

# **437 Donald Munro B. Munro Drive**

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## **SCOPED Environmental Impact Statement**

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### List of Acronyms and Definitions

ABBO - Atlas of Breeding Birds of Ontario  
ANSI – Area of Natural and Scientific Interest  
BHA - Butternut Health Assessment/Butternut Health Assessor  
CC - Co-Efficient of Conservation  
DBH - Diameter at breast height  
DFO – Fisheries and Oceans Canada  
EIS – Environmental Impact Statement  
ELC - Ecological Land Classification  
ESA - *Endangered Species Act* (Provincial)  
GPS – Global Positioning System  
NAD 83: North American Datum 1983  
UTM: Universal Transverse Mercator  
LIO - Land Information Ontario  
MVCA – Mississippi Valley Conservation Authority  
MTO – Ministry of Transportation Ontario  
NHIC – Natural Heritage Information Centre  
NHRM - Natural Heritage Reference Manual  
OMNR/MNRF - Ontario Ministry of Natural Resources (old name)  
-Ministry of Natural Resources and Forestry (new name)  
OP – Official Plan  
OWES - Ontario Wetland Evaluation System  
PPS - Provincial Policy Statement  
PSW - Provincially Significant Wetlands  
SAR - Species at Risk (in this report they refer to species that are provincially or federally listed as endangered or threatened and receive protection under ESA or SARA)  
SARA - *Species at Risk Act* (Federal)  
SARO - Species at Risk in Ontario  
SWH - Significant Wildlife Habitat  
SWHCS – Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E  
SWHTG - Significant Wildlife Habitat Technical Guide

**SRANK DEFINITIONS**

- S1** Critically Imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.
- S2** Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.
- S3** Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
- S4** Apparently Secure; uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5** Secure; Common, widespread, and abundant in the nation or state/province.
- ?** Inexact Numeric Rank—Denotes inexact numeric rank
- SNR** Unranked, Nation or state/province conservation status not yet assessed.
- SNA** Not Applicable, A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
- S#S#** Range Rank, A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).
- S#B** Breeding
- S#N** Non-Breeding

**SARA STATUS DEFINITIONS**

- END** Endangered: a wildlife species facing imminent extirpation or extinction.
- THR** Threatened: a wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
- SC** Special Concern, a wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.

**SARO STATUS DEFINITIONS**

- END** Endangered: A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA.
- THR** Threatened: A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.
- SC** Special concern: A species with characteristics that make it sensitive to human activities or natural events.

**Coefficient of Conservatism Ranking Criteria**

- 0** Obligate to ruderal areas.

- 1 Occurs more frequently in ruderal areas than natural areas.
- 2 Facultative to ruderal and natural areas.
- 3 Occurs less frequent in ruderal areas than natural areas.
- 4 Occurs much more frequently in natural areas than ruderal areas.
- 5 Obligate to natural areas (quality of area is low).
- 6 Weak affinity to high-quality natural areas.
- 7 Moderate affinity to high-quality natural areas.
- 8 High affinity to high-quality natural areas.
- 9 Very high affinity to high-quality natural areas.
- 10 Obligate to high-quality natural areas.

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## 1.0 INTRODUCTION

Mapleleaf Custom Homes, hereafter referred to as the proponent, is proposing to re-develop an existing single lot found at 437 Donald B. Munro Drive in the Village of Carp, Ontario (Figure 1). The property is in part of Lot 18, Concession 3 in the City of Ottawa (Township of Huntley). This single lot is approximately 0.2 ha. Bowfin Environmental Consulting Inc. (Bowfin) was retained to complete an Environmental Impact Statement (EIS).

As per the Official Plan (OP) of the City of Ottawa (2008), a scoped EIS can be completed for single-lot developments. The following natural heritage matters were identified as needing to be addressed in a scoped EIS by the City of Ottawa during the pre-consultation:

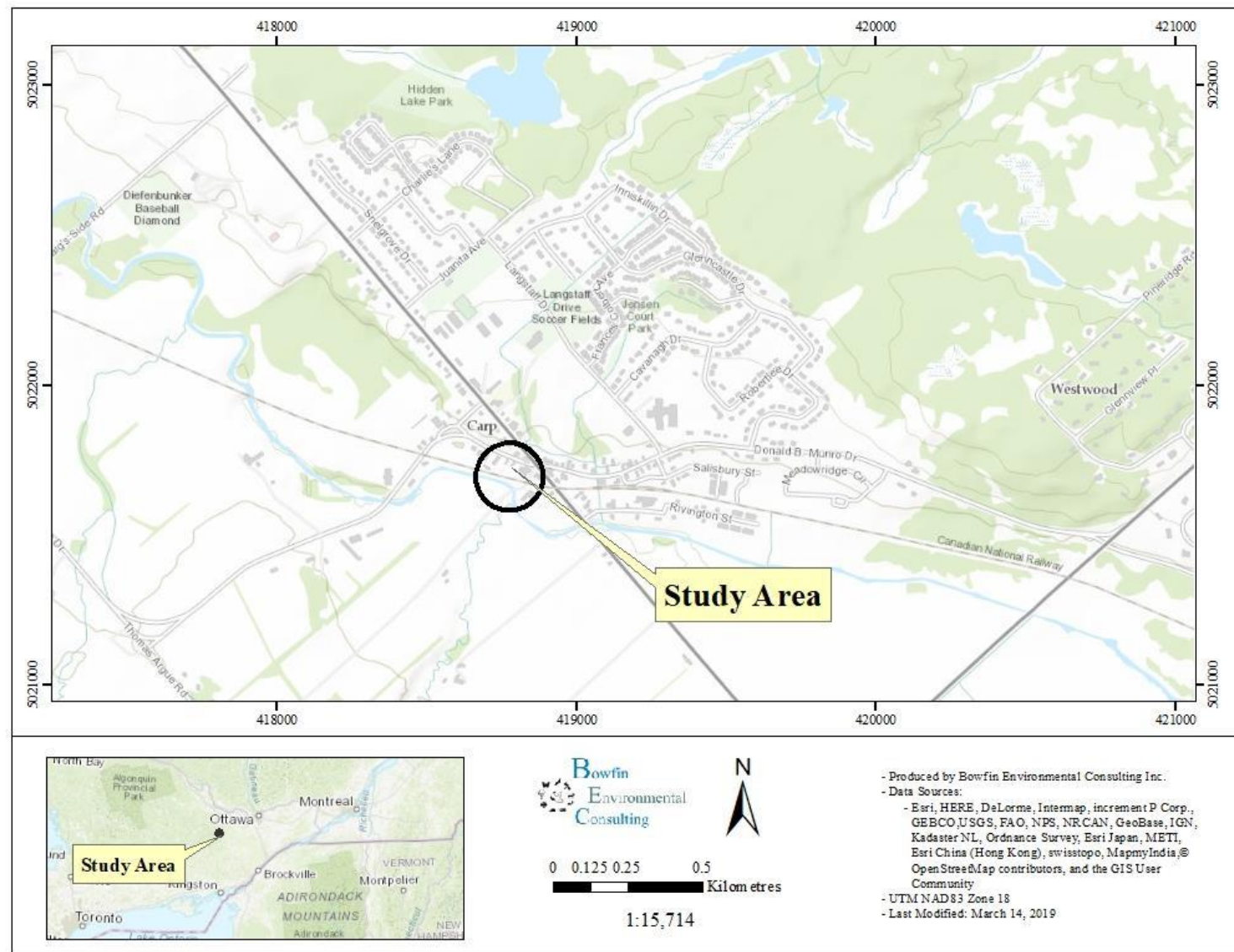
1. The site is located to the north and within the adjacent lands (within 120 m) of part of the Natural Heritage System (Carp River).
2. There is a watercourse along the south end of the subject lands, along the lot line (railroad ditch).
3. Potential for Species at Risk (SAR) to be present. Note that it is known that chimney swifts are present within 120 m on either side of the property.

This Scoped EIS follows the *City of Ottawa Environmental Impact Statement Guidelines* (City of Ottawa, 2015). Boundaries of any significant features will be noted and the potential for the proposed land development to cause negative impacts is assessed. For those features which may be negatively impacted, mitigation measures and where appropriate compensation measures are recommended.

The field work for the EIS was led by Michelle Lavictoire who has a Master of Science in Natural Resource Sciences and over 20 years of experience in completing natural environment assessments.

The paragraphs below outline the methods, followed by a review of the available background information and a description of the site's existing conditions. This information is used to evaluate the potential impacts to the features and to make recommendations in terms of the EIS.

Figure 1: General Location of the Study Area





## **2.0 METHODS**

Work undertaken for the completion of this project included a background review of existing information and field investigations.

### **2.1 Study Area**

The study area (Figure 2) varied with the item being surveyed. For the most part, the OP calls for an evaluation of the subject lands and the adjacent 120 m. The detailed field investigations, and assessments were completed within the subject lands (area proposed to be developed). These investigations also included general observations and sampling within the adjacent lands. The background review and consideration for the potential for species at risk (SAR) included a larger study area. The study area for each item is described in the methods below.

### **2.2 Background Review**

The background review began with preliminary mapping of the vegetation communities, in the subject lands and the adjacent 120 m, as a desktop exercise. The search of databases and available background data also included the adjacent  $\pm 5$  km.

The background search of available records and consulting reports was made to gather information on the known and potential occurrences of SAR within the project area. The following web sources were reviewed during the background review: Natural Heritage Information Centre (NHIC), species at risk in Ontario website, Land Information Ontario (LIO), and Atlas of Breeding Birds of Ontario (ABBO). Citizen science databases such as eBird, iNaturalist, and the Ontario Reptile and Amphibian Atlas were also consulted. For this portion of the City of Ottawa, natural heritage features are designated on Schedules A, K, and L of the OP. As mentioned above, Carp is not shown on Schedule B because it is not part of the urban area.

### **2.3 Field Studies**

Information on the features was collected during numerous visits scheduled throughout 2019. The methods for the types of surveys conducted are described below. A summary of the dates, times, ambient conditions and purpose for the visits are provided in (Table 1).

### **2.3.1 Description of Vegetation Communities and Flora Observations**

To assess the potential for SAR or their habitat, the vegetation communities within the subject lands and the adjacent 120 m were described. Sufficient level of detail was collected to provide general habitat descriptions and identify preferred habitats for various SAR.

The field studies were completed by systematically travelling through the study area and by ground truthing the results from the preliminary mapping exercise. Habitat descriptions were based on the appropriate methodologies such as: *Ontario Wetland Evaluation System, Southern Manual* (OWES) (OMNR, 2013a) for wetland habitats and the *Ecological Land Classification for Southern Ontario* 1<sup>st</sup> approximation for terrestrial habitats (ELC) (Lee *et al.*, 1998). Note that OWES took precedent over the ELC where an OWES wetland community was present. The OWES definition of wetland habitat is:

*“Lands that are seasonally or permanently flooded by shallow water as well as lands where the water table is close to the surface; in either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic or water tolerant plants”.*

OWES defines the wetland boundary as the location where over 50% of the plant community consists of upland species with the woody vegetation layer (trees and shrubs) taking precedence over the herbaceous layer (OMNR, 2013a). Furthermore, the presence of large numbers of obligate upland species requires an upland classification. Unless they contain a special feature or function wetlands smaller than 0.5 ha were not delineated.

Plants that could not be identified in the field were collected for a more detailed examination in the laboratory. Nomenclature used in this report follows the Southern Ontario Plant List (Bradley, 2009) for both common and scientific names which are based on Newmaster *et al.* (1998). Authorities for scientific names are given in Newmaster *et al.* (1998). Specific attention was paid to locating SAR or species of conservation value (any S1-S3 species) listed as potentially occurring within the study area. Any specimen observed was photographed and its coordinates were recorded on a GPS using NAD83.

### **2.3.2 Species at Risk Surveys**

The Ministry of Environment, Conservation and Parks (MECP) has recently taken over the *Endangered Species Act* and is now responsible for its implementation. At this time, the existing protocols developed by the Ministry of Natural Resources and Forestry (MNRF) are still applicable. An inquiry to MNRF had been sent prior to the MECP fully taking over. No response was received. As such, another inquiry was sent to the MECP general mailbox on April 5, 2019. No response was received.

### *Butternut Inventory*

The Butternut Health Assessment (BHA) was completed by a registered Butternut Health Assessor. As per the protocol, the first step is to search in and within a minimum of 25 m of the subject lands. Note that the survey area was extended to include >25 to 50 m because, as per communications with MECP, depending on the findings the habitat of butternuts (25-50 m from the individuals) may also be protected. Any individuals noted would be marked with white spray paint and flagging tape and numbered sequentially. Their UTM's, using a GPS unit set at NAD83, would be recorded and the individual would be assessed according to the BHA protocol by a qualified Butternut Health Assessor. As will be noted further on, only one (hybrid) butternut was found.

### *Daytime Breeding Bird Surveys*

The subject lands contained no natural habitats. The adjacent lands to the south consisted of railroad, Carp River and agricultural fields. The adjacent lands to the east, west and north consisted of buildings with chimneys and the City of Ottawa indicated that chimney swifts were known to be in the area.

The trees along the Carp River were searched for potential raptor nests. The raptor nest survey consisted of looking for evidence of nesting (such as stick nests, food caches, whitewashing of branches and foliage, accumulation of feathers/fur or prey remains on the ground or in shrubs as per the *Significant Wildlife Habitat Technical Guide* (SWHTG; OMNR, 2000, Appendix O) as well as the raptors themselves.

Breeding bird information was gathered during visits completed during the breeding bird survey period. Since, there is no continuous grassland habitat between the subject lands and the adjacent lands, no grassland breeding bird surveys were completed. Instead, the breeding bird surveys focused on other SAR such as barn swallow and chimney swifts.

- Information on breeding birds were collected on: June 3, and June 21 2019.
- Surveys began no earlier than 30 minutes after dawn and completed by midday;
- Visits were/will be conducted on days with no rain, little to no wind and good visibility;
- The survey type was point counts. Given the size of the property a single point count was needed. Additional information was gathered while walking around the subject lands and the adjacent 120 m. The point count method consists of:
  - 5-min point count stations spaced 300 m apart (or as near as 100 m if needed to obtain information from all habitat types)
  - Listening and observing over the specified time period and recording the number of birds heard/seen, their sex, location, behaviour and interactions with others; and

- Birds were identified by sound and/or sight.

During every site visit some time was taken to look for the presence of SAR birds.

Chimney swifts are known to nest in the adjacent lands. Evening chimney swift survey was completed based on the *Connecticut Chimney Swift Monitoring Protocol* (Chimney Watch, 2019). Only one survey was required to locate the nest habitats (May 24, 2019). The methods were as follows:

- Evening observations began 20 minutes prior to sunset.
- Observations began 20 minutes prior to sunset and continued for 5 minutes after the last bird was seen entering the chimney. If no birds were observed, the observations ended 20 minutes after sunset.
- All individuals seen entering the chimney were counted.

#### **2.3.4 Bat Cavity**

There are now four bat species listed as endangered or threatened under the provincial *Endangered Species Act* (ESA). The potential to impact these species depends on the presence/absence of critical habitat: hibernation or maternity sites. Significant hibernacula habitats are typically situated in caves. There were no caves present as such, no hibernacula surveys were completed. The maternity sites for little brown bat, northern bat and tri-colored bat tend to be in trees. Little brown bats and tri-colored bats may also use buildings (COSEWIC, 2013a). The potential maternity sites for the eastern small-footed myotis consists of open areas with rocky habitat and much more rarely, old buildings (Humphrey 2017).

The subject lands contained no forests or rocky habitat. The individual trees found along the edge of the property were searched to identify potential cavity trees that may be used for day-roost sites. Information collected consisted of tree species, diameter at breast height (dbh), presence/absence of cavity, description of cavity and snag class. The survey was completed on May 15, 2019 during leaf-off period to facilitate the detection of bat cavities.

#### **2.3.5 Basking Turtle Surveys**

There is no record of Blanding's turtle in or within 2 km of the site. Information requests were sent to both MNR and MECP and no response was provided. The City of Ottawa did not indicate that this species or its habitat was present. However, given the presence of Blanding's turtles in the general Carp area, turtle surveys were conducted for completeness.

The MNR *Occurrence Survey Protocol for Blanding's Turtle (*Emydoidea blandingii*) in Ontario* (OMNR, 2013b) was followed. This protocol requires a minimum of five basking

surveys in suitable habitat using Blanding's turtle general habitat description by MNRF. For this site, the surveys were undertaken along the ditches and the Carp River along the train tracks. The survey period begins following ice-melt and ends on June 15<sup>th</sup>. The spacing of surveys should be such that a minimum period of 3 weeks is covered.

The MNRF requires that basking surveys be completed between 8 am and 5 pm during sunny periods and when air temperature is at least 10°C (partially cloudy is accepted if air temperature is above 15°C and is warmer than the water temperature) (OMNR, 2013b). When possible, surveys should target days immediately following inclement weather, when turtles would be more prone to basking.

Information to be collected included: names of observers, date of survey, start and stop time, weather conditions, number and species of turtles observed, and their location would be noted using a hand-held GPS.

#### **2.3.6 Fish Habitat Description**

The City of Ottawa indicated that a watercourse was situated on the south side of the lot. To assess the potential impacts to fish habitat, fish communities or fish species at risk (SAR) the site and the adjacent lands (120 m) were searched for aquatic habitats. Features were then assessed based on the point observation technique used by *Ontario Stream Assessment Protocol* (Stanfield, 2013) and the Ministry of Transportation of Ontario (MTO)'s *Environmental Guide for Fish and Fish Habitat October 2006* (MTO, 2006). The channel morphology was described using evenly spaced transects upon which data was recorded from evenly spaced observation points. The data collected included: channel width, wetted width, bankfull depth, water depth, substrate size, morphological units and in-stream cover. The habitat assessment was completed on May 24, 2019.

#### **2.3.7 Fish Community Sampling**

The habitat assessment documented the presence of railroad ditches along the south edge of the site and Carp River within 120 m of the site. Fish community sampling was performed in railway ditches of the subject lands to document the fish communities and the use of the available habitat by fish. The sites were sampled with a dipnet during the spring on April 29, 2019. The fish were to be identified, counted, measured and released. The transect length, approximate width and effort were also recorded. The Carp River provides year-round fish habitat and sufficient information is available for this system. No sampling of the Carp River was conducted.

### 2.3.8 Incidental Fauna Observations

During all visits, any wildlife observations were recorded. Incidental observations included observations of an individual, its tracks, burrows, feces and/or kill sights. Particular attention was made to note any SAR during any visit.

Table 1: Summary of Dates and Times of Site Investigations

Date	Time (h)	Staff	Air Temperature (Min-Max) °C	Weather	Purpose
April 29, 2019	1045-1200	M. Lavictoire E. Theberge	7.0-11.0 (-3.6 – 9.6)	Clear skies with light haze, light air	-Initial Visit -Fish Sampling -Turtle Survey
May 8, 2019	1200-1230	M. Lavictoire A. Yates	10.0 (1.6-14.0)	Clear skies, light air to light breeze	-Turtle Survey
May 15, 2019	1000-1100	C. Fontaine A. Yates	14.0-15.0 (1.0-13.3)	80% cloud cover changing to 50% cloud cover, light air	-Butternut Inventory -Bat Maternity -Plant Inventory -Turtle Survey
May 22, 2019	1315-1345	M. Lavictoire	19.0 (5.7-19.6)	Clear skies with light haze, light air	-Turtle Survey
May 24, 2019	1730-2115	M. Brochu E. Theberge A. Yates	18.0 (10.4-20.2)	60% cloud cover, light air changing to clear skies, calm	-Fish Habitat Assessment -Chimney Swift Survey
June 3, 2019	0745-0815	M. Lavictoire	10.0 (5.0-15.4)	0% to 75% cloud cover, gentle breeze	-Vegetation Descriptions -Breeding Bird Survey
June 6, 2019	1230-1300	E. Theberge	21-22 (9.2-22.5)	Clear skies with light air to light breeze changing to light air	-Turtle Survey
June 21, 2019	0645-0700	M. Lavictoire	(15.6-23.7)	No rain	-Butternut Assessment -Breeding Bird Survey

M. Lavictoire – Michelle (Nunas) Lavictoire – B. Sc. Wildlife Resources and M.Sc. Natural Resources

C. Fontaine - Cody Fontaine - Fisheries and Wildlife Technologist

M. Brochu – Melissa Brochu – M. Sc. Environmental and Life Sciences and Fisheries and Wildlife Technician

E. Theberge – Elysabeth Theberge —B.Sc., M.Sc. Biology

A. Yates – Abby Yates – B.Sc. Env. Ecology

\*Min-Max Temp Taken From: Environment Canada. National Climate Data and Information Archive. Ottawa International Airport. Available <http://climate.weatheroffice.gc.ca/> [June 29, 2019]

## **3.0 SCOPED EIS**

### **3.1 Property Information**

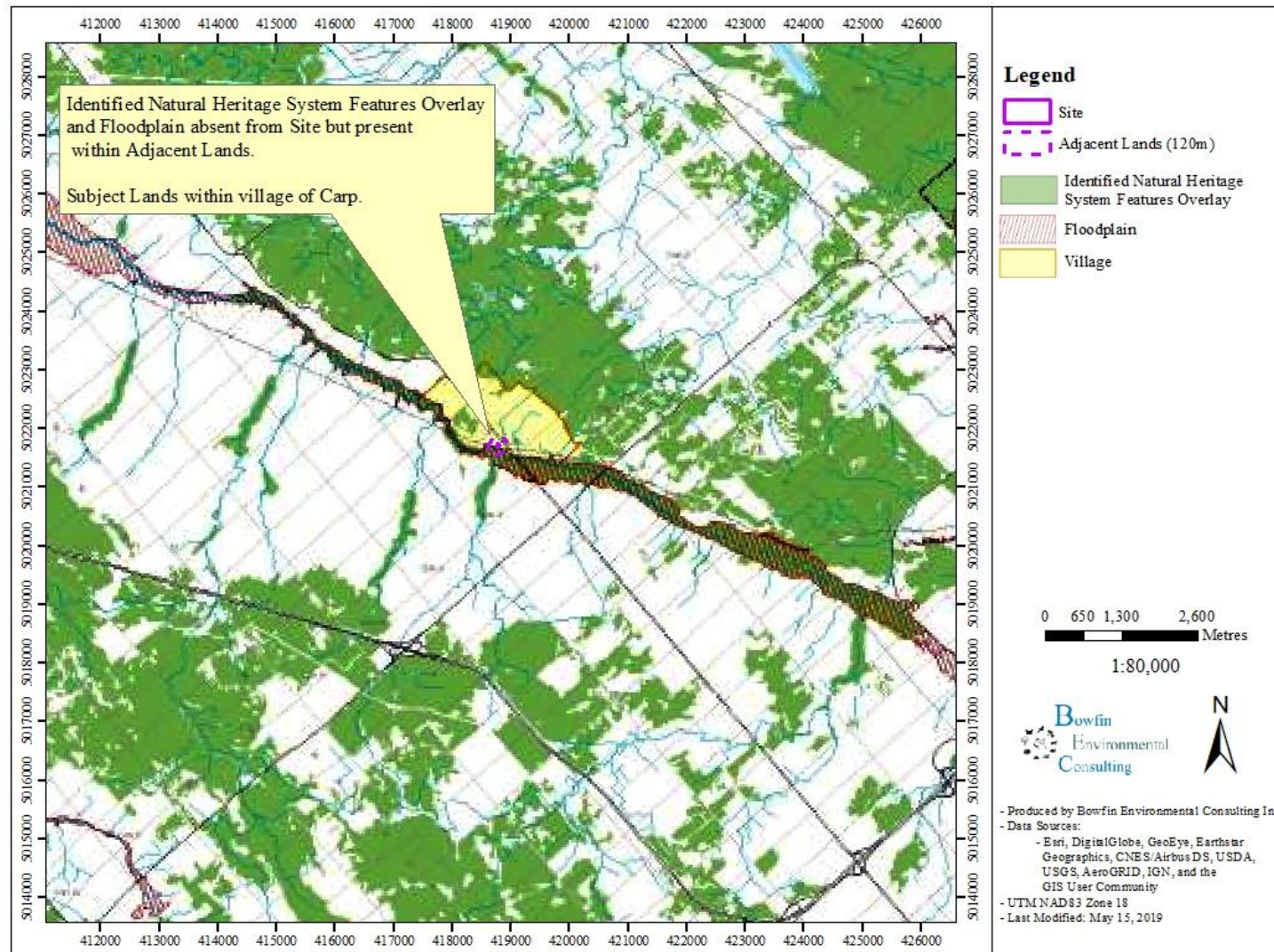
437 Donald B. Munro Drive in the Village of Carp, Ontario (Figure 1). The property is in part of Lot 18, Concession 3 in the City of Ottawa (Township of Huntley). The site is situated in the Village of Carp.

A review of GeoOttawa mapping indicates that a single dwelling/building with a was present until at least 2015 and had been removed by 2017. A shed was also present but was removed prior to 2011.

For the most part, the surrounding land-uses are a mix of commercial and residences. The only natural heritage features identified was the Carp River, situated 20 m to the south of the lot and separated from the property by a railroad. Further south, the adjacent land use is agriculture.



Figure 2: General Map of Natural Environment (Schedule L3 – West)





### 3.3 Physiography and Geological Maps

In general, the area was flat and is identified as Clay Plains in the mapping from the *Characterization of Ottawa's Watershed: An Environment Foundation Document with Supporting Information Base* (March 2011). A summary of the information from the above-mentioned report and maps is provided in Table 2.

Soil samples taken during the habitat descriptions indicated that the site consisted of loam and sandy clay loam which agrees with the information for the soils map of the area which shows the study area as having the Jockvale soil association (which tends to have fine sandy loam, loamy fine sand or fine sand and poor drainage) (*Soils of Regional Municipality of Ottawa-Carleton*).

There were no lakes, ponds, streams or groundwater seeps within the subject lands. Railroad ditches were present south of the lot and those were dry by May 8, 2019, despite a wet spring.

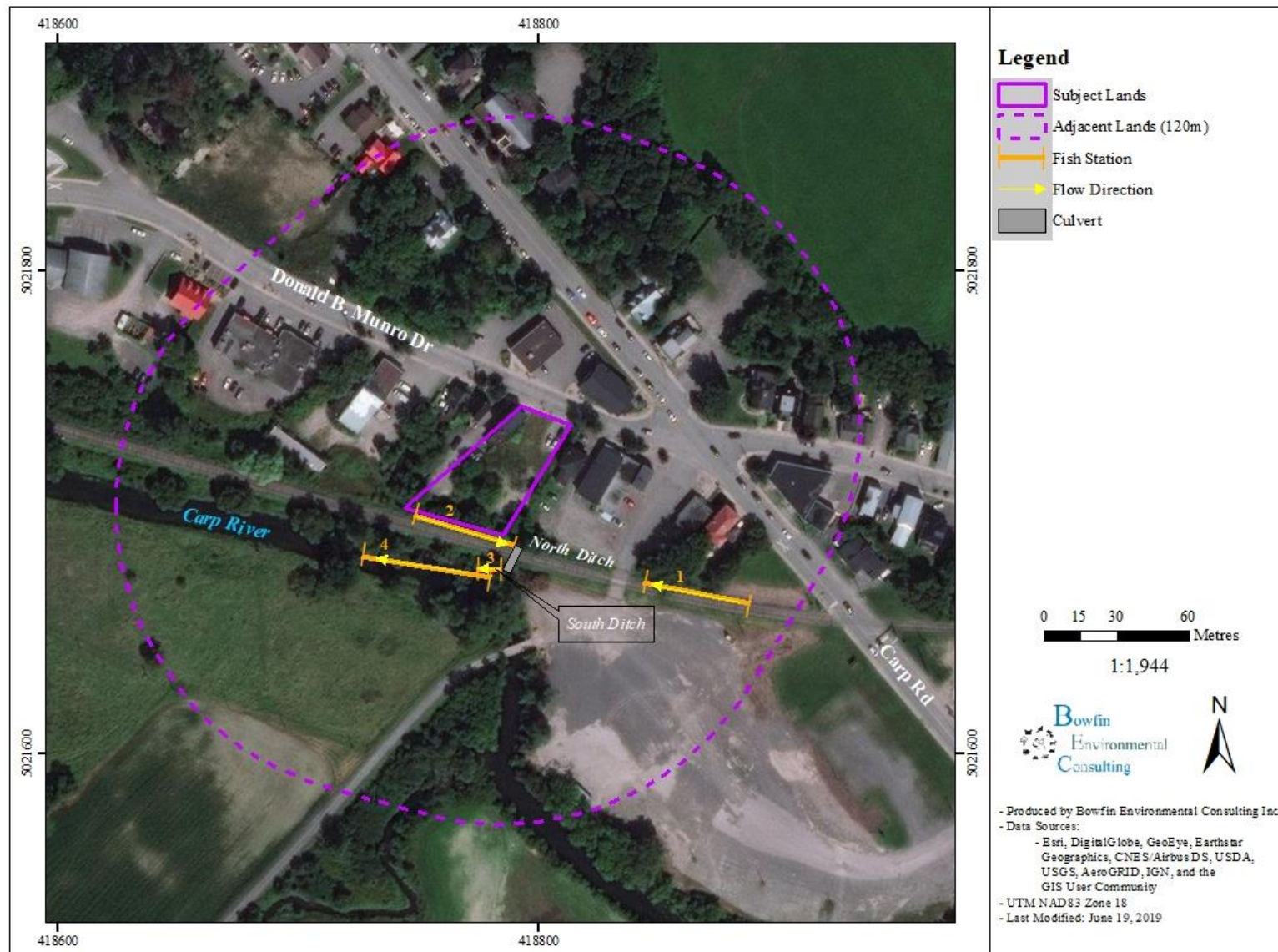
Table 2: Summary of Soil and Geography Information Available from the Characterization of Ottawa's Watershed Maps

Map	Classification
Bedrock	Limestone and shale, interbedded
Surficial Geology	Glaciomarine, clay, silt
Physiography Unit	Clay Plains
Permeability	High
Overburden Depth	Deep
Hydrological Soil Group	D

### 3.2 Surface Water, Groundwater and Fish Habitat

There was no surface water on-site. The nearest features were the railroad ditches to the south of the lot line and the Carp River. These ditches convey water to the Carp River, located south of the railroad. The Carp River is approximately 20 m south of the subject lands and flows in an east to west direction (Figure 3).

Figure 3: Location of Surface Water Features, and Fish Habitat Sampling Stations



A search through available records and available consulting reports was made in order to gather existing information on the fish habitat and community within the project area. The following web sources were used during the background review:

- Natural Heritage Information Centre (NHIC)
- Land Information Ontario – Aquatic Resource Area (LIO-ARA layer)
- DFO (Department of Fisheries and Oceans) on-line Aquatic Species at Risk website
- Consulting reports
- Mississippi Valley Conservation Authority (2018 Watershed Report Card)
- Ottawa Official Plans (OP)

The Carp River is approximately 42 km long from its headwaters near Glen Cairn to its outlet on the Ottawa River at Fitzroy Harbor. It drains about 306 km<sup>2</sup> and provides permanent fish habitat. The land use in the headwaters is predominantly urban. The land use for the rest of the Carp River watershed is predominantly rural (Robinson Consultants, 2004). A total of 35 fish species are listed as occurring within 5 km upstream and downstream of the subject lands in the Carp River. Redhorses are also identified, but not identified to species. These, along with information sources are summarized in Table 3. All fish species present are common forage fish or game fish. The DFO Aquatic Species at Risk Map (2019) did not indicate the presence of any SAR in the Carp River near the subject lands.

Sufficient information on the Carp River was available and no fish sampling was conducted. No information on the potential for fish use of the railroad ditches was available. Fish community sampling was completed during the spring of 2019. The date was delayed due to the slow snow melt.

The snowpack and flow in the general area has been summarized to put the conditions observed during the field work into context. The winter of 2018-2019 received a lot of snow (>250 cm by early March) and there were no significant thaw events, resulting in an above-average snowpack. By early April there was still a considerable amount of snowpack across the Mississippi Valley watershed. Snow still remained on-site on April 8, 2019. The Carp River remained in flood conditions and 17 mm of rain fell in the seven days prior to the May 24, 2019 visit for the fish habitat assessment of the fish sampling stations.

Table 3: Historical Fish Species in the Carp River

Common Name	Scientific Name	Trophic Class*	Thermal Regime	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	References
Northern Pike	<i>Esox lucius</i>	carnivore	cool	S5			OMNRF, 2014
Muskellunge	<i>Esox masquinongy</i>	carnivore	warm	S4			OMNRF, 2014
Central Mudminnow	<i>Umbra limi</i>	invertivore	cool	S5			OMNRF, 2014
Brassy Minnow	<i>Hybognathus hankinsoni</i>	planktivore/ detritivore	cool	S5			OMNRF, 2014
Common Shiner	<i>Luxilus cornutus</i>	invertivore	cool	S5			OMNRF, 2014
Northern Pearl Dace	<i>Margariscus nachtriebi</i>	invertivore/carnivore	cool	S5			OMNRF, 2014
Golden Shiner	<i>Notemigonus crysoleucas</i>	invertivore/herbivore	cool	S5			OMNRF, 2014
Emerald Shiner	<i>Notropis atherinoides</i>	planktivore	cool	S5			OMNRF, 2014
Blackchin Shiner	<i>Notropis heterodon</i>	invertivore	cool	S4	NAR		OMNRF, 2014
Blacknose Shiner	<i>Notropis heterolepis</i>	invertivore/ herbivore	cool	S5			OMNRF, 2014
Mimic Shiner	<i>Notropis volucellus</i>	invertivore/herbivore	warm	S5			OMNRF, 2014
Northern Redbelly Dace	<i>Chrosomus eos</i>	invertivore/planktivore	cool	S5			OMNRF, 2014
Finescale Dace	<i>Chrosomus neogaeus</i>	invertivore/planktivore	cool	S5			OMNRF, 2014
Bluntnose Minnow	<i>Pimephales notatus</i>	detritivore	warm	S5	NAR		OMNRF, 2014
Fathead Minnow	<i>Pimephales promelas</i>	detritivore/ invertivore	warm	S5			OMNRF, 2014
Eastern Blacknose Dace	<i>Rhinichthys atratulus</i>	invertivore	cool	S5			OMNRF, 2014
Longnose Dace	<i>Rhinichthys cataractae</i>	invertivore	cool	S5			OMNRF, 2014
Creek Chub	<i>Semotilus atromaculatus</i>	invertivore/ carnivore	cool	S5			OMNRF, 2014
White Sucker	<i>Catostomus commersonii</i>	invertivore/ detritivore	cool	S5			OMNRF, 2014
Northern Hog Sucker	<i>Hypentelium nigricans</i>	invertivore/herbivore	warm	S4			OMNRF, 2014
Unidentified Redhorse	<i>Moxostoma sp</i>						OMNRF, 2014
Brown Bullhead	<i>Ameiurus nebulosus</i>	invertivore/ herbivore/ carnivore	warm	S5			OMNRF, 2014

Common Name	Scientific Name	Trophic Class*	Thermal Regime	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	References
Trout-perch	<i>Percopsis omiscomaycus</i>	invertivore/ carnivore	cold	S5			OMNRF, 2014
Burbot	<i>Lota lota</i>	invertivore/ carnivore	cold	S5			OMNRF, 2014
Banded Killifish	<i>Fundulus diaphanus</i>	invertivore/planktivore	cool	S5	NAR		OMNRF, 2014
Brook Stickleback	<i>Culaea inconstans</i>	planktivore/invertivore	cool	S5			OMNRF, 2014
Mottled Sculpin	<i>Cottus bairdii</i>	invertivore	cool	S5			OMNRF, 2014
Rock Bass	<i>Ambloplites rupestris</i>	invertivore/carnivore	cool	S5			OMNRF, 2014
Pumpkinseed	<i>Lepomis gibbosus</i>	invertivore/carnivore	warm	S5			OMNRF, 2014
Smallmouth Bass	<i>Micropterus dolomieu</i>	invertivore/ carnivore	cool	S5			OMNRF, 2014
Iowa darter	<i>Etheostoma exile</i>	invertivore	cool	S5			OMNRF, 2014
Johnny Darter	<i>Etheostoma nigrum</i>	invertivore	cool	S5			OMNRF, 2014
Tessellated Darter	<i>Etheostoma olmstedi</i>	invertivore	cool	S4	NAR		OMNRF, 2014
Yellow Perch	<i>Perca flavescens</i>	invertivore/ carnivore	cool	S5			OMNRF, 2014
Logperch	<i>Percina caprodes</i>	invertivore	warm	S5			OMNRF, 2014
Johnny/Tessellated Darter	<i>Etheostoma nigrum/ Etheostoma olmstedi</i>						OMNRF, 2014
Unidentified darter	<i>Etheostoma sp</i>						OMNRF, 2014

Status Updated April 1, 2019

(Coker et al., 2001; LIO, 2014; MTO, 2006; MVCA, 2018; Page et al., 2013; Scott & Crossman, 1973)

#### **SRANK DEFINITIONS**

- S4** Apparently Secure, Uncommon but not rare; some cause for long-term concern due to declines or other factors.  
**S5** Secure, Common, widespread, and abundant in the nation or state/province.

### **3.2.1 Habitat and Fish Community Descriptions**

#### ***North Ditch***

The North Ditch at Station 1 flowed in a southeast to northwest direction. The feature was a constructed, straight, ditch located along the northern edge of a railroad. The North Ditch was located approximately immediately south of the site's lot. At the downstream end, the water flowed through a culvert passing under the railroad bridge and into the Carp River (at Station 3).

#### **Station 1**

Station 1 was located approximately 65 m south of Donald Munro Drive and was 46 m in length. This portion of the North Ditch flowed in a southeast to northwest direction. The average channel width was 1.2 m and the average bankfull height 8 cm. On April 29<sup>th</sup>, the average wetted width and water depth obtained were 0.9 m and 7 cm (range 5-16 cm), respectively. The site was dry by the May 8, 2019 visit. The substrate consisted primarily of sand with few areas of cobble, pebble and gravel. The in-water cover was provided by few areas of terrestrial vegetation, with most of the station containing no cover. No signs of erosion were noted, but large amounts of sand and gravel deposition was observed at the downstream end (at a culvert). The tops of the banks were partially vegetated, the left bank contained vegetation where the right bank was mostly rock (i.e. railroad tracks). The most common species were grasses, wild garlic, Virginia creeper, common dandelion, common buckthorn, Japanese knotweed, wild red raspberry and Manitoba maple. The station contained areas of no canopy cover, with a few areas of partial coverage.

During the April 29, 2019 visit, the station was dip netted over an area of approximately 42 m<sup>2</sup>. No fish were captured or observed.





Photo 1: Station 1 looking downstream from the upstream end (April 29, 2019)



Photo 2: Station 1 looking downstream from the upstream end (May 24, 2019)



**Station 2**

Station 2 was located along the south lot line of 437 Donald Munro Drive, and was 44 m in length. This portion of the Ditch flowed in a northwest to southeast direction. The average channel width was 0.8 m and the average bankfull height 7 cm. This section was dry on April 29<sup>th</sup>, 2019. The substrate consisted of sand and cobble. The in-water cover was provided entirely by terrestrial vegetation (Japanese knotweed). No signs of erosion were noted. The tops of the banks were partially vegetated, the right bank contained vegetation where the left bank was mostly rock (i.e. railroad tracks). The most common species were Japanese knotweed, Virginia waterleaf, Manitoba maple and a butternut hybrid. The station contained poor canopy cover.

No sampling occurred during the April 29, 2019 visit due to a lack of water.



Photo 3: Station 2 looking downstream from the upstream end (May 24, 2019)

**Station 3**

This feature conveyed water from the North Ditch to the Carp River. It was 10 m long. The average channel width was 0.7 m and the average bankfull height 4 cm. The feature was dry



during the April 29, 2019 visit. The substrate consisted of fines. The in-water cover was provided mostly by woody material and remnant vegetation (i.e., Japanese knotweed) and one small area contained no cover. Signs of erosion were noted at the downstream end of the station, as the mouth (at the Carp River) of the feature had collapsed creating a 50 cm high step (Photo 5). The top of the banks were partially vegetated. The most common species were lesser celandine, garlic mustard, ferns, Japanese knotweed and Manitoba maple. The station contained mostly moderate canopy cover.

During the May 24, 2019 visit, iron staining was observed at the downstream end of Station 3, on the bank of the Carp River, suggesting groundwater seepage.

No sampling occurred during the April 29, 2019 visit due to a lack of water.



Photo 4: Station 3 looking upstream from the downstream end (May 24, 2019)



Photo 5: Downstream end of Station 3 as it meets with the Carp River. The mouth has collapsed.  
(May 24, 2019)

### ***Carp River***

The Carp River was located approximately 20 m south of the subject lands.

### **Station 4**

Station 4 was 56 m in length. This feature flowed in an east to west direction. The average channel width was estimated at 13 m and the average bankfull height was estimated at 47 cm. The channel could not be safely waded across during the visit. The water depth was over 60 cm. The substrate was soft and consisted of fines. The presence of large woody material was noted within the station. Erosion on the right bank was noted (exposed tree roots and slumping of shore), while sediment deposition was noted on the left bank. The banks were partially vegetated. These species include: grasses, garlic mustard, common buckthorn, honeysuckle species, wild red raspberry, Japanese knotweed, Manitoba maple, white ash and crack willow. The station contained partial canopy cover, with an area containing no cover.





Photo 6: Station 4 looking upstream from the downstream end (May 24, 2019)

### **3.2.2 Surface Water Conclusions**

The railroad ditch and the south ditch that conveys its flow to the Carp River did not provide direct fish habitat during anytime of year. The water leaving the site, does contribute to the Carp River. The Carp River provides year-round fish habitat for a variety of species.

### **3.3 Vegetation Cover and Habitat for Plant SAR**

Within the site, the vegetation was limited to mostly herbaceous species (i.e. common vetch, grass, red clover, ground ivy, wild parsnip, common dandelion, annual ragweed) with areas of exposed soil and gravel. Around the edge of the property the vegetation includes many invasive species (i.e. Siberian elm, dame's rocket, Japanese knotweed) as well as Manitoba maple.

Figure 4: Satellite Image of Site and Adjacent Lands

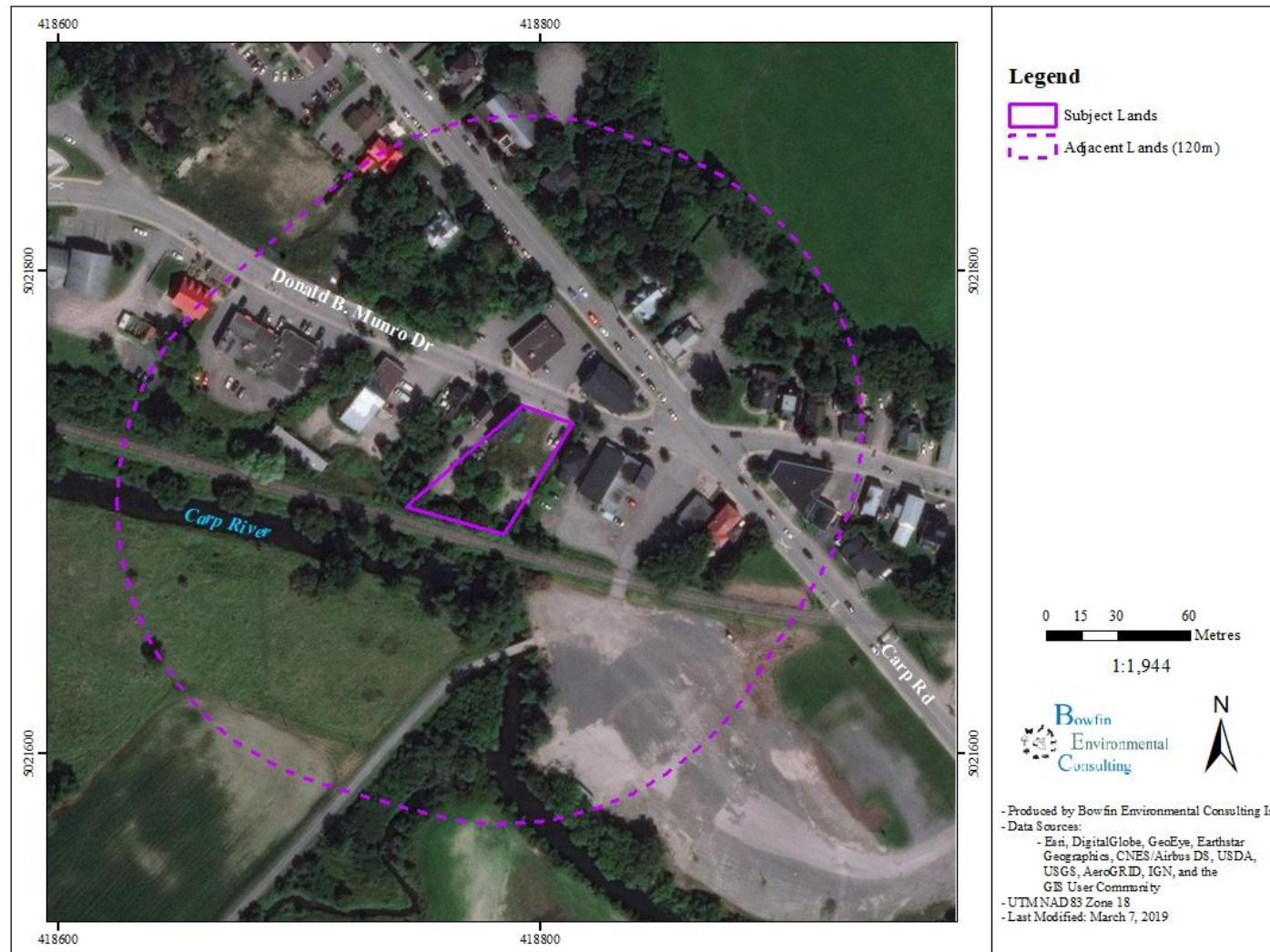




Photo 7: Looking at the property from Donald Munro Drive (June 3, 2019)

The adjacent lands are developed (residences and businesses) to the east, west and north. The railroad and its ditches run along the south side of the property and further to the south is the Carp River followed by agricultural lands. The areas along the railroad and residences were vegetated with similar species such as: Manitoba maple, wild garlic, wild parsnip, common burdock, common dandelion, Japanese knotweed and dames rocket, as well as white and green ash, Tartarian honeysuckle and horsetail.

With the exception of the butternut, a suspected hybrid, all plant species consisted of common native species with S4 or S5 ranking or of invasive/garden escapees.

### **3.3 Wildlife and Habitat for Wildlife SAR**

No raptors or their nests were observed.

The daytime breeding bird surveys were completed during the early mornings on days with appropriate weather conditions. The only SAR observed where the chimney swifts which were observed foraging overhead and using the chimneys on nearby buildings. A total of 8 chimney swifts were observed foraging during the chimney swift evening survey (May 24, 2019). Of these, 2 were observed entering the chimney of the house at 435 Donald B. Munro Drive, west of



the subject lands, and 3 were observed entering the side chimney of the house at 443 Donald B. Munro Drive, east of the subject lands. This is discussed in the SAR section.

Birds observed during the breeding bird period included: mallard (female with ducklings on Carp River), American goldfinch, starlings, yellow warbler, red-winged blackbirds. These individuals consisted of males calling, mostly from the adjacent lands around the Carp River. The starlings were on-site.

Basking turtle surveys were completed along the railroad ditches and the Carp River on five occasions (April 29, May 8, May 15, May 22, and June 6, 2019). The surveys were completed on days with suitable weather conditions (Table 1). Painted turtles were observed twice, one on April 29 and the other May 8, 2019 in the Carp River. Both sightings were of a similar sized individual. A local resident reported seeing snapping turtles in the Carp River. No turtles were observed in the railroad ditches. Examples of the habitats searched are provided in the photographs below.



Photo 8: Carp River observed from the Railroad Tracks (May 8, 2019)



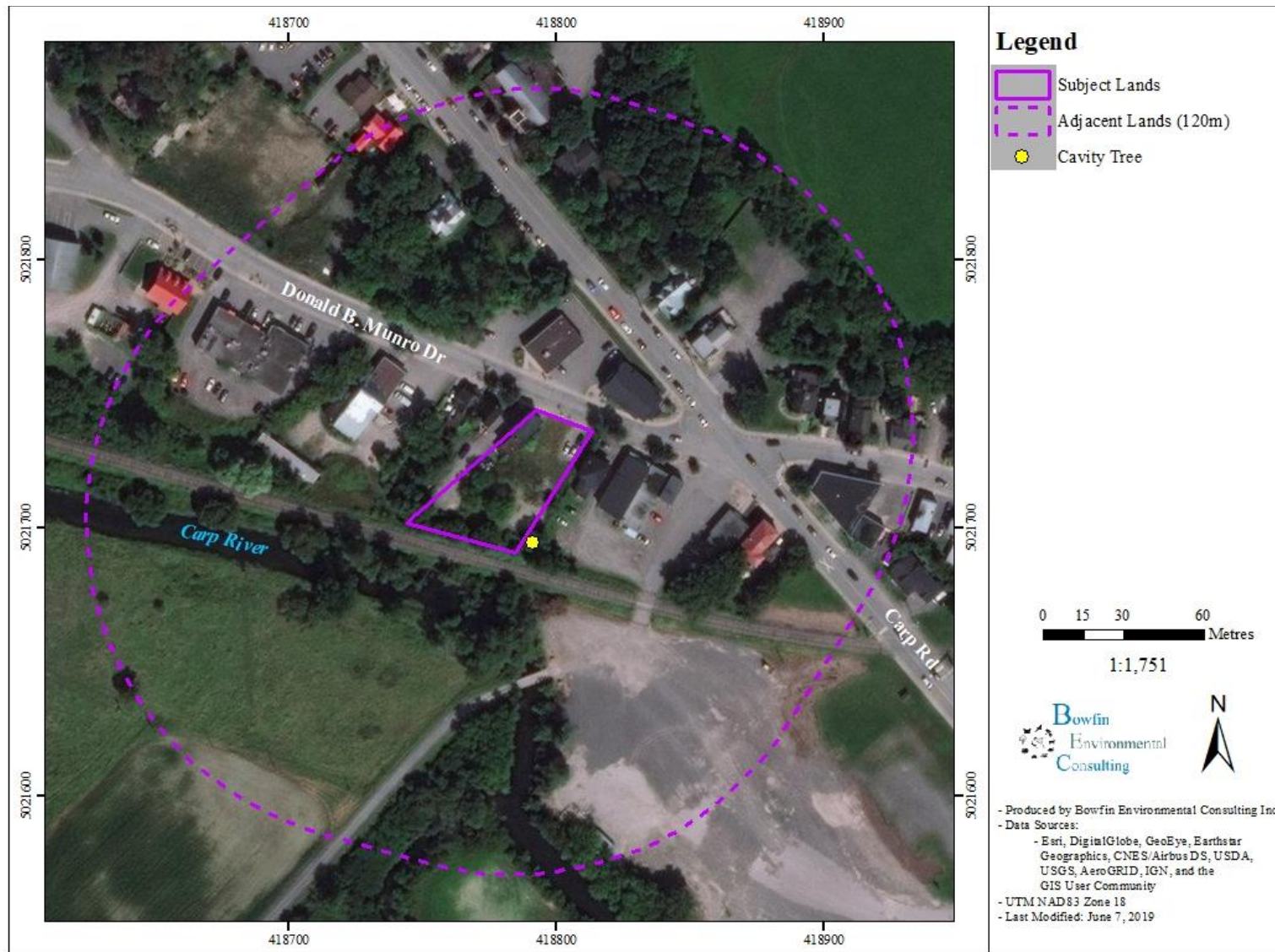
Photo 9: Railroad Ditch looking west (May 8, 2019)

The only trees present were individual trees on the east, south, and west edges of the subject lands. No potential bat cavity trees were found within the subject lands. Only one cavity tree (Figure 5), a Manitoba maple, was found on the eastern edge of the subject lands, approximately 3 m into the adjacent lands. The potential for bats to utilize the site is discussed further under the SAR.

Incidental wildlife observations are those species observed in the study area outside of the species-specific surveys. Eight bird species were observed during the turtle and chimney swift visits, and not during the breeding bird period: Canada goose, common grackle, American robin, song sparrow, killdeer, black-capped chickadee, eastern phoebe, yellow-bellied sapsucker, and yellow-rumped warbler. All incidental observations consisted of common species in Ontario.



Figure 5: Location of Cavity Tree





## **4.0 EVALUATION AND ASSESSMENT OF POTENTIAL TO IMPACT NATURAL HERITAGE FEATURES**

This scope EIS focused on the three items listed during the pre-consultation with the City of Ottawa:

1. Natural Heritage System found in the adjacent lands (Carp River).
2. A watercourse along the south end of the subject lands, along the lot line (Railroad Ditch).
3. Potential for Species at Risk (SAR) to be present.

The potential to impacts these features, list of mitigation measures and a conclusion is provided below following the summary of the impact assessment methods. Note that the mitigation measures must be read in its entirety as some apply to more than one type of natural habitat.

### **4.1 Impact Assessment Methods**

The assessment of the potential impacts is completed by analyzing the impact of various activities associated with the project. The development of the proposed greenhouse operations would include the following activities:

- Clearing of terrestrial vegetation
- Excavation, grading and backfilling
- Construction of buildings

The site will be fully serviced (water and sewer). There will be a minimum setback of 6.2 m from the property line on the south and 1.2 m to the east and west sides.

The significance of the potential impacts is measured using four different criteria:

1. Area affected may be:
  - a. local in extent signifying that the impacts will be localized within the project area
  - b. regional signifying that the impacts may extend beyond the immediate project area.
2. Nature of Impact:
  - a. negative or positive
  - b. direct or indirect

3. Duration of the impact may be rated as:
  - a. short term (construction phase, <1 year)
  - b. medium term (3-4 years)
  - c. long term (>4 years).
  - d. permanent
4. Magnitude of the impact may be:
  - a. negligible signifying that the impact is not noticeable
  - b. minor signifying that the project's impacts are perceivable and require mitigation
  - c. moderate signifying that the project's impacts are perceivable and require mitigation as well as monitoring and/or compensation
  - d. major signifying that the project's impacts would destroy the environmental component within the project area.

## **4.2 Evaluation of Potential Impacts and Mitigation**

### **4.2.1 Natural Heritage System – Carp River**

The Carp River, within 120 m of the study area, provided year-round fish habitat. Located 20 m to the south of the subject lands, at Station 4, the watercourse travelled through a thin strip of trees on either bank. The south bank was interspersed with grassy/meadow areas as the only present vegetation. A few large trees were present on the banks, providing a source of large woody material, water temperature regulation from the canopy cover, and bank stability. The substrate in the Carp River at the site location consisted of fines. The dominant in-water cover was large woody materials. The hydrological habitat type consisted in mostly glide. This is permanent fish habitat and will not be directly impacted by the project.

### **Potential Impacts and Mitigation Measures:**

This watercourse is situated 20 m to the south of the lot and is separated by the site by the railroad. In addition, a 6.2 m buffer from the south edge of the lot and the development will be established. As such, there are no direct impacts anticipated because of this single lot development. Potential indirect impacts to the aquatic habitat would be the indirect impacts caused by erosion or sediment laden runoff, or accident or malfunctions.

- No direct impacts to the fish habitat will occur.
- Indirect impacts could occur as a result of change in water supply or quality, erosion/sediment to the forested slope between the fish habitat and the site. This has been mitigated by:
  - Site will be fully serviced.

- The dry railroad ditches in early spring indicate that there is little contributing flow to the Carp River from this site. There will be no impact to the quantity of water being contributed to the Carp River.
- During construction an appropriate erosion and sediment control strategy will be developed, installed, monitored and maintained. This will include, at a minimum, the installation of sediment fence (countersunk) along the edge of the limit of development (along the edge of the buffer). Note that this fencing is also needed to keep SAR out (see sections above).
- Any stockpiles of soil or fill material would be stored at least 30 m from the fish habitat and protected by a sediment fence.
- Additional materials (*i.e.* rip rap, filter cloth and silt fencing) should be readily available in case they are needed promptly for erosion and/or sediment control.
- Erosion and sediment and erosion control measures need to be maintained and will require daily inspection to ensure that they are working as intended. Additional inspections will be required after rainfall or storm events.
- The sediment fencing would not be removed until the site is stable.
- All equipment should be well maintained, clean and free of leaks.
- Maintenance of construction equipment should occur at a minimum of 30 m from the top of the bank. It is to be in an area where all precautions have been made to prevent oil, grease, antifreeze or other materials from inadvertently entering the ground or surface water.
- Any machine coming from offsite should be cleaned and free of mud (to prevent the transfer of non-native vegetation).
- Emergency spill kits would be located on site. The crew would be fully trained on the use of clean-up materials in order to minimize impacts of any accidental spills. The area would be monitored for leakage and in the unlikely event of a minor spillage the project manager would halt the activity and corrective measures would be implemented. Any spills would be immediately reported to the Ministry of Environment, Conservation and Parks (MECP) Spills Action Centre (1800 268-6060).
- Any spills will be reported immediately to MECP Spills Action Centre (1.800.268.6060)

Area	Nature	Duration	Magnitude
Local	Negative Indirect	Short to Medium Term depending on extent	Unlikely to occur (would occur as a result of an accident or malfunction)

#### 4.2.2 Other Identified Watercourse

The featured identified during the pre-consultation was the channel to the south of the lot line. This was found to be the railroad ditch. Despite the high water levels and frequent rain events during the spring, these ditches were dry during all visits to the site, with the exception of a small unconnected pocket of standing water located in the north railroad ditch, Station 1 during the April 29, 2019 field visit. Stations 1, 2, and 3 were similar in substrate which consisted mostly of fines. The railroad ditches did not provide direct fish habitat.

#### Potential Impacts and Mitigation Measures:

The railroad ditch was dry during the early spring 2019 (a flood year). As such it does not offer fish habitat. However, since it is connected to downstream fish habitat it could provide a conduit for sediment laden or spills to reach the fish habitat of Carp River.

- Ensure that erosion control measures developed for this site include appropriate measures to prevent the railroad ditch from allowing turbid water or spills to reach the Carp River.

#### 4.2.3 Endangered and Threatened Species Discussion

Terrestrial and wetland Endangered and Threatened Species at Risk, on private land, are protected under provincial *Endangered Species Act*. It is noted that bird species protected under the *Species at Risk Act* (SARA) are protected by the *Migratory Bird Convention Act* (MBCA) on private lands. Mitigation measures to protect bird nests are included in Section 5.

Within this report, the acronym SAR refers to only Endangered or Threatened species. Special Concern species do not receive protection from ESA or SARA.

A list of potential SAR was compiled using various sources including the Species at Risk in Ottawa (August, 2018) list. The NHIC database provides information available to the public on those SAR documented as occurring within the general area. It should be noted that not all information for all species is available to the public. Furthermore, the absence of a recording does not necessarily indicate that the species is absent from the area. The purpose of the NHIC database is to serve as a guide to help determine the potential species which may occur within the project area. The background review included looking at the list of birds observed as part of the Atlas of Breeding Birds of (ABBO 10 km squares: 18VR11, 18VR12, 18VR21, 18VR22) and any SAR species listed on these lists were considered as potentially occurring within the study area. Added to this list were species that based on personal experience, often occur within the general area.

The NHIC database showed no SAR occurrences within the study area or within 5 km.

The final list includes 11 SAR: 1 reptile (Blanding's turtle), 6 birds (eastern whip-poor-will, chimney swift, bank swallow, barn swallow, bobolink, and eastern meadowlark), four mammals

(little brown myotis, northern long-eared bat, eastern small-footed myotis, and the tri-colored bat), and one plant (butternut) (Table 4).

### *Reptiles*

#### **Blanding's Turtle (*Emydoidea blandingii*)**

Blanding's turtle is associated with a variety of shallow slow aquatic habitats with submergent and emergent plants. These turtles require basking sites located near the water such as exposed rocks or partially submerged logs. The nesting sites are located within areas of loose substrates varying from sand to cobblestone and may occur along roadways as far as 400 m away. Marsh habitat is important for the juveniles for protection from predators. The species overwinters within permanent water bodies (COSEWIC, 2005). This species can migrate far distances of up to 6 km (OMNR, 2013c). Migration routes can include overland movement.

The habitat guidelines for Blanding's turtle provide protection to the areas surrounding a nest, or perceived nest area. The level of protection varies with the distance from the nest and has been categorized by MNRF into three categories. These along with their protection level are:

- Category 1    Nest and the area within 30 m or Overwintering sites and the area within 30 m
- Category 2    The wetland complex (i.e., all suitable wetlands or waterbodies within 500 m of each other) that extends up to 2 km from an occurrence, and the area within 30 m around those suitable wetlands or waterbodies
- Category 3    Area between 30 m and 250 m around suitable wetlands/waterbodies identified in Category 2, within 2 km of an occurrence

There are no known sightings of Blanding's turtle in or within 2 km of the site but Blanding's are known to occur in the Kanata area of Ottawa. As such, surveys were conducted. No candidate nesting areas were noted. Since, the Carp River has the potential to provide a migratory corridor it was surveyed following the MNRF protocol for determining the presence/absence of the species. They began on April 29, 2019, immediately after ice-off, and continued until June 6, 2019. No Blanding's turtles or signs of nesting were observed. Based on the field work, this species and its protected habitat is assumed to be absent.

### *Birds*

Through the background review, six species of birds were listed as potentially occurring: eastern whip-poor-will, chimney swift, bank swallow, barn swallow, bobolink and eastern meadowlark. These species are discussed below.

**Eastern Whip-poor-will (*Antostomus vociferus*)**

The eastern whip-poor-will is a well camouflaged species can be found in a multitude of forest types. Its requirements consist of areas that are semi-open forests or sites with a closed forest intermixed with other open habitats. It also needs some areas with little ground cover. Its minimum habitat size requirement is 9 ha (COSEWIC, 2009b). The *General Habitat Description for Eastern Whip-poor-will* (OMNRF, 2018d ) indicates that the protected habitat for this species includes three categories:

- |            |  |
|------------|--|
| Category 1 | known nests and 20 m of the nest   |
| Category 2 | the area between 20 m and 170 m from the nest or the approximate centre of the defended territory                |
| Category 3 | the area of suitable habitat between 170 m and 500 m of the nest or approximate centre of the defended territory |

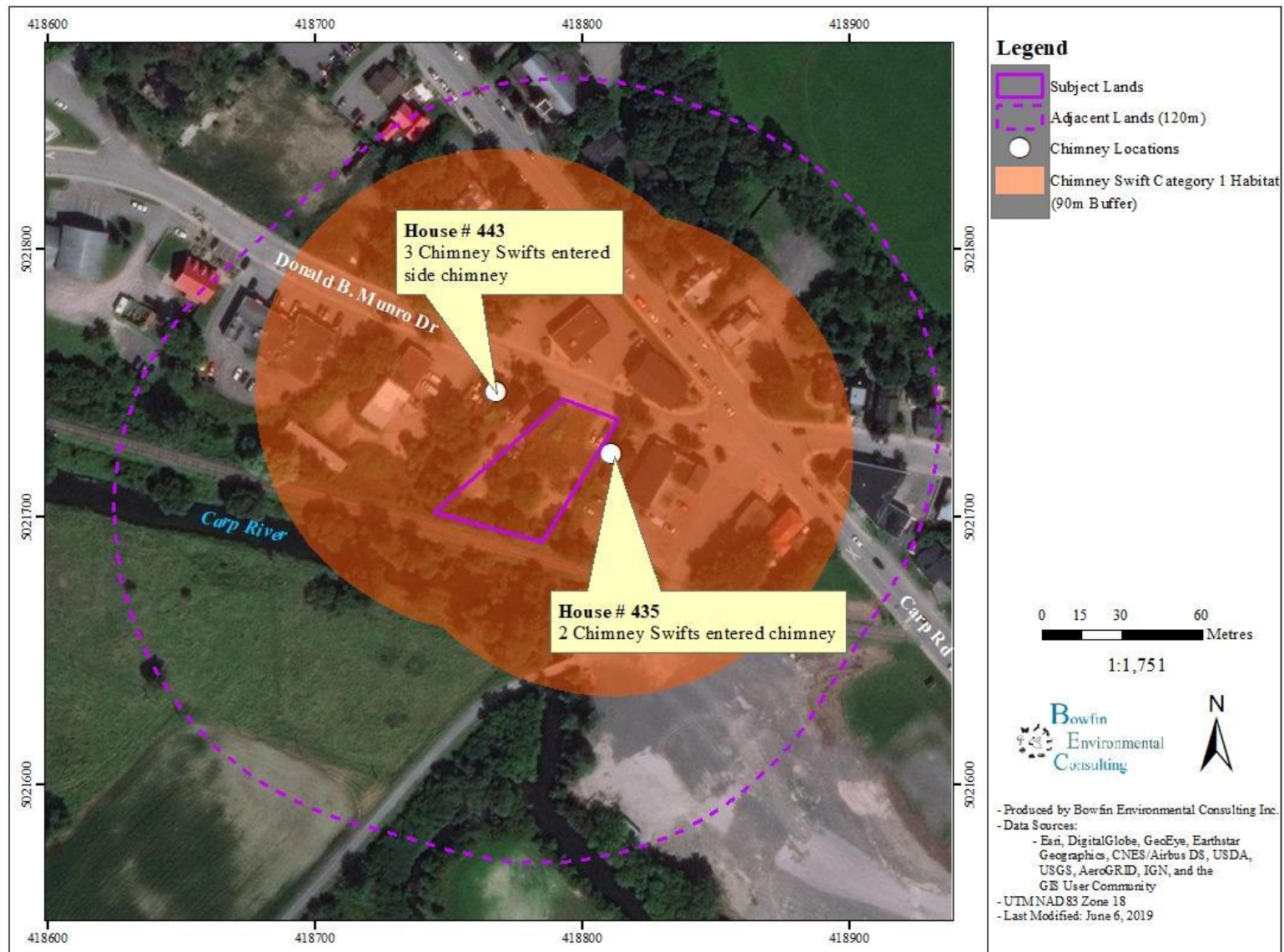
There was no woodland present within the study area or within 500 m of the subject lands, this species is considered absent.

**Chimney Swift (*Chaetura pelagica*)**

The chimney swift can often be found in developed areas and prefers to utilize structures such as large (>50 cm diameter) trees or man-made structures such as chimneys for its nesting habitat (COSEWIC, 2007a). As it has been recorded in the ABBO squares (breeding evidence: possible) in the general area and has been reported by the City to occur near the subject lands.

There were no buildings presence on the lot and no large diameter trees present, however, there were buildings with chimneys near the subject lands. During the May 24, 2019 survey, 8 individuals were observed foraging above the site and nearby. Two of these individuals entered a chimney at 435 Donald B. Munro Drive and 3 were seen entering the side chimney of house 443 Donald B. Munro Drive. Both these chimneys are within 90 m of the subject lands; therefore, the subject lands are considered Category 1 habitat for this species (Figure 6). Measures to protect this species and its habitat are provided at the end of this section.

Figure 6: Location of Chimney Swift Roosts



**Bank Swallow (*Riparia riparia*)**

Bank swallows are known to nest in vertical banks including those along riverbanks, and sand pits. This species is recorded in the ABBO squares (breeding evidence: confirmed).

The *General Habitat Description for Bank Swallow* (OMNRF, 2015a) indicates that the protected habitat for this species includes three categories:

- Category 1    the bank swallow breeding colony, including the congregation of burrows and the substrate between and around them
- Category 2    the area within 50 m in front of the breeding colony bank face to allow bank swallow to enter and exit burrows
- Category 3    the area of suitable foraging habitat within 500 m of the outer edge of the breeding colony

No bank swallows were observed during any of the breeding bird visits or any other visit. This species is considered absent.

**Barn Swallow (*Hirundo rustica*)**

The barn swallow can often be found nesting on man-made structures. The *General Habitat Description for Barn Swallow* (OMNRF, 2018a) indicates that the protected habitat for this species includes three categories:

- Category 1    nest
- Category 2    the area within 5 m of the nest
- Category 3    the area between 5 m and 200 m of the nest

No structures were present within the site. This species is recorded in the ABBO squares (breeding evidence confirmed). To date, no barn swallows were observed in the area during the breeding bird visits or during any other day-time visits at the site. This species is considered absent.

**Bobolink (*Dolichonyx oryzivorus*)**

This species is grassland-breeding-bird requiring a minimum of 4 ha of uncut meadow or field (McCracken, 2013). The *Bobolink General Habitat Description* (OMNRF, 2018b) indicates that the protected habitat for this species includes three categories:

- Category 1    known nests and 10 m of the nest
- Category 2    the area between 10 m and 60 m from the nest or the approximate centre of the defended territory



- Category 3     the area of continuous suitable habitat between 60 m and 300 m of the nest or approximate centre of the defended territory

There is no continuous suitable habitat within 300 m of the site. Further, no bobolinks were observed during any of the breeding bird survey visit or any other day-time visits to the site. This species is considered absent.

### **Eastern Meadowlark (*Sturnella magna*)**

Like the bobolink, this is a grassland breeding birds requiring a minimum of 4 ha of uncut meadow or field (McCracken, 2013). The *General Habitat Description for Eastern Meadowlark* (OMNRF, 2018c) indicates that the protected habitat for this species includes three categories:

- Category 1     known nests and 10 m of the nest  
 Category 2     the area between 10 m and 100 m from the nest or the approximate centre of the defended territory  
 Category 3     the area of continuous suitable habitat between 100 m and 300 m of the nest or approximate centre of the defended territory

There is no continuous suitable habitat within 300 m of the site. Further, no eastern meadowlarks were observed during any of the breeding bird survey visit or any other day-time visits to the site. This species is considered absent.

### **Bats**

The potential SAR bats within the general area are little brown myotis, northern myotis, eastern small-footed myotis and tri-colored. There are three types of habitats required by bats: hibernation, maternity sites and day-roost sites. The latter is not considered critical habitat.

These four bats species prefer to hibernate in caves or mines. They can hibernate in buildings but that is rare for these species (COSEWIC, 2013a). No caves or mines were present.

The recovery strategy for the eastern small-footed myotis indicates that the preferred maternity habitat of this species consists of open rock habitats and that it rarely uses old buildings as roosting/maternity sites (Humphrey, 2017). There was no rocky habitat present and no buildings within the subject lands. Based on this information, this species' maternity sites are considered absent.

The Atlas of Mammals of Ontario (Dobbyn, 1994) suggests that the tri-colored bat is not present within this part of Ontario however, the NatureServe mapping in the COSSARO (2015) includes all of southeastern Ontario. The City of Ottawa summary of Species at Risk in Ottawa (August 2018) indicates that only historical records of this species are available, there are no recent

sightings. Based on this information, this species is considered to have a very low potential of occurring.

The northern myotis tends to prefer larger expanses of older forests (late successional or primary forests) and choose maternity sites in snags that are in the mid-stage of decay. They prefer habitat with intact interior habitat and is shown to be negatively correlated with edge habitat (Menzel et al., 2002; Broders et al., 2006; Yates et al., 2006; OMNRF, 2015). There is no woodland within the study area. As such, the preferred habitat was not present and as such, this species is considered unlikely to have maternity sites here.

The SWHCS (OMNRF, 2015) indicates that consideration for maternity sites, for species that utilise cavities, should be made when the vegetation community consists of a mature deciduous or mixed forest with >10/ha of large trees (>25 cm DBH). MNR guidelines for bat maternity sites require a minimum of >10 snags (with a minimum DBH of 25 cm) / ha. As documented in Section 3.4 above, there were no woodlands within the subject lands.

The little brown myotis is one of the few bat species that can use anthropogenic structures as maternity sites. Potential suitable structures can include buildings, bridges, barns, and bat boxes. The little brown myotis can also use tall, large cavity trees that are in the early to mid-stages of decay as maternity roosts, as well as loose/raised tree bark, and/or crevices in cliffs (ECCC, 2018). This bat species occurs in higher densities in mature deciduous and/or mixed forests due to increased opportunities for large snags. However, unlike the northern myotis, the little brown myotis does not exclusively require mature forest stands in order to find appropriate maternity roosts (COSSEWIC, 2013a). This commonly observed species has the potential to utilize the site. No buildings were present within the study area. While, there are several buildings within the adjacent lands, these will not be impacted by the proposed single lot development. While the chimney swift survey took place a few days before the bat maternity survey period begins, it is noted that no bats were observed at that time. This species' maternity sites are considered absent.

There remains potential for bats to use the cavity tree in the adjacent lands for day-roosting. Day-roosts are not considered critical habitat and impacts to the bats can be minimized by removing the trees outside of the day-use period. Mitigation measures will be included in the final EIS.

## *Plants*

### **Butternut (*Juglans cinerea*)**

The butternut are assessed based on the amount of canker (the disease which is killing the species) and its size and health, as per the MNR/BHA protocol (OMNR, 2011b). This method classes the individual trees as one of three categories:

- Category 1 are those that are heavily infected to the point that they are not expected to survive.
- Category 2 may have some canker but are still considered healthy.
- Category 3 are the same as Category 2, but these are larger individuals situated near heavily cankered trees and MNR/BHA believes that some may be showing immunity to the disease.

SAR plant surveys were completed in June for various species. One Butternut was identified on the edge of the subject lands (Figure 7). The individual is a hybrid based on field characteristics. Due to its small size and the time of the year only four characteristics (instead of 5) could be observed (lenticel shape on new twigs, pith color of 1-year twig, leaf scar and leaf length). The scoring of these four traits gives the individual a score of 4. Scoring of five traits with a result of 4 or greater would signify a hybrid. Since the scoring of the four traits has already resulted in a tally of 4, the individual is assumed to be a hybrid and not protected by the *Endangered Species Act*. This information was provided to MECP along with the BHA report via their email submission to [SAROntario@ontario.ca](mailto:SAROntario@ontario.ca) on July 23, 2019. The 30-day period for review has now passed and no response was received. Note that butternut inventories are good for 2-years (in this case until June 21, 2021). As such, the tree can be removed between now and June 21, 2021.

### **Potential Impacts and Mitigation Measures:**

The only confirmed SAR was the chimney swifts. Of the two nesting locations identified, only the one on the east side is likely to be directly impacted by the work because of its close (<2 m) proximity to the proposed building. Specific measures are provided below for this species. With respect to the other species, general preventative measures are provided.

#### General:

- Endangered and Threatened species are protected and cannot be harmed, harassed or killed and in some cases their habitats are also protected. These individuals will only be handled by qualified person and only if the individual is in imminent threat of harm. An authorization under the ESA 2007 would be required to handle individuals that are not in imminent threat of harm.
- If a SAR enters the work area during the construction period, any work that may harm the individual is to stop immediately and the supervisor will be contacted. No work will continue until the individual has left the area.

- Should an individual be harmed or killed then work will stop and the Ministry of Environment, Conservation and Parks (MECP) will be contacted immediately.
- Mitigation measures listed elsewhere in this report are also applicable to this section.
- Avoid clearing of vegetation during the sensitive times of the year for local wildlife (i.e. spring to early summer) when animals are bearing and nursing their young.

### Birds

- No impacts to federal SAR bird nests, or their eggs is permitted under the federal *Species at Risk Act*. If a federally-listed bird species at risk nest is encountered, then work must stop and the Environment Canada must be notified immediately for guidance.
- No impacts to provincial SAR bird nests or their eggs is permitted under the provincial *Endangered Species Act*. If a provincially-listed bird species at risk is encountered, then work must stop and the Ministry of Environment, Conservation and Parks (MECP) contacted.
- Educate staff and contractors on the potential for SAR to be in the area and their significance.
- Educate workers to inform them that Chimney Swifts nests are protected and cannot be removed. Indicate to all that Chimney Swifts were found to be nesting in the chimney to the east of the site. Work that might cause noise, vibration or light disturbances to the birds nesting in the adjacent chimney during their nesting period (June 4-August 25 – dates for Ottawa on the Bird Studies Canada website for this species) should be avoided. When uncertain, the work could be monitored by a biologist to look for signs of disturbances.
- Should a nest be discovered, stop all work that may disturb the birds (i.e. that cause the adults to fly off the nest) and contact a biologist or MECP or Environment Canada, as appropriate for the species.
- Also note that most birds in Ontario are also protected by the *Migratory Bird Convention Act* and/or the *Fish and Wildlife Conservation Act* (FWCA) – as such, no clearing of vegetation between April 1<sup>st</sup> and August 15<sup>th</sup> unless the area to be cleared has been walked by a biologist within 5 days prior to the planned clearing and no active nests are present.

Area	Nature	Duration	Magnitude
Local	Negative Direct	Short Term	Negligible to Minor is works completed outside of the nesting season

### Bats:

- Educate contractors by informing them that most bats in Ontario are protected.

- When possible, remove trees after September 30<sup>th</sup> or before June 1<sup>st</sup>. If this is not possible, conduct exit survey or shake the trees prior to cutting them down. If a bat is observed leaving the tree, then stop clearing vegetation and wait until after September 30<sup>th</sup> for any additional tree clearing (there are sufficient trees nearby for bats to quickly find alternative day-roost).

<b>Area</b>	<b>Nature</b>	<b>Duration</b>	<b>Magnitude</b>
Local	Negative Direct	Permanent Term (removal of tree)	Low potential (since no cavities were present on the site and most trees were small and less suitable to bat use)

Butternuts:

- A 25 m buffer around the hybrid was established around the single individual. However, now that the 30-day review period has passed since the submission of the BHA on July 23, 2019, the buffer and tree can be removed, and no further measures are required provided that the individual is removed prior to June 21, 2021.

Figure 7: Location of (Hybrid) Butternut

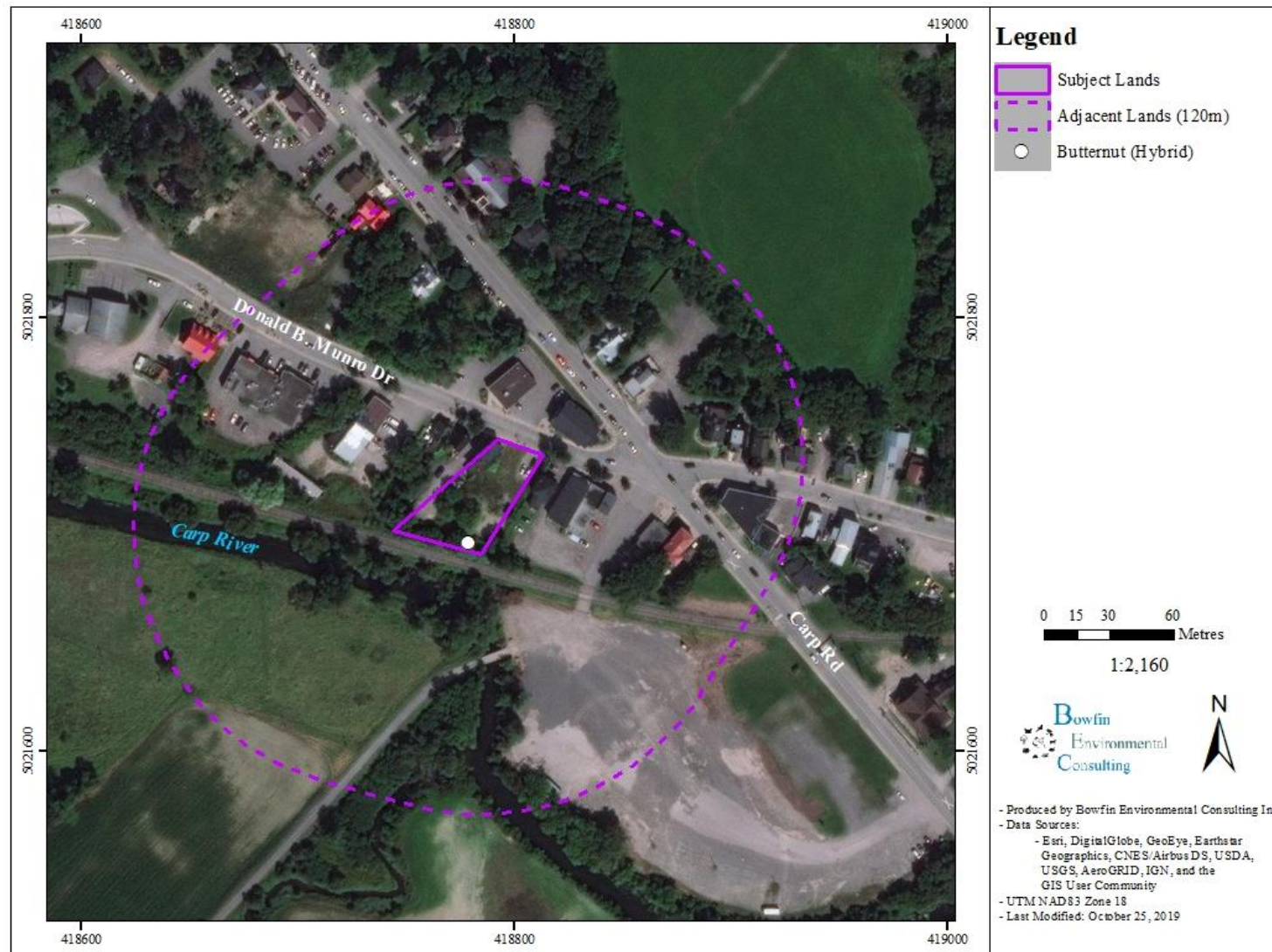


Table 4: Summary of Potential SAR

Common Name	Scientific Name	Preferred Habitat	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	Reference
<b>REPTILES</b>						
Blanding's Turtle	<i>Emydoidea blandingii</i>	Shallow water, large marshes, shallow lakes or similar such water bodies.	S3	THR	THR	COSEWIC 2005
<b>BIRDS</b>						
Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	Rock or sand barrens with scattered trees, savannahs, old burns or other disturbed sites in a state of early to mid-forest succession, or open conifer plantations.	S4B	THR	THR	COSEWIC 2009
Chimney Swift	<i>Chaetura pelagica</i>	Cities, towns, villages, rural, and wooded areas.	S4B, S4N	THR	THR	COSEWIC 2007a
Bank Swallow	<i>Riparia riparia</i>	Variety of forest types, most common in wet, mixed deciduous-coniferous forest with a well-developed shrub layer. It is often found in shrub marshes, red maple stands, cedar stands, conifer swamps dominated by black spruce and larch and riparian woodlands along rivers and lakes. It is also associated with ravines and steep brushy slopes near these habitats.	S4B	THR	THR	COSEWIC 2013b
Barn Swallow	<i>Hirundo rustica</i>	Open or semi-open lands: farms, field, marshes.	S4B	THR	THR	Peterson 1980
Bobolink	<i>Dolichonyx oryzivorus</i>	Primarily in forage crops, and grassland habitat.	S4B	THR	THR	COSEWIC 2010
Eastern Meadowlark	<i>Sturnella magna</i>	Fields, meadows and prairies.	S4B	THR	THR	COSEWIC 2011; Peterson 1980
<b>MAMMALS</b>						
Little Brown Myotis	<i>Myotis lucifugus</i>	Buildings, attics, roof crevices and loose bark on trees or under bridges. Always roost near waterbodies.	S4	END	END	COSEWIC, 2013a; Eder 2002



Common Name	Scientific Name	Preferred Habitat	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	Reference
Northern Myotis	<i>Myotis septentrionalis</i>	Older (late successional or primary forests) with large interior habitat.	S3	END	END	COSEWIC, 2013a; Menzel et al. 2002, Broders et al. 2006, OMNRF, 2015b
Eastern Small-footed Myotis	<i>Myotis leibii</i>	Found within deciduous or coniferous forests in hilly areas.	S2S3	END		Eder 2002
Tri-colored Bat	<i>Perimyotis subflavus</i>	Prefers shrub habitat or open woodland near water.	S3?	END	END	COSEWIC, 2013a; Eder 2002
<b>PLANTS</b>						
Butternut	<i>Juglans cinerea</i>	Variety of sites, grows best on well-drained fertile soils in shallow valleys and on gradual slopes	S2?	END	END	COSEWIC 2003

Status Updated April 1, 2019

### **SRANK DEFINITIONS**

**S2** Imperiled, Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

**S3** Vulnerable, Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

**S4** Apparently Secure, Uncommon but not rare; some cause for long-term concern due to declines or other factors.

**S#S#** Range Rank, A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).

**?** Inexact Numeric Rank—Denotes inexact numeric rank

**S#B** Breeding

**S#N** Non-Breeding

### **SARO STATUS DEFINITIONS**

**END** Endangered: A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA.



**THR** Threatened: A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

**SARA STATUS DEFINITIONS**

**END** Endangered, a wildlife species facing imminent extirpation or extinction.

**THR** Threatened, a wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

## 5.0 CONCLUSIONS AND RECOMMENDATION

The proponent is proposing to develop a single lot at 437 Donald B. Munro, Village of Carp, Ontario (Figure 1). The development would be fully serviced. The site consists of an abandoned lot on which all structures have been removed. The pre-existing gravel driveway was still in evidence but overgrown with weedy species.

The identified Natural Heritage System (Carp River) is situated 20 m to the south of the lot line and separated by the railroad and an additional 6.2 m buffer from the south lot line. This fish bearing watercourse will be protected from direct impacts. Appropriate common best management practices during construction for erosion and sediment control and spill prevention will prevent indirect impacts.

The identified watercourse on the south side of the lot was the railroad ditch and was dry even during the early spring. This is not a fish bearing watercourse but could provide an easy route for turbid water or spills to reach the Carp River. As such, erosion control measures and spill prevention measures are to take this potential into consideration.

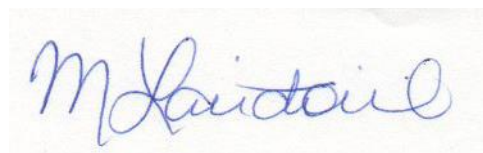
The only SAR was the chimney swift. Its nearest nest was on the adjacent property to the east, only a few metres from the lot. Impacts to this species can be prevented by completing as much of the construction outside of the nesting season for this species (June 4-August 25).

All of the impacts can be mitigated through the use of common mitigation measures and no residual negative impacts to the natural environment are anticipated as a result of the development. This proposed development can be accepted as planned.

I trust that this report will meet your requirements. Should you have any questions or comments, please contact the undersigned.

Sincerely,

Bowfin Environmental Consulting Inc.



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Michelle Lavictoire  
Biologist / Principal

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