

December 2014

Technical Support Document #5

LAND USE AND SOCIO-ECONOMIC



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1.0 INTRODUCTION

This document presents the Land Use & Socio-economic component of the Environmental Assessment (EA) of the proposed Capital Region Resource Recovery Centre (CRRRC) on the Boundary Road Site. The study has been conducted according to the requirements set out in the approved Terms of Reference (TOR) that is provided in the Environmental Assessment Study Report (EASR) (Appendix A). The general methodology for conducting the EA is presented in Section 2 of the EASR. This land use and socio-economic impact assessment was carried out for the Site development plan as described in Section 10 of the EASR.

J.L. Richards & Associates Limited were retained to prepare the land use component of the impact assessment. Golder Associates Ltd. prepared the socio-economic and visual components of the impact assessment.

2.0 ASSESSMENT METHODOLOGY

2.1 Study Area

The Site is located within the City of Ottawa, more specifically within the rural ward of Cumberland. For the purposes of the Socio-economic component, the Site-vicinity Study Area has been enlarged to include the census sub-division of the City of Ottawa. This is the smallest relevant census division for which demographic data exist to describe the potentially affected community. Limited data are also available at the ward and rural sub-area level, and are included for comparison purposes where possible. This Site-vicinity Study Area also includes the potential haul routes for the proposed CRRRC.

2.2 Land Use

The potential effects on existing and proposed future land use in the area as a result of the preferred Site development plan were assessed. Planning policy was assessed to determine potential for future development in the area. Planning policy reviewed includes:

- Ministry of the Environment and Climate Change (MOE) Guideline D-4 - Land use On or Near Landfills and Dumps; 1994;
- MMAH Provincial Policy Statement (PPS); 2014;
- MMAH Shape the Future: Eastern Ontario Smart Growth Panel, 2003;
- City of Ottawa Official Plan (OP), By-law (2003-203), as amended; 2003;
- City of Ottawa Background to the Official Plan Review – City of Ottawa Employment Lands Study, 2012 Update; 2013;
- City of Ottawa Master Plans; various;
- City of Ottawa Zoning By-law (2008-250), as amended; 2008;
- City of Ottawa published data on public recreational facilities and activities; 2013c;
- National Capital Commission (NCC) – Plan for Canada's Capital, 1999;
- National Capital Commission (NCC) – Greenbelt Master Plan, 2013; and
- Current Development Applications.

2.3 Socio-economic

2.3.1 Existing Conditions

In order to establish the general context, information was compiled from Statistics Canada census data, and municipal and regional economic development data, studies and reports on socio-economic conditions in the study area, including:

- Population and demographics;
- Labour force distribution;
- Key employment sectors and employers;
- Employment, unemployment and participation rates;
- Average household and personal incomes;
- Economic development trends and plans; and
- City of Ottawa financial statements.

2.3.2 Effects Assessment

The following data were developed / collected as indicators to assess the potential socio-economic effects of the Site development plan for the proposed CRRRC:

- Estimated person hours of employment for the construction and operation of the CRRRC;
- An estimate of the tax revenue generated by the CRRRC for the municipality;
- Estimated value of goods and services required for construction and operation of the CRRRC; and
- Estimated business impacts (positive or negative) from the CRRRC on nearby commercial activities.

2.4 Visual

2.4.1 Existing Conditions



Field investigations were conducted to identify representative viewpoints for the visual impact assessment. Five key viewpoints were selected as identified in the following list and shown on Figure 2.4-1.

- Viewpoint 1: Projection from Devine Road
- Viewpoint 2: Projection from Highway 417
- Viewpoint 3: Projection from Boundary Road
- Viewpoint 4: Projection from Mitch Owens Road
- Viewpoint 5: Projection from Boundary Road, proposed main entrance



Path: N:\Active\Spatial\IMM\Miller_Paving_Ltd\CRRRC\GIS\MXDs\12-1125-0045\Reporting\Phase4000\Vol. 1\LandUseSocio\1211250045-4000-Vol1-2.4.1-1.mxd

LEGEND

-  VIEWPOINT LOCATIONS
-  PROPERTY BOUNDARY



NOTE

THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING REPORT.

REFERENCE

BACKGROUND IMAGERY - BING MAPS AERIAL (C) 2012 MICROSOFT CORPORATION AND ITS DATA SUPPLIERS (C) 2012 NOKIA (C) 2012 DIGITAL GLOBE
AERIAL PHOTOGRAPHS PURCHASED FROM THE CITY OF OTTAWA
BASE DATA - CANVEC PROVIDED BY HER MAJESTY THE QUEEN IN RIGHT OF CANADA, DEPARTMENT OF NATURAL RESOURCES, 2010
PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 18

PROJECT

ENVIRONMENTAL ASSESSMENT OF THE CAPITAL
REGION RESOURCE RECOVERY CENTRE

TITLE

REPRESENTATIVE VIEWPOINTS
SELECTED FOR VISUAL ANALYSIS



PROJECT No. 12-1125-0045			SCALE AS SHOWN	REV. 0.0
DESIGN	PJM	DEC. 2013	FIGURE 2.4.1-1	
GIS	PJM	DEC. 2013		
CHECK	PLE	AUG. 2014		
REVIEW	PAS	AUG. 2014		

After the field investigations were conducted to identify these representative viewpoints for the assessment, photographs were taken in the field from each viewpoint using a Nikon D80 digital SLR camera mounted on a tripod. Accurate camera and key reference location coordinates were collected with a Trimble R8 GPS unit. The photographs were used to depict existing conditions for each viewpoint and were subsequently altered digitally to represent predicted conditions for each viewpoint with the CRRRC developed, based on the proposed Site development plan.

2.4.2 Effects Assessment

The software used to produce representative 3D perspective images (predicted conditions) for each viewpoint was Visual Nature Studio (VNS) software version 3.0 from 3D Nature, LLC. VNS software is widely used in visual assessments for creating 3D landscape models based on Geographic Information Systems (GIS), AutoCAD or other geo-referenced data.

The VNS software uses site grading plans, aerial mapping, 3D models of buildings and digital elevation models (DEM) to model images. Detailed survey data from Base Mapping Company Ltd. was used to create a DEM within the Site. A 10 metre resolution DEM outside the Site within the Site-vicinity was obtained from Land Information Ontario (LIO).

To produce the predicted views, virtual cameras were set up within the VNS software to match the locations and focal lengths of the photographs taken in the field. The VNS software cameras were then used to render digital images. The VNS digital images were then combined with the photographs using Adobe Photoshop software. The VNS images were scaled to match the key reference locations in the corresponding photos. The visible project area within each VNS image was then cloned into the photo to create a final photo-montage of the proposed CRRRC for each viewpoint.

The final predicted views were produced to illustrate the visual effects of the project and also mitigation measures where necessary (e.g., vegetative screening and berms) at the time of full development of the CRRRC facilities.

3.0 EXISTING CONDITIONS

3.1 Existing Land Use

The Site is located in an area of the City in which development has been somewhat constrained due to poor quality groundwater. As a result of this issue, the City has invested in a municipal drinking water supply to portions of this area of the City, known as the Carlsbad Springs Trickle Feed System. The Site is currently vacant, with the exception of three residences and a model aircraft club along Frontier Road and one residence along Boundary Road. The residences are owned by Taggart Miller and will be removed on construction of the CRRRC. The remainder of the Site is regenerating vegetative growth on land formerly used for agricultural area. Agricultural lands are located to the east of the Site along the opposite side of Frontier Road, and a vacant, regenerating agricultural area, which is partially treed, to the south of the Site. Various industrial uses and an industrial subdivision are located immediately to the west of the Site along Boundary Road, and six private residences currently exist immediately to the west of the Site mixed in with the industrial and commercial uses along Boundary Road. In total nine private residences are located off-Site within 500 metres of the Site. A golf course is located to the north of the Site, on the opposite side of Highway 417. No environmental, archaeological

or agricultural constraints have been identified on the Site by the City of Ottawa. The archaeological and agricultural studies that were completed as part of this EA have confirmed this information (TSDs #6 and #8).

3.2 Current Development Applications

Mr. Jeff McEwen, City Rural Services Acting Program Manager was consulted on December 9, 2013 to determine if there were any *Planning Act* applications being reviewed by the City of Ottawa at this time. Mr. McEwen confirmed that he reviewed the lands in Wards 19 and 20, within 1 kilometre of this Site to determine if the City is currently undertaking a review of any applications.

There are currently no Zoning By-Law Amendments or Draft Plans of Subdivision active in this immediate area. Previously, a zoning amendment was approved to rezone 5592, 5606 and 5630 Boundary Road and 9460 Mitch Owens Road from Rural Commercial to Rural General Industrial Rural Exception 784 (RG [784r]).

There are currently two applications for site plan in the vicinity of the Site. The first application is for an LCV Truck Transport Terminal at the southeast corner of the Boundary Road and Highway 417 interchange and the site is identified as 5341 Boundary Road. This development is commercial/industrial in nature, which is consistent with the immediate surrounding area. The second application is for a Light Industrial Use including a warehouse and office within the Industrial Subdivision directly west of the CRRRC lands and identified as 100 Entrepreneur Crescent. This development being industrial in nature is consistent with the immediate surrounding area.

3.3 Socio-economic

3.3.1 Population and Demographics

The population for the Site-vicinity is shown in Table 3.3.1-1. The City of Ottawa, with a population of 883,391 in 2011 according to Statistics Canada (2013), represents 6.9% of the population of the province. It should be noted that the City of Ottawa estimated a population of 922,046 at mid-year 2011 and 927,120 at the end of 2011 (City of Ottawa 2012a) and attributed the discrepancy with the Statistics Canada number largely to a 4.2% undercount by the census. Over the past decade, the City of Ottawa has shown a higher population growth rate than the province overall. Similarly, the population density is substantially higher than the province due to the mainly urban nature of the City of Ottawa.

The Site is located in a rural ward of the City of Ottawa. At year-end 2012, the estimated population of the ward of Cumberland was 44,400, including 16,300 households (City of Ottawa, 2013a). This represents 4.7% of the total population of the City of Ottawa, and 4.2% of households.

Table 3.3.1-1: Site-vicinity Population (Statistics Canada 2002, 2007, 2012)

	City of Ottawa	Province of Ontario
2011	883,391	12,851,821
2006	812,129	12,160,282
2001	774,072	11,410,046
2001-2011 Change (%)	14.1	12.6
Population Density 2011 (Persons per km ²)	316.6	14.1

The age structure of the Site-vicinity is shown in Figure 3.3.1-1. The population pyramid exhibits a negative growth scenario, whereby the largest age cohorts are from ages 45 to 59 years. This age structure is reflective of the aging baby boom generation.

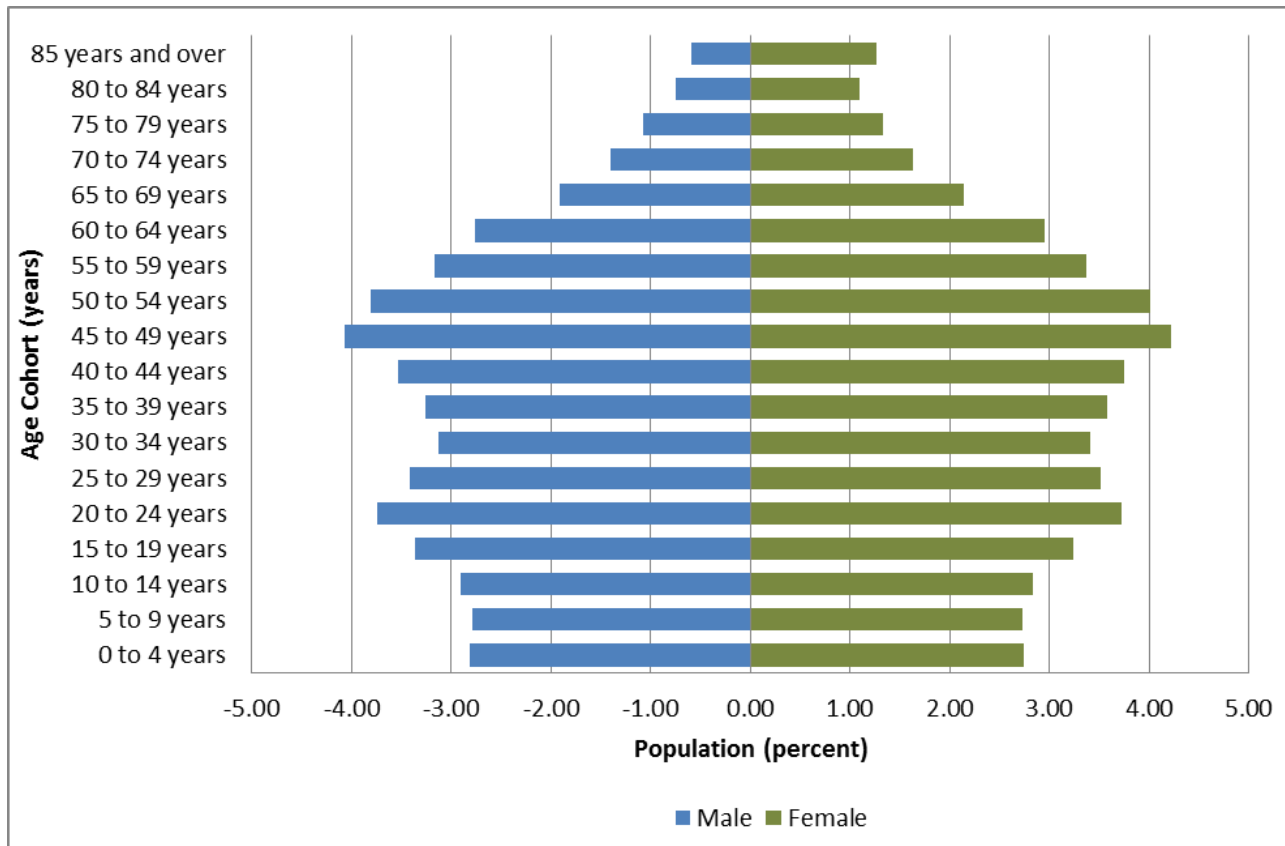


Figure 3.3.1-1: Age Profile for the Site-vicinity in 2011 (Statistics Canada, 2012)

3.3.2 Population Projections

The City of Ottawa released revised growth projections from 2006-2031 in 2007. These growth projections, including population and households, are shown in Table 3.3.2-1. Overall the City is expected to exhibit growth over this period, including increases in over 30% for population and households. The number of households is expected to disproportionately increase compared to the population, with a projected growth rate that is 10% greater than the population growth rate over this period. It can be expected that based on growth trends over the past decade, the majority of growth will occur in urban centres outside of the rural areas of the Site-vicinity; from 2001 to 2011, the rural areas maintained a consistent population of about 10% of the overall population of the city (City of Ottawa, 2012a).

Table 3.3.2-1: Growth Projections for the City of Ottawa from 2006-2031 (City of Ottawa, 2007)

Year	Population	Households
2006	871,000	346,000
2011	923,000	376,000
2021	1,031,000	436,000
2031	1,136,000	489,000
% change 2006-2031	30	41

3.3.3 Labour Force Characteristics and Activities

Employment and participation rates for the Site-vicinity in 2011 are shown in Table 3.3.3-1. At this time, employment and participation rates were higher for the City of Ottawa than the province overall. Median income data for 2011 are not yet available from Statistics Canada. In 2006, the median individual and household incomes were also higher than the province overall. These trends are reflective of the stable and successful nature of the local economy.

Table 3.3.3-1: Employment and Participation Rates for the Site-vicinity (Statistics Canada, 2007 and Statistics Canada, 2013)

	City of Ottawa	Province of Ontario
Total population 15 years and over ¹	718,960	10,473,670
Labour force ¹	498,370	6,864,990
Employment rate (%) ¹	64.5	60.1
Unemployment rate (%) ¹	7.0	8.3
Participation rate (%) ¹	69.3	65.5
Individual median income (\$) ²	32,908	27,258
Median income – all private households (\$) ²	58,437	52,117

Notes:

¹ Source: Statistics Canada National Household Survey, 2013

² Source: Statistics Canada, 2007

Industries of employment for the Site-vicinity are shown in Figure 3.3.3-1. The main industry of employment in the City of Ottawa is concentrated in the public administration sector. Overall, the industry of employment is comparatively less evenly distributed for the City of Ottawa than the province overall, demonstrating a focus on knowledge based, and federal government services.

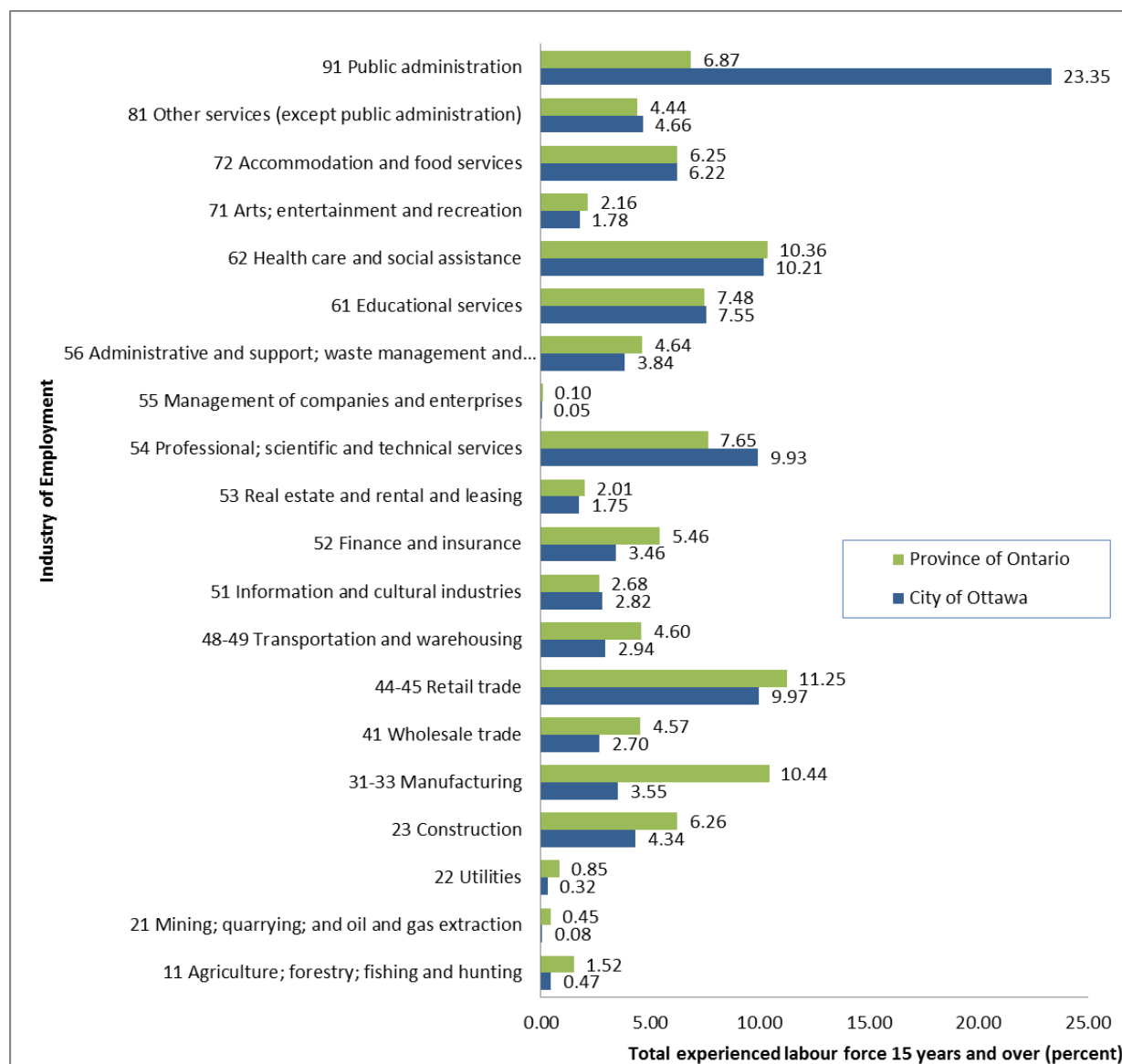


Figure 3.3.3-1: Industries of Employment for the Site-vicinity in 2006 (Statistics Canada, 2007)

Within the 500 metre Site-vicinity are a number of businesses including:

- Warehouses
- Light industrial
- Construction
- Food service

3.3.4 Municipal Finances

Consolidated Financial Statements from the City of Ottawa report total revenues of \$3.28 billion in 2012 and \$3.23 billion in 2011 (City of Ottawa, 2012b). Almost half of the revenue was derived from taxes, predominantly property taxes. The remaining revenue was from fees and user charges, government grants, capital assessments, development charges and other revenue sources. Total municipal government expenses were \$2.89 billion in 2012 and \$2.80 billion in 2011 (City of Ottawa, 2012b).

3.3.5 Economic Development Trends and Plans

In 2010, the City of Ottawa identified goals for sustainable economic development to address challenges associated with the local economy including: dependency on federal government, lack of diversification within the high-tech sector, and lack of collaboration between sectors and stakeholders locally. The plan identified several actions for development over the next five years with the aim of leveraging development of knowledge-based businesses, promotion of Ottawa as a tourism location and place of residence, and placing an emphasis on holistic economic, social, cultural and environmental planning (City of Ottawa, 2010).

According to the City of Ottawa Annual Development Report (City of Ottawa, 2012a), in 2011 there was an increase in private-sector jobs from 60.2% to 60.4% of total employment in the City of Ottawa. A growth trend in professional, scientific and technical services was also observed in 2011 following a three year trend of industry job losses. While there was growth in the number of high-tech, or knowledge based jobs, this sector remained relatively focused. Twenty-six percent of the workforce in the high-tech sector was employed by 10 large companies, and there was an annual net loss of 22 companies. These trends demonstrate that while there has been some progress in developing private sector jobs, progress is still needed towards attaining the economic development goals identified by the City of Ottawa in 2010.

3.4 Visual

As shown in Figure 2.4.1-1, the overall existing landscape can be divided into four components:

- 1) East – Agricultural comprised of open fields, hayfields and row crops divided by areas with vegetation cover and wooded areas adjacent to Devine Road and Frontier Roads.
- 2) North – Highway 417, disturbed lands and wooded areas.
- 3) West – Mixed residential/commercial/industrial land use and wooded lots along Boundary Road.
- 4) South – Devine Road and regenerating vegetated lands.

The vegetation that surrounds the Site is characterized primarily by stands of mixed and deciduous forest with some deciduous thicket to the south and east; a mineral thicket swamp lies directly south of the Site. Hayfields and row crops broken by hedgerows and tree stands stretch almost 3 kilometres to the northeast from Devine Road. A hedgerow of mature coniferous trees grows alongside Highway 417 directly north of the Site. Other areas of tree cover consist of regenerative growth at various stages of development along roadsides.

The mixed commercial/industrial land uses and trees to the west of the Site break up the views into the Site from Boundary Road. The Site and surrounding topography is flat.

The existing conditions of the viewpoints are shown in Figures 3.4-1 to 3.4-5 and each viewpoint is described below in more detail.

EXISTING CONDITIONS



TECHNICAL DATA:
PHOTOGRAPH: VIEWPOINT 1
COORDINATES (UTM NAD 83): 467646.49 E 5020117.96 N
GROUND ELEVATION ABOVE SEA LEVEL: 76.345 m
ALTITUDE OF PHOTOGRAPH RELATIVE TO GROUND ELEVATION: 1.41 m
CAMERA: NIKON D80 DIGITAL SLR
DATE PHOTOGRAPH TAKEN: NOVEMBER 16, 2012
FOCAL LENGTH: 34 MM
HORIZONTAL FIELD OF VIEW: 38.12°
DIRECTION: 287.72° TN

SITE DEVELOPMENT PLAN




MITIGATED VIEW



REFERENCES:
BASE DATA SUPPLIED BY THE BASE MAPPING Co. LTD.

NOTES:
1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING REPORT.
2. ALL LOCATIONS ON THIS FIGURE ARE FOR ILLUSTRATION PURPOSES ONLY.
3. SEE FIGURE 2.4.1-1 FOR VIEWPOINT LOCATION.

PLOT DATE: June 30, 2014
FILENAME: 12-1125-0045-Vol1-3.4-1.dwg

		SCALE: NA	TITLE: VIEWPOINT 1 PROJECTION FROM DEVINE ROAD
DATE: AUG. 2014		DESIGN: PJM	ENVIRONMENTAL ASSESSMENT OF THE CAPITAL REGION RESOURCE RECOVERY CENTRE
CAD: PJM/BR		CHECK: PLE	
FILE No: 1211250045-4000-Vol1-3.4-1.dwg		REVIEW: PAS	FIGURE: 3.4-1
PROJECT No: 12-1125-0045	REV:		

EXISTING CONDITIONS



TECHNICAL DATA:
PHOTOGRAPH: VIEWPOINT 2
COORDINATES (UTM NAD 83): 466716.42 E 5021599.16 N
GROUND ELEVATION ABOVE SEA LEVEL: 77,265 m
ALTITUDE OF PHOTOGRAPH RELATIVE TO GROUND ELEVATION: 1.43 m
CAMERA: NIKON D80 DIGITAL SLR
DATE PHOTOGRAPH TAKEN: NOVEMBER 16, 2012
FOCAL LENGTH: 18 MM
HORIZONTAL FIELD OF VIEW: 66.0°
DIRECTION: 195.0° TN

SITE DEVELOPMENT PLAN



MITIGATED VIEW



REFERENCES:
BASE DATA SUPPLIED BY THE BASE MAPPING Co. LTD.

NOTES:
1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING REPORT.
2. ALL LOCATIONS ON THIS FIGURE ARE FOR ILLUSTRATION PURPOSES ONLY.
3. SEE FIGURE 2.4.1-1 FOR VIEWPOINT LOCATION.

EXISTING CONDITIONS



SITE DEVELOPMENT PLAN



MITIGATED VIEW



TECHNICAL DATA:

PHOTOGRAPH: VIEWPOINT 3
COORDINATES (UTM NAD 83): 465666.31 E 5020309.25 N
GROUND ELEVATION ABOVE SEA LEVEL: 77.612 m
ALTITUDE OF PHOTOGRAPH RELATIVE TO GROUND ELEVATION: 1.435 m
CAMERA: NIKON D80 DIGITAL SLR


DATE PHOTOGRAPH TAKEN: NOVEMBER 16, 2012
FOCAL LENGTH: 18 mm
HORIZONTAL FIELD OF VIEW: 66.0°
DIRECTION: 104.4° TN

REFERENCES:

BASE DATA SUPPLIED BY THE BASE MAPPING Co. LTD.

NOTES:

1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING REPORT.
2. ALL LOCATIONS ON THIS FIGURE ARE FOR ILLUSTRATION PURPOSES ONLY.
3. SEE FIGURE 2.4.1-1 FOR VIEWPOINT LOCATION.

 Golder Associates Ottawa, Ontario, Canada	SCALE	NA	VIEWPOINT 3 PROJECTION FROM BOUNDARY ROAD
	DATE	AUG. 2014	
	DESIGN	PJM	
	CAD	PJM/BR	
FILE No. 1211250045-4000-Vol1-3.4-3.dwg	CHECK	PLE	ENVIRONMENTAL ASSESSMENT OF THE CAPITAL REGION RESOURCE RECOVERY CENTRE
PROJECT No. 12-1125-0045	REVIEW	PAS	
			FIGURE 3.4-3

EXISTING CONDITIONS



SITE DEVELOPMENT PLAN



MITIGATED VIEW



TECHNICAL DATA:

PHOTOGRAPH: VIEWPOINT 4
COORDINATES (MTM NAD 83): 465175.87 E 5019893.62 N
GROUND ELEVATION ABOVE SEA LEVEL: 77.743 m
ALTITUDE OF PHOTOGRAPH RELATIVE TO GROUND ELEVATION: 1.425 m
CAMERA: NIKON D80 DIGITAL SLR


DATE PHOTOGRAPH TAKEN: NOVEMBER 16, 2012
FOCAL LENGTH: 18 mm
HORIZONTAL FIELD OF VIEW: 66.0°
DIRECTION: 70.0° TN

REFERENCES:

BASE DATA SUPPLIED BY THE BASE MAPPING Co. LTD.

NOTES:

1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING REPORT.
2. ALL LOCATIONS ON THIS FIGURE ARE FOR ILLUSTRATION PURPOSES ONLY.
3. SEE FIGURE 2.4.1-1 FOR VIEWPOINT LOCATION.

 Ottawa, Ontario, Canada		SCALE	NA	TITLE VIEWPOINT 4 PROJECTION FROM MITCH OWENS ROAD
		DATE	AUG. 2014	
FILE No. 1211250045-4000-Vol1-3.4-4.dwg		DESIGN	PJM	ENVIRONMENTAL ASSESSMENT OF THE CAPITAL REGION RESOURCE RECOVERY CENTRE
PROJECT No. 12-1125-0045		CAD	PJM/BR	
		CHECK	PLE	FIGURE 3.4-4
		REVIEW	PAS	

EXISTING CONDITIONS



SITE DEVELOPMENT PLAN



PLOT DATE: June 30, 2014
FILE NAME: 1211250045-4000-Vol1-3.4-5.dwg
DRAWN BY: J. Miller
CHECKED BY: J. Miller
PROJECT NO.: 1211250045-4000-Vol1-3.4-5.dwg

TECHNICAL DATA:


PHOTOGRAPH: VIEWPOINT 5
COORDINATES (UTM NAD 83): 467298.71 E 5019927.05 N
GROUND ELEVATION ABOVE SEA LEVEL: 76.405 m
ALTITUDE OF PHOTOGRAPH RELATIVE TO GROUND ELEVATION: 1.425 m
CAMERA: NIKON D80 DIGITAL SLR
DATE PHOTOGRAPH TAKEN: NOVEMBER 16, 2012
FOCAL LENGTH: 22 mm
HORIZONTAL FIELD OF VIEW: 56.35°
DIRECTION: 70.0° TN

REFERENCES:

BASE DATA SUPPLIED BY THE BASE MAPPING Co. LTD.

NOTES:

1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING REPORT.
2. ALL LOCATIONS ON THIS FIGURE ARE FOR ILLUSTRATION PURPOSES ONLY.
3. SEE FIGURE 2.4.1-1 FOR VIEWPOINT LOCATION.

 Golder Associates Ottawa, Ontario, Canada		SCALE	NA	TITLE VIEWPOINT 5 PROJECTION FROM BOUNDARY ROAD, PROPOSED MAIN ENTRANCE
		DATE	AUG. 2014	
FILE No. 1211250045-4000-Vol1-3.4-5.dwg	PROJECT No. 12-1125-0045	DESIGN	PJM	ENVIRONMENTAL ASSESSMENT OF THE CAPITAL REGION RESOURCE RECOVERY CENTRE
		CAD	PJM/BR	
PROJECT No. 12-1125-0045	REV.	CHECK	PLE	FIGURE 3.4-5
		REVIEW	PAS	

VIEWPOINT 1: From Devine Road, Figure 3.4-1

This is a long view westward from Devine Road across existing farm fields that are bisected by existing hedgerows and stands of trees with some shrubs.

VIEWPOINT 2: From Highway 417, Figure 3.4-2

This view is taken from eastbound Highway 417 through a break in a hedgerow of coniferous trees along Highway 417 at the northeast corner of the Site.

VIEWPOINT 3: From Boundary Road, Figure 3.4-3

This represents a view of the Site from southbound Boundary Road just north of Mitch Owens Road.

VIEWPOINT 4: From Mitch Owens Road, Figure 3.4-4

This view looks directly east from Mitch Owens Road towards the Site.

VIEWPOINT 5: From Boundary Road, opposite future access location to the CRRRC, Figure 3.4-5

This view looks eastward directly into the future access location for the CRRRC Site. Presently there are stockpiles of granular and soil materials and vehicles associated with the Pomerleau operations in the foreground.

4.0 IMPACT ASSESSMENT RESULTS

4.1 Land Use

The land use planning policy for this area is determined by the City of Ottawa's OP (City of Ottawa, 2013b) and Zoning By-law (City of Ottawa, 2008), which has been approved in accordance with the Province's Land Use Planning Policy Statement and the *Planning Act*. The land is within the National Capital Region; therefore a review of the NCC's relevant planning policy for this region has also been undertaken.

There is limited residential development in the Site-vicinity and no institutional or public recreational uses were identified in the Site-vicinity. There is a golf course to the north of Highway 417. Importantly, there is an existing industrial subdivision adjacent to the Site and industrial/commercial activities such as soil management immediately northwest of the Site. An auto wrecker formerly occupied some of the land on which the proposed CRRRC will be situated.

4.1.1 Ministry of the Environment and Climate Change (MOECC) Guideline D-4, 1994

The MOECC D-4 Guideline (MOE, 1994) is used by Ministry staff during review of land use approvals in the vicinity of landfills. This guideline indicates that the greatest likelihood of effects from landfill sites will occur within 500 metres of the site, and recommends that in the absence of site-specific studies municipalities should establish within their OP a 500 metre holding or buffer zone (called the influence area of the site in the City OP Section 3.8.5 (City of Ottawa, 2013b)) around landfills as related to potential development. In order to develop within this 500 metre zone an applicant must carry out site-specific studies. It should be noted that through this process the 500 metre buffer can be reduced to as little as zero.

In the case of the CRRRC, the EA and EPA/OWRA studies that Taggart Miller have undertaken as a part of this EA demonstrate that the CRRRC can be designed and operated to not have adverse effects on adjacent land uses. These evaluations include a review of the sensitive land uses within the 500 metre area around the Site, and an assessment of the potential impacts on these uses and any need for mitigation measures.

Should the EA be approved, the CRRRC will have to be identified in the OP as it is a new proposed land use. Based upon the conclusions of the Taggart Miller studies, there would appear to be no need for a buffer zone around the Site from an impact perspective. The City of Ottawa may consider this matter as a part of any OP Amendment process that arises from this project, or in a general review of its policies.

4.1.2 MMAH Provincial Policy Statement (PPS), 2014

The current PPS (MMAH, 2014) was issued on February 24, 2014. It will come into effect for all decisions by any authority that affects a planning matter made on or after April 1, 2014. This statement is a result of the Province's "five-year" review of the previous 2005 PPS. Subsection 3(10) of the *Planning Act* states that the PPS must be reviewed every five years from the date that the PPS came into effect, to determine whether revisions are needed.

Planning policies for rural lands within municipalities are addressed in Section 1.1.5 of the PPS (MMAH, 2014). In rural lands located in municipalities, permitted uses and activities should relate to the management or use of resources, resource-based recreational activities, limited residential development, home occupations and home industries, cemeteries, and other rural land uses. Recreational, tourism and other economic opportunities should also be promoted. This amendment to the PPS to include economic opportunities in the rural area reflects the provincial understanding that a variety of land uses generating economic activity are appropriate in this context.

The City has identified its Settlement Areas, including Carlsbad Springs. There are no Settlement Areas identified immediately around the Site. The City has also included a policy in the OP where rural subdivisions are not permitted (Section 3.7.2.8) (City of Ottawa, 2013b); therefore no new residential development is anticipated in the area. This area also meets with the intent of the PPS, Section 1.1.5.6 (MMAH, 2014) by establishing a landfill in a location that avoids development that may cause environmental or public health and safety concerns by thoroughly evaluating the Site through this EA process to ensure the Site location is appropriate and subsequently developed.

Opportunities should be retained to locate new or expanding land uses that require separation from other uses; and recreational, tourism and other economic opportunities should be promoted [Section 1.1.5.3 and 1.1.5.6] (MMAH, 2014). This Site has been evaluated to determine if there is any requirement for separation from other uses. Based upon the results available at this time, no separation is required, thus the proposed development of this Site is consistent with these policies.

Development of rural lands under the PPS (MMAH, 2014) is to be appropriate to the infrastructure that is planned or available, and avoid the need for the unjustified and/or uneconomical expansion of this infrastructure. Development that is compatible with the rural landscape and can be sustained by rural service levels should also be promoted. The results of the various studies have confirmed that the existing infrastructure, with minor modification along Boundary Road at the Site access location, is easily able to support this development (See TSD #9).

Agricultural uses, agriculture-related uses, on-farm diversified uses and normal farm practices should be promoted and protected in accordance with provincial standards [Section 1.1.5.8] (MMAH, 2014). Policy 2.3 speaks to the protection of Prime Agricultural Areas. The implementation of this Policy is reflected in the City's OP, wherein the City did not identify the lands proposed for the CRRRC as an agricultural area (City of Ottawa, 2013b). There has been a detailed review of agricultural impacts as a part of the EA (See TSD #8), which confirms that there are no negative impacts predicted on agricultural lands or operations.

Waste Management Systems are defined by the PPS (MMAH, 2014) as sites and facilities to accommodate solid waste from one or more municipalities and includes landfill sites, recycling facilities, transfer stations, processing sites and hazardous waste depots. Section 1.6.10 of the PPS lays out policies for Waste Management Systems. It states that "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." In particular the recycling emphasis of the PPS aligns well with the objectives of the CRRRC.

The subject lands and the majority of the lands surrounding the Site are designated General Rural Area in the City of Ottawa's OP (City of Ottawa, 2013b). A small amount of land abutting the Site is designated Agricultural. The development of these lands for waste management purposes is consistent with the intent of the PPS (MMAH, 2014). The implementation of the CRRRC, once this EA is approved, will require amendment of City of Ottawa's OP to permit a waste management facility.

4.1.3 MMAH Shape the Future: Eastern Ontario Smart Growth Panel, 2003

In 2002, the government appointed a Smart Growth panel for eastern Ontario to develop recommendations for bringing growth and prosperity to Eastern Ontario.

When the eastern panel was established, the Minister of Municipal Affairs and Housing challenged panel members to think creatively and to come up with a bold new strategy to guide eastern Ontario's growth over the next 30 years.

In Section 2 of the Panel's final report, recommendations were made for enhancing environmental stewardship. Section 2.3 dealt with waste management (MMAH, 2003).

"The panel has recognized that waste management is a significant issue now and will continue to be in the future. Disposing of waste has become a costly exercise, financially and environmentally. Co-operation among provincial and municipal governments and stakeholders must exist in order to develop a more comprehensive, integrated waste management plan for the zone. Eastern Ontario must strive to embrace alternative technologies, and the re-use and reduction of waste when considering waste disposal."

The CRRRC reflects the intent to provide a more comprehensive and integrated approach to the re-use and reduction of waste.

4.1.4 City of Ottawa Official Plan, By-law 2003-203

The City completed a five-year review in 2013 of its OP (City of Ottawa, 2013b). As a result of this review, OP Amendment #150 was adopted by Council in December 2013 and is currently under appeal to the Ontario Municipal Board. The subject lands are designated as General Rural Area on Schedule A of the City of Ottawa's OP. As shown in Figure 4.1.4-1, the lands immediately to the west and south of the Site are also designated General Rural Area, while the lands to the north, separated from the site by Highway 417, are designated Natural Features Area. The lands to the southeast of the Site are designated Agricultural Resource Area.

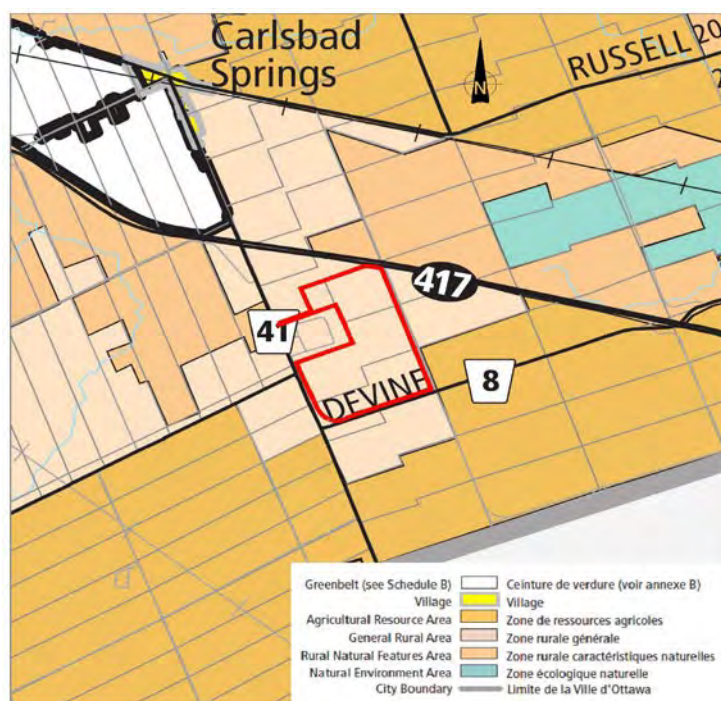


Figure 4.1.4-1: City of Ottawa Official Plan 2003-203 Schedule A

The five-year review of the OP in 2013 (City of Ottawa, 2013b), included a Land Evaluation and Area Review for Agriculture areas. A draft report of the Lands Evaluation and Area Review was issued in 2012, which identified various calculation options for mapping agriculture parcels and areas throughout rural Ottawa. The Land Evaluation and Area Review report currently has no status. The subject Site was not included in those lands that were being recommended to be added to the City's Agricultural lands as part of the background report. The implementation of this has been deferred pending a review of the background information from the Province of Ontario.

Section 3.7.2 of the City's OP (City of Ottawa, 2013b) outlines the development policies for lands designated General Rural Area. The intent of this designation is to accommodate a variety of land uses that are appropriate for a rural location and a limited amount of residential development where such development will not preclude continued agricultural and non-residential uses.

4.1.4.1 General Rural Area

General Rural Areas are designated on Schedule A with the intent to provide a location for agriculture uses and for those non-agricultural uses that, due to their land requirements or the nature of their operation would not be more appropriately located within urban or Village locations.

Policy 5 of Section 3.7.2 states that: A zoning by-law amendment will be required where any of the following uses are proposed in General Rural Areas:

- a) New industrial and commercial uses, such as farm equipment and supply centres, machine and truck repair shops, building products yards, landscape contractors, and nurseries; and
- b) Uses that are noxious by virtue of their noise, odour, dust or other emissions or that have potential for impact on air quality or surface water or groundwater, such as salvage or recycling yards, composting or transfer facilities; concrete plants; the treatment of aggregate products; and abattoirs.

The evaluation criteria for rezoning identified in Policy 5 are as follows:

- a) The use would not be better located in a village or the urban area;
- b) If the use is to be located on a local road, it must be demonstrated that the volume and pattern of traffic flow anticipated from the development will not interfere with the proper functioning of the local road network;
- c) The privacy of adjacent landowners or the amelioration of potential adverse impacts from lighting, noise, odour, dust or traffic can be achieved by separating the land uses, buffering or other measures as part of the development;
- d) The potential for reducing possible impacts on neighbouring agricultural uses or nearby rural residential uses or village communities, where relevant;
- e) The development is in keeping with the surrounding rural character and landscape;
- f) All those requirements of Sections 2 and 4 related to transportation, servicing, design and compatibility and environmental protection;
- g) Noxious uses will only be considered where suitable screening and buffering can be provided and generally these uses will not be considered in locations within groundwater recharge areas or immediately adjacent to residential areas, Scenic-Entry Routes, or waterfront areas; and
- h) The impact that the development will have on the protection of tree cover and local wildlife movement, as result of proposed site clearing and grading, fencing, security lighting, and other similar site plan matters.

The various studies done in support of this EA generally support the rezoning of the site taking into account the above considerations.

The City also has policies that deal with Mineral-Aggregate Resources throughout the City. There are no Aggregate Resources identified for these lands. The City undertook a comprehensive review of the Aggregate Resources as a part of the review of the OP (City of Ottawa, 2013b). The draft was released during the summer of 2013. This report has not identified the Site as having any such resource. The recommendations from the study were included within the amendment that was adopted by Council in December 2013 and there was no recommendation for any designation of the subject lands. Additional discussion is provided in Section 4.1.8.

4.1.4.2 Solid Waste Disposal

The City's OP (City of Ottawa, 2013b) also has specific policies in Section 3.8 which deal with Solid Waste Disposal. Solid Waste Disposal sites are identified on Schedule A with a solid dot: "●"

Operating and non-operating Solid Waste Disposal Sites are landfills, dumps, incinerators and any other facilities providing for the long-term storage or destruction of municipal solid waste. Composting, recycling and transfer facilities are considered processing operations.

The City of Ottawa will require an OP Amendment for the establishment of any new Solid Waste Disposal Site to show the location of the Site. The City will evaluate applications based on the following:

- a) The proponent has completed an Environmental Assessment or an Environmental Screening Report under the *Environmental Assessment Act*.
- b) Compliance with a Terms of Reference for the Environmental Assessment, as approved by the Minister of the Environment under the *Environment Assessment Act*; or in the case of a project using the Environmental Screening Process, the submission of a Notice of Completion to the MOECC.
- c) Does not duplicate the requirements of the *Environmental Assessment Act*.

Human health and safety may be affected within the area of influence of an operating or non-operating solid waste disposal site. The most significant nuisance impacts normally occur within 500 metres of the perimeter of the fill area.

Land use within 500 metres of an operating or non-operating solid waste disposal site boundary is considered to be the influence area of the Site. However, where the City or the owner of the Site, has determined through an Environmental Assessment, Hydrogeological analysis or similar study that significant ground, surface or air-borne impacts occur at a distance greater than 500 metres, the greater distance will establish the influence area.

The studies done in support of the CRRRC have been completed using the 500 metre area, at a minimum, to evaluate potential for impacts. The studies have shown that creation of a separation distance between existing and future development and the CRRRC is not required. The City will consider the conclusions at the time of the OP Amendment application to establish any specific policies that it deems to be appropriate.

4.1.4.3 Transportation

Schedule G of the OP as shown in Figure 4.1.4-2 identifies Boundary Road, Devine Road and the Regional Road 8 as Arterial Roads (City of Ottawa, 2013b). Section 2.3.1 (48) outlines policy related to the movement of goods throughout the City. It notes that “The City will minimize the impact of truck traffic on residential neighbourhoods caused by the presence of these vehicles and their noise, vibration and emissions by ensuring the availability of a comprehensive truck route network based on the arterial road system”. The City of Ottawa has also identified both Boundary Road and Devine Road as full load Truck Routes.

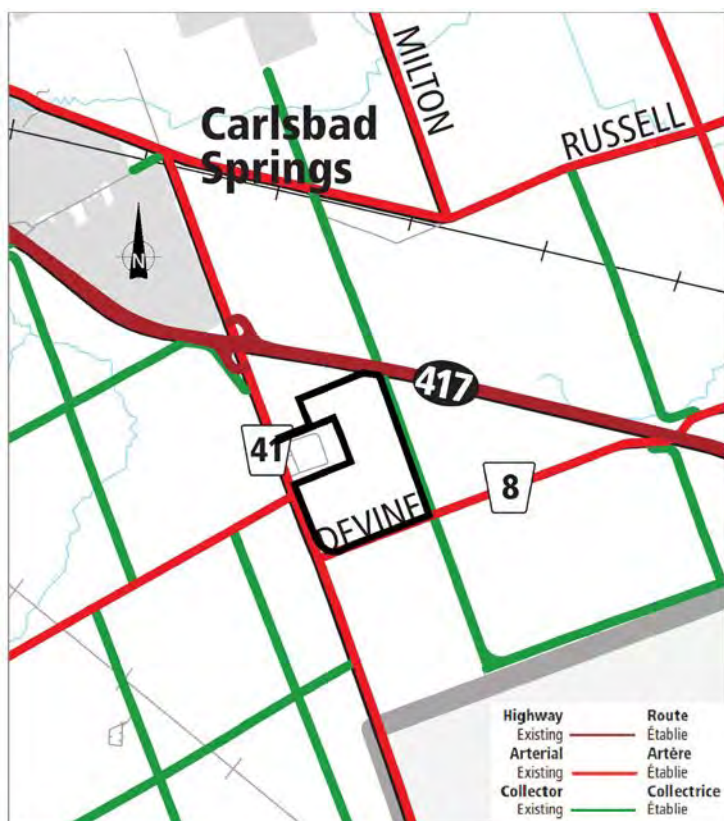


Figure 4.1.4-2: City of Ottawa Official Plan 2003-2013 Schedule G

The City's Transportation Master Plan further details the City's objectives for Transportation (City of Ottawa, 2013e). Section 6.10 Goods Movements notes that:

“While efficient goods movement by truck, rail and air supports Ottawa's economic livelihood and competitiveness, trucks remain the primary mode of local freight transportation. Ottawa's truck route system is generally represented by arterial roads that can withstand use by heavy trucks, the sizes of which are legislated by the Province of Ontario.

The City will encourage industry to explore goods movement technologies and practices that can reduce community impacts, improve efficiency and enhance regional competitiveness, such as the development of intermodal terminals that enable a transfer of tonnage from road to rail.”

The main Site access along Boundary Road follows the intent of the OP policies related to arterial roads as reflected in Schedule G (City of Ottawa, 2013b) and the Transportation Master Plan (City of Ottawa, 2013e).

4.1.4.4 Groundwater

Section 2.4.4 of the City’s OP outlines policy for groundwater management (City of Ottawa, 2013b). The City has responsibility for the regulation of land use and development that impacts groundwater resources; and for the operation of public drinking water systems including public communal wells and the delivery of public health programs and educational materials.

The following policies shall apply:

- 1) Where monitoring and characterization of the groundwater resource has indicated degradation of the resource function, the Zoning By-law (City of Ottawa, 2008) will restrict uses to prevent further impacts on that function; and
- 2) Where monitoring and characterization of the groundwater resource has indicated that a significant resource function exists, the Zoning By-law (City of Ottawa, 2008) will restrict uses to protect that function.

The City will:

- 1) Investigate, identify, record and analyze the extent and characteristics of the groundwater resources;
- 2) Identify and evaluate potential sources of groundwater contamination which arise from a variety of land-use practices and industrial activities;
- 3) Develop and maintain a database, which will provide ready access to, and manipulation of, groundwater data, including geological, hydrogeological and water quality information and make database information available to the public;
- 4) Ensure that there are current best management practices, protection policies and regulations to guide development so that reliable use and functions of groundwater resources can be maintained;
- 5) Use the information gained through investigation and analysis when reviewing development and building applications under the *Planning Act*; and
- 6) Ensure that programs to inform the community about best practices related to groundwater resource issues are developed and that the community is involved in collective decision-making regarding the protection, preservation and stewardship of groundwater resources and in making wise individual decisions regarding private well and septic matters.

Volume III of the EA supporting documents presents the results of the hydrogeology impact assessment. The Site is in an area that is constrained in its ability to yield meaningful groundwater resources. The predicted results indicate that the required groundwater quality will be easily maintained at the CRRRC property boundary.

4.1.4.5 Additional Official Plan Policy

No archaeological potential has been identified by the City of Ottawa E-Maps system, and the Site is located more than one kilometre from the Village Boundary of Carlsbad Springs and the City's Boundary. Edwards is no longer identified as a Village in the OP (Figure 4.1.4-3) (City of Ottawa, 2013b). City policy is to limit development within one kilometre of Villages to protect for their future growth.

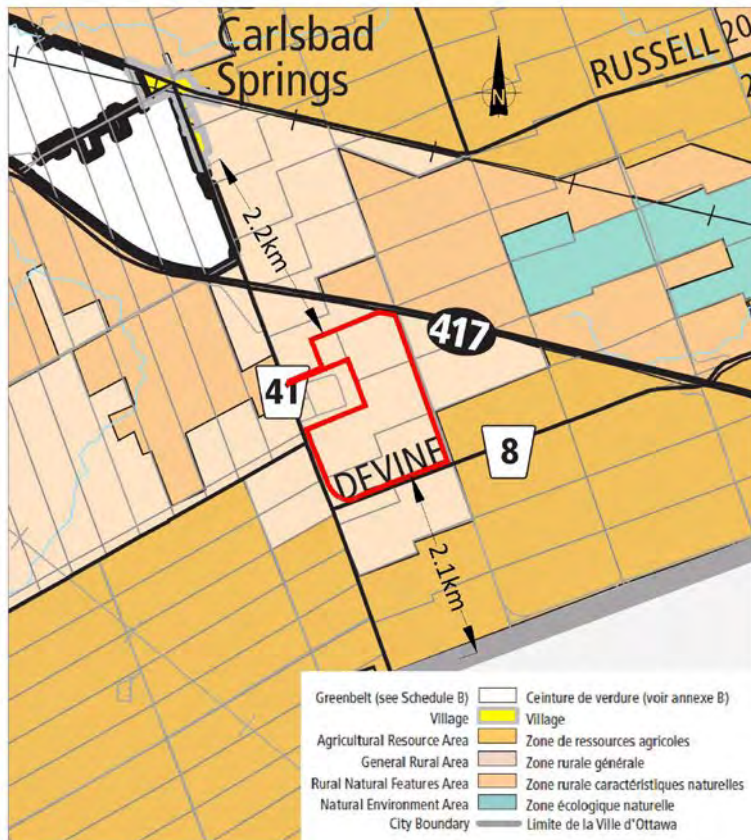


Figure 4.1.4-3: City of Ottawa 2003-203 - Distance from Subject Site to Village and City Boundary (kilometres)

The City does not identify any Environmental Constraints or Natural Features on the Site lands as shown on Schedule K (Figure 4.1.4-4) and Schedule L1 (Figure 4.1.4-5) of the OP (City of Ottawa, 2013b).

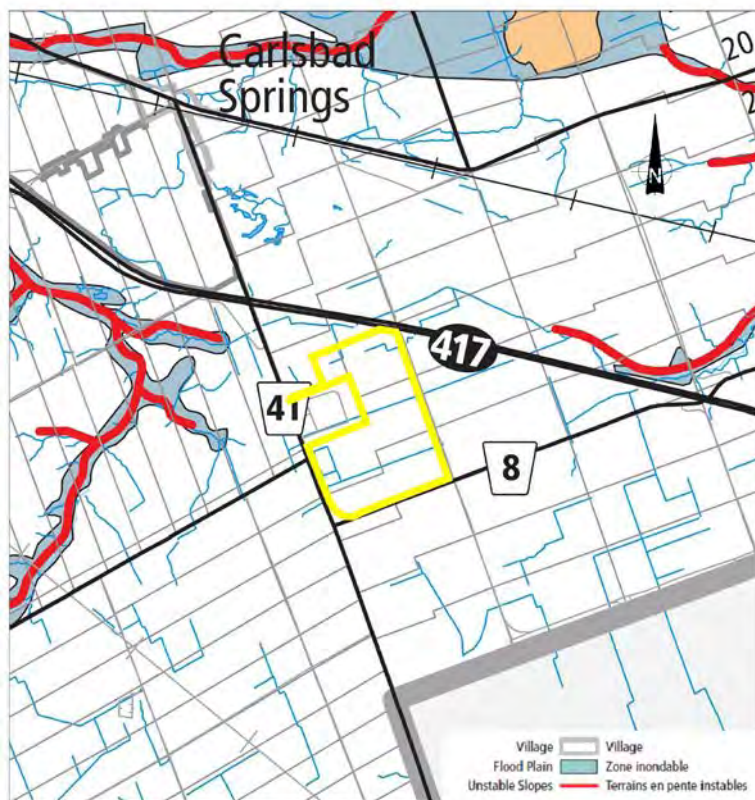


Figure 4.1.4-4: City of Ottawa Official Plan 2003-203 - Schedule K

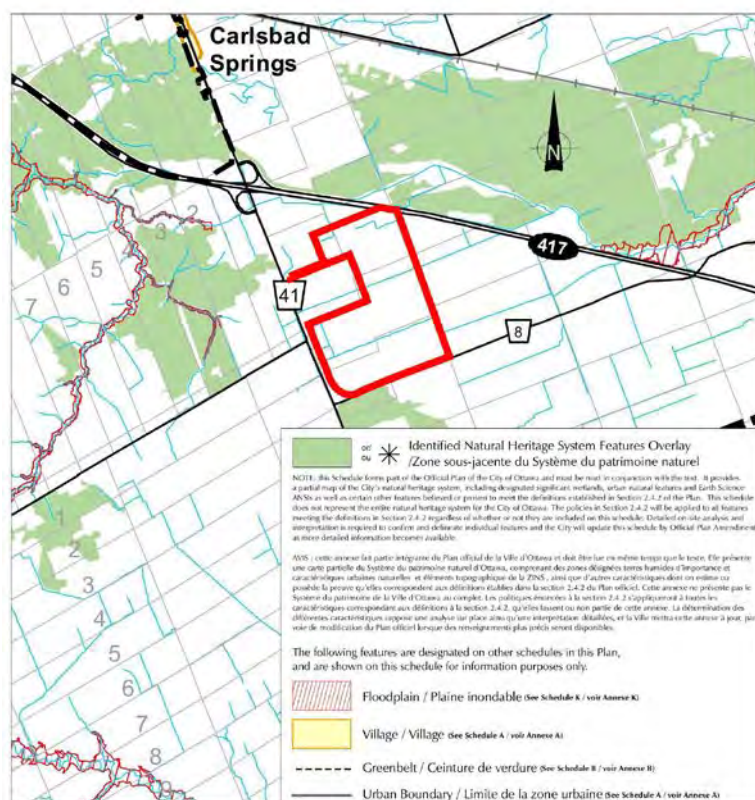


Figure 4.1.4-5: City of Ottawa Official Plan 2003-203 - Schedule L1

4.1.4.6 Scenic Entry Routes

The City has identified Scenic Entry Routes throughout the City. Highway 417 starting at the Boundary Road interchange (i.e. to the west of the Site of the proposed CRRRC) is identified as a Scenic Entry Route of Schedule I (Figure 4.1.4-6 and Section 4.6.4 of the OP (City of Ottawa, 2013b)).

Section 3.7.2 (6) (g) states that: "Noxious uses will only be considered where suitable screening and buffering can be provided and generally these uses will not be considered in locations within groundwater recharge areas or immediately adjacent to residential areas, Scenic-Entry Routes, or waterfront areas."

The CRRRC would be east of this interchange but in any event can be readily screened from view from Highway 417. The proposed CRRRC has been designed to include constructed screening features (earth berms 2 to 3 metres high with trees transplanted on them). They are to be constructed where the screening could not be otherwise provided by leaving an adequate width (15 to 20 metres) of existing tree cover around the perimeter of the property. The constructed screening will be required at the northeast and southeast corner areas and along a portion of the west central Site boundary. It is noted that a portion of the constructed screening proposed at the northeast corner to specifically screen the view of the Site from Highway 417 could be replaced by transplanting trees in the gap in the existing tree line at the north end of the Frontier Road cul-de-sac.



Figure 4.1.4-6: City of Ottawa Official Plan 2003-2013 - Schedule I

4.1.5 Background to the Official Plan Review – Employment Lands Study, 2012 Update

The City completed an Employment Lands Study (City of Ottawa, 2013f) in September 2013 as part of the background documentation for the 5-year review of the OP (City of Ottawa, 2013b).

This report examined the most appropriate use of lands surrounding key interchanges of the 400 series highways, other highways or urban arterials, such as the Highway 417/Boundary Road interchange.

This report concluded that:

“The 400 series interchanges confer two important benefits to adjacent lands – they provide high order access to the highway and arterial road network (which is critical for transport and logistics firms and of interest to some office occupants who are required to frequently be out on the road meeting suppliers and customers) and they provide exposure (principally of interest to retailers).”

It also differentiated between the potential for urban and rural interchange development:

“The Official Plan directs much of growth in the rural areas to villages and apart from true rural industries (related to agriculture, forestry, aggregate extraction etc.), other employment should, in the main, be focused on the villages which are the main population centres in the rural area.

Much of the lands around the interchanges in the rural area are currently designated: agricultural lands, mineral aggregate lands, rural natural feature or significant wetland. Large rural villages generally have good road access to the highway system and large rural employers are better served locating closer to the village population centres.”

The proposed CRRRC will provide for rural employment, which requires the proximity to the interchange for transportation needs, but as a result of its industrial nature should not be located within a rural village. The CRRRC proposal reinforces the current zoning for the lands, where the lands along Boundary Road, including a part of the Site, are zoned for Heavy Rural Industrial development.

4.1.6 City of Ottawa Master Plans

As part of the City's 5-year review of the OP (City of Ottawa, 2013b), updates were made to the Infrastructure Master Plan (IMP) (City of Ottawa, 2013d) and to the Transportation Master Plan (TMP) (City of Ottawa, 2013e). The Master Plan updates are being conducted in accordance with Master Planning process including Phases 1 and 2 of the Municipal Class Environmental Assessment process, an approved process under the *Ontario Environmental Assessment Act*. All of the Plans were approved by City Council in December 2013. The Notice of Commencement for the updates was issued on January 18, 2013 and the City will be issuing the Notice of Completion in the Spring of 2014.

No significant changes that affect this Site have been identified in the updated reports. The IMP (City of Ottawa, 2013d) and TMP (City of Ottawa, 2013e) have both been reviewed by City Committee and have yet to be adopted by City Council.

4.1.7 City of Ottawa Zoning By-law (2008-250), 2008

The majority of the subject lands are currently zoned Rural (RU) in the City of Ottawa's Zoning By-law (City of Ottawa, 2008); however a not insignificant portion is zoned Rural Heavy Industrial (RH) as shown in Figure 4.1.7-1. Permitted uses in the Rural Heavy Industrial Zone include waste processing and transfer, and leaf and yard waste composting. While the proposed development of these lands for the CRRRC will require an amendment to this By-law, the Rural Heavy Industrial zoning already attached to a portion of the Site indicates that the CRRRC is generally not inconsistent with existing zoning for the Site.

The required zoning and site plan will all be an implementation of the identification of the waste disposal site in the OP; therefore they are not addressed at this time. Details will be developed during the review of the OP in order to determine the requirements for these other applications.

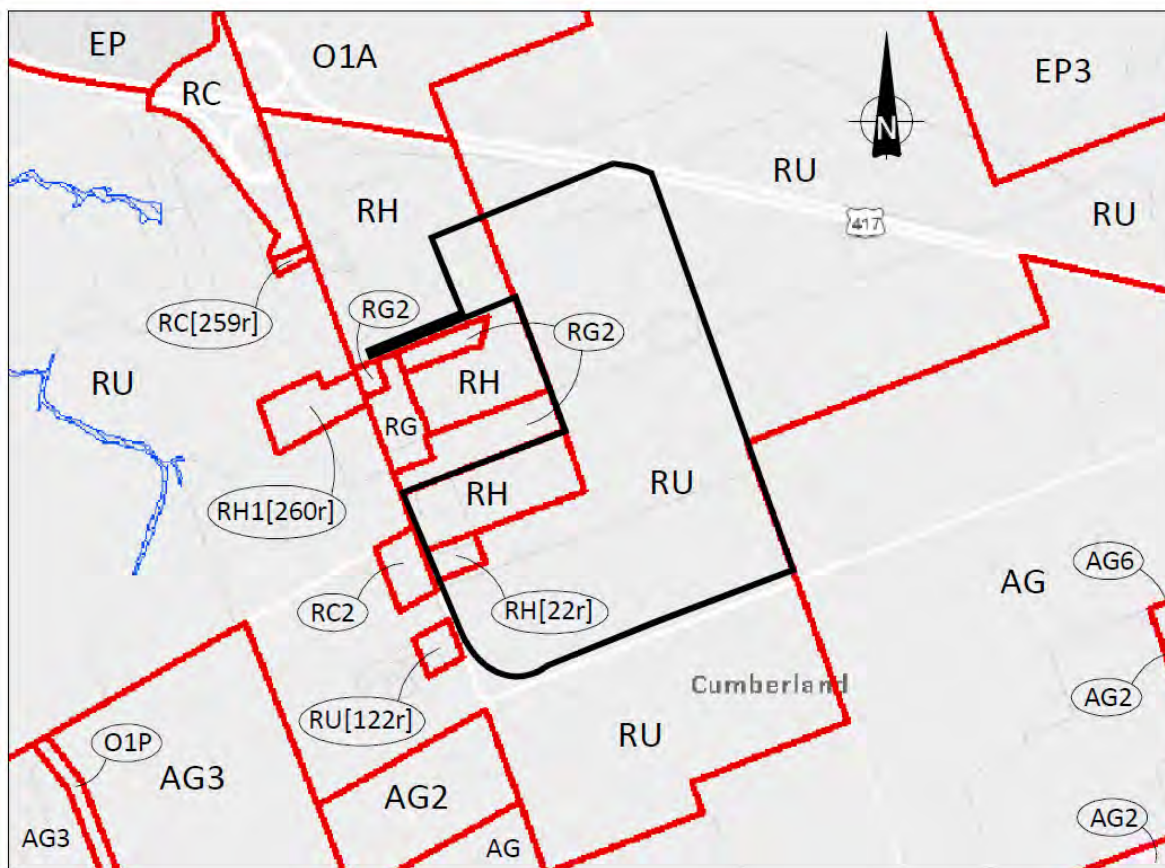


Figure 4.1.7-1: City of Ottawa Zoning By-law 2008-250

4.1.8 Aggregate Resources

Previous subsurface investigation on and in the area of the Site (WESA, 1986), as well as current on-Site investigations show that the Site is underlain by a surficial sand layer followed by an extensive and thick deposit of silty clay. The surficial sand layer generally consists of silty sand having a thickness generally ranging from about 0.6 to 1.2 metres.

As a result of its fine grained nature, this surficial sand layer is not of high quality as a potential aggregate material. Also, the layer is relatively thin compared to what would typically be considered for an aggregate resource operation, i.e., Aggregate Resource Industry Reports consider 6 metres as a minimum thickness for identification as an aggregate resource, and there are already sand resources within the City that are known and reasonably plentiful, even within the existing licensed pits.

From review of the 1995 study regarding aggregate supply in the Region of Ottawa-Carleton, which includes sand, gravel, crushed stone, shale and clay, there are no aggregate resources at or within 500 metres of the Site (MHBC, 1995). Additionally the Ministry of Northern Development and Mines prepared an Aggregate Resource Inventory Paper for the Ottawa Region in 2013 and it does not show any aggregate resource at or within 500 metres of the Site (MNMD, 2013).

4.1.9 City of Ottawa Published Data of Public Recreational Facilities and Activities

No public or recreational facilities as mapped by the City of Ottawa exist within 500 metres of the Site.

4.1.10 National Capital Commission – Plan for Canada’s Capital, 1999

The NCC’s Plan for Canada’s Capital report (NCC, 1999) was written as the federal government’s lead policy statement on the physical planning and development of the National Capital Region (or the Capital) over the next fifty years.

This report identified scenic entries as complementary routes, found mostly in the built-up areas, that offer a scenic and alternative access to the core of the Capital. These scenic routes are generally under the jurisdiction of regional governments, and can also connect to the Capital Parkway network.

The City of Ottawa OP identifies Highway 417 starting at the Boundary Road interchange and proceeding westward as a Scenic Entry Route (City of Ottawa, 2013b).

The proposed CRRRC is east of that interchange but in any event has been designed to include screening the northeast corner, intended to screen the CRRRC from view of Highway 417, as shown in Figure 3.4-2.

4.1.11 National Capital Commission – Greenbelt Master Plan, 2013

A new Greenbelt Master Plan (GMP) was released by the National Capital Commission in November 2013 (NCC, 2013). This replaced the 1996 predecessor.

The Greenbelt is an area of 206 square kilometres largely owned by the federal government. The NCC envisions the Greenbelt as an integrated and recognizable feature that among other things:

- Provides a gateway to the Capital;
- Preserves and connects natural ecosystems; and
- Buffers and connects human activities.

The updated GMP (NCC, 2013) provides for augmented protection for natural environment features through stricter policies for permitted activities in certain areas. Seven “sectors” are defined in the new GMP (fewer than its 1996 predecessor). One of these sectors is the Mer Bleue bog.

The Core Natural Area on which the Mer Bleue bog sector centers is of course the bog itself. This is removed from the Site by over 3 kilometres and a 400 series highway and is hydrogeologically up gradient from the Site. A “natural link” has been identified as part of the Mer Bleue sector extending to the northwest corner of the Boundary Road/Highway 417 interchange. The Site is separated from this area by the four lane 400 series highway as well as approximately 1 kilometre of industrial/commercial land.

The new GMP (NCC, 2013) notes that the quality of arrivals by road in the Capital is dependent on the visual quality of the landscape. The GMP also notes that while the vistas of the Greenbelt along the western arrival route on Highway 417 are very attractive, views from Highway 417 along the eastern approach to Ottawa “are not as impressive as those from the west because of the area’s more level topography.” The Mer Bleue sector plan proposes a “Highway 417 Capital Arrival” sign near the northwest corner of the Boundary Road/Highway 417 interchange, enhancing the landscape west of Anderson Road, as well as working with the City to

improve the visual aesthetic of industrial uses further west of the Greenbelt edge along Highway 417. As noted elsewhere, the Site is east of this interchange but in any event can be readily screened from Highway 417. The majority of the Site is already well screened from the highway by existing trees.

During public consultation on the proposed new GMP (NCC, 2013), the CRRRC was raised by some opponents of the project as a concern in terms of “contamination and potential impact on the Mer Bleue Bog”. The NCC responded that it “has no jurisdiction over this site or decision since the Site is outside of the federal government’s jurisdiction.” In any event, as noted above, the Mer Bleue is over 3 kilometres away from the Site at its closest point, is on the other side of a 400 series highway and is hydrogeologically up gradient. Further none of the multidisciplinary impact assessment work carried out with respect to the proposed CRRRC has identified the potential for any adverse impacts on the Mer Bleue.

4.1.12 Summary

It was concluded that the proposed CRRRC is a compatible land use with existing and future land uses in the vicinity of the Site from a planning perspective.

4.2 Socio-economic

4.2.1 Sources of Potential Effects

The effects of the proposed CRRRC on the socio-economic environment were considered as follows in accordance with the approved Terms of Reference:

- Employment: estimated person hours of employment for the construction and operation of the CRRRC;
- Tax revenue: an estimate of the tax revenue generated by the CRRRC for the municipality; and
- Spending and other effects on businesses: estimated value of goods and services required for construction and operation of the CRRRC, and estimated business impacts (positive or negative) from the CRRRC on nearby commercial activities.

Sources of potential effects are categorized as direct or indirect. Direct effects on the socio-economic environment are those that occur directly as a result of the proposed CRRRC as described in Section 10 of the EASR. Indirect effects are those that occur as a result of effects on other components (e.g., air, noise, visual and traffic), which have a potential indirect interaction with socio-economics.

4.2.2 Employment

4.2.2.1 Direct Effects

During the construction phase, the CRRRC is expected to generate approximately 400,000 person-hours of employment, which represents approximately 160 - 200 full-time equivalent positions over one year. This represents approximately 0.03 - 0.04% of the existing labour force in the Site-vicinity. Gross income will total approximately \$16.3 million. Average gross (before taxes) income for workers is assumed to be approximately \$40/hour. This translates to approximately \$80,000 - \$100,000 per year gross income, which is much higher than the median individual or household income in the Site-vicinity.

During the operation phase, the CRRRC is expected to generate approximately 198,000 person-hours of employment per year, which represents approximately 80 – 100 full-time equivalent positions over the thirty year life of the CRRRC (approximately 0.02% of the existing labour force in the Site-vicinity). Gross income will total approximately \$7.2 million per year. Average gross (before taxes) income for workers is assumed to be approximately \$35/hour. This translates to approximately \$70,000 per year gross income. Average income for workers during operations is expected to exceed the median individual annual income in the Site-vicinity.

Employment data for the post-closure phase are unknown at this time; however it is expected to be a small fraction of employment for the construction and operations phases. Nevertheless, the effects from employment during the post-closure phase are expected to be positive relative to existing conditions.

Economic modelling using multipliers to calculate indirect and induced effects of the income generated by the CRRRC in the study areas was not undertaken; however, it can be assumed that there will be spin-off benefits to the local economy as a result of increased direct CRRRC-related income.

As described in the Section 4.1.6 the proposed CRRRC will provide for rural employment in accordance with the Employment Lands Study completed by the City. The proposed CRRRC reinforces the current Heavy Rural Industrial zoning for a portion of the lands where the Site is located. Employment opportunities will be available for skilled and non-skilled workers. There will be opportunities for local employees to fill both skilled and non-skilled positions. Direct effects of the CRRRC on employment are expected to be beneficial in the Site-vicinity. The Project may contribute to the diversification of industries of employment outside of the public administration sector.

4.2.2.2 Indirect Effects

No indirect effects on employment through other disciplines are identified.

4.2.3 Tax Revenue

4.2.3.1 Direct Effects

The CRRRC is expected to directly increase annual municipal property revenue for the City of Ottawa by \$1.6 - 3.7 million annually over the thirty year planning period. Additional one-time building permit revenue for the City is estimated at approximately \$300,000. This is a small fraction ($1.1 \times 10^{-4} \%$ to $4.9 \times 10^{-5} \%$) of the total revenue generated by the City of Ottawa. There will also be spin-off effects of this increased revenue to the City that, although not calculated, could create opportunities for further economic development and growth within the Site-vicinity. Direct effects of the CRRRC on municipal tax revenue are expected to be beneficial in the Site-vicinity.

Depending on the end-use of the Site, there may also be tax revenue after the post-closure phase. This amount is expected to be less than during the construction and operations phases.

4.2.3.2 Indirect Effects

No indirect effects on tax revenue through other disciplines are identified.

4.2.4 Spending and Businesses

4.2.4.1 Direct Effects

Construction costs for goods and services (excluding labour) are estimated at \$58 million for initial construction works and activities, followed by an average of approximately \$700,000 per year over the thirty year planning period.

Operational costs for goods and services (excluding labour) over the thirty year planning period are estimated at \$3.2 million per year in capital expenditures and \$16.2 million per year in operating expenditures.

Much of this spending on goods and services will occur within the Site-vicinity (City of Ottawa), representing opportunities for local businesses to capitalize on this spending. Although economic modelling using multipliers to calculate indirect and induced effects of this spending was not undertaken, it can be assumed that this spending will generate further investment and opportunities for economic development in the Site-vicinity. Direct effects of the CRRRC on spending and businesses are expected to be beneficial in the Site-vicinity.

4.2.4.2 Indirect Effects

Adverse indirect effects on businesses in the Site-vicinity may occur through nuisance or perception-related effects from other disciplines, such as air quality and odour, noise, traffic and visual.

Air quality and odour

As described in TSD #3, following the incorporation of mitigation measures, no adverse effects on air quality and odour outside of the CRRRC Site boundary are expected. Accordingly, no indirect effects on businesses in the Site-vicinity are predicted. Follow-up monitoring is recommended to confirm that the mitigation measures considered integral to the CRRRC are being incorporated as planned, and are effective.

Noise

As described in TSD #2, the noise assessment identified measurable changes to existing noise levels; however, the predicted noise levels were evaluated and it is concluded that they are in compliance with MOECC guidelines. Therefore, no indirect effects on businesses in the Site-vicinity from noise are identified. Follow-up monitoring is recommended to confirm that the mitigation measures considered integral to the CRRRC are being incorporated as planned, and are effective.

Traffic

As described in TSD #9, the Traffic Impact Study examined the operation of the CRRRC during the weekday peak hours of the adjacent roads, using traffic counts provided by the City of Ottawa and the MTO, supplemented by counts obtained specifically for this study. The Traffic Impact Study examined the proposed Boundary Road site access and intersections (Boundary Road and Mitch Owens Road, Boundary Road and Devine Road, Boundary Road and the eastbound Highway 417 on/off ramps, and Boundary Road and the westbound Highway 417 on/off ramps) within the area studied for the expected traffic volumes at the year 2022. The year 2022 represents five years beyond the completion of the construction of the CRRRC and would account for trips associated with the full operation of the facility.

The CRRRC is expected to generate a combination of waste trips, soil trips, and diversion trips. The main operations of the CRRRC would be between 7:00 AM and 6:00 PM Monday to Saturday, although some operations could be as early as 6:00 AM. During the operation of the Site for a 10 hour day and at a maximum daily waste and soil receipt of 3,000 tonnes per day, the Site is expected to generate approximately 40 truck trips entering and 40 trips exiting the site per peak hour. Including the expected 3 trucks per hour that would transport leachate to City of Ottawa Robert O Pickard Environmental Centre (ROPEC) for treatment, the total number of trucks would be 43 trucks entering and 43 exiting the Site during the peak AM and PM hours of the adjacent roads.

The truck traffic from the CRRRC at maximum daily waste and soil receipts would represent approximately 8 percent of the total volume of traffic along Boundary Road between the Site access and Highway 417.

The operational analysis using the expected 2022 traffic volumes determined that all of the existing intersections within the study area will operate at an acceptable Level of Service (LoS) during the weekday peak AM and PM hours, with no existing intersections requiring modifications due to the truck trips from the CRRRC. Modifications to Boundary Road at the proposed Site access location are proposed.

Accordingly, no indirect effects on local businesses as result of traffic are expected.

Visual

As described below, five viewpoints were chosen to represent views of the landfill from the north, east, south and west. These points are identified in Figure 2.4.1-1. As described in Section 4.3, the combination of screening by existing adjacent land uses and vegetative cover, as well as proposed visual mitigation measures on the CRRRC Site will effectively screen the Site such that no adverse effects on local businesses due to visual impacts are expected.

4.3 Visual

The potential for the proposed CRRRC to affect the visual appeal of a landscape was assessed. The proposed impact of the CRRRC impact from the five selected viewpoints is shown in Figures 3.4-1 to 3.4-5 and each viewpoint is described below.

VIEWPOINT 1: From Devine Road, Figure 3.4-1

This is a long view of the Site from the east along Devine Road across existing farm fields that are bisected by existing hedgerows of deciduous trees and shrubs. This view is oblique from the road and partially seasonally obscured by row crops in the fields and by trees along the Site perimeter. A screening berm with trees on top is proposed along the south part of the east Site boundary, however because of the flat terrain the CRRRC will be partly visible from this vantage point. With the proposed flat landfill sideslopes, the landfill component will be visible from this vantage point and appear as a gradual rise.

VIEWPOINT 2: From Highway 417, Figure 3.4-2

This view is taken through a break in a hedgerow of coniferous trees along Highway 417 at the northeast corner of the Site and is looking across the existing cleared fields where the proposed diversion buildings and ancillary facilities will be located, with the future landfill further to the south. Looking through an opening in the coniferous hedgerow, in the absence of mitigation, some of the proposed diversion buildings and ancillary facilities would be visible with the north end of landfill mound visible in the distance to the left to the secondary digester.

The proposed screening berm with trees planted on top will provide effective visual mitigation. There will be a small gap in the berm at the secondary Site access location that will allow the secondary digester to be visible. If mature coniferous trees are planted to infill the existing opening in the hedgerow, this view into the Site will be effectively obscured.

VIEWPOINT 3: From Boundary Road, Figure 3.4-3

This view looks over what will be the demolished former auto parts building and yard and into the Site from southbound Boundary Road. An existing berm on-Site will likely remain in place and will provide some visual mitigation. The proposed screening berm with trees on top will be constructed along the property boundary, and will provide effective visual mitigation.

VIEWPOINT 4: From Mitch Owens Road, Figure 3.4-4

This view looks directly east from Mitch Owens Road towards the Site. With the existing auto parts building removed, the landfill component of the CRRRC would become visible. As shown, the proposed perimeter screening berm with trees on top will effectively provide visual mitigation from this viewpoint, similar to what is described above for Viewpoint 1.

VIEWPOINT 5: From Boundary Road, opposite future entrance to CRRRC, Figure 3.4-5

This view is east from Boundary Road, looking at the Site from the proposed entrance to the CRRRC. Existing piles of granular material and vehicles in the foreground will no longer be there, and the new paved access road will be constructed. It should be noted that this view has been presented conservatively by removing more of the neighbouring activity to the north of the Site entrance than may actually occur. Some future buildings such as the scale house, office building and construction & demolition processing facility could be visible in the distance from this viewpoint, consistent with other existing Industrial Park development in this area.

Due to the presence of vegetation in the area surrounding the Site and the design of the Site, including the perimeter berms and tree planting, there will be little visual impact from off-Site nearby viewpoints.

5.0 MITIGATION, MONITORING AND CONTINGENCIES

5.1 Land Use

An Amendment to the OP and Zoning By-law of the City of Ottawa will be required in order to permit the development of the Site for the proposed CRRRC. The City of Ottawa will also require that a Site Plan Control Application be filed and approved prior to development.

MOECC approvals for Environmental Compliance Approvals will also be required. The City of Ottawa will require these approvals prior to issuing a Commence Work Order for the development of the Site.

The construction of screening berms at certain points around the Site will be included in the site plan application to the City of Ottawa.

5.2 Socio-economic

In addition to mitigation or monitoring related to effects on air quality and odour, noise, traffic and visual, the following measure is proposed to help mitigate and monitor potential nuisance or perception-related effects:

- A communication plan, including a Community Liaison Committee, as well as telephone number and email address to communicate directly with CRRRC personnel, will be developed to provide various means to allow and encourage residents and businesses in the Site-vicinity to communicate with CRRRC personnel and to report any concerns, and ask questions related to air quality and odour, noise and traffic.

5.3 Visual

Wherever possible, natural vegetative screening will be used around the Site by leaving an adequate width (15 to 20 metres) of existing tree cover around the perimeter of the property. Constructed screening will be required at the northeast and southeast corner areas and along a portion of the west central Site boundary, where there is presently not an adequate width of natural screening. It is noted that a portion of the constructed screening proposed at the northeast corner could be replaced by transplanting trees in the gap in the existing coniferous hedgerow at the north end of the Frontier Road cul-de-sac, if permission to do so can be obtained; this would also effectively screen the view of the Site for persons travelling along Highway 417.

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