

**Environmental Impact Study Update  
3479 St. Joseph Boulevard, Orléans, Ottawa**

**Revised Report**

**2025-01-28**

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**List of Acronyms and Abbreviations**

- cm – centimeter
- CRZ – critical root zone
- DBH – Diameter at breast height



DFO – Department of Fisheries and Oceans (Fisheries and Oceans Canada)

ECCC – Environment and Climate Change Canada

e.g. – *exempli gratia*

EIS – Environmental Impact Study

ELC – Ecological Land Classification

ESC – erosion and sediment control

ESA – *Endangered Species Act*

FWCA – *Fish and Wildlife Conservation Act*

ha – hectare

i.e. – id est

KAL – Kilgour & Associates Ltd.

km – kilometre

m – metre

MBCA – *Migratory Birds Convention Act*

MECP – Ministry of Environment, Conservation, and Parks

MNRF – Ministry of Natural Resources and Forestry

NHIC – Natural Heritage Information Centre

PPS – Provincial Policy Statement

SAR – species at risk

SARA – *Species at Risk Act*

SWH – Significant Wildlife Habitat

SWM – stormwater management

TCR – Tree Conservation Report



## 1.0 INTRODUCTION

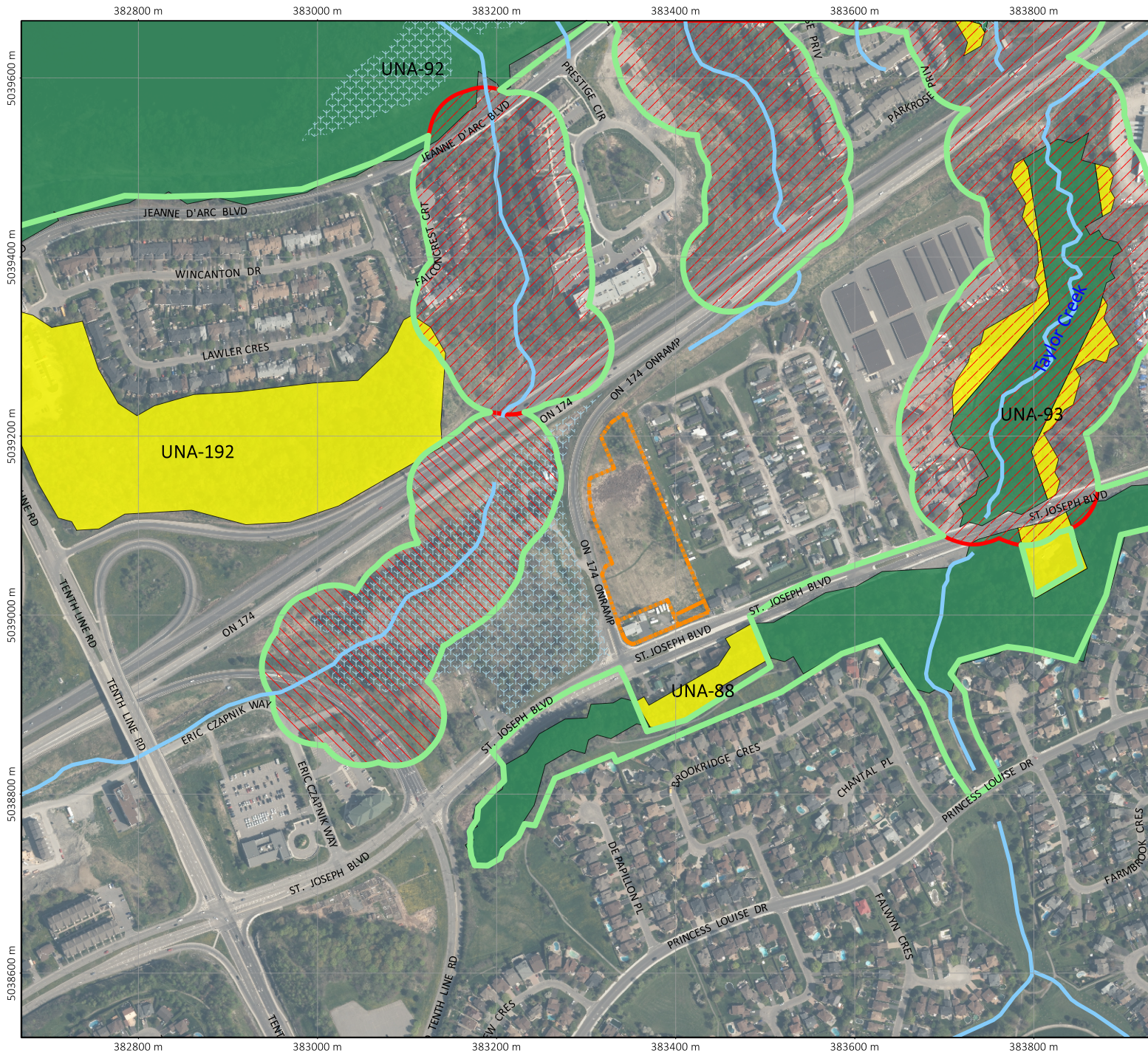
This report is an Environmental Impact Study (EIS) prepared by Kilgour & Associates Ltd. (KAL; Appendix A) on behalf of 8417709 Canada Inc. in support of a Site Plan Application for a proposed residential development at 3479 St. Joseph Boulevard in Ottawa, Ontario (the “Site”; Figure 1).

This report provides an update to a previously-prepared EIS (KAL, 2020). Field studies are generally accepted by the City of Ottawa for up to two years, and as four years have passed, updates are required to address current Site conditions. Additional changes since the previous EIS include a new Official Plan approved in 2021 (City of Ottawa, 2021), and updates to federally and provincially listed species at risk. Thus, this updated EIS includes the results from the required field studies and provides up-to-date recommendations and mitigation measures to minimize impacts of the proposed development on the natural heritage features located on and adjacent to the Site.

In the City of Ottawa, an EIS is required when development or site alteration is proposed in or adjacent to natural heritage features, as outlined in Section 4.8 of the Official Plan (City of Ottawa, 2021). The purposes of an EIS are to:









- Identify natural heritage features on or adjacent to the Site;
- Assess potential impacts of the proposed development to existing features; and
- Recommend mitigation measures to minimize or eliminate identified impacts.



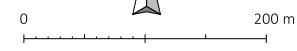


**Figure 1** Site context

**Legend**

-  Site Property Lines
-  Schedule L
- Urban Natural Areas**
  -  Category 1- Protected
  -  Category 3- Development Approved
- Topographic Features**
  -  Significant Valleylands
  -  Escarpment
-  Watercourse
-  Unevaluated Wetland

N



Map File: CHAR949-3  
 MTM Zone 9  
 (NAD 83)  
 Printed on: 2020-07-24



## 2.0 ENVIRONMENTAL POLICY CONTEXT

Natural heritage policies and legislation relevant to this EIS are outlined below.

### 2.1 The Provincial Policy/Planning Statement, 2020/2024

The Provincial *Policy Statement* (PPS) was issued under Section 3 of the *Planning Act* (Government of Ontario, 1990b). The PPS in effect at the start of this project came into force on May 1, 2020 (Government of Ontario, 2020). Natural features were afforded protections under Section 2.1 of the PPS. Protections may include maintenance, restoration, and improved function of diversity, connectivity, ecological function, and biodiversity of natural heritage systems. These protections restrict development and site alteration in significant natural areas (e.g., woodlands, wetlands, wildlife habitat) unless it can be demonstrated that there will be no negative effects on the features and ecological functions of those natural areas. Technical guidance for implementing the natural heritage policies of the PPS is found within the second edition of the *Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement*, 2005 (NHRM; MNR, 2010).

While the 2020 PPS was in effect at the start of this study, the Province subsequently approved the updated Provincial *Planning Statement 2024* (i.e. as of August 20, 2024) as its replacement; it came into effect on October 20, 2024. The revised document (also “PPS”) is intended to simplify and integrate existing policies to achieve housing objectives while providing tools for municipalities to deliver on housing objectives. The 2024 edition will formally be the planning document in effect going forward. Regardless, other than renumbering the relevant policies, there are no meaningful changes related to Natural Heritage considerations between the two PPS versions.

### 2.2 City of Ottawa Official Plan, 2021

The City of Ottawa Official Plan (2021) provides direction for future growth in the City and is a policy framework to guide physical development to 2031 in accordance with the PPS. The Official Plan was first approved in 2003 and is typically updated every five years. The Official Plan includes a Natural Heritage Features map (Schedule C11A-C) and Greenspace map (Schedule C12), providing additional information on wetlands, watercourses, and wooded areas within the City boundaries (City of Ottawa, 2021).

### 2.3 *Species at Risk Act*, 2002

The federal *Species at Risk Act* (Government of Canada, 2002) is administered by Environment and Climate Change Canada (ECCC) and provides direction to protect and ensure the survival of wildlife species in Canada. The purpose of the SARA is to prevent populations of wildlife from becoming Extirpated, Endangered, or Threatened, provide recovery strategies for Endangered or Threatened species, and to manage other species to prevent them from becoming Endangered or Threatened.

All species listed on Schedule 1 of SARA are afforded protection on federal lands. Aquatic species and species of migratory birds protected by the *Migratory Birds Convention Act* (Government of Canada, 1994) and listed as Endangered, Threatened, or Extirpated under Schedule 1 of SARA are protected wherever they occur in Canada, regardless of land ownership. SARA protections do not typically apply for other species groups on non-federal properties. However, the Federal Minister of ECCC can impose SARA



protections on private projects where habitat is deemed “...necessary for the survival or recovery of the species...” in the area of concern.

## **2.4 *Endangered Species Act, 2007***

The provincial *Endangered Species Act* (Government of Ontario, 2007) is administered by the Ministry of Environment, Conservation, and Parks (MECP) and provides protection for species at risk (SAR) and their habitat. The ESA states that it is illegal to harm the habitat of species listed as Extirpated, Endangered, and Threatened. It is also illegal to kill, harm, harass, possess, transport, buy, or sell Extirpated, Endangered, and Threatened species, whether they are living or dead. Species listed as Endangered, Threatened, or Extirpated and their habitats (e.g., areas essential for breeding, rearing, feeding, hibernation, and migration) are automatically afforded legal protection under the ESA.

## **2.5 *Fisheries Act, 1985***

The federal *Fisheries Act* (Government of Canada, 1985) is administered by Fisheries and Oceans Canada (DFO) and provides protections to fish, fish habitat, and fisheries. Specifically, the *Fisheries Act* in its current version provides: 1) protection for all fish and fish habitat; 2) prohibition against the "harmful alteration, disruption or destruction of fish habitat"; and 3) prohibition against causing "the death of fish by means other than fishing".

Projects with a scope that does not fall within DFO’s defined standards and codes of practice require submission of a request for review to DFO.

## **2.6 *Migratory Birds Convention Act, 1994***

Nesting migratory birds are protected under the MBCA (Government of Canada, 1994). No work is permitted that would result in the destruction of active nests or the wounding or killing of bird species protected under the MBCA and/or associated regulations (e.g., SARA). The “incidental take” of migratory birds and the disturbance, destruction, or taking of the nest of a migratory bird is prohibited. “Incidental take” is the killing or harming of migratory birds due to actions that are not primarily focused on taking migratory birds (e.g., economic development) and no permits exist for the incidental take of migratory birds or their nest/eggs as a result of activities that are not focused on taking migratory birds. These prohibitions apply throughout the year. The Government of Canada has compiled nesting calendars that apply across Canada that can be used to greatly reduce the risk of harming/destroying active nests by ensuring works that may impact nests are performing outside of the nesting period.

## **2.7 *Fish and Wildlife Conservation Act, 1997***

The provincial *Fish and Wildlife Conservation Act* (FWCA; Government of Ontario, 1997) governs the hunting and trapping of a variety of wildlife including mammals, birds, reptiles, amphibians, and fish in Ontario, thereby facilitating the protection of wildlife and their habitat. The FWCA outlines the prohibition of hunting or trapping specially protected species and the requirement for provincially issued licenses for the hunting or trapping of “furbearing” or “game” animals. Examples of specifically protected animals include, for example, Southern Flying Squirrel (*Glaucomys volans*), Northern Harrier (*Circus cyaneus*), American Kestrel (*Falco sparverius*), Blue Jay (*Cyanocitta cristata*), Midland Painted Turtle (*Chrysemus*





*picta marginata*), Northern Watersnake (*Nerodia sipedon*), and Gray Treefrog (*Hyla versicolor*). In particular, raptors that are not protected under the MBCA (including Peregrine Falcon) are protected under the FWCA.

## **2.8 Conservation Authorities Act, 1990**

Conservation Authorities were created to address erosion, flooding, and drought concerns regionally by managing at the watershed level. Conservation Authorities were given the ability to regulate under Section 28 of the Conservation Authorities Act (CA Act; Government of Ontario, 1990a). The Act obliges Conservation Authorities to implement Ontario Regulation (O.Reg.) 41/24, *Prohibited Activities, Exemptions and Permits* (formerly O.Reg. 174/06, *Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*) under Section 28.1 of the Conservation Authorities Act for relevant works. This project falls under the jurisdiction of the Rideau Valley Conservation Authority (RVCA).

Bill 23, which was passed on November 28th, 2022, and received Royal Assent the same day, introduced a series of legislative and proposed regulatory changes affecting conservation authorities. It is now in effect. Among the changes under Bill 23, the definition of “watercourse” was updated from an identifiable depression to a defined channel having a bed, and banks or sides.

## **3.0 PROPERTY IDENTIFICATION**

The Site is located directly north of St. Joseph Boulevard and east of the on-ramp to Regional Road 174 from Tenth Line Road (45.487258°N, 75.495144°W; Figure 1). It is approximately 1.59 ha in size, with the majority of the Site comprising an open, grass-dominated meadow, with small forest patches situated on the east side of the Site. The Site comprises two parcels: 3479 and 3459 St. Joseph Boulevard. It is zoned GM – General Mixed Use and is owned by 8417709 Canada Inc.

The Site is bordered by:

- Regional Road 174, residential properties and natural areas, including a portion of UNA #93 to the north;
- Residential and commercial properties, Taylor Creek, and a portion of UNA #93 to the east;
- St. Joseph Boulevard, residential properties, and natural areas, including UNA #88, to the south; and
- The on-ramp to Regional Road 174, undeveloped lands, and Tenth Line Road to the west.



## 4.0 METHODOLOGY

### 4.1 Desktop and Background Data Review

#### 4.1.1 Agency Oversight and Consultation

The Site is located within the jurisdictions of the City of Ottawa and Rideau Valley Conservation Authority. Consultation took place as part of the previous EIS for the Site (KAL, 2020). The need for an EIS was triggered by potential for significant wildlife habitat and significant valleylands on-site and/or within 120 m of the Site.

#### 4.1.2 General Records Review

Digital aerial imagery and other data layers from Google Earth Pro and the City of Ottawa's geoOttawa system were used to develop preliminary mapping of existing Site features and landcover and to inform how the Site may be divided into vegetation communities. Information on local and regional landforms and soils was obtained through provincial data sources, including soils reports, physiographic mapping, and geotechnical borehole data in the vicinity, to provide context for the Site (Schut & Wilson, 1987; Ontario Ministry of Mines, 2012, 2024).

#### 4.1.3 Species at Risk Desktop Screening

The review of existing information included a preliminary SAR screening for species listed under the federal SARA and provincial ESA. The screening functions to identify SAR having some potential to be in the broader vicinity of the Site. The screening was completed following the *Draft Client's Guide to Preliminary Screening for Species at Risk* (MECP, 2019). The MECP previously conducted reviews of Preliminary Screenings but no longer offers this service. The preliminary screening considered data sources including:

- Species at Risk in Ontario (SARO; Ministry of Environment, Conservation, and Parks (MECP, 2024));
- Species at Risk Public Registry (Government of Canada, 2024);
- Natural Heritage Information Centre (NHIC; Ministry of Natural Resources, and Forestry ((MNRF, 2024c));
- Land Information Ontario (MNRF, 2024b);
- Aquatic Species at Risk Map (DFO, 2023);
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2019);
- Ontario Breeding Birds Atlas (Birds Canada et al., 2009);
- Ontario Butterfly Atlas (Toronto Entomologists' Association, 2024);
- eBird (The Cornell Lab of Ornithology, 2023);
- iNaturalist (California Academy of Sciences and National Geographic Society, 2024);
- Bumble Bee Watch (Wildlife Preservation Canada et al., 2024);



- Recovery Strategy for the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and Tri-colored Bat (*Perimyotis subflavus*) in Ontario (Humphrey & Fotherby, 2019);
- Recovery Strategy for the Eastern Small-footed Myotis (*Myotis leibii*) in Ontario (Humphrey, 2017);
- Fish ON-Line (MNRF, 2024a); and
- Ontario Geotechnical Boreholes (Ontario Ministry of Mines, 2012).

## 4.2 Field Studies

### 4.2.1 2024 Site Work Summary

Prior field studies had taken place throughout the spring and summer of 2020. In 2024, KAL undertook an updated field program including Breeding Bird Surveys (BBS) and vegetation studies including a general tree survey and an Ecological Land Classification (ELC) update. The 2024 field studies are detailed in the sections below.

**Table 1 Summary of Field Studies**

Date	Purpose	Conditions	Personnel
June 10, 2024	<ul style="list-style-type: none"> <li>• Ecological Land Classification,</li> <li>• Tree Survey</li> </ul>	<ul style="list-style-type: none"> <li>• 11°C</li> <li>• Mostly cloudy</li> <li>• Winds 30 km/h</li> </ul>	Kesia Miyashita
June 11, 2024	<ul style="list-style-type: none"> <li>• Breeding Bird Survey 1</li> <li>• Ecological Land Classification</li> <li>• Tree Survey</li> </ul>	<ul style="list-style-type: none"> <li>• 11°C</li> <li>• Mostly cloudy</li> <li>• Winds 7 km/h</li> </ul>	Kesia Miyashita
June 21, 2024	<ul style="list-style-type: none"> <li>• Breeding Bird Survey 2</li> </ul>	<ul style="list-style-type: none"> <li>• 21°C</li> <li>• Mostly cloudy</li> <li>• Winds</li> </ul>	Kesia Miyashita

### 4.2.2 Ecological Land Classification

Vegetation communities on the Site were based on standard ELC methods for Ontario (Lee et al., 1998). The ELC methodology provides a consistent approach to identify, describe, and map vegetation communities or physiographic features on the landscape based on dominant plant species and soil composition. This method results in a standardized description of each vegetation community to capture the natural diversity and variability of communities within a site and to provide insight into available habitat and the type of species that may be present. More specifically, the classifications from ELC provide a basis for determining whether potential habitat for a given SAR or other ecological value may be present.

The desktop review of available aerial imagery and preliminary field visits informed how the Site was divided into vegetation communities based on variation in land cover, topography, and vegetation structure. During the ELC survey on June 10 and 11, 2024, the dominant plant species were recorded within each proposed ecosite in the field to further divide ecosites into vegetation types (the finest resolution in ELC), where possible. Representative photos of each ELC unit on the Site were taken and are included with the community descriptions in this report.



### 4.2.3 Tree Studies

A tree survey was undertaken on the Site on June 10 and 11, 2024, following TCR guidelines set forth by the City of Ottawa Forestry Staff (City of Ottawa, 2020b). As part of the survey process, Butternut (*Juglans cinerea*) and Black Ash (*Fraxinus nigra*) trees (both Endangered under the ESA) were specifically searched for.

### 4.2.4 Breeding Birds

Morning breeding bird surveys were performed using point counts following the Ontario Breeding Bird Atlas Guide for Participants (Ontario Breeding Bird Atlas, 2001). Breeding bird surveys are to be completed from survey stations that, combined, provide suitable viewing of all habitats on a site on calm weather days with light wind ( $\leq 3$  on the Beaufort scale<sup>1</sup> and no precipitation. Two rounds of surveys must take place between sunrise and five hours after sunrise between May 24 and July 10, with at least seven days between survey dates (Birds Canada et al., 2021). All incidental observations were recorded while moving between survey points as well as during other field visits. Birds were identified by vocalization and/or direct visual observation. KAL staff conducted breeding bird surveys on June 11 and 21, 2024. Two breeding bird survey stations were established to capture the range of habitats available on the Site.

The presence of regionally rare bird species was based on an analysis of data from the Atlas of Breeding Birds of Ontario (Birds Canada et al., 2009) based on Hill's Site Regions, now Ecoregions. The Ontario Wetland Evaluation System: Southern Manual (MNRF, 2022) also assisted with classifying regionally significant breeding birds in the area (Region 6). The presence of provincially and federally significant species was based on species listed under the ESA and SARA, respectively, and any other non-SAR species that are tracked by the Natural Heritage Information Centre (these species are considered provincially significant; (MNRF, 2024c).

## 5.0 EXISTING CONDITIONS

### 5.1 Landforms, Soils, and Geology

The Site is located within the Ottawa Valley Clay Plains physiographic region. Soils on the Site are mapped in Report No. 58 of the Ontario Institute of Pedology, *The Soils of the Regional Municipality of Ottawa-Carleton* (Schut & Wilson, 1987). Soils in the vicinity of the Site are characterized by clays or silty clays belonging to the Rideau soil association, which is comprised of heavy clay marine materials and is characterized by nearly level topography and generally poor drainage (Schut & Wilson, 1987). Available

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<sup>1</sup>The Beaufort Wind Force Scale is an empirical measure that relates wind speed to observed conditions at sea or land. The scale is as follows: **0**: calm, smoke rises vertically, wind speed <1 km/hr; **1**: light air, smoke drift indicates wind direction, leaves and wind vanes are stationary, wind speed = 1.1 – 5.5 km/hr; **2**: light breeze, wind felt on exposed skin, leaves rustle, wind vanes begin to move, wind speed = 5.6-11 km/hr; **3**: gentle breeze, leaves and small twigs constantly moving, light flags extended, wind speed – 12-19 km/hr.



data from geotechnical boreholes in the vicinity of the Site indicate clay overlaying sand or gravel and limestone bedrock (Ontario Ministry of Mines, 2012).

Soil cores taken as part of the Ecological Land Classification in 2024 are generally consistent with the soil characteristics in the vicinity of the Site. Soils in the meadow were characterized as stiff clay, while soils in the forested areas were characterized as sandy clay.

## 5.2 Surface Water, Groundwater and Fish Habitat

In the north-central portion of the Site, there is a relatively small (0.21 ha) Cattail Mineral Shallow Marsh Ecosite (MASM1-1; Figure 3). The marsh had approximately 10-20 cm of standing water during the field surveys in early June 2024. The wetland has existed as an isolated low-spot hydrologically isolated by surrounding development since at least 1979 based on geoOttawa imagery. The vegetation within the marsh community is discussed further in Section 5.3 below.

No other surface water features, fish habitat, or groundwater features were observed on the Site. Neither the wetland nor any other portion of the Site is indicated as being subject to regulation by the RVCA (Figure 2). While City of Ottawa OP Policy 4.8.1 Paragraph 5) provides that the “City shall take a no net loss approach with respect to evaluated wetlands deemed not provincially significant...”, that policy applies only outside the urban area and designated villages and thus does not limit the potential for the wetland on-site to be removed.



Figure 2. RVCA Regulation Limits (black and green dashed line, Site in red)












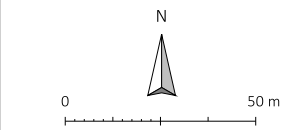
Figure 3 Breeding bird survey stations and ecological land classification

**Legend**

**ELC**

-  Commercial/Residential
-  CUM1-1
-  FOD8-1
-  MASM1

-  Bird Survey Station
-  Watercourse
-  Site Boundary



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 MTM Zone 9  
 (NAD 83)  
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## 5.3 Vegetation

### 5.3.1 Ecological Land Classification

Three landcovers or ELC units were delineated on the Site (Figure 3). The majority of the Site was characterized as a moist cultural meadow (CUM1-1). Two discrete forest communities were situated along the east edge of the Site, both dominated by Trembling Aspen (FOD8-1). The central portion of the Site was characterized as a Common Cattail-dominated shallow marsh (MASM1-1). These ELC units are discussed more fully in the sections below. Dominant species in each unit are included in the descriptions provided below; additional widespread or notable species are listed in Appendix B.

#### 5.3.1.1 Dry – Moist Old Field Meadow (CUM1-1)

The majority of the Site is characterized as a Dry – Moist Old Field Meadow (CUM1-1; Figure 3). The community is dominated by Kentucky Bluegrass (*Poa pratensis*), Wild Strawberry (*Fragaria virginiana*), Canada Goldenrod (*Solidago canadensis*), and Alsike Clover (*Trifolium hybridum*; Figure 4). Overall, the meadow is open; however, scattered trees, including American Elm (*Ulmus americana*), Green Ash (*Fraxinus pennsylvanica*), and Manitoba Maple (*Acer negundo*) are present, particularly around the perimeter of the meadow. Soil cores taken within the unit exhibited stiff clay, with some indications of mottling and gley between a depth of 20 and 30 cm. Although water was observed pooling in depressions at the surface throughout this unit, the soil cores did not encounter groundwater. While the shallow clay soils do appear to be subject to hydric influence, the vegetation community in this ecosite was observed to be fully upland/terrestrial in character.



**Figure 4 Dry – Fresh Old Field Meadow Ecosite (CUM1-1), looking south (photo taken June 10, 2024)**

#### 5.3.1.2 Fresh – Moist Poplar Deciduous Forest Type (FOD8-1)

Two discrete patches of a Fresh – Moist Poplar Deciduous Forest (FOD8-1) were situated along the east edge of the Site (Figure 3). The forest is dominated by Trembling Aspen (*Populus tremuloides*), with



American Elm and Green Ash. The subcanopy is dominated by Trembling Aspen saplings (Figure 5). The shrub layer is characterized by Wild Red Raspberry (*Rubus ideaus*), Common Chokecherry (*Prunus virginiana*) and White Meadowsweet (*Spiraea alba*). Groundcover tends to be dense and variable, with dominant species including Poison Ivy (*Toxicodendron radicans*), Virginia Creeper (*Parthenocissus quinquefolia*), Canada Goldenrod and Reed Canary Grass (*Phalaris arundinacea*). Soils were characterized as fairly dry sandy clay, transitioning to stiff sandy clay around a depth of 30 cm.



**Figure 5 Fresh – Moist Poplar Deciduous Forest (FOD8-1; photo taken June 10, 2024)**

#### 5.3.1.3 Cattail Mineral Shallow Marsh (MASM1-1)

A Cattail Mineral Shallow Marsh (MASM1-1) is situated near the middle of the Site, extending across the entire Site (Figure 3). It appears to be an isolated wetland, with no apparent hydrological connection to other aquatic features within the broader catchment. The wetland is dominated by Broadleaf Cattail (*Typha latifolia*), with Reed Canary Grass and Awlfruit Sedge (*Carex stipata*) along the edges (Figure 6). Soils within the MASM1-1 area were characterized as wet clay, with groundwater at the surface. Mottling and gley were observed at depths less than 10 cm.







**Figure 6 Cattail Mineral Shallow Marsh (MASM1-1), looking northwest (photo taken June 10, 2024)**

### **5.3.2 Tree Surveys**

A tree survey was performed for the Site following TCR guidelines set forth by the City of Ottawa Forestry Staff (City of Ottawa, 2020). KAL undertook the tree survey on June 10 and 11, 2024. Individual trees were scattered throughout the CUM1-1 ecosite and included predominantly American Elm, Green Ash, and Manitoba Maple, with DBH measurements ranging from 10 cm to 28 cm (Figure 7). A hedgerow comprising Eastern White Cedar and Manitoba Maple was situated along the back of the property in the southwest corner of the Site. The hedgerow comprised approximately 40 individual trees, with an average DBH of approximately 15 cm. Within the FOD8-1 deciduous forest ecosite, trees were surveyed as groupings, dominated by Trembling Aspen and Green Ash. The groupings were estimated to comprise approximately 250 trees, with an average DBH measurement of approximately 20 cm. No Butternut or Black Ash trees were detected on the Site. No large snags, evidence of Pileated Woodpecker (*Dryocopus pileatus*) activity, or potential bat roosting trees were observed on the Site. All surveyed trees and tree groupings are shown in Figure 7.

## **5.4 Wildlife Surveys**

### **5.4.1 Breeding Birds**





Two rounds of breeding bird surveys were conducted on June 11 and June 21, 2024. Two stations were established to capture the range of habitats on the Site (Figure 3). A summary of the weather conditions during the breeding bird surveys are provided in Table 2. Nine bird species were detected through vocalization and/or direct visual observation on or adjacent to the Site.

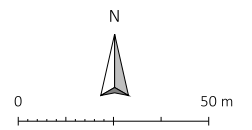




Figure 7 Existing Trees on Site

**Legend**

-  Trees
-  Wooded Area
-  Hedgerow
-  Site Boundary



Map File: CHAR1693-2407A.map  
 MTM Zone 9  
 (NAD 83)  
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**Table 2 Dates and weather conditions of breeding bird surveys**

Date	Wind (Beaufort Scale)	Air Temperature (°C)	Cloud Cover (%)	Precipitation
June 11, 2024	1 - 2	12	75-100	none
June 21, 2024	2	21	75-100	none

The following bird species were detected at the two breeding bird stations: American Goldfinch (*Spinus tristis*), American Robin (*Turdus migratorius*), Blue Jay (*Cyanocitta cristata*), Cedar Waxwing (*Bombycilla cedrorum*), Downy Woodpecker (*Dryobates pubescens*), Northern Cardinal (*Cardinalis cardinalis*), Red-winged Blackbird (*Agelaius phoeniceus*), Song Sparrow (*Melospiza melodia*), and Swamp Sparrow (*Melospiza georgiana*). All species observed are abundant and secure in Ontario. No Species at Risk (SAR) were observed on or adjacent to the Site.

#### 5.4.2 Incidental Wildlife Observations

Incidental wildlife observations included Red Fox (*Vulpes vulpes*) and Eastern Gray Squirrel (*Sciurus carolinensis*), both detected on June 11, 2024, along the edge of the woodland patch in the northeast corner of the Site.

#### 5.5 Species at Risk

The background review of existing observation records for species listed as Endangered, Threatened, or Special Concern under SARA and/or ESA identified 45 species that had an element occurrence record within 10 km (Appendix D). The list of identified species was reviewed to provide an initial estimate the likelihood of their occurrence on the Site and/or their potential to interact with future works on-site. The SAR assessment considered:

- Species habitat requirements;
- The habitat potential provided by the Site generally and the proximity of such possible habitats to future work areas; and
- The likely proximity of individuals to project areas (considering existing observational records and Site conditions).

Of the 45 species initially considered, twelve were identified as having some potential to interact with future development of the Site (Table 3).



**Table 3 Listed species with moderate or high potential to be impacted by future site works<sup>1</sup>**

Common Name	Taxonomic Name	ESA Status	SARA Status	Potential to Interact with Project	Observed On Site
<b>Birds</b>					
Common Nighthawk	<i>Chordeiles minor</i>	Special Concern	Threatened	Moderate	No observations on site during bird surveys or ELC habitat assessment.
Wood Thrush	<i>Hylocichla mustelina</i>	Special Concern	Threatened	Moderate	No observations on site with targeted BBS surveys.
<b>Mammals</b>					
Eastern Red Bat	<i>Lasiurus borealis</i>	Endangered (listed January 2025)	Not Listed	Moderate	No observations on-site (acoustic monitoring did not take place). Site trees are too small to support maternal roosting and no rock piles are present.
Eastern Small-footed Myotis	<i>Myotis leibii</i>	Endangered	Not Listed	Moderate	No observations on-site (acoustic monitoring did not take place). Site trees are too small to support maternal roosting and no rock piles are present.
Hoary Bat	<i>Lasiurus cinereus</i>	Endangered (listed January 2025)	Not Listed	Moderate	No observations on-site (acoustic monitoring did not take place). Site trees are too small to support maternal roosting and no rock piles are present.
Little Brown Myotis	<i>Myotis lucifugus</i>	Endangered	Endangered	Moderate	No observations on-site (acoustic monitoring did not take place). Site trees are too small to support maternal roosting.
Northern Myotis	<i>Myotis septentrionalis</i>	Endangered	Endangered	Moderate	No observations on-site (acoustic monitoring did not take place). Site trees are too small to support maternal roosting.
Silver-haired Bat	<i>Lasiurus noctivagans</i>	Endangered (listed January 2025)	Not Listed	Moderate	No observations on-site (acoustic monitoring did not take place). Site trees are too small to support maternal roosting.



Common Name	Taxonomic Name	ESA Status	SARA Status	Potential to Interact with Project	Observed On Site
Tri-colored Bat	<i>Perimyotis subflavus</i>	Endangered	Endangered	Moderate	No observations on-site (acoustic monitoring did not take place). Site trees are too small to support maternal roosting
<b>Amphibians</b>					
Western Chorus Frog	<i>Pseudacris triseriata</i>	Not Listed	Great Lakes/St. Lawrence population: Threatened	Moderate	No observations on-site, but targeted surveys not undertaken.
<b>Arthropods</b>					
Monarch	<i>Danaus plexippus</i>	Special Concern	Special Concern	Moderate	No observations on-site, but targeted surveys not undertaken.
Yellow-banded Bumble Bee	<i>Bombus terricola</i>	Special Concern	Special Concern	Moderate	No observations on-site, but targeted surveys not undertaken.

<sup>1</sup> Rows highlighted in yellow indicate species ranked as Threatened or Endangered under the ESA that have a moderate to high likelihood of occurring on the Site.

SAR presented in Table 3 that are not listed or are listed as Special Concern under the ESA are not considered further as SAR in this report because they do not receive individual or habitat protection under the ESA (whereas Threatened and Endangered species do). However, individuals of these species are protected under other regulations addressing wildlife conservation generally, such as the FWCA, MBCA, and the PPS. In addition, species listed as Special Concern under the ESA may receive habitat protection if they are observed in habitats that meet the criteria for designation as SWH for Special Concern Species (MNRF, 2015a). Species of Special Concern will be discussed with SWH in Section 5.6.

### 5.5.1 SAR Bats

Little Brown Myotis, Tri-colored Bat, Northern Myotis and Eastern Small-footed Myotis are all listed as Endangered provincially and are known to occur in the region (Humphrey, 2017; Humphrey & Fotherby, 2019). Roosting habitat for Little Brown Myotis, Northern Myotis, and Eastern Small-footed Myotis includes buildings, rock crevices, exfoliating tree bark, foliage, and cavities and crevices in trees (Humphrey, 2017; Humphrey & Fotherby, 2019). Tri-colored Bat prefers to roost in dead or live leaf clusters in trees, arboreal lichens, and within buildings (Humphrey and Fotherby, 2019). These species forage in a variety of forested and open areas, including over water, in riparian zones, and along forest edges (Humphrey, 2017; Humphrey & Fotherby, 2019).

Acoustic bat monitoring was not undertaken for the Site to document bat presence onsite. However, the forested areas within the eastern portion of the Site contain small and medium size trees ( $\leq 28$  cm DBH) that were observed to be in good to fair condition. No snags, significant exfoliating bark, large cavities, or trees with high potential for bat roosting were observed on the Site. Further, no evidence of Pileated Woodpecker activity was noted. Therefore, Site observations suggest that the Site is unlikely to provide opportunity for bat maternity colonies, but may provide non-maternal roosting and foraging habitat, which is not formally protected as SAR habitat or SWH.



Three additional bat species are newly listed under ESA as Endangered as of January 2025: Hoary Bat (*Lasiurus cinereus*), Silver-haired Bat (*Lasionycteris noctivagans*) and Eastern Red Bat (*Lasiurus borealis*). The habitat potential and consideration of the likelihood of presence provided above for previously listed bat species applies equally to these newly listed species.

## 5.6 Significant Natural Heritage Features

The Site is adjacent to areas identified by the City as part of the Natural Heritage System (City of Ottawa, 2021). Areas identified under Schedule C are considered to be, or have some potential to be, significant natural heritage features per the OP (City of Ottawa, 2021) and/or the Natural Heritage Reference Manual (MNR, 2010).

The Site does not contain Provincially Significant Wetlands, Significant Woodlands, Earth/ Life Science areas of Natural and Scientific Interest, or potentially significant wildlife corridors or greenspace linkages.

### 5.6.1 Urban Natural Areas

Four Urban Natural Areas (UNAs) are located in the broader vicinity of the Site (Figure 1). UNA #192 (unnamed) is located 175 m to the northwest of the Site, across Highway 174 (Figure 1). Its status has been listed as “approved for development” and is not a protected feature. UNA#92 - Petrie Island & Mainland and UNA#93 - Taylor Creek Valley are located to the north and east of the Site, respectively, and are recognized as Urban Natural Features (Figure 1). Both of these UNAs are situated more than 300 m from the Site and are separated from the Site by residential subdivisions and major roadways. As such, these features will not be considered further in this report.

UNA#88 – St. Joseph Boulevard Woods is located 55 m to the south of the Site on the opposite side of St. Joseph Boulevard, with portions of it identified as an Urban Natural Feature (Figure 1). The portion of UNA#88 closest to the Site (i.e., directly across St. Joseph Boulevard, but still behind existing houses on the south side of the road) has been classed as approved for development and is not protected as a natural feature.

UNA#88 comprises a narrow strip of deciduous and mixed woodland along north-facing shale and sandstone escarpment. Taylor Creek crosses the eastern end of the UNA, forming a waterfall as it flows over the escarpment. The creek and waterfall are more than 250 m from the Site. Forest cover within UNA#88 consists of young to sub-mature mixed upland forest with Sugar Maple, Eastern White Pine (*Pinus strobus*), Ironwood (*Ostrya virginiana*), and Basswood on upper escarpment slopes over sparse ground vegetation and small groves of upland coniferous forest (dominated by Eastern White Cedar) with very sparse undergrowth near Taylor Creek by the waterfall (Muncaster Environmental Planning Inc. & Brunton Consulting Services, 2005).

UNA#88 has a moderate native flora (Co-efficient of Conservation rating equal to 3.80), with low native biodiversity (59 native plant species), no Regionally Rare or Uncommon plant species, and a significant amount of garden and yard waste dumping along upper slopes, especially at trail access points (Muncaster Environmental Planning Inc. & Brunton Consulting Services, 2005). It is considered an “ordinary woodland” with limited potential for natural environment restoration or supporting significant features,



but potentially significant for the protection of escarpment slope integrity (Muncaster Environmental Planning Inc. & Brunton Consulting Services, 2005).

## **5.6.2 Significant Valleylands**

Significant Valleylands associated with three creeks are located within the vicinity of the Site. The first valleyland is associated with Taylor Creek and UNA#93. The second valleyland is associated with an unnamed creek northeast of the Site on the other side of Highway 174 (Figure 1). While both features are recognized as Urban Natural Features, both are located more than 300 m from the Site and are separated from it by residential subdivisions. The third valleyland, also associated with an unnamed creek, is located to the northwest of the Site. The upper edge of this feature is located just over 100 m from the Site and is separated from it by Highway 174 (Figure 1). The unnamed creek associated with this valleyland does not connect with or cross the Site. Its upstream end (i.e. on the south side of Highway 174) veers directly westward under Tenth Line Road. The intervening lands between the upper end of the valleyland and the protected eastern end of UNA#88 consist of an area of unevaluated wetland that is separated from the Site by the on-ramp to Highway 174. These valleylands will not be considered further here. No significant valleylands are located on the Site.

## **5.6.3 Significant Wildlife Habitat**

The Significant Wildlife Habitat (SWH) Criteria Schedule for Ecoregion 6E (MNRF, 2015a) identifies four main types of SWH: seasonal concentration areas, rare vegetation communities, specialized habitat for wildlife and habitats of Species of Conservation Concern.

SWHs are identified based on the presence of certain types of ecosites (identified through ELC codes) and the presence and/ or groupings of certain species. Note that even though SWH is defined on a provincial level by MNRF, the protection of confirmed SWH is a municipal matter. As such, the City of Ottawa is responsible for designating an area as SWH and determining the appropriate protections and/or mitigations.

### **5.6.3.1 Seasonal Concentration Areas**

Seasonal concentration areas include waterfowl stopover and staging areas (terrestrial and aquatic), shorebird and landbird migratory stopover areas, raptor wintering areas, bat hibernacula, maternity colonies, and migratory stopover areas, turtle wintering areas, reptile hibernaculum, nesting bird breeding habitat (bank/cliff, tree/shrub, and ground), migratory butterfly stopover areas, and deer yarding and winter congregation areas.

The background information review and fieldwork completed on the Site did not identify any seasonal concentration areas. No obvious signs or evidence of use as a seasonal area were observed and none are likely to occur on the Site.



### 5.6.3.2 Rare Vegetation Communities or Specialized Wildlife Habitat

#### **Rare Vegetation Communities**

Rare vegetation communities typically include those that have developed on cliff and talus slopes, sand barrens, shallow soils over limestone bedrock (alvar), old growth forests, savannahs, and tallgrass prairies. No rare vegetation communities were observed on the Site.

#### **Specialized Wildlife Habitat**

Specialized wildlife habitat includes waterfowl nesting areas, Bald Eagle and Osprey nesting, foraging and perching habitat, woodland raptor nesting habitat, turtle nesting areas, seeps and springs, woodland amphibian breeding habitat, wetland amphibian breeding habitat, and woodland area-sensitive bird breeding habitat.

The MASM1-1 wetland on the Site may provide amphibian breeding habitat, as shallow open water was observed during the site visits in June 2024. The Site thus meets the qualifying features for candidate SWH for wetland amphibian breeding habitat. However, targeted anuran surveys were not undertaken, and no amphibians were incidentally observed on-site. The MASM1-1 wetland is isolated and small in size, and therefore unlikely to qualify as candidate SWH.

No other specialized wildlife habitats were identified or observed on the Site.

### 5.6.3.3 Habitats of Species of Conservation Concern

Habitats of Species of Conservation Concern include marsh bird breeding habitat, open country bird habitat, shrub/early successional bird breeding habitat, terrestrial crayfish and special concern and rare wildlife species. Habitats of Species of Conservation Concern do not include habitats of Endangered or Threatened species as identified by the ESA.

Four species ranked as Special Concern were determined to have occurrence records within 10 km of the Site: Common Nighthawk, Wood Thrush, Monarch, and Yellow-banded Bumble Bee. The FOD8-1 vegetation community has potential to support Wood Thrush, while the CUM1-1 community has potential to support Common Nighthawk, Monarch, and Yellow-banded Bumble Bee; however, none of these species were detected during field studies in 2020 (KAL, 2020) or 2024. Therefore, the Site does not qualify as candidate SWH for special concern and rare wildlife species.

## **6.0 DESCRIPTION OF THE PROJECT**

The proposed development consists of four apartment buildings, with a total of 326 apartment units (Figure 8). The development includes a 1838.5 m<sup>2</sup> amenity space for residents but does not include public (i.e., municipal) park facilities (Figure 8). It is anticipated that site preparation will require full site regrading, which will require the removal of all trees on-Site.





383200 m

383400 m

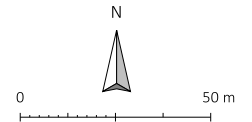
ON 174

ON 174

**Figure 8** Site Plan for proposed development

**Legend**

— Site Boundary



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MTM Zone 9  
(NAD 83)  
Printed on: 2025-01-28



5039200 m

5039200 m

5039000 m

5039000 m

ST. JOSEPH BLVD

ON 174

ST. JOSEPH BLVD

SITE PLAN

383200 m

383400 m

## 7.0 IMPACT ASSESSMENT AND MITIGATION

### 7.1 Surface Water

No connected surface water features are located directly within or adjacent to the Site. No adverse impacts are anticipated to aquatic or fish habitat and, as is fully disconnected from the broader catchment, it does not constitute a headwater feature. The marsh wetland on-site will be removed as part of site regrading prior to site development.

As the marsh wetland is fully outside established RVCA Regulation Limits (Figure 2), no formal permit is required from the RVCA to support its removal. Regardless, the hydrological function of the wetland to the broader catchment has been implicitly considered as part of the Development Servicing Study and Stormwater Management Report for the Site (Novatech, 2024). While a wetland may provide ecological services associated with water retention, post-development flows from the Site as a whole, given the planned SWM system, will be less than the maximum allowable release rate for the site based on current conditions (i.e. will not increase inappropriately for the broader catchment). Effectively, the removal of the small, isolated, wetland pocket will not constitute a significant negative impact on area hydrology.

The potential for sediment to be released into surface water features off-site during site preparation and construction should be mitigated using standard erosion and sediment control measures. To minimize impact to the roadside ditches adjacent to the Site, and the broader catchment during construction, an erosion and sediment control (ESC) plan will be required and must be developed to the satisfaction of RVCA. The ESC plan should include a multi-faceted approach to provide ESC including but not limited to:

- Silt fence paired with sturdy construction fence along the project perimeter to reduce potential sediment runoff. This fencing can also act as a wildlife exclusion measure for smaller and less mobile animals that may occupy or traverse across the Site, such as amphibians, turtles, and snakes;
  - Fencing (could be the silt fence) should be installed before the turtle nesting period (mid-May to early July) (MNR, 2015b);
- Regularly inspecting and maintaining the ESC measures after each precipitation event during all phases of the project;
- Retention of existing vegetation and stabilization of exposed soils with native vegetation where possible;
- Keeping the ESC measures in place until all disturbed ground has been permanently stabilized;
- Using biodegradable ESC materials where possible and removing all exposed non-biodegradable ESC materials once the Site is stabilized;
- Limiting the duration of soil exposure and phasing project works;
- Limiting the size of disturbed areas by minimizing nonessential clearing and grading;
- Minimizing the total slope length and the gradient of disturbed areas;
- Refueling of machinery should occur >30 m from surface water features and all machinery will remain on the project-side of silt and construction fence;



- Maintaining overland sheet flow and avoiding concentrated flows;
- Developing a response plan to be implemented immediately in the event of a spill of a deleterious substance;
  - Keeping an emergency spill kit on the Site;
  - the event of a spill, stopping work and containing deleterious substances to prevent dispersal; and,
- Reporting any spills of sewage, oil, fuel, or other deleterious material whether near or directly into a surface water feature.

## 7.2 Vegetation and Trees

No rare or unique vegetation communities or at-risk vegetation species were observed within the project area. All trees and other vegetation on-site will be removed under the proposed development plan. In total, trees with DBHs ranging from 11 cm to 28 cm will be removed, including 25 individual trees and three tree groupings (two forest patches and one hedgerow).

It is recommended that vegetation and trees to be planted as part of the proposed development be evenly distributed throughout the site to mitigate the loss of existing tree cover.

The following general protection measures are recommended during construction to limit impacts to trees:

- Woody vegetation removal should occur before April 15 or after August 15 for the protection of breeding birds and bats, unless a survey conducted by a qualified biologist within five days of the vegetation removal identifies no breeding activity. Note that it is very difficult to effectively complete bird nesting surveys in the upper canopies of forest habitats during the leaf-on period;
- To minimize impacts to retained trees (i.e., on adjacent properties) during development:
  - Sturdy construction fencing is recommended around the perimeter of the work areas to ensure the adjacent vegetation to be retained is not impacted by the construction and to isolate the work area from sensitive wildlife. Construction fencing should be combined with sediment fencing, which provides ESC and improved wildlife control over construction fencing alone. The protective fencing is to be installed at the outer limits of the critical root zone (CRZ; i.e., 10x the diameter at breast height);
  - Do not place any material or equipment within the CRZ of trees;
  - Do not attach any signs, notices, or posters to any trees;
  - Do not raise or lower the existing grade within the CRZ of trees without approval;
  - Tunnel or bore when digging within the CRZ of a tree;
  - Do not damage the root system, trunk, or branches of any remaining trees; and



- Ensure that exhaust fumes from all equipment are not directed toward any tree's canopy.
- Ensure equipment is clean prior to vegetation removal to avoid introducing invasive species to the Site, and clean equipment prior to leaving Site to avoid spreading invasives (e.g., Common Reed - *Phragmites australis*) elsewhere.

### **7.3 Species at Risk**

Four species of at-risk bats are listed as Endangered under the ESA and were considered to have a moderate potential to interact with future development of the Site. Site clearing will be scheduled to take place outside the bat breeding and roosting season (April 1 to September 30) to avoid potential impacts to bats.

### **7.4 Significant Natural Heritage Features**

#### **7.4.1 Urban Natural Areas**

The only Urban Natural Area occurring within 120 m of the Site is UNA#88, located approximately 55 m south of the Site. The wooded areas associated with this feature are common in their species composition and show signs of disturbance (Muncaster Environmental Planning Inc. & Brunton Consulting Services, 2005). The feature was demarcated as a UNA in part because it contains an escarpment. The escarpment and the entire UNA are separated from the Site by St. Joseph Boulevard and existing houses. The portion of the UNA closest to the Site (i.e., the portion behind the existing houses) has already been approved for development by the City. The increased residential density associated with the proposed development on the Site is unlikely to have an impact on the UNA or the escarpment beyond the current levels of disturbance.

#### **7.4.2 Significant Valleyland**

The only Significant Valleyland within 120 m of the Site is located approximately 100 m west of the Site and is separated from the Site by Highway 174. Valleylands may serve as wildlife corridors and are generally sensitive to erosion issues associated with development near their tops-of-bank (MNR, 2010). Corridor functionality between UNA#92 at the north end of this valleyland and UNA#88 to the south is likely severely curtailed by the presence of Highway 174. The watercourse associated with the valleyland crosses the highway west of the Site, beyond the highway on-ramp. Any limited corridor functionality associated with the valleyland would be constrained to this route under the highway, then across the wetland area west of the highway on-ramp, and so would be unaffected by the proposed development.

Highway 174 between the Site and the valleyland is significantly raised and likely to serve as a berm, providing an erosion control barrier between the proposed development and the upper slopes of the valleyland. No negative impacts are anticipated to the valleyland from the proposed development.



### **7.4.3 Significant Wildlife Habitat**

The Site meets the qualifying features for candidate SWH for wetland amphibian breeding habitat. No amphibians or special concern species were detected during field studies in 2020 (KAL, 2020) or 2024, suggesting that the Site does not meet the criteria for confirmed SWH for amphibian breeding.

### **7.5 Wildlife Mitigation**

The following mitigation measures shall be implemented during future construction to generally protect wildlife and potential SWH areas:

- As per the City of Ottawa’s Bird-Safe Design Guidelines (City of Ottawa, 2020a), proposed development should:
  - Consideration should be made to orientation of buildings to reduce reflection of attractive elements in glazing, to the extent possible;
  - Minimize the transparency and reflectivity of glazing;
  - Avoid or mitigate design traps (i.e., where courtyards or open-topped atria can entrap birds);
  - Consider other structural features (i.e., ventilation, antennas, and guy wires can be an issue);
  - Create safe bird-friendly landscaping to minimize reflections of trees and shrubs in nearby reflective buildings; and,
  - Design exterior and interior lighting to minimize light trespass at night.
- Areas shall not be altered or cleared during sensitive times of year for wildlife (breeding season; early spring to early summer) unless mitigation measures are implemented and/or the habitat has been inspected by a qualified Biologist.
- To limit the potential for interactions with turtle nests it is recommended that initial site clearing take place between October and May. A mitigation measure for turtle nesting areas is to ensure the project footprint is fenced off (i.e., silt fence) during the turtle nesting period (late May to early July) (MNR, 2015b). This should be done to ensure turtles are not nesting in areas that may be disturbed or destroyed due to construction activities if clearing occurs within the turtle nesting period.
  - Clearing of trees and/or vegetation should not take place April 1 to September 30 inclusive unless a qualified Biologist has determined that no birds are nesting or suitable bat roosting trees are present. The bird nest sweep would be valid for five days.



- The MBCA protects the nests and young of migratory breeding birds in Canada. The timing of nesting for birds in the area spans April 1 to August 31 (Government of Canada, 2018).
  - The breeding and roosting period for bats is recognized as April 1 to September 30 ((MNRF, 2015c)).
  - Initial earthworks should not take place early September to early May while snakes are hibernating (MNRF, 2016, 2018)
- Ensure that a wildlife management plan for the construction process and delivers environmental compliance and biodiversity training to all site workers to implement the plan. The plan should include (but not be limited to) requirements to:
    - Utilize silt fence paired with sturdy construction fence around soil stockpiles to serve as a wildlife exclusion measure to prevent smaller animals from accessing/utilizing temporary habitats on the Site (e.g., prevent turtles from nesting in stockpiles on the Site);
    - Any turtles or snakes observed in the vicinity of the work areas or that may otherwise be in danger should be encouraged to relocate outside of the development envelope. Animals should be moved only far enough to ensure their immediate safety and not off of the property. Any handling of SAR during construction for safe relocation purposes should be done by individuals who are properly trained to do so. The area should be monitored to prevent re-entry;
    - Check the entire work site for wildlife prior to beginning work each day;
    - Do not harm, feed, or unnecessarily harass wildlife;
    - Manage waste to prevent attracting wildlife to the work site. Effective mitigation measures include litter prevention and keeping all trash secured in wildlife-proof containers and promptly removing it from the work site, especially during warm weather;
    - Enforce a speed limit of 20 km/h during the active season (April 1 to September 30) to reduce wildlife mortality; and,
    - Manage stockpiles and equipment at the work site to prevent wildlife from being attracted to artificial habitat. Cover and contain any piles of soil, fill, brush, rocks, and other loose materials and cap ends of pipes where necessary to keep wildlife out. Ensure that trailers, bins, boxes, and vacant buildings are secured at the end of each workday to prevent access by wildlife.



## 8.0 CONCLUSION

It is our professional opinion that no significant negative impacts are likely to species at risk or their habitats, or to significant natural heritage features present in the broader project vicinity under the proposed project if all mitigation recommendations provided within this report are followed.

## 9.0 CLOSURE

This report was prepared for exclusive use by, and may be distributed only by, 8417709 Canada Inc. Questions relating to the data and interpretation can be addressed to the undersigned.

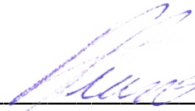
Respectfully submitted,

**KILGOUR & ASSOCIATES LTD.**



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## Appendix A Qualification of Report Authors



**Kesia Miyashita, MSc (Senior Biologist, Project Manager)**

Ms. Miyashita has over ten years of experience in environmental consulting and more than thirteen seasons of field experience in ecosystems in Ontario, Alberta, and British Columbia. During her career in environmental consulting, Ms. Miyashita has completed environmental assessments for a variety of major infrastructure projects and urban developments. Her expertise is in vascular and non-vascular plant ecology, with experience in both terrestrial and wetland ecosystems; she has performed vegetation community inventories, rare plant surveys, and invasive weed surveys in a variety of natural environments, including native forest, urban nature preserves, grasslands, and wetlands. Ms. Miyashita joined Kilgour & Associates Ltd. in May of 2021 and has since authored Environmental Impact Studies and Tree Conservation Reports and undertaken field surveys for flora and fauna, delineation of natural heritage features, and SAR surveys. Ms. Miyashita is a Professional Biologist with the Alberta Society of Professional Biologists and a Qualified Wetland Science Practitioner in the province of Alberta.

**Anthony Francis, PhD (Senior Ecologist)**

Dr. Francis is a Senior Ecologist with 20 years' consulting experience to both government agencies and private industry. He has worked on a diversity of projects relating to species at risk, invasive species, terrestrial and aquatic habitat, environmental effects monitoring and mitigation, and fate/effects of contaminants. Within each of these subject areas, Dr. Francis has completed projects addressing specific site concerns and broader policy initiatives.

In the Ottawa area he helps clients work their way through the land development process by producing key supporting studies such Environmental Impact Statements, Integrated Environmental Reviews, and by obtaining various permits and approvals from local regulatory agencies including the conservation authorities and Ministries of Environment and Natural Resources. Dr. Francis is our local in-house geomatics specialist, capable of carrying out detailed and complex analyses of geospatial data of plant and animal distribution. He often utilizes his skills to carry out constraint studies prior to a client purchasing or planning a development for a property.



## Appendix B Vascular Plant List



## Trees

Common Name	Scientific Name	ELC Codes	DBH Ranges
American Elm	<i>Ulmus americana</i>	CUM1-1, FOD8-1	12 – 24 cm
Basswood	<i>Tilia americana</i>	FOD8-1	
Bur Oak	<i>Quercus macrocarpa</i>	FOD8-1	
Eastern White Pine	<i>Pinus strobus</i>	CUM1-1	18 – 23 cm
Green Ash	<i>Fraxinus pennsylvanica</i>	FOD8-1	10 - 19 cm
Manitoba Maple	<i>Acer negundo</i>	CUM1-1	11 - 28 cm
Trembling Aspen	<i>Populus tremuloides</i>	FOD8-1	11 – 22 cm
Silver Maple	<i>Acer saccharinum</i>	CUM1-1	14 cm

## Understorey and Groundcover

Common Name	Scientific Name	ELC Codes
<b>Shrubs</b>		
Chokecherry	<i>Prunus virginiana</i>	FOD8-1
White Meadowsweet	<i>Spiraea alba</i>	FOD8-1
Wild Red Raspberry	<i>Rubus idaeus</i>	CUM1-1, FOD8-1
<b>Groundcover</b>		
Alsike Clover	<i>Trifolium hybridum</i>	CUM1-1
Awl-fruit Sedge	<i>Carex stipata</i>	MASM1
Canada Goldenrod	<i>Solidago canadensis</i>	CUM1-1, FOD8-1
Broad-leaf Cattail	<i>Typha latifolia</i>	MASM1
Cow Vetch	<i>Vicia cracca</i>	CUM1-1, FOD8-1
Curly Dock	<i>Rumex crispus</i>	CUM1-1, FOD8-1
Graceful Sedge	<i>Carex gracillima</i>	MASM1
Green Bulrush	<i>Scirpus atrovirens</i>	MASM1
Kentucky Bluegrass	<i>Poa pratensis</i>	CUM1-1
Meadow Foxtail	<i>Alopecurus pratensis</i>	CUM1-1
Limestone Meadow Sedge	<i>Carex granularis</i>	MASM1
Oxeye Daisy	<i>Leucanthemum vulgare</i>	CUM1-1
Perennial Rye-grass	<i>Lolium perenne</i>	CUM1-1
Perennial Sow-thistle	<i>Sonchus arvensis</i>	CUM1-1
Poison Ivy	<i>Toxicodendron radicans</i>	FOD8-1
Purple Loosestrife	<i>Lythrum salicaria</i>	CUM1-1, MASM1
Queen Anne's Lace	<i>Daucus carota</i>	CUM1-1, FOD8-1
Reed Canary Grass	<i>Phalaris arundinacea</i>	CUM1-1, FOD8-1, ELC3
Rough Cinquefoil	<i>Potentilla norvegica</i>	FOD8-1
Slender Rush	<i>Juncus tenuis</i>	MASM1
Canadian Black Snakeroot	<i>Sanicula canadensis</i>	FOD8-1
Smooth Brome	<i>Bromus inermis</i>	CUM1-1
Valerian	<i>Valeriana officinalis</i>	CUM1-1
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	FOD8-1
Wild Parsnip	<i>Pastinaca sativa</i>	CUM1-1
Wild Strawberry	<i>Fragaria virginiana</i>	CUM1-1, FOD8-1



## Appendix C Species at Risk Site Review





Species Name (Taxonomic Name)	Status under Endangered Species Act (ESA)	Status under Schedule 1 of the Species at Risk Act (SARA)	Closest Species Occurrence Record to the Site	General Habitat Requirements	Site Suitability	Potential for Protected Elements <sup>1</sup>		Potential for Negative Interactions with Protected Elements <sup>2</sup>
						Habitat	Individuals	
<b>Birds</b>								
Bank Swallow ( <i>Riparia riparia</i> )	Threatened	Threatened	Cornell Lab of Ornithology (2024) – approximately 1.5 km of Site	Colonial nester; burrows in eroding silt or sand banks, sand pit walls, and human-made sand piles. Often found on banks of rivers and lakes.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Barn Swallow ( <i>Hirundo rustica</i> )	Special Concern	Threatened	Cornell Lab of Ornithology (2024) – approximately 1.1 km of Site	Nests on barns and other structures. Forages in open areas for flying insects. Lives in close association with humans and prefers to nest on structures such as open barns, under bridges, and in culverts.	Buildings on-site may provide suitable nesting habitat, and open areas may provide foraging habitat.	Low	Low	Low
Black Tern ( <i>Chlidonias niger</i> )	Special Concern	Not at Risk	Cornell Lab of Ornithology (2024) – approximately 1.7 km of Site	Build floating nests in loose colonies in shallow marshes with abundant emergent vegetation, especially in cattails.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Bobolink ( <i>Dolichonyx oryzivorus</i> )	Threatened	Threatened	Cornell Lab of Ornithology (2024) – approximately 370 m of Site	Breeds in hayfields, pastures, agricultural fields, and abandoned fields with tall grass that are ≥5 ha, and preferably >30 ha.	Open meadow on-site may provide suitable habitat; however, the meadow is considerably smaller than optimal.	Low	Low	Low
Canada Warbler ( <i>Cardellina canadensis</i> )	Special Concern	Threatened	Cornell Lab of Ornithology (2024) – approximately 1.3 km of Site	Prefers moist forests with dense shrub layers. Nests located on or near the ground on mossy logs or roots, along stream banks or on hummocks. Area-sensitive species that usually require a minimum of 30 ha of continuous forest for breeding habitat (OMNR, 2000).	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Chimney Swift ( <i>Chaetura pelagica</i> )	Threatened	Threatened	Cornell Lab of Ornithology (2024) – approximately 1.7 km of Site	Nests in traditional-style open brick chimneys (and rarely in hollow trees). Tends to stay close to water.	The chimney of the building on-site does not appear to be uncapped, and thus does not provide suitable habitat.	Negligible	Negligible	Negligible
Common Nighthawk ( <i>Chordeiles minor</i> )	Special Concern	Threatened	Cornell Lab of Ornithology (2024) – approximately 670 m of Site	Nests in a wide variety of open sites, including beaches, fields, and gravel rooftops with little to no ground vegetation. They also nest in cultivated fields, orchards, urban parks, mine tailings and along gravel	Open meadow on-site may provide suitable habitat	Moderate	Moderate	Moderate



Species Name (Taxonomic Name)	Status under Endangered Species Act (ESA)	Status under Schedule 1 of the Species at Risk Act (SARA)	Closest Species Occurrence Record to the Site	General Habitat Requirements	Site Suitability	Potential for Protected Elements <sup>1</sup>		Potential for Negative Interactions with Protected Elements <sup>2</sup>
						Habitat	Individuals	
				roads/railways but tend to occupy more natural sites.				
Eastern Meadowlark ( <i>Sturnella magna</i> )	<b>Threatened</b>	<b>Threatened</b>	Cornell Lab of Ornithology (2024) – approximately 670 m of Site	Breeds in hayfields, pastures, agricultural fields, and abandoned fields with tall grass that are ≥5 ha, and preferably >30 ha.	Open meadow on-site may provide suitable habitat; however, the meadow is considerably smaller than optimal.	Low	Low	Low
Eastern Whip-poor-will ( <i>Antrostomus vociferus</i> )	<b>Special Concern</b>	<b>Threatened</b>	Cornell Lab of Ornithology (2024) – approximately 1.3 km of Site	Suitable breeding habitats generally include open and half treed areas and often exhibit a scattered distribution of treed and open space. Lays eggs directly on the forest floor. Roosts are typically located in forest habitat on a low branch or directly on the ground. Home range size varies from 20 to 500 ha (mean 136 ha) (ECCC, 2018a).	Forest edges and adjacent open areas may provide suitable habitat.	Low	Low	Low
Eastern Wood-Pewee ( <i>Contopus virens</i> )	<b>Special Concern</b>	<b>Special Concern</b>	Cornell Lab of Ornithology (2024) – approximately 780 m of Site	Woodland species often found in the mid-canopy layer near clearings and edges of intermediate age and mature deciduous and mixed forests with little understory.	Forest patches may provide suitable habitat; however, forest on-site have a dense understory (shrub and groundcover)	Low	Low	Low
Evening Grosbeak ( <i>Coccothraustes vespertinus</i> )	<b>Special Concern</b>	<b>Special Concern</b>	Cornell Lab of Ornithology (2024) – approximately 1.7 km of Site	Nests in trees or large shrubs. Prefers mature coniferous forests (fir and/or spruce dominated), but will also use deciduous forests, parklands, and orchards. Its abundance is strongly linked to the cycle of Spruce Budworm.	Forest patches may provide suitable habitat.	Low	Low	Low
Golden Eagle ( <i>Aquila chrysaetos</i> )	<b>Endangered</b>	<b>Not at Risk</b>	Cornell Lab of Ornithology (2024) –	Nests in remote, undisturbed areas, usually building their nests on ledges on a steep	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible



Species Name (Taxonomic Name)	Status under Endangered Species Act (ESA)	Status under Schedule 1 of the Species at Risk Act (SARA)	Closest Species Occurrence Record to the Site	General Habitat Requirements	Site Suitability	Potential for Protected Elements <sup>1</sup>		Potential for Negative Interactions with Protected Elements <sup>2</sup>
						Habitat	Individuals	
			approximately 1.5 km of Site	cliff/riverbank or large trees if needed. Most hunting is done near open areas such as large bogs or tundra. Migration only; no reported nests in Ottawa.				
Horned Grebe ( <i>Podiceps auritus</i> )	<b>Special Concern</b>	<b>Special Concern</b>	Cornell Lab of Ornithology (2024) – approximately 2.3 km of Site	Nest in small ponds, marshes, and shallow bays that contain areas of open water and emergent vegetation. Migrant only; no reported nests in Ottawa.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Hudsonian Godwit ( <i>Limosa haemastica</i> )	<b>Threatened</b>	<b>No Status</b>	Cornell Lab of Ornithology (2024) – approximately 1.5 km of Site	They use a wide variety of habitats during migration, such as freshwater marshes, saline lakes, flooded fields, shallow ponds, coastal wetlands, and mudflats. Migrant only; breeds in far north.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Least Bittern ( <i>Ixobrychus exilis</i> )	<b>Threatened</b>	<b>Threatened</b>	MNRF (2024a) – within 5 km of Site	Found in a variety of wetland habitats, but strongly prefers cattail marshes with a mix of open pools and channels. They prefer larger marshes >5 ha in size and are intolerant of loss of habitat and human disturbance (OMNR, 2000).	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Lesser Yellowlegs ( <i>Tringa flavipes</i> )	<b>Threatened</b>	<b>No Status</b>	Cornell Lab of Ornithology (2024) – approximately 660 m of Site	Breeds in boreal wetlands. Nests on dry ground or forest openings near peatlands, marshes, and ponds in the boreal forest and taiga (Government of Canada, 2021). Migrant only; nests in far north.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Olive-sided Flycatcher ( <i>Contopus cooperi</i> )	<b>Special Concern</b>	<b>Threatened</b>	Cornell Lab of Ornithology (2024) – approximately 2.4	Found along coniferous or mixed forest edges and openings. Will use forests that have been logged or burned if there are ample tall snags and trees to use for foraging perches.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Peregrine Falcon ( <i>Falco peregrinus</i> )	<b>Special Concern</b>	<b>Special Concern</b>	Cornell Lab of Ornithology (2024) – approximately 660 m of Site	Nests on tall, steep cliff ledges close to large bodies of water. Urban peregrines raise their young on ledges of tall buildings, even in busy downtown areas.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Red Knot	<b>Endangered</b>	<b>Endangered</b>	Cornell Lab of Ornithology (2024) –	Prefer open beaches, mudflats, and coastal lagoons where they	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible



Species Name (Taxonomic Name)	Status under Endangered Species Act (ESA)	Status under Schedule 1 of the Species at Risk Act (SARA)	Closest Species Occurrence Record to the Site	General Habitat Requirements	Site Suitability	Potential for Protected Elements <sup>1</sup>		Potential for Negative Interactions with Protected Elements <sup>2</sup>
						Habitat	Individuals	
<i>Calidris canutus rufa</i>			approximately 1.6 km of Site	feast on molluscs, crustaceans, and other invertebrates. Migrant only; nests in far north.				
Red-headed Woodpecker ( <i>Melanerpes erythrocephalus</i> )	Endangered	Endangered	MNRF (2024a) – within 5 km of Site	Lives in open woodland and woodland edges and is often found in parks, golf courses, and cemeteries. These areas typically have many dead trees, which the birds use for nesting and perching.	Forest patches and adjacent open areas may provide suitable habitat.	Low	Low	Low
Rusty Blackbird ( <i>Euphagus carolinus</i> )	Special Concern	Special Concern	Cornell Lab of Ornithology (2024) – approximately 1.5 km of Site	Prefers wet wooded or shrubby areas. Nests at edges of boreal wetlands and coniferous forests. These areas include bogs, marshes, and beaver ponds.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Short-eared Owl ( <i>Asio flammeus</i> )	Threatened	Special Concern	Cornell Lab of Ornithology (2024) – approximately 1.5 km of Site	Prefer a mosaic of grasslands and wetlands. Lives in open areas such as grasslands, marshes, and tundra where it nests on the ground and hunts for small mammals (Environment Canada, 2016c).	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Wood Thrush ( <i>Hylocichla mustelina</i> )	Special Concern	Threatened	Cornell Lab of Ornithology (2024) – approximately 1.7 km of Site	Lives in mature deciduous and mixed forests. They seek moist stands of trees with well-developed undergrowth and tall trees for singing and perching. Prefers nesting in large forest mosaics, but will also use fragmented forests. Usually build nests in Sugar Maple or American Beech.	Forest patches may provide suitable habitat; however, forest communities on-site are not part of a larger forest mosaic.	Low	Low	Low
<b>Mammals</b>								
Eastern Red Bat ( <i>Lariurus borealis</i> )	Endangered (January 2025)	No Status	COSWOC (2023) – in region	Roosts in both deciduous and coniferous forests of any age, among canopy foliage with open flight space below. Maternity roosts are often in large diameter, tall trees. Foraging occurs in forested and non-forested areas, above and below forest canopies.	Forest patches may provide some limited suitability as roosting habitat, and open areas may provide foraging habitat.	Moderate	Moderate	Moderate
Eastern Small-footed Myotis ( <i>Myotis leibii</i> )	Endangered	Not Listed	Humphrey (2017) – in region	In the spring and summer, Eastern Small-footed Myotis will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings,	Forest patches may provide some limited suitability as roosting habitat, and open areas may provide foraging habitat.	Moderate	Moderate	Moderate



Species Name (Taxonomic Name)	Status under Endangered Species Act (ESA)	Status under Schedule 1 of the Species at Risk Act (SARA)	Closest Species Occurrence Record to the Site	General Habitat Requirements	Site Suitability	Potential for Protected Elements <sup>1</sup>		Potential for Negative Interactions with Protected Elements <sup>2</sup>
						Habitat	Individuals	
				under bridges, or in caves, mines, or hollow trees. Overwinters in caves and abandoned mines.				
Hoary Bat ( <i>Lasiurus cinereus</i> )	<b>Endangered (January 2025)</b>	<b>No Status</b>	COSEWIC (2023) – in region	Roosts in both deciduous and coniferous forests of any age, among canopy foliage with open flight space below. Maternity roosts are often in large diameter, tall trees. Foraging occurs in open areas, wetlands, grasslands and open fields, with sparse trees.	Forest patches may provide some limited suitability as roosting habitat, and open areas may provide foraging habitat.	Moderate	Moderate	Moderate
Little Brown Myotis ( <i>Myotis lucifugus</i> )	<b>Endangered</b>	<b>Endangered</b>	Humphrey and Fotherby (2019) – in region	During the day they roost in trees and buildings. They often select attics, abandoned buildings, and barns for summer colonies where they can raise their young. They can squeeze through very tiny spaces (as small as six millimetres across) allowing them access to many different roosting areas.	Forest patches may provide some limited suitability as roosting habitat, and open areas may provide foraging habitat.	Moderate	Moderate	Moderate
Northern Myotis / Northern Long-eared Bat ( <i>Myotis septentrionalis</i> )	<b>Endangered</b>	<b>Endangered</b>	Humphrey and Fotherby (2019) – in region	Associated with deciduous and mixed forests, choosing to roost under loose bark and in the cavities of trees. They forage along and within forests as well as in hayfields and pastures adjacent to mixed forests.	Forest patches may provide some limited suitability as roosting habitat, and open areas may provide foraging habitat.	Moderate	Moderate	Moderate
Silver-haired Bat ( <i>Lasionycteris noctivagans</i> )	<b>Endangered (January 2025)</b>	<b>No Status</b>	COSEWIC (2023) – in region	Roosts under bark and in large decaying deciduous and coniferous tree cavities. Foraging occurs in young and mature forest openings and along forest edges.	Forest patches may provide some limited suitability as roosting habitat, and open areas may provide foraging habitat.	Moderate	Moderate	Moderate
Tri-colored Bat / Eastern Pipistrelle ( <i>Perimyotis subflavus</i> )	<b>Endangered</b>	<b>Endangered</b>	Humphrey and Fotherby (2019) – in region	Roosts mainly in trees during summer; overwinters in caves and mines along with other species, but often uses deeper parts of the hibernaculum. Foraging occurs in forested	Forest patches may provide some limited suitability as roosting habitat, and open areas may provide foraging habitat.	Moderate	Moderate	Moderate



Species Name (Taxonomic Name)	Status under Endangered Species Act (ESA)	Status under Schedule 1 of the Species at Risk Act (SARA)	Closest Species Occurrence Record to the Site	General Habitat Requirements	Site Suitability	Potential for Protected Elements <sup>1</sup>		Potential for Negative Interactions with Protected Elements <sup>2</sup>
						Habitat	Individuals	
				riparian areas, over water, and within gaps in forest canopies.				
<b>Amphibians</b>								
Western Chorus Frog ( <i>Pseudacris triseriata</i> )	<b>Not Listed</b>	Great Lakes/ St. Lawrence population: <b>Threatened</b>	MNRF (2024a) – within 5 km of the Site	Inhabits forest openings around woodland ponds but can also be found in or near damp meadows, marshes, bottomland swamps, and temporary ponds in open country, or even urban areas.	The marsh on-site may provide suitable habitat.	Moderate	Moderate	Moderate
<b>Reptiles</b>								
Blanding's Turtle ( <i>Emydoidea blandingii</i> )	<b>Threatened</b>	<b>Endangered</b>	MNRF (2024a) – within 5 km of the Site	Quiet lakes, streams, and wetlands with abundant emergent vegetation. Also frequently occurs in adjacent upland forests.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Eastern Milksnake ( <i>Lampropeltis triangulum</i> )	<b>Not Listed</b>	<b>Special Concern</b>	MNRF (2024a) – within 5 km of the Site	Found in a variety of open and edge habitats, including meadows, rocky outcrops, and forest edges. They can also inhabit forests. Further, they are often associated with human-made structures such as barns (Environment Canada, 2015b).	The open meadow on-site may provide suitable habitat.	Low	Low	Low
Eastern Musk Turtle / Stinkpot ( <i>Sternotherus odoratus</i> )	<b>Special Concern</b>	<b>Special Concern</b>	MNRF (2024a) – within 5 km of the Site	Found in lakes, ponds, marshes, and rivers that are generally slow-moving, have abundant emergent vegetation, and muddy bottoms that they burrow into for winter hibernation.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Midland Painted Turtle ( <i>Chrysemys picta marginata</i> )	<b>Not Listed</b>	<b>Special Concern</b>	California Academy of Sciences and National Geographic Society (2024) – approximately 670 m from Site	Inhabits waterbodies, such as ponds, marshes, lakes, and slow-moving creeks that have a soft bottom and provide abundant basking sites and aquatic vegetation. Often bask on shorelines or on logs and rocks that protrude from the water.	The marsh on-site may provide suitable habitat.	Low	Low	Low
Northern Map Turtle	<b>Special Concern</b>	<b>Special Concern</b>	California Academy of Sciences and National	Lives in rivers and lakeshores where it basks on emergent	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible



Species Name (Taxonomic Name)	Status under Endangered Species Act (ESA)	Status under Schedule 1 of the Species at Risk Act (SARA)	Closest Species Occurrence Record to the Site	General Habitat Requirements	Site Suitability	Potential for Protected Elements <sup>1</sup>		Potential for Negative Interactions with Protected Elements <sup>2</sup>
						Habitat	Individuals	
<i>(Graptemys geographica)</i>			Geographic Society (2024) – approximately 1.3 km from Site	rocks and fallen trees throughout the spring and summer. In winter, they hibernate on the bottom of deep, slow-moving sections of river.				
Snapping Turtle ( <i>Chelydra serpentina</i> )	<b>Special Concern</b>	<b>Special Concern</b>	California Academy of Sciences and National Geographic Society (2024) – approximately 625 m from Site	Spend most of their lives in the water. Prefer shallow waters so they can hide under the soft mud and leaf litter with only their noses exposed to the surface to breathe.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
<b>Arthropods</b>								
Monarch ( <i>Danaus plexippus</i> )	<b>Special Concern</b>	<b>Special Concern</b>	California Academy of Sciences and National Geographic Society (2024) – approximately 500 m from Site	Milkweeds are the sole food plant for Monarch caterpillars. These plants predominantly grow in open and periodically disturbed habitats such as roadsides, fields, wetlands, prairies, and open forests.	The meadow on-site contains scattered Milkweed and may therefore provide suitable habitat.	Moderate	Moderate	Moderate
Yellow-banded Bumble Bee ( <i>Bombus terricola</i> )	<b>Special Concern</b>	<b>Special Concern</b>	ECCC (2022) – in region California Academy of Sciences and National Geographic Society (2024) – approximately 950 m from Site	This species is a forage and habitat generalist, able to use a variety of nectaring plants and environmental conditions. Can be found in mixed woodlands, particularly for nesting and overwintering, as well as a variety of open habitat such as native grasslands, farmlands, and urban areas.	Forest patches and open meadows on-site may provide suitable habitat.	Moderate	Moderate	Moderate
<b>Fish</b>								
American Eel ( <i>Anguilla rostrata</i> )	<b>Endangered</b>	<b>No Status</b>	MNRF (2024a) – within 5 km of Site	Primarily nocturnal, hiding in soft substrate or submerged vegetation during the day.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Channel Darter ( <i>Percina copelandi</i> )	<b>Special Concern</b>	<b>Special Concern</b>	MNRF (2024a) – within 5 km of Site	Prefers clean streams and lakes with moderate current over sandy or rocky substrate.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Lake Sturgeon ( <i>Acipenser fulvescens</i> )	<b>Endangered</b>	<b>No Status</b>	MNRF (2024a) – within 5 km of Site	Only found in large lakes and rivers. Forages in cool water, 4-9 m deep over soft substrate; spawns in shallower, fast-flowing areas over rocks or gravel.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Northern Brook Lamprey ( <i>Ichthyomyzon fossor</i> )	<b>Special Concern</b>	<b>Special Concern</b>	MNRF (2024a) – within 5 km of Site	Inhabits clear, coolwater streams. The larval stage requires soft substrates such as silt and sand for burrowing	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible



Species Name (Taxonomic Name)	Status under Endangered Species Act (ESA)	Status under Schedule 1 of the Species at Risk Act (SARA)	Closest Species Occurrence Record to the Site	General Habitat Requirements	Site Suitability	Potential for Protected Elements <sup>1</sup>		Potential for Negative Interactions with Protected Elements <sup>2</sup>
						Habitat	Individuals	
				which are often found in the slow-moving portions of a stream. Adults are found in areas associated with spawning, including fast flowing riffles comprised of rock or gravel.				
River Redhorse ( <i>Moxostoma carinatum</i> )	Special Concern	Special Concern	DFO (2023) – within 5 km of Site	Prefers fast-flowing, clear rivers over rocky substrate.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
Silver Lamprey ( <i>Ichthyomyzon unicuspis</i> )	Special Concern	Special Concern	MNRF (2024a) – within 5 km of Site	Requires clear water where they can find fish hosts, relatively clean stream beds of sand and organic debris for larvae to live in, and unrestricted migration routes for spawning. Larvae live 4-7 years in burrows (prefer soft substrates); filter-feed on plankton.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
<b>Molluscs</b>								
Hickorynut ( <i>Obovaria olivaria</i> )	Endangered	Endangered	MNRF (2024a) – within 5 km of Site	Live on the sandy beds in large, wide, deep rivers – usually more than two or three metres deep – with a moderate to strong current. Ottawa River.	The Site does not appear to contain suitable habitat.	Negligible	Negligible	Negligible
<b>Vascular Plants</b>								
Black Ash ( <i>Fraxinus nigra</i> )	Endangered	No Status	MNRF (2024a) – within 5 km of Site	Predominantly a wetland species found in swamps, floodplains, and fens.	The Site does not appear to contain suitable habitat. Black Ash was not detected in 2020 or 2024	Negligible	Negligible	Negligible
Butternut ( <i>Juglans cinerea</i> )	Endangered	Endangered	California Academy of Sciences and National Geographic Society (2024) – approximately 290 m from Site	Commonly found in riparian habitats but is also found on rich, moist, well-drained loams and well-drained gravels, especially those of limestone origin.	Moist forest edges may provide suitable habitat; however, Butternut was not detected during surveys in 2020 or 2024	Low	Low	Low

