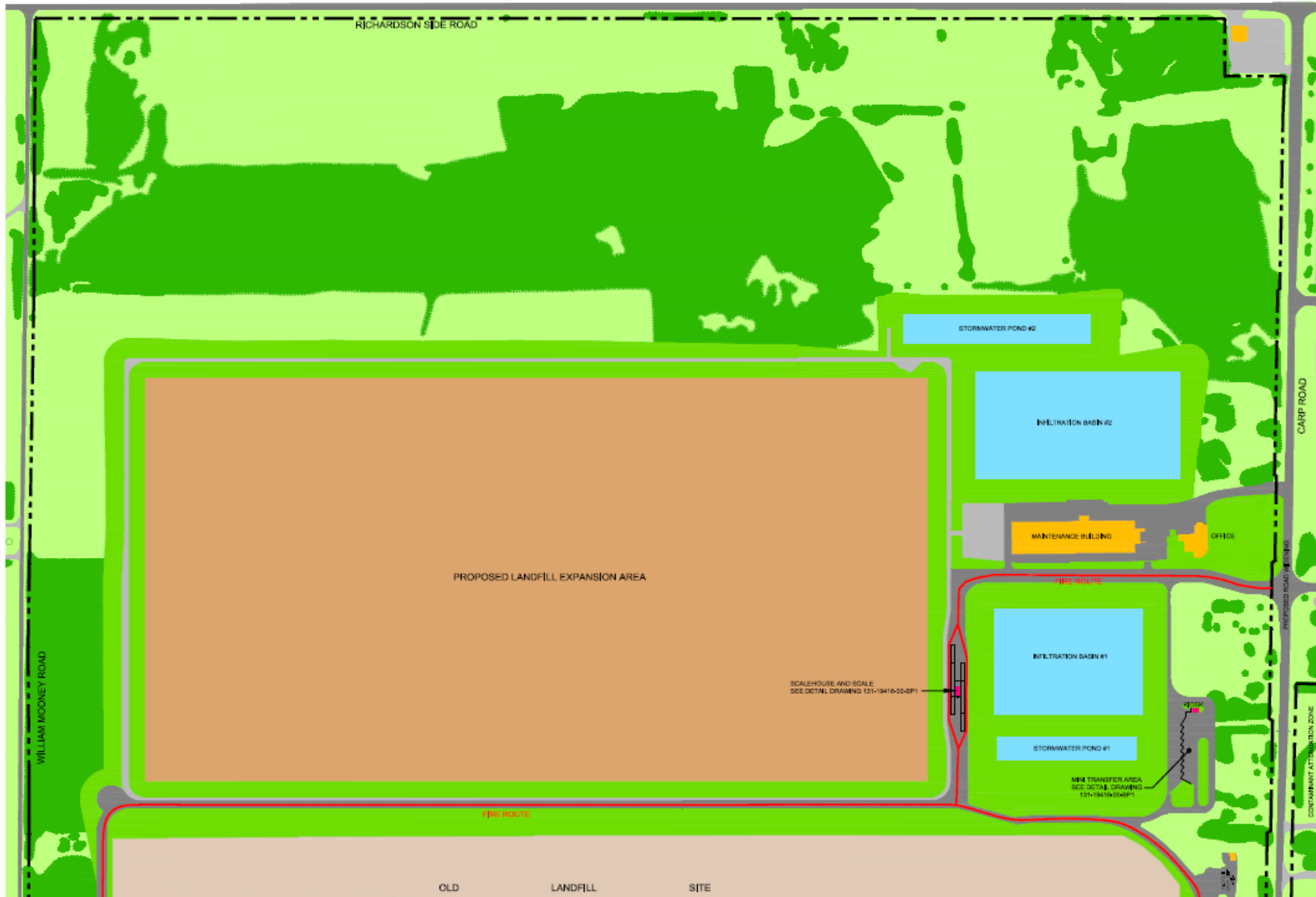


Figure 5: Proposed site plan (north)



LEGEND :

- AREA SUBJECT TO SITE PLAN CONTROL APPLICATION
- APPROXIMATE LIMIT OF EXISTING LANDFILL
- EXISTING TIIE COVER
- EXISTING POPULAR PLANTATION
- EXISTING SEWAGE TANK POND/DEPRESSION
- EXISTING BUILDINGS (TO REMAIN)

- EXISTING SWAMPY AREA
- HARD SURFACE ROADWAYS
- GRAVEL ROADWAYS
- BACKGROUND
- PROPOSED BUILDING
- PROPOSED POPULAR PLANTATION



APPROVED	<input type="checkbox"/>	REFUSED	<input type="checkbox"/>
DATE: _____			
Daniel Madden, P. Eng. Municipal Development Officer - Rural			

Figure 6: Proposed site plan (south)



## 4 Policy Framework

### 4.1 Provincial Policy Statement (2014)

The Provincial Policy Statement (PPS), issued under the authority of Section 3 of the *Planning Act* and in effect since April 30, 2014, provides direction on matters of provincial interest related to land use planning and development. The *Planning Act* requires that decisions affecting planning matters “shall be consistent with” policy statements issued under the Act. The following policies of the PPS are applicable to this development proposal:

#### *1.1 – Managing and Directing Land Use to Achieve Efficient Development and Land Use Patterns*

Healthy, liveable and safe communities are sustained by:

- a) Promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term;
- c) Avoiding development and land use patterns which may cause environmental or public health and safety concerns;
- e) Promoting cost-effective development standards to minimize land consumption and servicing costs;
- g) Ensuring that necessary infrastructure, electricity generation facilities and transmission and distribution systems, and public service facilities are or will be available to meet current and projected needs.

1.1.2 Sufficient land shall be made available to accommodate an appropriate range and mix of land uses to meet projected needs for a time horizon of up to 20 years... Nothing in policy 1.2.2 limits the planning for infrastructure and public service facilities beyond a 20-year time horizon.

#### *1.2.6 – Land Use Compatibility*

1.2.6.1 Major facilities and sensitive land uses should be planned to ensure they are appropriately designed, buffered and/or separated from each other to prevent or mitigate adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term viability of major facilities.

#### *1.6.1 – Infrastructure and Public Service Facilities*

1.6.1 Planning for infrastructure, electricity generation facilities and transmission and distribution systems, and public service facilities shall be coordinated and integrated with land use planning so that they are:

- b. Available to meet current and projected needs.



### *1.6.10- Waste Management*

1.6.8.1 Waste management systems need to be provided that are of an appropriate size and type to accommodate present and future requirements, and facilitate, encourage and promote reduction, reuse and recycling objectives. Planning authorities should consider the implications of development and land use patterns on waste generation, management and diversion. Waste management systems shall be located and designed in accordance with provincial legislation and standards.

### *1.7 - Long-Term Economic Prosperity*

1.7.1. Long-term economic prosperity should be supported by:

- b) optimizing the long-term availability and use of land, resources, infrastructure, electricity generation facilities and transmission and distribution systems and public service facilities;

The proposed development is consistent with the Provincial Policy Statement (2014) for the following reasons:

- The approved EA for the proposed landfill addresses the need for the facility, including a rationale for the size and type of the facility;
- The approved EA addresses environmental, public health and safety concerns;
- The landfill and associated activities will be designed in accordance with provincial legislation and standards and in accordance with the conditions of the approved EA;
- The facility ensures there is landfill disposal capacity to minimize the shipment of waste outside the region;
- The location of the proposed landfill footprint is immediately north of the existing landfill and associated infrastructure thus minimizing land consumption and promoting efficient development;
- The location of the proposed landfill adjacent to the West Carleton Environmental Centre facilitates and promotes the diversion of waste.; and
- The location of the proposed landfill site is distanced from other uses and is appropriately buffered in order to prevent adverse effects.

## **4.2 City of Ottawa Official Plan (2003)**

In 2013, the City of Ottawa reviewed its Official Plan, resulting in numerous changes to policy references and land use designations. The Ministry of Municipal Affairs and Housing issued approval of Official Plan Amendment (OPA) 150 in April 2014, but the Amendment is currently under appeal before the Ontario Municipal Board (OMB). Until the OMB renders its decision, the current policies of the City of Ottawa Official Plan 2003, Consolidated May 2013 remain in full force and effect. Although under appeal, the new policies in OPA 150 relevant to the proposed development have been considered as



the intended direction of City Council. Policies from the Official Plan that are copied into this document are italicized. New policy wording from OPA 150 is shown in *blue*.

The subject lands are designated on Schedule A of the Official Plan as *Carp Road Corridor Rural Employment Area*, with a *Solid Waste Disposal Site* symbol over the WCEC. A portion of the subject lands are also designated Sand and Gravel Resource Area, although the mineral resources on these lands have been fully extracted. An extract from Official Plan Schedule A is shown below as Figure 7.

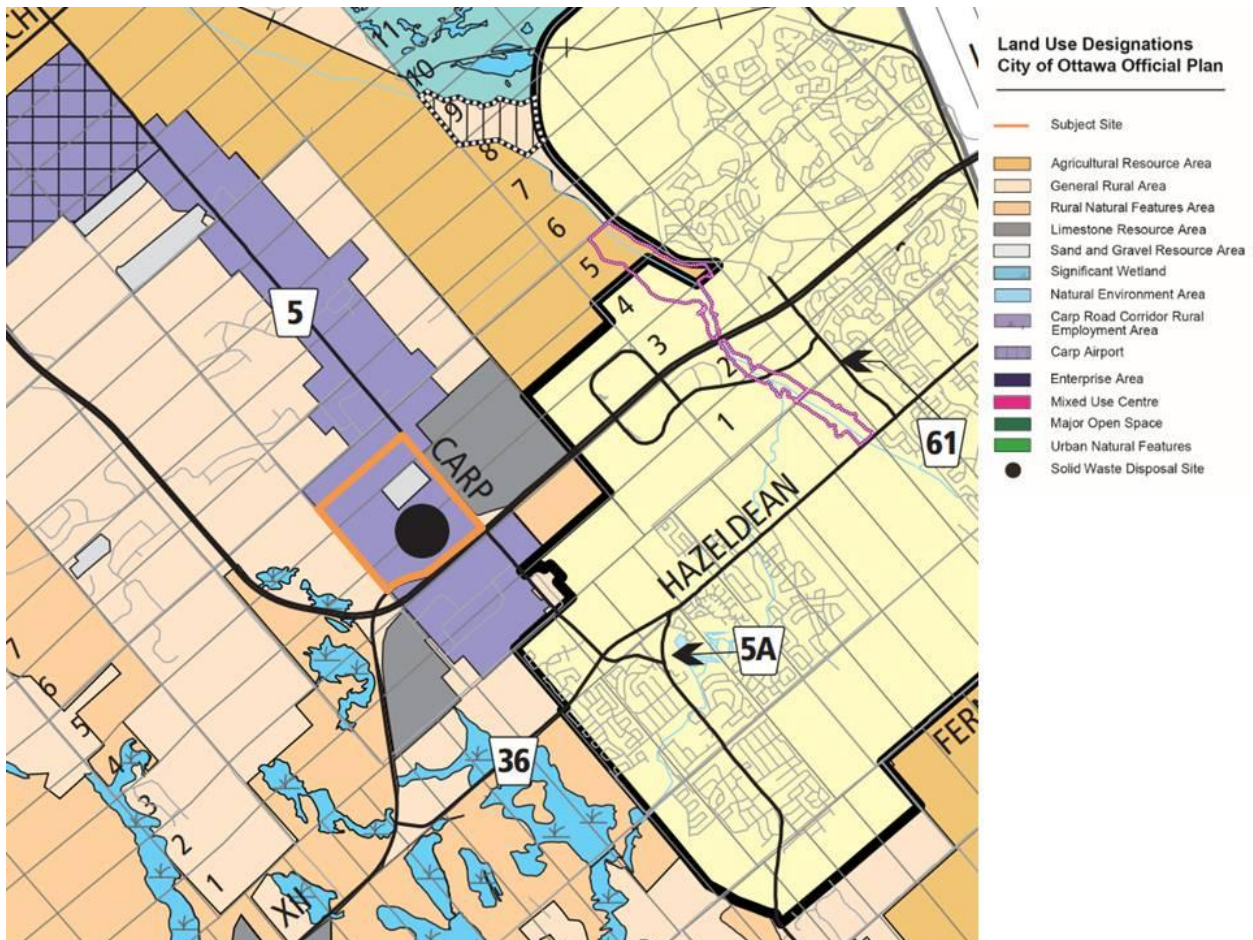


Figure 7: Extract from Official Plan Schedule A: Rural Policy

Section 2 of the Official Plan provides Strategic Directions for growth and development within the City. Particularly relevant policies in this section of the Plan address employment. Policy 32 of Section 2.2 states:

*32. The City will plan for, protect and preserve lands for current and future employment uses and will discourage the removal of employment lands for other purposes. For the purposes of this policy, as well as policies 33 and 34 below, employment lands include Employment Areas and Enterprise Areas designated on Schedule B, and Industrial Areas that are designated in secondary plans for villages and land designated on Schedule A as the Carp*



*Road Corridor Rural Employment Area. Employment uses are those described in Section 3.6.5 of this Plan.*

The proposed development is for employment uses of the land. The lands to be rezoned are designated *Industrial* in the Carp Road Corridor Community Design Plan. The proposed use is consistent with the intended employment uses of the land, defined in Section 3.6.5 as “noxious industrial uses that impose constraints on other uses locating nearby and require a buffer between these and other uses”.

### *Section 3.8 – Solid Waste Disposal Sites*

The Official Plan identifies landfills as *Solid Waste Disposal Sites*, as indicated by the black circle symbol on Schedule A of the Official Plan. The *Solid Waste Disposal Site* symbol does not determine the boundaries of the landfill site; the physical extent of a landfill site is to be regulated through the Zoning By-law. A Zoning By-law Amendment (2014-276) to permit an expansion of the *Solid Waste Disposal Site* was approved by Council in July 2014.

Policies 6 to 8 address compatibility of new development proposals in the vicinity of an existing waste disposal site, requiring a study to demonstrate compatibility with the site. Studies must be undertaken by qualified professionals, must conform to Official Plan policies, must be consistent with provincial regulations, and must address the potential for various impacts. Policy 8 lists specific compatible uses that do not require supporting studies. The Zoning By-law Amendment application proposed to expand the existing site by adding an additional landfill footprint. As such, the application was categorized as an expansion to the existing site, not a development proposal on adjacent lands. Consequently, Policies 6, 7, and 8 of Section 3.8 are not applicable to the application.

The proposed landfill expansion conforms to the Official Plan policies of the *Solid Waste Disposal Sites* land use designation for the following reasons:

- The existing *Solid Waste Disposal Site* is designated on Schedule A of the Official Plan and this development proposal is an expansion to this Site;
- The proposed landfill expansion on the lands to be rezoned is subject to an approved EA completed under the Environmental Assessment Act;
- As an expansion to the existing waste disposal site, the proposed development is not considered “adjacent development.” It will be integrated into the overall functioning of the site, and is designed to be compatible with the existing facility. Therefore, a compatibility study as per Policies 6, 7, and 8 is not required;
- Existing wooded areas will be retained and new landscaping is introduced on the lands to be rezoned in order to provide appropriate visual screening of the landfill from public view;
- No new land uses are proposed within 30 metres of the fill area of the existing landfill on the adjacent lands.



Section 3.7.5 of the Official Plan establishes policies for the *Carp Road Corridor Rural Employment Area*. The designation was brought into the Official Plan in 2004 to implement the policies of the Carp Road Corridor Community Design Plan (CDP). The intent of the designation is to reserve the land for rural industrial and commercial uses. All new development applications must conform to the policies in the CDP, and new industrial development should generally be by way of plans of subdivision or business parks.

The proposed landfill expansion conforms to the policies of the *Carp Road Corridor Rural Employment Area* designation for the following reasons:

- The proposed development is a rural industrial use;
- The proposed development conforms to the policies of the Carp Road Corridor CDP (described in section to follow);
- While the policies encourage new employment uses to develop by way of plans of subdivision or in business parks, the proposed landfill expansion is not part of, nor is it desirable to be part of, a plan of subdivision or business park due to its large scale nature.

Section 3.7.4 establishes policies for the *Sand and Gravel Resource Area* designation. This designation applies to a portion of the subject lands, but the mineral resources on these lands have been fully extracted and the license has been surrendered. Additionally, a housekeeping amendment to OPA 150 removed the *Sand and Gravel Resource Area* designation from the subject lands, and redesignated the lands as *Carp Road Corridor Rural Employment Area*.

Policy 14 of Section 3.7.4 states that where sand and gravel mineral resources have been fully extracted on a property, the property may be used for other purposes without amendment to the Official Plan.

Section 3.7.4 of the Official Plan also designates certain lands as *Limestone Resource Area* to protect these aggregate resources for future use and to protect aggregate operations from incompatible activities. The policies of this Section require that new development within 500m of a *Limestone Resource Area* must demonstrate that the development will not conflict with future mineral aggregate extraction. A large *Limestone Resource Area* designation is located on the east side of Carp Road within 500m of the subject lands.

As outlined in more detail in the application for Zoning By-law Amendment submitted by Waste Management in January 2014 (City File Number: D02-02-14-0015), the proposed landfill expansion will not conflict with future mineral aggregate extraction. The proposed landfill expansion conforms to the existing and OPA 150 policies for *Mineral Aggregate Resources* for the following reasons:

- The proposed development is not a sensitive land use, but a rural industrial use that will not conflict with existing or future aggregate extraction activities;



- The proposed development is no closer to the quarrying activities than the existing waste disposal site and no issues concerning compatibility of these uses have arisen in the past;
- Enhanced landscaping treatment is being proposed along Carp Road which will assist in providing buffering and separation between the proposed landfill expansion and the mineral aggregate operation.

Section 4.8.5 of the City of Ottawa Official Plan establishes policies for *Mine Hazards and Abandoned Pits and Quarries*. The Official Plan contains policies that require development proposed on or abutting lands affected by *Mine Hazards and Abandoned Pits and Quarries* to address and mitigate known or suspected hazards. The Abandoned Pits and Quarries Inventory was reviewed (January 2014) and it was determined that there are no former mine sites or abandoned pits and quarries on or adjacent to the subject site.

As outlined in Section 4.11, the City generally tests the impact and compatibility of proposed applications. The proposed development has been assessed against the criteria outlined in Policy 2 of Section 4.11 and found to conform to these criteria. An overview of how the development application meets each of the relevant criteria in Section 4.11 is provided below.

- Traffic:* A Transportation Impact Study has been provided in support of the application that demonstrates that Carp Road can adequately serve the development. Carp Road is designated as an Arterial Road on Schedule G of the Official Plan.
- Vehicular Access:* A Transportation Impact Study has been provided in support of the proposed development which addresses the site access. The new landfill site entrance will be located off Carp Road, approximately 640 m south of Richardson Side Road. The entrance roadway leading to the scale facility is approximately 400 m long and will provide truck queuing to avoid any back up on Carp Road. The entrance to the existing WM facility was deemed not ideal due to poor sight lines along Carp Road to the north, and close proximity to entrances of industrial operations on the east side of Carp Road. The proposed entrance location improves sight lines to the north, maintains adequate separation from the intersection of Richardson Side Road and Carp Road, and increases distance from the intersection of Carp Road and Highway 417. In addition, road modifications are proposed at the new entrance to ensure safe and efficient vehicle movements.
- Parking requirements:* The existing parking (77 spaces) provides sufficient on-site parking, in accordance with the Zoning By-law. The existing parking is located next to the proposed administration office and equipment maintenance building.
- Lighting:* The Site Plan is designed to ensure that lighting will be located and designed to not trespass off the property.
- Noise & Air Quality:* A Noise Study was prepared in support of the EA which found that the predicted sound levels at 24 specified receptors would be less than 55 dBA (MOE Noise Guideline for Landfills) or within 3 dB of the background noise



levels. Mitigation measures are proposed to address noise concerns, including maintenance to keep haul trucks and construction trucks in good working conditions, noise Best Management Practices to minimize the potential for noise levels in excess during normal operations, and efficient traffic flow of on-site vehicles to ensure that vehicles are moving and are not sitting idle for prolonged periods of time.

An Air Quality Existing Conditions Report was prepared in support of the Environmental Assessment, which reviewed combustion emissions, including oxides of nitrogen and carbon monoxide and particulate emissions. The predicted concentrations for combustion emissions were predicted to be within compliance at all 24 specified receptors identified in the Air Quality existing conditions report for both nitrogen oxides and carbon monoxide. Mitigation measures and Best Management Practices will be put in place to control emissions for the vehicles entering the site.

#### **4.3 Carp Road Corridor Community Design Plan (CDP)**

The purpose of the CDP is to establish a community-wide land use framework that reflects the principles, objectives, and policies for community development as directed by the Official Plan. The CDP is not adopted as a secondary plan in the Official Plan.

The subject lands are located within the south-west portion of the CDP. The *Light Industrial Area*, *Heavy Industrial Area*, and *Sand and Gravel Resource Area* (overlay) apply to portions of the subject lands, as indicated in Figure 8.

The CDP stipulates that lands under the *Solid Waste Disposal* CDP designation are subject to the Official Plan policies for *Solid Waste Disposal Sites*. As outlined in the Official Plan section above, the proposed development is consistent with all Official Plan policies.



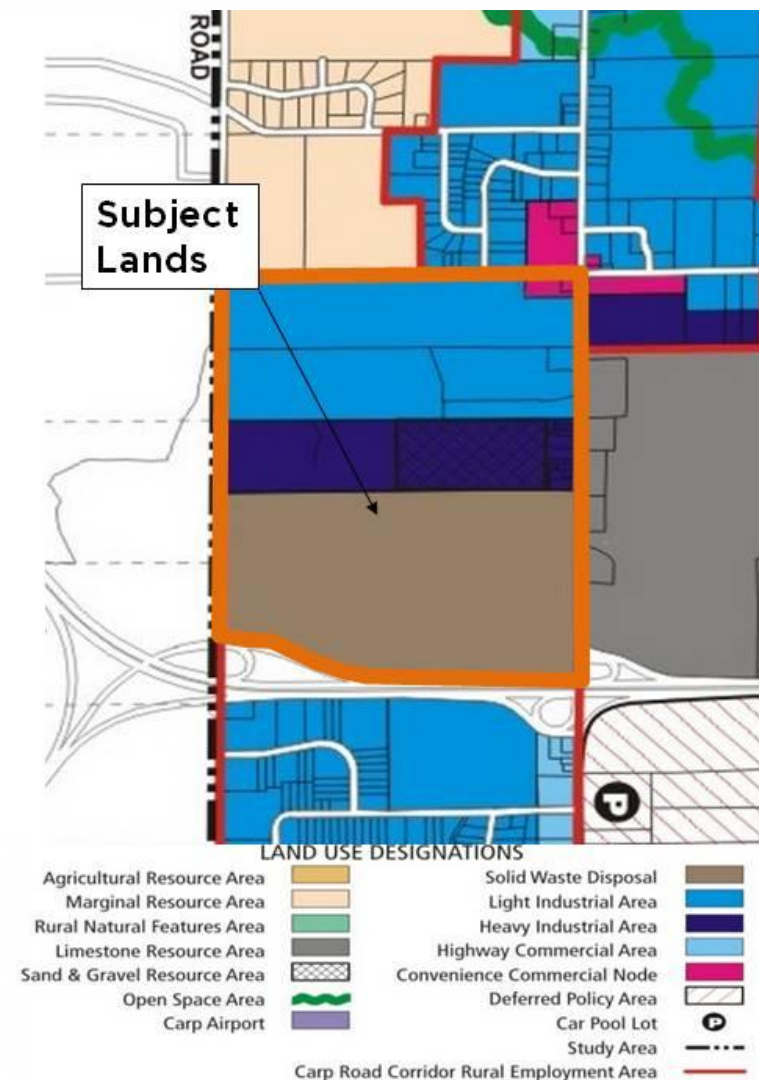


Figure 8: Carp Road Corridor CDP land use schedule

Lands designated *Heavy Industrial Area* in the CDP are reserved for heavy industrial uses, which must be appropriately located and well-designed so as to minimize nuisance or interference with existing or proposed uses of adjoining lands. The proposed development is consistent with these policies, as *Solid Waste Disposal Sites* are consistent with the definition of a heavy industrial use. Additionally, the expansion to an existing site and the significant landscaping proposed along Carp Road to screen and buffer the development will ensure a minimization of impacts on adjoining lands.

Although a portion of the subject lands are designated *Light Industrial Area* in the CDP, the expansion to the existing landfill requires more land than expected. Lands designated *Light Industrial* of a sufficient size for future industrial subdivisions are located north of the subject lands.

The CDP also includes a set of design guidelines for development in the Carp Road Corridor. The guidelines include:



*1. Limit access to Carp Road. Internal roads to the subdivision should provide access to Carp Road.*

The existing access will be closed in favour of a new access to the proposed landfill expansion site. The proposed entrance location improves sight lines to the north, maintains adequate separation from the intersection of Richardson Side Road and Carp Road, and increases distance from the intersection of Carp Road and Highway 417.

*2. Locate parking at the rear or side of buildings. Where this is not possible and parking is required at the front or side of the building a greater setback from the property line should be required to permit planting to mitigate the effects of the parking area (e.g. parking screened from view).*

Parking is currently provided at the rear and side of the Laurysen buildings on the subject property. No new parking spaces are being proposed as part of this application.

*3. Locate storage and service areas at the rear of buildings except on sites where the property backs onto Carp Road or the main entry road.*

Current storage and service areas are located at the rear of the existing buildings and no new storage buildings are being provided as part of this development. Landscaping will be provided along Carp Road to provide buffering of the service areas.

*4. Site buildings fronting on Carp Road to face, front, and feature the road corridor (entry roads and all local roads).*

No new buildings are being proposed that will front onto the Carp Road corridor.

*11. Provide for turning lanes where warranted.*

Turning lanes are required along Carp Road, including northbound and southbound left turn lanes. All proposed road modifications are detailed in the Traffic Impact Assessment.

Measures 5 to 10 relate to landscaping on the site. The measures are listed and then discussed below.

*5. Preserve as many trees as possible on the site.*

*6. Compensate for removal of existing trees by extensive planting in the open space corridor, entry features "gateways" and on-site landscape areas.*

*7. Plant trees along the corridor - an informal mix of trees and shrubs is preferable, with more coniferous than deciduous species.*

*8. Provide landscaping at the front of buildings.*

*9. Use landscaping, decorative fences to screen unsightly uses.*

*10. Create entry feature ("gateways") for new subdivisions/parks. This should include a sign and landscaping with the name of the development and the park occupants and enhanced lighting for visibility at night.*



The Landscape Plan submitted with the application responds to these guidelines. Significant amounts of vegetation are proposed to be preserved, particularly along the north, south, and west edges of the subject lands. Native plantings are proposed along Carp Road, including a mix of coniferous and deciduous trees. New and preserved vegetation will function as a visual screen and buffer around the proposed development. A collection of prominent vegetation will serve as a gateway feature on the west side of Carp Road at the south end of the subject lands.

Additional design elements include:

#### *Atmospheric - Particulate Matter*

Particulate matter will be created by the operation due to wind erosion of exposed earth and emissions generated by vehicles. All these particulates will settle out of the air on the surrounding lands at various distances from the source (dependant on various criteria and influences).

The proposed landscape design incorporates new vegetation at various locations around the site which will serve to the particulates in the air by either physical contact or by disruption of air flows. The vegetation will hold these particulates on its foliage until precipitation washes them off returning the particulates to the ground surface.

#### *Environmental Noise*

The operation of the landfill site will generate noise. While there are mitigation measures such as modification to equipment and reduced operation hours to reduce the levels of noise generated, the implementation of vegetative buffers can offer both an audible and a psychological improvement.

The proposed landscape design incorporates new vegetation growth along the immediate perimeter of the operation area. In some areas, the width and density of the vegetation will be sufficient to reduce the decibel readings. In other areas, where the buffers are smaller, the perceived noise level will be reduced.

#### *Surface Water*

Surface runoff will be increased by the operation as the landfill landform is capped, reducing the ability of the site as a whole to absorb moisture into the underlying earth. Also, the steepness of the slopes associated with the landform will increase runoff erosion. Vegetation is used to stabilize the ground to reduce the impacts of surface water flows and falling precipitation.

The proposed landscape design incorporates vegetative growth in the form of grasses, shrubs, and trees to create a protective cover on exposed areas around the perimeter of the operation.

#### *Biology (Aquatic and Terrestrial)*

The site is home to a number of wildlife and vegetation species. By introducing additional vegetation in various conditions such as grasslands, shrub thickets, moist depressions,



and woodlots, there will be compensation for the loss of vegetation as well as a provision of new habitat for the resident wildlife. The design will respond to the isolation of wooded areas and establish linkages for wildlife movement in and around the site in relative safety.

The proposed landscape design is focused on monitoring a rural character for the corridor. Further to this, the landscape concept incorporates significant amounts of vegetation and other landscape elements across the east end of the site to satisfy a number of requirements, including the creation of a corporate identity for the site, the screening of the landfill operation and other unsightly views from the road, and the supplementing of existing trees with new vegetation to create a well-treed rural landscape.

The proposed landscape design addresses points of open visual access by implementing dense vegetation plantings to close-off direct visual access to the site from any adjacent property. Along the east end of the site, the landscape design will minimize any view of the landfill form from the Carp Road corridor. In an effort to reduce the visual starkness of the landform upon completion and integrate it with the surrounding landscape, the proposed landscape design will incorporate a vegetation treatment along the east slope.

#### **4.4 City of Ottawa Zoning By-law 2008-250**

Zoning By-law Amendment 2014-276 was approved by City of Ottawa Council in July 2014. The by-law rezoned the subject lands to Rural Heavy Industrial Exception Holding (RH[787r]-h). A Holding Zone was assigned to the lands, which is eligible to be lifted upon Site Plan Control approval. A zoning map is shown as Figure 9.

Solid waste disposal facility uses are permitted under Exception 787r, and waste processing and transfer facilities are permitted in the Rural Heavy Industrial Zone. The Exception also contains the following provisions:

- Minimum yard setback for the permitted uses, including any outdoor storage from the lot lines abutting Carp Road is 50 metres;
- Minimum yard setback for the permitted uses, including any outdoor storage from the lot lines abutting William Mooney Road is 75 metres;
- Minimum yard setback for the permitted uses, including any outdoor storage from the north-west property lines abutting the property at 2485 Carp Road is 40 metres;
- All portions of required yards described above, not covered in driveways and stormwater management ponds, must be landscaped with soft landscaping; and
- Minimum lot area of 70 hectares.

The proposed development complies with all of the above provisions.

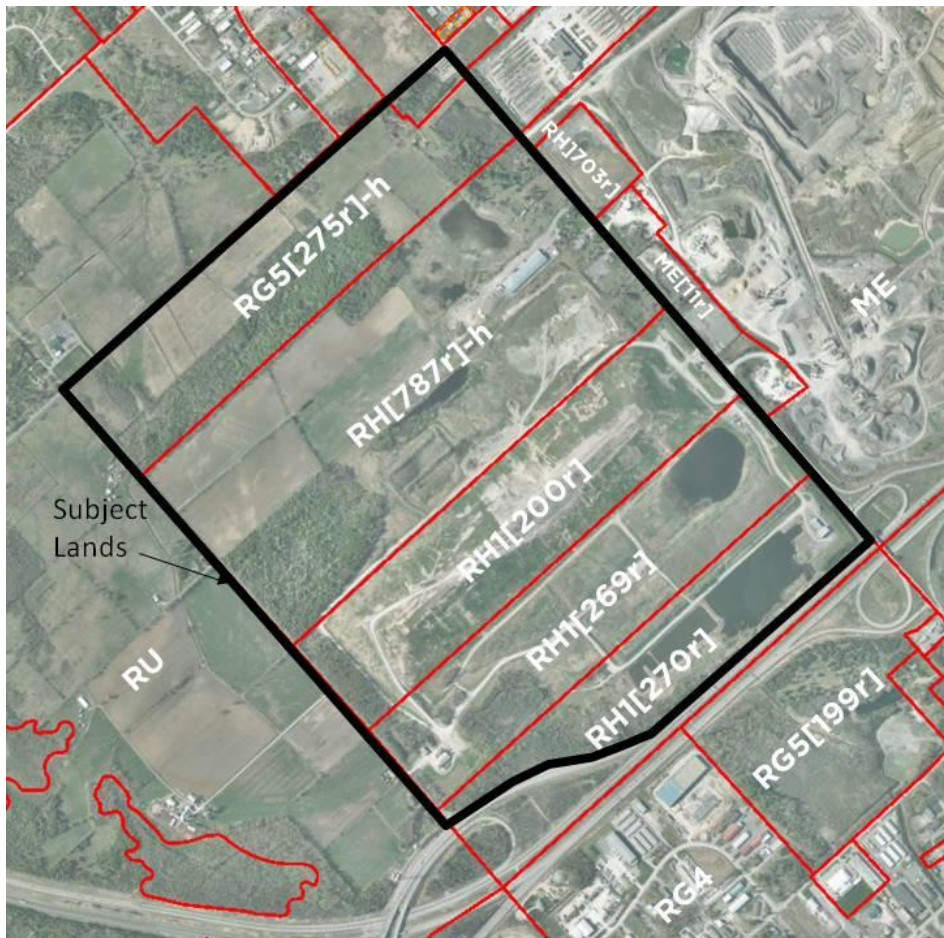


Figure 9: Zoning map

## 5 Plans and Supporting Studies

### *Landscape Plan*

AECOM has prepared a Landscape Plan for the Site Plan Control application. Appropriate landscaping is critical to ensure visual screening of existing and proposed landfill operations, maintain air quality, prevent erosion, absorb surface water, provide natural habitat for fauna, dampen any noise impacts, and improve the aesthetics of the site and its surroundings. The Landscape Plan outlines how these objectives will be achieved on the subject lands or on adjacent lands owned by Waste Management.

Significant amounts of vegetation are proposed to be preserved, particularly along the north, south, and west edges of the subject lands. New plantings are proposed in the following locations:

- Along the Carp Road Corridor;
- Along the north, east and south sides of the proposed stormwater management ponds and infiltration basins;
- Along William Mooney Road, and at the intersection with Richardson Side Road;





- North of the new landfill footprint, along Richardson Side Road, to achieve screening from a distance;
- Along the north side of the subject lands, immediately north of the new landfill footprint;
- In and surrounding the wetland area at the south end of the subject lands.

New plantings will be configured in natural arrangements and will feature native species, including a mix of coniferous and deciduous trees.

The Landscape Plan also details the phasing of the woodlot edge management, following the installation of the new landfill footprint. A portion of the woodlot will be removed to accommodate the new landfill operation, and measures are proposed to ensure sensitive transition to the proposed woodlot condition.

Additionally, a collection of prominent vegetation will serve as a gateway feature on the west side of Carp Road at the south end of the subject lands. The details of the gateway feature are pending, based on discussions with the Ward Councillor and the Carp Road Corridor Business Improvement Association.

#### *Site Servicing Plan*

A Site Servicing Plan has been prepared by WSP Canada Inc. in support of the application. The plan meets all City servicing guidelines and is stamped by a Professional Engineer.

#### *Stormwater Design Brief*

WSP Canada Inc. prepared a Stormwater Design Brief to outline details of the proposed design of infrastructure to handle surface runoff. The proposed system includes ditching, storm sewers and culverts, stormwater ponds, and infiltration basins. The brief also lists the operational controls in the event that contamination is suspected, such as isolation valves and on-site monitoring.

#### *Erosion and Sediment Control Plan*

An Erosion and Sediment Control Plan was prepared by WSP Canada Inc. to protect surface water and minimize on-site hazards and potential environmental effects. The plan contains several features, including stormwater (wet) ponds, infiltration basins, a special treatment system (oil/grit separator-Stormceptor) and an adequately-sized conveyance system.

#### *Drainage and Grading Plan*

A Drainage and Grading Plan was prepared by WSP Canada Inc. in support of the application. The plan is stamped by a Professional Engineer.

#### *Environmental Impact Statement & Tree Conservation Report*

AECOM prepared an Environmental Impact Study on behalf of Waste Management for the proposed landfill expansion. The EIS report concludes that the proposed new landfill



will result in the removal of some natural forest and wetland vegetation resulting in some loss of area of wildlife habitat. Mitigation measures are recommended to minimize the environmental impacts, in particular to provide compensation for vegetation loss by creating or enhancing forest and wetland habitat elsewhere on site. In addition, an active colony of Bank Swallows occurs on site. A management plan has been developed to protect the colony within the proposed landfill expansion.

The net effects are the remaining anticipated impacts after the mitigation measures have been applied. If the recommended mitigation measures are implemented, no residual net effects of forest or wetland habitat loss are anticipated.

The City of Ottawa initially requested a Tree Conservation Report as part of the Site Plan Control submission package. Typically, a Tree Conservation Report entails a detailed assessment of all individual trees with a diameter greater than 10 centimetres at breast height that are scheduled for removal. However, given the scale of the subject lands, and the number of trees exceeding the 10-centimetre diameter threshold, an ELC vegetation survey approach was used, which generally describes the character of the forest stands to be removed. Consequently, the Tree Conservation Report comprising part of the Site Plan EIS is a broader-scale assessment. City of Ottawa Staff have approved this approach, provided that the tree area to be removed is characterized in sufficient detail. Additionally, a Forest Compensation Plan is provided in the EIS, which addresses the compensation aspects of a Tree Conservation Report.

#### *Traffic Impact Assessment and Road Modification Agreement*

A Traffic Impact Assessment was prepared by AECOM with the task of summarizing the proposed traffic operations and mitigation measures proposed through the implementation of a new site entrance.

A new site access is proposed that is further north along Carp Road than the existing entrance. The new access will include northbound and southbound turn lanes on Carp Road, designed and constructed in accordance with the standards and practices of the City of Ottawa and the Province of Ontario and with consideration for the likely number of trucks that could be present at one time. The location selected for the access provides improved sight distance over the existing location.

The new left turn lane will improve safety by reducing conflicts between northbound left turning and through vehicles, reducing driver frustration and improving sight distances. Northbound through drivers will not be forced to wait behind a turning truck until a suitable gap is available for the truck driver to complete the turn.

The new left turn lane will similarly improve traffic operations by allowing through traffic to proceed around left turning vehicles, providing an improved level of service. Given the estimated northbound and southbound traffic volumes on Carp Road, the northbound left turn lane is warranted in accordance with provincial standards.

The inconvenience to the public during the construction of the left turn lane will be temporary and similar to that experienced during other similar road construction projects. Staging of traffic during construction will be done in accordance with City and



provincial standards for safety of construction workers, vulnerable road users and vehicular traffic as well as for reasonable traffic operations.

City of Ottawa Staff drafted a Roadway Modification Agreement in January 2015. The proposed modifications include:

- Construction of a new access to the WCEC;
- Construction of a new northbound left turn lane at the WCEC access;
- Construction of a new southbound left turn lane at the WCEC access;
- Construction of a new southbound right turn lane at the WCEC access;
- Reconstruction of the existing access to the facility (Huntley quarry) on the east side of Carp Road, if needed.

Further to the above components, Waste Management has included a southbound merge lane in the proposed road modifications.

#### *Geotechnical Studies*

WSP Canada Inc. assembled a set of Geotechnical Studies that were completed between 2011 and 2014 for the proposed landfill expansion. The studies confirm that soil stability is adequate to accommodate a fire route access road between the existing landfill and the proposed landfill.

#### *Groundwater Impact Assessment Reports*

WESA assembled a set of Groundwater Impact Assessment Reports that were prepared between 2011 and 2014 for the Environmental Assessment and Zoning By-law Amendment application. The reports assess any potential impacts that the proposed development may have on groundwater quality and quantity. The report concludes that mitigation measures will be required to reduce the potential effects of the proposed landfill on groundwater quality to acceptable levels. The proposed mitigation measures are design-based and operational in nature, related to the movement of leachate-impacted groundwater from the existing closed landfill and effluent from the stormwater management ponds, respectively. The report also concludes that there will not be any measurable effects on groundwater quantity resulting from the proposed landfill development.

#### *Archaeological Resource Assessment*

AECOM was retained to prepare an Archaeology Resource Assessment for the proposed development at the WCEC. As part of the Environmental Assessment (EA) process, Stage 1 and Stage 2 Archaeological studies were undertaken and approved by the Ministry of Sport, Culture and Tourism. A letter of concurrence related to the Stage 2 archaeological assessment was received on May 15, 2012, which stated that no further archaeological concern is warranted for the lands related the landfill. No further archaeological investigations are required and no further commitments need to be fulfilled. This report has been entered into the Ontario Public Register of Archaeological Reports.



## 5.1 Environmental Compliance Approvals

Waste Management and its subconsultants submitted an Environmental Compliance Approval application to the Ministry of the Environment and Climate Change in August 2014. Comments on the ECA application have been received and final approval from the Ministry is pending. Pertinent reports from the submission are summarized below. Full reports are available on the Waste Management website.

### *Environmental Monitoring Plan (Groundwater, Surface Water, Leachate & Subsurface Gas Components)*

WESA prepared an Environmental Monitoring Plan (EMP) in July 2014, which provides programs for monitoring of groundwater, surface water, leachate, and subsurface gas.

Groundwater flow, gradients, and quality in the WCEC will be monitored to determine whether any leachate is released into the subsurface environment, and to observe the movement of any leachate-impacted groundwater in relation to the site boundaries. Monitoring wells currently used to monitor the existing closed landfill will continue to be utilized in service of monitoring the new landfill operation. Data from over twenty (20) years of monitoring at the WCEC will provide data for comparison. Groundwater elevations will be recorded on a semi-annual basis to monitor the local aquifer system, and water levels will be measured on a monthly basis to observe the influence of the purge well system on groundwater levels. Monitoring wells will be located throughout the WCEC, with particular frequency along Carp Road and southeast (downgradient) from the new landfill footprint. The groundwater monitoring program also includes purge wells in the event that corrective action is required.

The majority of surface water discharge will be confined within the WCEC boundaries and directed to on-site ponds. A small amount of surface runoff will flow into existing drainage systems along the perimeter of the site, but this water is not in contact with operational activities at the WCEC. Surface water will be monitored on a semi-annual basis, including the proposed stormwater infiltration basins. Surface water monitoring will occur at strategic locations throughout the WCEC, as well as in locations east of Carp Road.

Due to the explosion hazard caused by concentrations of landfill gases, methane and carbon dioxide migration will be monitored throughout the WCEC. Gas sensors and alarms are installed in all on-site buildings that are used regularly by facility personnel. Gas probes along the closed and proposed landfill footprints will be monitored once-quarterly for concentrations of methane. If methane concentrations exceed acceptable levels, possible contingency measures include the installation of vertical extraction wells or horizontal collectors to capture the gas and control the migration.

Landfill leachate levels from the new landfill operation will be monitored through a double-compost leachate containment and collection system. Leachate levels will be monitored as the landfill develops to ascertain any unique indicators. Leachate samples will be collected and analyzed three (3) times per year from the primary leachate collection system and once annually from the secondary leachate collection system. Leachate levels from the existing closed landfill will also continue to be monitored.



### *Ambient Air Quality Monitoring Program*

RWDI prepared an Ambient Air Quality Monitoring Program in July 2014 for the ECA submission. The program includes monitoring for the following pollutants:

- Monitoring for Total Suspended Particulate (TSP) will be conducted on an ongoing basis at three (3) locations around the new landfill footprint. Samples will be taken at six-day intervals between May and September.
- Monitoring for target Volatile Organic Compounds (VOCs) will be collected during dry periods with light wind conditions.
- Samples of total reduced sulfur (TRS) will be collected at the same time and location as the VOC samples.
- Measured total hydrocarbons will be monitored around the final capped areas using a walkabout survey method.

If any tests results indicate levels of pollutants in excess of regulated limits, the Ministry of the Environment and Climate Change will be notified and corrective action taken.

The monitoring locations will be located near the northeast corner (adjacent to Carp Road), the southeast corner (near the gas-to-energy plant), and the west side of the WCEC (adjacent to William Mooney Road). Total reduced sulfur (TRS) samples will be collected in tedlar bags at the same locations as the Volatile Organic Compound (VOC) samples to test for odour.

### *Noise Monitoring Program*

RWDI prepared a Noise Monitoring Program in July 2014 for the ECA submission. Acoustic performance verification will be conducted annually, including of construction sources, landfilling-related sources, and ancillary sources. Additionally, a receptor-based audit will be performed during the various phases of the development of the new landfill footprint.

If noise levels are measured in excess of guideline limits, findings will be recorded in the reports submitted in accordance with Environmental Assessment (EA) and Best Management Practices Plan (BMPP) requirements.

### *Groundwater Best Management Practices Plan*

WESA prepared a Groundwater Best Management Practices Plan in July 2014 for the ECA submission. The Best Management Practices (BMPs) included in the plan includes specific measures in the areas of landfill construction; chemical storage, handling and use; wastewater; solid waste acceptance and handling; road and parking area maintenance; imported fill; wells; and fires. These measures will be combined with the groundwater monitoring program to ensure that groundwater quality is preserved.

### *Surface Water / Sediment & Erosion Control Best Management Practices Plan*

WSP prepared a Surface Water / Sediment & Erosion Control Best Management Practices Plan in July 2014 for the ECA submission. A set of structural BMPs are listed in



the plan, applying to the proposed stormwater ponds, infiltration basis, oil/grit separators, and ditches/culverts/storm sewers.

BMPs for erosion and sediment control are also listed in the plan, including measures related to design and construction management, ground surface stabilization, flow diversion, and sediment trapping.

#### *Biology Best Management Plan*

AECOM prepared a Biology Best Management Plan in July 2014. Mitigation measures based on the EA commitments are listed in response to: vegetation clearing and grubbing; erosion and sediment control; site grading; edge management; enhancement of the Bank Swallow Colony; Compensation Restoration Plan to offset removals of natural forest; and Compensation Restoration Plan to offset removal of wetland. Monitoring requirements are also listed for each of these elements.

#### *Integrated Gull Management Plan*

Beacon Environmental prepared an Integrated Gull Management Plan for the WCEC in August 2014. The plan builds on existing practices already in place as part of former landfill operations. The plan proposes design suggestions to minimize attractiveness of the site to gulls, including limiting the area and exposure duration of putrescible waste. Stormwater ponds are proposed to be generously vegetated and designed with steep slopes to limit lines of sight for gulls. New buildings are proposed to be designed with bird spikes as a deterrent for gulls. A set of deterrents are also proposed, including explosive noise devices, propane cannons, and lethal reinforcement.

#### *Best Management Practice Plan (Dust)*

RWDI prepared a Dust Best Management Practice Plan in July 2014. It identifies a set of emission sources, including stationary combustion equipment, on-site roadways, idling vehicles, wind erosion, and material processing. Mitigation measures are proposed for each of these sources, including establishing internal procedures, proper maintenance, and appropriate monitoring.

#### *Best Management Practice Plan (Odour & LFG)*

RWDI prepared an Odour & Landfill Gas (LFG) Best Management Practice Plan in July 2014. The plan identifies a range of control methods for sources of landfill gases, including reducing the size of the landfill active working face; covering the working face; monitoring wind speed and wind direction prior to odour-generating activities; and progressively installing a landfill gas collection system. A leachate collection system is also proposed for the WCEC.

#### *Best Management Practice Plan (Combustion By-Products)*

RWDI prepared a Combustion By-Products Best Management Practice Plan in July 2014. It identifies the sources of combustible by-products, including traveling and idling vehicles, landfill gas-fired engine-generators, landfill gas flares, leachate treatment facility emergency diesel-fired generator, and the impact crusher engine diesel-fired generator.





The plan outlines a range of actions to ensure the limitation of the extent of combustion by-products, particularly internal procedures, regular inspections, and monitoring.

#### *Noise Best Management Practices Plan*

RWDI prepared a Noise Best Management Practices Plan in July 2014. It identifies the range of factors affecting noise at the WCEC, and a set of practices and control measures, including:

- Limiting the timing of construction, landfilling, waste transfer, waste receipt, and pest control activities to daytime hours;
- Restricting the entrance location of haul trucks;
- Minimizing construction areas;
- Locating material overburden, extracted materials, and cover soil stockpiles in the vicinity of construction areas to minimize noise from material transport;
- Implement a receptor-based monitoring program, through sound level measurements;
- Minimize, control, and regulate the use of pest control devices, and avoid synchronizing propane cannon blasts and intervals;
- Ensuring proper maintenance of all machinery for all activities;
- Pointing shotguns away from residences;
- Ensuring that material recycling operations occur indoors;
- Scheduling activities to be spaced out throughout the day to prevent high periods of sound levels over short durations;
- Prohibiting heavy equipment in the mini transfer area;
- Limiting the permitted idling time of vehicles to 3 minutes;
- Designing vehicle movements to reduce the use of back-up alarms, where practical, while accounting for safety considerations.

#### *Hydrogeologic Assessment*

WESA prepared a Hydrogeologic Assessment Report in July 2014. The report provides background data for the creation of the Environmental Monitoring Plan. It describes the physiography and topography of the site, as well as the subterranean geological character, structural features, and aggregate resources of the surrounding area. Groundwater in the Carp River watershed is generally acceptable for potable usage.

No direct off-site discharge of surface water that has been in contact with waste that has been landfilled occurs, as internal surface water drainage is contained within the landfill property and is directed to on-site ponds. Although some discharge occurs along portions of the perimeter of the site, the affected water experiences no contact with waste materials.

Mitigation measures are proposed to address the impact to groundwater quality caused by new landfill operations. The measures include purge wells, and operational controls on stormwater management pond effluent. Any potential effects on groundwater flow caused by the new landfill operations are considered acceptable, and no mitigation measures are required. A monitoring component is also included in the Hydrogeologic Assessment, as elucidated in the Environmental Monitoring Plan.



### *Surface Water Assessment Report*

AECOM prepared a Surface Water Assessment Report in July 2014. The report notes that there will be a significant increase in the size of areas with no discharge outlets. However, as no off-site discharge is proposed, peak flow attenuation is not required. Proposed stormwater management ponds and infiltration basins will control on-site surface water flow. As there are no permanent or intermittent streams in the area of the proposed landfill, no changes in water quality, aquatic habitat or aquatic biota are predicted. The WCEC is located a sufficient distance away from the Provincially Significant Goulbourn Wetland, and no adverse impacts are anticipated. A monitoring program is proposed to ensure maintenance of surface water flow and quality, as summarized in the Environmental Monitoring Plan.

## **6 Conclusions**

This Site Plan Control application proposes that the existing and proposed development on the WCEC site will be combined into a single Site Plan Agreement, in accordance with directions received from City Staff. The new agreement will supersede all previous agreements, as all existing infrastructure will be incorporated.

The proposed development is appropriate and represents good planning. It is consistent with the policies of the Provincial Policy Statement (2014), the City of Ottawa Official Plan, and City of Ottawa Official Plan Amendment 150. The proposal also meets the provisions of the Zoning By-law, which was specifically amended to accommodate this development.

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