Scoped Environmental Impact Study
384 George Street, Port Stanley
Caliber Contracting

R.J. Burnside & Associates Limited
292 Speedvale Avenue West Unit 20
Guelph ON N1H 1C4 CANADA

November 2022
300053600.0000

Distribution List

No. of Hard Copies	PDF	Email	Organization Name
0	Yes	Yes	Joe Gordon, KCCA
0	Yes	Yes	Kevin McClure, Municipality of Central Elgin
0	Yes	Yes	Brian Lima, County of Elgin
0	Yes	Yes	David Galbraith, IBI Group

Record of Revisions

Revision	Date	Description
0	November 2022	First submission

R.J. Burnside & Associates Limited

Report Prepared By:

Sarah Yoshida, B.Sc. (Env.) G. Cert. E.R.
Ecologist
SY:sn

Report Reviewed By:

Kevin Butt,. B.Sc. (Env.) G. Cert. E.R. , M.Sc.
Terrestrial Ecologist, ISA Certified Arborist
KB:sn

Table of Contents

Tables

Figures

Appendices

Disclaimer

Other than by the addressee, copying or distribution of this document, in whole or in part, is not permitted without the express written consent of R.J. Burnside & Associates Limited.

In the preparation of the various instruments of service contained herein, R.J. Burnside & Associates Limited was required to use and rely upon various sources of information (including but not limited to: reports, data, drawings, observations) produced by parties other than R.J. Burnside & Associates Limited. For its part R.J. Burnside & Associates Limited has proceeded based on the belief that the third party/parties in question produced this documentation using accepted industry standards and best practices and that all information was therefore accurate, correct and free of errors at the time of consultation. As such, the comments, recommendations and materials presented in this instrument of service reflect our best judgment in light of the information available at the time of preparation. R.J. Burnside & Associates Limited, its employees, affiliates and subcontractors accept no liability for inaccuracies or errors in the instruments of service provided to the client, arising from deficiencies in the aforementioned third party materials and documents.

R.J. Burnside & Associates Limited makes no warranties, either express or implied, of merchantability and fitness of the documents and other instruments of service for any purpose other than that specified by the contract.

1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) has been retained by Caliber Contracting to complete a Scoped Environmental Impact Statement (EIS) for the Subject Property at 384 George Street (herein referred to as the Subject Property) in Port Stanley (Municipality of Central Elgin). An EIS is required for the project in support of the required Zone Change and condominium development. This EIS will assess the natural heritage features on the Subject Property and the lands immediately adjacent (i.e., within 120 m, herein referred to as the Study Area), the potential impacts associated with the proposed development, and proposed mitigation measures.

Structures are currently present on the Subject Property including one (1) main central building and seven (7) smaller cabins. The remainder of the site is characterized as having a gravel driveway, manicured turf, ornamental gardens and open-grown trees. The rear (southern) portion of the property is bordered by a large forest feature that extends south, east, and west of the Subject Property. This forest feature is considered to be an ecologically important woodland within Elgin County. It is likely to be considered Significant within the County and Municipality due to its size (i.e., >10 ha and >2 ha respectively) and has a high likelihood to support Species at Risk (SAR) including SAR bats. The forest feature is also steeply sloped, with the toe of the slope occurring along the southern property boundary. A considerable portion of the forest feature is also classified as a Natural Hazard based on Schedule G of the Central Elgin Official Plan. The adjacent land uses are residential to the east and west, and agricultural to the north. Deciduous forests are located to the south of the Subject Property and extend south of the adjacent residential properties. The Lake Erie shoreline is located approximately 160 m to the south of the Subject Property.

This study is required by the County of Elgin (the County), Municipality of Central Elgin (the Municipality), and the Kettle Creek Conservation Authority (KCCA) to accompany the development application. The following Terms of Reference (TOR) have been prepared in accordance with the EIS guidelines provided within the Central Elgin Official Plan (2013).

The Terms of Reference (TOR) for this EIS were provided to the County, the Municipality, and KCCA for their review and comment. The TORs are provided in Appendix A and response to the TORs by the County, the Municipality, and KCCA are provided in Appendix B.

2.0 Policy and Legislative Framework

The following sections identify the federal, provincial, Conservation Authority, Municipal and County policies and legislation that apply to the proposed condominium development.

2.1 Migratory Birds Convention Act, 1994

The *Migratory Birds Convention Act, 1994* (MBCA) and the *Migratory Bird Regulations* (MBR) are federal legislative requirements that are binding on members of the public and all levels

of government, including federal and provincial governments. The legislation protects certain species [1], controls the harvest of others, and prohibits commercial sale of all species.

One key responsibility under the MBCA is described in Section 6 of the associated MBR:

> *Subject to subsection 5(9), no person shall*
>
> - *Disturb, destroy or take a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird, or*
>
> - *Have in his possession a live migratory bird, or a carcass, skin, nest or egg of a migratory bird except under authority of a permit therefore.*

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, such as economic development, which are not primarily focused on taking migratory birds. No permit can be issued for the "incidental take" of migratory birds or their nest or eggs as a result of economic activities. These prohibitions apply throughout the year. Environment Canada and the Canadian Wildlife Service have compiled nesting calendars that show the variation in nesting intensity, by habitat type and nesting zone, within broad geographical areas distributed across Canada. While this does not mean nesting birds will not nest outside of these periods, the calendars can be used to greatly reduce the risk of encountering a nest. Environment Canada advises avoidance as the best approach.

2.2 Provincial Policy Statement (2020)

The PPS (MMAH, 2020) provides general policies on land use patterns, resources, and public health and safety that guide development across Ontario. As stated in Section 2.1.1 of the PPS, "*Natural features and areas shall be protected for the long term*". This statement is interpreted as the main goal of development should be to prevent additional degradation, reduction or removal of onsite and adjacent natural heritage features and functions.

Additionally, Section 2.1.2 states that "*The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features*". This statement supports the previous section where natural feature preservation should be partnered with management, restoration and enhancement of the feature(s) and the connections of the feature(s) within a greater natural heritage system.

---

[1] Bird species not regulated under the Act include: Rock Dove, American Crow, Brown-headed Cowbird, Common Grackle, House Sparrow, Red-winged Blackbird, and European Starling. In addition, raptors are not regulated under the MBCA. However, they are protected under provincial legislation which restricts and regulates the taking or possession of eggs and nests. Furthermore, if the species identified is protected under Ontario's Endangered Species Act, 2007 or the federal Species at Risk Act, additional restrictions may apply.

Specifically related to this location is the requirement to identify natural heritage systems (NHS) in southern Ontario (Ecoregions 6E and 7E), Policy 2.1.3. This report will address Section 2.1 (Natural Heritage).

Specifically, Section 2.1.4 identifies that development and site alteration shall not be permitted within:

a) Significant wetlands in Ecoregions 5E, 6E, and 7E; and

b) Significant coastal wetlands;

Also, Section 2.1.5 identifies that development and site alteration shall not be permitted within:

c) Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E, and 7E;

d) Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);

e) Significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and St. Mary's River);

f) Significant wildlife habitat;

g) Significant areas of natural and scientific interest; and

h) Coastal wetlands in Ecoregions 5E, 6E, and 7E that are not subject to policy 2.1.4(b) unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

Sections 2.1.6 and 2.1.7 identify two additional natural features where development and site alteration are not permitted except in accordance with provincial and federal requirements:

a) Fish habitat except in accordance with provincial and federal requirements; and

b) Habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

According to Section 2.1.8, development and site alteration are not permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6, unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

2.3 Endangered Species Act, 2007

The *Endangered Species Act, 2007* (ESA), provides protection for species at risk (SAR) and their habitat. The ESA was administered by the Ministry of Natural Resources and Forestry

(MNRF), but is now the jurisdiction of Ministry of Environment, Conservation and Parks (MECP). The ESA presents policies for the protection of extirpated, endangered and threatened species, as well as species of special concern. These four categories of species form the Species at Risk in Ontario (SARO) List, which are classified by the Committee on the Status of Species at Risk in Ontario (COSSARO). COSSARO is also responsible for maintaining criteria for assessing and classifying SAR.

The ESA helps protect species (Section 9) and their habitat (Section 10). Section 9(1)(a) of the ESA states,

> *No person shall kill, harm, harass, capture or take a living member of a species that is listed on the SARO list as Extirpated, Endangered and Threatened.*

Section 10(1)(a) of the ESA states,

> *No person shall damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario list as an endangered or threated species.*

2.4 Kettle Creek Conservation Authority (O. Reg. 181/06)

The KCCA administers Ontario Regulation 181/06: Development, Interference with Wetlands and Alterations to Shorelines and Watercourses. Through this regulation, KCCA has the ability to:

- Prohibit, regulate or require the permission of the authority for straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream or watercourse, or for changing or interfering in any way with a wetland.
- Prohibit, regulate or require the permission of the authority for development, if in the opinion of the authority, the control of flooding, erosion, dynamic beaches or pollution or the conservation of land may be affected by the development.

An EIS is required as part of the submission by the development team as the entirety of the Subject Lands are located within the KCCA's regulatory limits due to the site's proximity to Natural Hazard lands (steeply sloped lands). As such, the KCCA requires that an investigation of the natural heritage features, natural hazard features, and functions is completed to ensure conformity. The EIS provides recommendations to ensure that natural heritage features and functions are not negatively impacted and, where applicable, recommends mitigation measures.

2.5 County of Elgin Official Plan

The Elgin County Official Plan (ECOP) was implemented on October 9, 2013. The purpose of the ECOP is to provide direction and a policy framework for managing growth and land use within Elgin County.

The County of Elgin recognizes the following as natural heritage features: provincially significant wetlands, coastal wetlands, provincially significant Areas of Natural Scientific Interest, and woodlands. Valleylands, corridors, significant woodlands, significant habitat of endangered species and threatened species, fish habitat and significant wildlife habitat are also classified as natural heritage features but are not mapped within the ECOP.

As per section D1.2.2.1 of the ECOP, Elgin County considers woodlands ten (10) ha or greater as significant woodlands. Woodlands that span two hectares to 10 ha may also be considered significant if they are within 30 m of a significant natural heritage feature including significant wetlands, significant valleylands, fish habitat and / or watercourses. Based on these criteria, the woodlands present along the southern margins of the Subject Property that extend south, east, and west of the property limits are significant woodlands.

As per Section D1.2.6 and D1.2.7 of the ECOP, development and site alteration are not permitted in significant habitat of endangered species and threatened species, significant wetlands and significant coastal wetlands. Development and site alteration are also not permitted in significant woodlands or adjacent areas, significant valleylands, significant wildlife habitat, significant Areas of Natural and Scientific Interest or within the adjacent lands unless:

> *"the ecological function of the adjacent lands has been evaluated and it has been demonstrated, through an Environmental Impact Study (EIS), that there will be no negative impact on the natural features or their ecological functions".*

The limit of the forest which extends onto the Subject Property was flagged by a Burnside ecologist in summer 2021.

2.6 Municipality of Central Elgin Official Plan

As per Section D1.2.7 of the County of Elgin Official Plan and Sections 3.1.1.2 and 3.4 of the Central Elgin Official Plan, an EIS is required due to the proximity of the proposed development to the anticipated Significant Woodland.

2.7 Elgin County Woodlands Conservation By-law 05-03

Elgin County Tree Conservation By-Law 05-03 regulates the removal of trees within woodlots greater than 0.2 ha to 1.0 ha that meet the following density criteria:

- *1000 trees, of any size, per hectare; or,*
- *750 trees, measuring over five (5) centimeters in diameter at DBH, per hectare; or,*
- *5000 trees, measuring over twelve (12) centimeters in diameter at DBH, per hectare; or*
- *250 trees, measuring over twenty (20) centimeters in diameter at DBH, per hectare.*

3.0 Background Information Review

The following sources were reviewed to assess the environmental constraints associated with the development and within the Study Area:

- Aerial photography;
- The Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC) database to identify records of rare wildlife species on, and in the vicinity of, the Site;
- KCCA's Regulation 181/06 Mapping;
- The County of Elgin Official Plan;
- Municipality of Central Elgin Official Plan;
- MNRF Natural Heritage Areas online mapping interface;
- The Ontario Breeding Bird Atlas (OBBA), 2001-2005 for records of birds breeding in the area; and
- The Ontario Reptile and Amphibian Atlas (ORAA), for records of reptiles and amphibians in the area.

The results of the background data review are presented in Table 1. Based on the review, the following features are, or may be, present within 120 m of the Subject Property:

- Significant Woodlands;
- Significant Wildlife Habitat (Bat Maternity Colonies, Landbird Migratory Stopover Areas, and Habitat of Species of Conservation Concern);
- Amphibian Breeding Habitat (Woodland), and Habitat of Species of Conservation Concern); and Habitat of endangered and threatened species.

Records of avifauna, mammals, reptiles and amphibians in the broad region are provided in Table 2 and Table 3.

Table 1. Potential Natural Heritage Features in Vicinity of the Subject Property

Feature	Existing Records	Data Source
Features of Provincial Significance		
Significant Wetlands Ecoregion 7E	No records identified.	NHIC, mapping, MNRF data package
Significant Woodlands	Significant Woodlands are present along the southern margins of the site and extend off-site.	MNRF Woodlands Mapping
Significant Valleylands	No records identified	KCCA mapping
Significant Wildlife Habitat Ecoregion 7E	Seasonal Concentrations of Animals: • Bat Maternity Colonies • Landbird Migratory Stopover Areas Rare Vegetation Communities • No records identified Specialized Habitat for Wildlife: • No records identified Habitats for Species of Conservation Concern: • Records of several provincially rare species[1] were identified. Animal Movement Corridors: • No records identified. Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 7E • No records identified.	NHIC, OBBA
Significant Areas of Natural and Scientific Interest	No records identified.	NHIC
Habitat of Endangered and Threatened Species	Records identified for Threatened and Endangered species: • Eastern Prickly Pear Cactus (*Opuntia cespitosa)* • Northern Bobwhite *(Colinus virginianus)* • Silver Chub (*Macrhybopsis storeriana)* • Spiny Softshell (*Apalone spinifera)* • Bank Swallow (*Riparia riparia)* • Barn Swallow (*Hirundo rustica)*	NHIC, OBBA, ORAA, and MNRF data package

Feature	Existing Records	Data Source
	• Bobolink (*Dolichonyx oryzivorus)* • Chimney Swift (*Chaetura pelagica)* • Eastern Meadowlark (*Sturnella magna)* • Red-headed Woodpecker (*Melanerpes erythrocephalus)* • Massassauga (*Sistrurus catenatus)*	
Features of Other Significance		
Elgin Natural Heritage Systems Study	Regionally important woodlands may be present in association with MNRF Woodlands mapping	MNRF Woodlands Mapping

3.1 Natural Heritage Information Centre database

The Natural Heritage Information Centre (NHIC) database, maintained by the MNRF was accessed to search for records of provincially significant plants, vegetation communities and all forms of wildlife within the Subject Property and surrounding areas. The database provides data for 1 km x 1 km blocks. The Subject Property and Study Area (i.e., within 120 m of the Subject Property) fall within one (1) 1 km square (square no. 17MH8123). The search revealed the following records:

- Oak Hairstreak (*Satyrium favonius*)
- Differential Grasshopper (*Melanoplus differentialis*)
- Eastern Prickly-pear Cactus (*Opuntia cespitosa*) – Endangered
- Northern Bobwhite (*Colinus virginianus*) - Endangered
- Silver Chub (*Macrhybopsis storeriana*) - Threatened
- Erect Knotweed (*Polygonum erectum*)
- Shiny Softshell Turtle (*Apalone spinifera*) - Endangered
- Stiff Gentian (*Gentianella quinquefolia*)
- Barn Swallow (*Hirundo rustica*) - Threatened
- Bank Swallow (*Riparia riparia*) – Threatened
- Broad Beech Fern (*Phegopteris hexagonoptera*) – Special Concern
- Common Hop-tree (*Ptelea trifoliata*) – Special Concern

3.2 Ontario Breeding Birds Atlas

A review of the Ontario Breeding Bird Atlas (OBBA) square 17MH82 identified records of 107 bird species in the vicinity of the Subject Property. The relative rarity[2] of each species is identified in Table 2.

Table 2. Provincial S-Ranks of Bird Species Recorded in the Vicinity of the Site

Rarity Ranking (SRank)*	Number of Species

S1 (S1, S1B)	2
S2 (S2B)	1
S3 (S3, S3B)	5
S4 (S4, S4N, S4B)	36
S5 (S5, S5B)	59
SNA	4

*S1- Critically Imperiled
S2- Imperiled
S3- Vulnerable
S4- Apparently Secure
S5- Secure
SNA- Not applicable, not suitable for conservation activities

The majority of bird species in the area are considered to be common, secure and not at risk. Species ranked S3 are considered to be vulnerable, while species listed as S2 are considered imperiled, and S1 are critically imperiled. Of the species listed above twenty-four (24) are listed under the *Endangered Species Act* either as Special Concern, Threatened, or Endangered, ranking from S4 to S1. Of the twenty (20) species listed, suitable habitat is present within the Study Area for two (2) Endangered or Threatened species, specifically:

- Red-headed Woodpecker (*Melanerpes erythropcephalus*) - Endangered
- Barn Swallow – Threatened

Suitable habitat was also present within the Study Area but not the Subject Property for two (2) species of special concern, specifically:

- Eastern Wood-Pewee (*Contopus virens*) – Special Concern; and
- Wood Thrush (*Hylocichla mustelina*) – Special Concern.

Further information regarding the habitat requirements for each species is discussed in greater detail in Section 7.5.2.

OBBA records are provided in Appendix C.

3.3 Ontario Reptile and Amphibian Atlas

A review of the Ontario Reptiles and Amphibian Atlas square 17MH82 identified records of 18 different species of reptiles and amphibians within the vicinity of the Subject Property. The relative rarity* of each species is identified in Table 3.

Table 3. Reptiles and Amphibians Documented in the Vicinity of the Subject Property

Common Name	Scientific Name	SRank*	ESA	Latest Yr
REPTILES				
Midland Painted Turtle	*Chrysemys picta marginata*	S4		2018
Snapping Turtle	*Chelydra serpentina*	S4	SC	2019
Dekay's Brownsnake	*Storeria dekayi*	S5		1990
Eastern Gartersnake	*Thamnophis sirtalis sirtalis*	S5		2018
Eastern Ribbonsnake	*Thamnophis sauritus*	S4	SC	2012
Massasauga	*Sistrurus catenatus*		END	1930
Milksnake	*Lampropeltis triangulum*	S4		1990
Northern Watersnake	*Nerodia sipedon sipedon*	S5		1988
AMPHIBIANS				
American Bullfrog	*Lithobates catesbeianus*	S4		2000
Gray Treefrog	*Hyla versicolor*	S5		2010
Green Frog	*Lithobates clamitans*	S5		2018
Northern Leopard Frog	*Lithobates pipiens*	S5		1990
Spring Peeper	*Pseudacris crucifer*	S5		2018
Wood Frog	*Lithobates sylvaticus*	S5		1986
American Toad	*Anaxyrus americanus*	S5		2018
Red-spotted Newt	*Notophthalmus viridescens viridescens*	S5		2017
Eastern Red-backed Salamander	*Plethodon cinereus*	S5		1989
Spotted Salamander	*Ambystoma maculatum*	S4		2013

*S1- Critically Imperiled
S2- Imperiled
S3- Vulnerable
S4- Apparently Secure
S5- Secure
SNA- Not applicable, not suitable for conservation activities

Of the eighteen (18) species listed above, none have the potential to occur within the Subject Property.

3.3.1 Elgin Natural Heritage Systems Study (2019)

The Elgin Natural Heritage Study completed by the UTRCA was used to determine if any ecologically significant woodlands existed within the Study Area. Appendix M-10 of the report identified that the forested lands that extend onto 384 George Street meet at least one

criterion for ecological importance and, as such, is considered to be “ecologically important” in Elgin County. It should be noted that the results of this Study have not been incorporated into the ECOP or Municipality of Central Elgin OP.

4.0 Field Methodologies

Field investigations were conducted in summer 2021, and spring, summer, and fall of 2022, according to the schedule listed in Table 4. The purpose of these field investigations was to verify whether the features identified in the background data review are present and, if so, to confirm their boundaries. The purpose was also to identify any other natural features not previously documented.

All field investigations were conducted according to the parameters provided in the Terms of Reference submitted to the KCCA, County of Elgin, and the Town of Central Elgin, and Municipality of Central Elgin.

Findings are summarized in Sections 6.0, 7.0, and 8.0.

Table 4. Field Study Methodology

Field Study	Methodology	Staff Involved	Date	Time	Weather Conditions		
					Precipitation / Cloud Cover	Temperature (°C)	Wind (Beaufort Wind Scale)[1]
Ecological Land Classification	Ecological Land Classification for Southern Ontario (Lee *et al*., 1998) of entire property.	S. Yoshida, Ecologist	June 14, 2022	10:50 – 13:30	Sunny, light cloud cover	27°C	3
Botanical Inventory	Meandering survey throughout property	S. Yoshida, Ecologist	June 14, 2022	13:30 – 17:30	Sunny, light cloud cover	27°C	3
			August 30, 2022	11:40 – 12:40	Overcast, light showers	22°C	0
			October 3, 2022	10:50 – 11:40	No precipitation, light cloud cover	12°C	2
Dripline Delineation		K. Butt, Senior Terrestrial Ecologist	August 6, 2021	14:00 - 18:00	Sunny, no clouds	27°C	2
Breeding Bird Survey	Entire property surveyed. Area specific searches were also conducted in potentially significant habitats.	Dave Szmyr, Terrestrial Ecologist	May 26, 2022	09:35-10:30	Overcast, moderate cloud cover	17°C	0
			July 8, 2022	11:26-11:31	Sun and cloud	25°C	1
Search for potential wildlife habitats	Meandering survey throughout property. Search for features such as: • Reptile hibernacula, turtle nesting areas, badger dens, and waterfowl nesting areas.	All staff, all site visits					
Incidental flora and fauna observations	• Wandering transect surveys • Visual observations of animals, tracks or scat and compilation of a plant inventory during all site visits.	All staff, all site visits					

1 Beaufort Wind Scale 0 = calm, smoke rises vertically (0-2 km/hr); 1 = light air movement, smoke drifts (3-5); 3 = gentle breeze, wind felt on face; leaves rustle (6-11); 4 = moderate breeze, small branches moving, raises dust & loose paper (20-30); 5 = fresh breeze, small trees begin to sway (31-39); 6 = strong breeze, large branches in motion (40-50

4.1.1 Vegetation and ELC Methods

Burnside ecology staff conducted a site investigation to identify and map vegetation communities on June 14, 2022. All communities on the Subject Property and immediately adjacent were reviewed to characterize their composition based on Lee et. al, 1998 and the Vegetation Type List of the Southern Ontario Ecological Land Classification (Lee, May 2008). The locations of these vegetation communities are shown on Figure 2.

4.1.2 Dripline Delineation

Burnside ecology staff conducted a site investigation to delineate the forest boundary on August 6, 2021.

4.1.3 Breeding Bird Surveys

Standard breeding bird surveys were completed by Burnside staff. Surveys were conducted according OBBA's General Instructions for Atlassing and Appendices (April 2021) tailored to the needs of this project. Surveys were conducted at designated point counts, shown on Figure 2, that captured the different vegetation communities present. The methodology for these surveys is summarized below and in Table 4.

- Surveys were completed between May 24 and July 10, within the recommended date range for conducting breeding bird surveys.
- Surveys were completed at a total of three (3) point count locations per survey period with the second survey concentrating on just 1 point count given the small size of the survey site.
- Surveys were conducted under the following weather conditions: counts were not completed if it was raining, there was thick fog, or if winds were greater than a ‘3’ on the Beaufort scale.
- All birds recorded, including level of breeding evidence, are summarized in Appendix D.
- Field data was collected using a mobile data collection application (Fulcrum) on an iOS device.

4.1.4 Incidental Wildlife Observation

Based on discussions with the KCCA, targeted wildlife surveys such as amphibian call surveys were not included in the scope of this EIS due to the nature of the development. Instead, incidental wildlife observations were noted while conducting wandering transects throughout the Study Area. A list of incidental observations is noted below in Section 5.4.2 below.

5.0 Existing Conditions

5.1 Site Description

Structures are currently present on the Subject Property including one (1) main central building and seven (7) smaller cabins. The remainder of the site is characterized as having a

gravel driveway, manicured turf, ornamental gardens and open-grown trees. The rear (southern) portion of the property is bordered by a large woodland feature that extends south, east, and west of the Subject Property.

The surrounding land use is low-density residential, agricultural, provincially significant woodlands. The Lake Erie shoreline is also located within 200 m of the Subject Property.

The Burnside investigation identified two ecosites and one inclusion within and immediately adjacent to the proposed development area.

5.2 Physiography

5.2.1 Soils and Topography

The local terrain and landforms are all heavily influenced by Kettle Creek, located approximately 600 m east of the Subject Property. Soils in the Port Stanley area are associated with lacustrine Shallowwater deposits. Dominant substrates include sands and gravels (Schute, 1992).

Based on the mapping provided by Schute (1992), the on-site soils have not been mapped. Based on the preliminary results of the geotechnical survey completed by Chung and Vander Doelan engineering Ltd., the soils are described as being very loose to loose/very soft to soft saturated silt/clayey silt materials.

5.2.2 Site Surface Drainage Pattern

The Functional Servicing Report (IBI, October 2022) identifies that the south half of the property drains southward into the existing ponds. The front (north) portion of the site has two (2) catchment areas that each direct overland flow towards the northeast and northwest corners of the property.

5.3 Vegetation

5.3.1 Ecological Land Classification

Assignment of ELC codes on vegetation communities that are heavily influenced by disturbance and management can be difficult and may result in subjectivity associated with the classification. A description of each community assigned is provided below.

Low-Density Residential (CVR_1)

This community represents the majority of the onsite conditions that is comprised of the buildings, gravel driveways, open-grown trees, and manicured turf area where the development is proposed. Tree cover is sparse and is limited to five (5) young to mid-aged deciduous trees including one (1) Silver Maple (*Acer saccharinum)* and four (4) Norway Maples (*Acer platanoides*).

Photo 1. Representative photo of the CVR_1 ecosite.

Dry-Fresh Sugar Maple – Beech Deciduous Forest (FODM5-2)

This community is associated with the provincially significant woodland that extends onto the southern margins of the Subject Property. Household and yard wastes were present along the margins of this community from the existing residences.

This community is a steeply sloped mid-aged mesic forest. Beyond the Subject Property's limits, the topography within this community consists of complex rolling hills with moderately steep slopes. The canopy and subcanopy cover are dominated by mid-aged Sugar Maple (*Acer saccharum*) with associates of American Beech (*Fagus grandifolia*), and Red Oak (*Quercus rubra*). Lesser associates present in the canopy and sub-canopy include Ironwood (*Ostrya virginiana*), and Black Cherry (*Prunus serotina*). The understory within this community is open and is dominated by Sugar Maple regeneration. Lesser associates include Blue Beech (*Carpinus caroliniana*), young American Beech, and Ironwood. Alternate-leaved Dogwood (*Cornus alternifolia*) and Witch Hazel (Hamamelis virginiana*)* also occur rarely within this community. The understory is patchy and is dominated by upland sedge species (*Carex sp.*), Heart-leaved Aster (*Symphyotrichum cordifolium*), and Canada Goldenrod (*Solidago canadensis*). Less Associate species include the following: Ostrich Fern (*Matteuccia struthiopteris*), Garlic Mustard (*Alliaria petiolata)*, Field Horsetail (*Equisetum arvense*), Yellow Avens (*Geum aleppicum*), Ground Ivy (*Glechoma hederacea*), Orchard Grass (*Dactylis glomerata*), Jack-in-the-pulpit (*Arisaema triphyllum*), Coltsfoot (*Tussilago farfara*), Meadow Rue (*Thalictrum sp.*), Field Bindweed (*Convolvulus arvensis*), Zigzag Goldenrod (*Solidago flexicaulis*), *Trillium sp*., Bloodroot (*Sanguinaria canadensis*), White Baneberry (*Actea pachypoda*), Heath Aster (*Symphyotrichum ericoides*), Woodland Strawberry (*Fragaria vesca*), Christmas Fern (*Polystichum acrostichoides*), *Geochroma sp*,. and Spinulose Wood Fern (*Dryopteris cf cathusiana*).

Suspected seepages are present along the slope as indicated by the presence of Sensitive Fern (*Onoclea sensibilis*) and Spotted Jewelweed (*Impatiens capensis*).

Photo 2. Representative photo of ecosite FODM5-2. Facing south off-site.

Jewelweed Forb Mineral Meadow Marsh Type (MAMM2-1)

This inclusion is found in association with the FODM5-2 ecosite and is present at the toe of the slope present along the southern boundary of the Subject Property and extends south upslope. Standing water was present within this inclusion throughout the spring and late summer but was absent by the fall. This feature has been altered by the residents at 384 George St. Landscape features such as a bird bath and fountain as well as household waste have been placed in this feature. Paving stones and wooden siding have also been placed along the margins of the inclusion.

Spotted and Pale Jewelweed are the dominant species within this inclusion. Lesser associates include Yellow Birch (*Betula alleghaniensis*), young Green Ash (*Fraxinus pennsylvanica),* Dwarf Red Rasberry (*Rubus pubescens*), Purple-flowering Raspberry (*Rubus odoratus*), Red Osier Dogwood (*Cornus sericea*), Tall Goldenrod (*Solidago gigantea*), Skunk Cabbage (*Symplocarpus foetidus*), Sensitive Fern, Meadowsweet (*Spiraea alba*), Panic Grass (*Panicum sp.*), Sedges (*Carex sp.*), and Spinulose Wood Fern (*Dryopteris cf cathusiana*). Invasive Himalayan Balsam (*Impatiens glandulifera*) and Yellow Iris (*Iris pseudacorus*) are also present.

Photo 3. Representative photo of the MAMM2-1 inclusion.

Photo 4. Representative photo of the MAMM2-1 ecosite along the edge of the forest.

5.4 Wildlife

5.4.1 Breeding Bird Surveys

A total of 26 resident bird species, exhibiting some level of breeding evidence (possible, probable, or confirmed), were observed on the Subject Property during targeted breeding bird surveys in 2022 (see Appendix D). Most of these species are considered common throughout Ontario and are not considered as provincially and/or federally significant.

Five species were incidentally observed but no breeding evidence (i.e., suitable breeding habitat or breeding behavior, migrants) was recorded for the following species: American Crow (*Corvus brachyrhychos*), Barn Swallow (*Hirundo rustica*), Bank Swallow (*Riparia riparia*), European Starling (*Sturnus vulgaris*) and Yellow-bellied Flycatcher (Empidonax flaviventris) Breeding habitat for both Barn Swallow and Bank Swallow is absent for both species in the study area. These species were observed as flyovers and foraging over the adjacent open areas off site. Yellow-bellied Flycatcher (*Empidonax flaviventris*) is a boreal forest breeder and does not breed in Southern Ontario. This species is considered a late migrant.

One species listed as both provincially and federally significant, was observed on the Subject Property during breeding bird surveys: Eastern Wood-pewee (*Contopus virens*, Special Concern). This species was observed calling from the protected forest unit backing the Subject Property which will not be removed. SWH Screening Tables for the Subject Property is included Appendix E. The significance of these species is discussed in more detail in Section 7 below.

According to MNRF's Significant Wildlife Habitat Technical Guide (MNR, 2000), "area sensitive" species are defined as species that require large areas of suitable habitat for long term population survival. Fragmentation of essential habitats can result in overall declines in populations. One "area sensitive" bird species, as defined by the MNRF, were observed on the subject property during the breeding bird surveys: White-breasted Nuthatch *(Sitta carolinensis).*

5.4.2 Incidental Wildlife

Incidental wildlife seen on the Subject Property during the site investigations is limited to American Robins (*Turdus migratoria*), Northern Cardinal (*Cadinalis cardinalis*), European Starling (*Sturnis vulgaris*), American Toad (*Anaxyrus americanus*), and White-tailed Deer (*Odocoileus virginianus*). It is anticipated that other tolerant mammals including Raccoon (*Procyon lotor*), Grey Squirrel (*Sciurus carolinensis*), Eastern Coyote (*Canis latrans*), American Skunk (*Mephitis mephitis*), Red Fox (*Vulpes vulpes*), and Virginia Opossum (*Didelphis virginiana*) use the site for foraging and habitat.

6.0 Provincially Significant Natural Heritage Features

6.1 Provincially Significant Wetlands

There are no Significant Wetlands on or within 120 m of the Subject Property. This feature will not be considered or addressed further in this report.

6.2 Significant Woodlands

Woodlands have been defined by the ECOP as "*treed area, woodlot or forested area that provides environmental and economic benefits to both the private landowner and the general public*.

Based on the requirements listed in the ECOP and Municipal OP listed in Section 2, the forested lands that extend onto the Subject Property exceed 10 ha in extent and therefore are sufficiently large enough to be significant woodlands as defined by the County and Municipality.

6.3 Significant Valleylands

There are no Significant Valleylands on or within 120 m of the Subject Property. This feature will not be considered or addressed further in this report.

6.4 Significant Areas of Natural and Scientific Interest

There are no Areas of Natural and Scientific Interest on or within 120 m of the Subject Property. This feature will not be considered or addressed further in this report.

6.5 Significant Wildlife Habitat

According to the Natural Heritage Reference Manual (MNR, 2010) and Significant Wildlife Habitat Technical Guide (MNR, 2000), there are four types of Significant Wildlife Habitat ("SWH"), as follows:

- Habitats of Seasonal Concentrations of Animals;
- Rare Vegetation Communities / Specialized Habitats;
- Habitats of Species of Conservation Concern; and
- Animal Movement Corridors.

Significant Wildlife Habitat (SWH) is designated at the local planning level (i.e., municipality). Local designations occur because conditions and features vary widely between municipalities and what is important and unique in one area may be common and secure in another. The County of Elgin has broadly defined SWH as "*an area of land where plants, animals, and other organisms live, and find adequate amounts of food,water, shelter, and space needed to sustain their populations.*

SWH has not been identified on schedule mapping, though the CEOP does identify that SWH has the potential to be found in Natural Heritage Features and should be identified and assessed using the criteria outlined in the Natural Heritage Reference Manual, the Significant Wildlife Habitat Technical Guide. The assessment completed as a part of the study will use broad habitat descriptions from the Significant Wildlife Habitat Technical Guide (SWHTG) and the SWHTG Ecoregion 7E Criterion Schedule (MNRF, 2015).

Based on the existing conditions and background information collected, there are two (2) candidate SWH features present on the Subject Property. Due to the scope of this EIS, no additional studies were carried out to confirmed SWH features within the Subject Property. The Candidate SWH features potentially present within the Subject Property include:

- Bat Maternity Colonies
- Landbird Migratory Stopover Areas

Based on the results of field investigations, there is one confirmed SWH feature present on-site:

- Habitat for Species of Conservation Concern – Special Concern and Rare Wildlife Species.

No additional candidate or confirmed SWH features are present within the immediate vicinity of the Subject Property. Off-site lands located within the Study Area include the forested lands that extend onto the Subject Property and low-density residential buildings.

It is important to note that all candidate and confirmed SWH features present within the Subject Property found in association with the Significant Woodland that extends off-site, only a small portion of the Significant Woodland is present on the Subject Lands (>0.05ha). It is likely that the wooded areas on-site act as support for SWH.

As the proposed development will not require clearing to occur along the woodland margins, direct impacts to candidate SWH features will be effectively mitigated. Indirect impacts are discussed in Section 9 below.

6.5.1 Habitat for Species of Conservation Concern – Special Concern and Rare Wildlife Species

Eastern Wood-Pewee

Eastern Wood-Pewee was noted to be possibly breeding within the forests on-site.

Eastern Wood-Pewee prefers open space near the nest in the form of forest edges, clearings, roadways, and water. This species does not require large areas of woods but occurs less frequently in woodlots surrounded by development than in those without (Cadman et al. 2007).

This habitat through the implementation a 5 m buffer will be established along the margins of the Significant Woodland feature. Indirect impacts are discussed in Section 9 below.

6.5.2 Bat Maternity Colonies

No bat presence / absence surveys or bat maternity habitat (BMH) surveys were undertaken as a part this EIS, although any candidate BMH trees were noted. The forests that extend onto the Subject Property likely contain suitable roosting habitat as many of the trees present were sufficiently large and contained cavities, or other significant features (i.e., shaggy bark) that help constitute suitable maternity roost trees.

The adjacent forest (FODM5-2) likely contains suitable maternity roosting habitat for non-SAR and SAR bats alike and is located adjacent to suitable foraging habitat. The forest also spans >10 ha. As such, it is assumed that this forest provides significant habitat for bats. This candidate SWH feature will not be directly impacted by the proposed development and will be protected by a 10 m buffer. Indirect impacts and mitigation measures are discussed in greater detail in Section 9 below.

6.5.3 Landbird Migratory Stopover Areas

Although the portions of Significant Woodlands that occur within the Subject Property do not provide Significant habitat for migratory birds, these areas contribute to the overall woodland which as a whole has moderate potential to be a significant landbird migratory stopover area. While targeted surveys were not completed during the spring and fall migration, as the Significant Woodland is located within 5 km of Lake Erie and is sufficiently large to accommodate large aggregations of birds there is high potential for SWH to be present.

This candidate SWH feature will not be directly impacted by the proposed development and will be protected by a 10 m buffer. Indirect impacts and mitigation measures are discussed in greater detail in Section 9 below.

6.6 Significant Habitat of Endangered and Threatened Species

Burnside's background review revealed the potential for SAR on the Subject Property and vicinity. Under the ESA, species listed as Threatened and Endangered are afforded species and habitat protection.

All findings can be found in the SAR screening table in Appendix F of this report. Table 5 below summarizes the Endangered and Threatened species found to have candidate habitat within the Study Area. It is important to note that all candidate SAR that may occur within the Study Area are found in association with wooded areas.

Table 5. Historical Species at Risk and Species of Special Concern with Habitat Present on the Subject Property

Species	Scientific Name	Status	Habitat
Barn Swallow	*Hirundo rustica*	THR	CVR_1
American Badger*	*Taxidea taxus jacksonii*	END	FODM5-2
Little Brown Myotis	*Myotis lucifugus*	END	FODM5-2
Northern Myotis	*Myotis septentrionalis*	END	FODM5-2
Tri-colored Bat	*Perimyotis subflavus*	END	FODM5-2

*Habitat for this species is not located within the Subject Property but is within the Study Area.

Habitat for the remaining SAR identified in Appendix F are not present within the Study Area. Note that federally listed species that are not listed as SAR under the ESA are not included within Table 5.

Barn Swallow

Based on the OBBA records, Barn Swallow have been observed nesting within the Subject Property vicinity. Barn swallows are well documented to nest on the outside of buildings adjacent to open areas including wetlands, river shorelines, and meadows. These open areas are used as foraging habitat (Heagy et al. 2014).

Although no evidence of Barn Swallow breeding was documented during breeding bird surveys, since several buildings are located on-site adjacent to suitable foraging habitat there is potential for Barn Swallows to nest on-site in the future. Barn Swallows were also observed foraging within the Study Area during breeding bird surveys. Any buildings that will be removed or altered during site developments should be inspected for nests prior to alteration. If any potential nests are found, the nest should be inspected by an avian biologist to confirm the species identity.

American Badger

Based on previously completed EIS studies completed in the immediate vicinity of the Subject Property, MNRF records indicate that there is potential for American Badger (*Taxidea taxus jacksoni),* to be found within the Study Area. American Badgers generally prefer open habitats such as grasslands, shrubby areas, and old fields, but can also occur in manmade habitats such as agricultural fields, road right -of-ways, and lawns. American Badgers also require sandy or friable soils to create dens to provide cover, rear young, and for overwintering (ECCC, 2013).

Within the Subject Property, a lawn area is present within the CVR_1 ecosite and along the margins of the FODM5-2 ecosite. The soils of the lawn are described as very loose to silt/clayey silt soils. American Badger habitat is unlikely to be supported on-site based on the soil and vegetation conditions present on-site, their wariness of people (these lands and adjacent lands are used by homeowners year-round) and the lack of NHIC records on the Subject Property and adjacent area. No evidence of burrows was observed within the CVR_1 community. Burrows were noted along the slope of the forested community approximately 20 m from the development limits but could not be definitively identified as American Badger. The following den characteristics are indicative of American Badger dens:

- “D” shape of burrow entrance (i.e., bottom of burrow entrance is wider than the height of the burrow) with a minimum 6’’ diameter;
- Large mound (1 m^2) of burrow material (e.g., sand and soil);
- Tracks in the fresh soil;
- Claw marks along edges of burrow entrance and sides of burrow;
- Scent reminiscent of mustelids (e.g., skunks and weasels) at active den sites; and
- Active burrow entrances are free of debris (e.g., leaves).

Although the dens were suitable dimensions and far-flung soils are present, no guard hairs, fecal matter around the burrows or distinctive musky scents were noted at the time of investigation. The dens noted also lacked the distinctive horizontal claw marks diagnostic of American Badger dens. It is more likely that the dens observed on-site are fox or coyote dens although it is important to note that Badgers and canids can both use the same burrows at different points

Photo 5. Potential den site. Note the scale and dimensions of the den.

Photo 6. Potential den site. Note the claw marks are not located laterally.

Photo 7. Candidate American Badger den site. Note the far-flung dirt.

Endangered Bat Species

In Ontario, there are four species of bats now listed as Endangered under the *Endangered Species Act*, including:

- Eastern Small-footed Myotis (*Myotis leibii)*;
- Little Brown Myotis (*Myotis lucifugus)*;
- Northern Long-eared Myotis (*Myotis septentrionalis)*; and
- Tri-colored Bat (*Perimyotis subflavus)*.

The three myotis species prefer to roost in large trees within mature forest, using tree cavities or loose peeling bark as roosting sites. Tri-colored bat prefers to roost in live or dead leaf foliage, preferably within oak trees.

None of the trees within the CVR_1 ecosite possessed suitable habitat characteristics to support SAR bats. Although many of the trees present were sufficiently large, they lacked peeling bark and cavities.

The forested community identified on Figure 2 contain suitably large trees (i.e., >22 cm DBH). Several trees possessed cavities that could support roosting bats, peeling bark, or dead leaf clusters. Full protection of the forested community was an understood from the beginning of the development design, so bat habitat characterization surveys and acoustic monitoring were not deemed to be necessary. Wooded features remain as candidate habitat for SAR bats based on our understanding.

7.0 Proposed Development

The proposed development as designed by IBI Group is comprised of an eight unit single-family home or condominium development with a shared road (Figure 3).

A 10 m buffer has been applied to the established forest dripline to prevent impacts of the proposed development. Removal of existing impacts including a cabin, walkway and ornamental landscape features around the ponds will occur with the naturalization of the buffer (to be detailed in a landscape plan during detailed design).

8.0 Potential Ecological Impacts and Mitigation Measures

The proposed development has the potential to impact the natural heritage features summarized in Section 5.0 and 6.0 of this report.

Potential impacts to these features can be categorized as:

- Direct (within the footprint of the development); or
- Indirect (adjacent to the development but affected by spin-off effects).
- Effects on natural features that may occur that are further discussed:
- Loss or disturbance to migratory birds or their nests,
- Disturbance as a result of the residential activities and encroachment into the adjacent forest;
- Construction impacts, including erosion / sedimentation and unintentional encroachment into the forest;
- Disruption of stormwater contributions and stormwater quality to the adjacent forest;
- Effects on wildlife and as a result of residential lighting; and
- Effects on wildlife from noise.

8.1 Significant Woodlands

The significant woodland identified within the Subject Property will not be directly impacted by future development activities at the site as they are outside of the development envelope. These areas may be subject to indirect effects associated with construction during the short-term. Potential indirect impacts are discussed in further detail below in Table 9.1.

8.2 Significant Wildlife Habitat

No direct effects to SWH are anticipated as suitable habitats are present outside of the development envelope. Potential indirect impacts to wildlife are assessed in further detail in Table 9.1 below.

8.3 Endangered, Threatened, and Species of Special Concern

No direct effects to species of endangered, threatened, and species of special concern or their habitats are anticipated as suitable habitat is not present within the development envelope with the exception of barn swallow. Potential indirect impacts to wildlife are assessed in further detail in Table 6 below.

8.4 Summary of Potential Impacts to Natural Heritage Features & Proposed Mitigation Measures and Monitoring Activities

Potential impacts, proposed mitigation and monitoring activities are presented and summarized below in Table 6.

Table 6. Summary of Potential Negative Impacts and Recommended Mitigation

Activity	Potential Impact	Duration (D), Geographic Extent (GE) and Magnitude (M) of the Impact	Proposed Mitigation
Land Clearing within the Development Envelope	Loss of or disturbance to migratory birds or their nests.	D: Short-term, occurring only once. GE: Limited to 5 trees within manicured turf area. M: Low, bird habitat in the development envelope is minimal; disturbance would not affect birds at the population level; however, disturbance of bird nests is in contravention of the MBCA.	Land clearing should be completed outside of the breeding bird season (Nesting Zone C2 core breeding window, or when 41-100% are predicted to be nesting for all habitat types, is approximately April 1 to August 31). If this is not possible, a bird specialist should survey the site prior to clearing to confirm that no active nests of migratory birds are present. Any active nests should be fenced and left undisturbed until young have fledged, as determined by a qualified biologist. All tree pruning and removals should be carried out by a qualified tree service under the direction of a certified arborist. Woody plantings consisting of native shrub and tree species are recommended along the forest margins within the buffer to offset the loss of landscape trees and to reduce indirect impacts to the forest feature. These plantings will provide additional habitat for migratory birds.
	Loss of wildlife habitat	D: Short-term, occurring only once. GE: Limited to the development envelope. M: Low for urban tolerant wildlife.	The manicured lawn and landscape trees currently provide little habitat value to wildlife. Urban tolerant species, if present on the site, will find other similar adjacent properties. All tree removal to occur through fall, winter and early spring months (i.e. September 1 to March 31) to avoid impacts to nesting migratory birds. None of the on-site trees proposed for removal have been identified as potential bat maternity habitat. Additional plantings consisting of native woody species are recommended to offset the loss of existing trees within the development envelope. Woody plantings will provide habitat and a food source for birds and wildlife.
Clearing and Construction Activities	Potential erosion/ sedimentation and encroachment beyond the development envelope due to grading and works within areas of exposed soil.	D: Short-term during construction phase only. GE: Impacts could extend beyond the development envelope. M: Low. The site is relatively flat, reducing the potential for sediment to move off-site. In addition, the installation of sediment control measures will prevent sediment from moving off-site.	Erosion and sediment control fencing should be placed along the limit of disturbance to prevent siltation. The fencing will act to determine the construction exclusion zone within the buffer area. Fencing should be continuous across the entire length of the buffer to avoid gaps where sediment could escape. Fencing should be maintained and regularly monitored for the duration of construction and until such time as lands are re-vegetated and stabilized and then it should be removed. All stockpiles, equipment and work areas should be maintained outside of the fenced area.
Dust	Dust impacts to wildlife	D: Short-term GE: Impacts could extend beyond the development envelope. M: Low as construction will be limited to eight houses and will be limited to the duration of the construction activities.	Dust levels should be regularly monitored for the duration of construction by an Environmental Monitor. As required, dust from the work area will be controlled using suppressants.

Activity	Potential Impact	Duration (D), Geographic Extent (GE) and Magnitude (M) of the Impact	Proposed Mitigation
Encroachment of Residential Activities, yard waste, etc., into Natural Areas	Disturbance to natural heritage features.	D: Long-term throughout the life of the development. GE: Typically affects edge areas in close proximity to development. M: Low as there is only a small increase in the number of residences present, therefore new contributions of yard waste and encroachment are minimal. Dumping of yard waste is also already visible within the forest.	Implementation of a predominantly 10 m buffer on a property already subject to disturbance. Woody plantings and seeding with locally appropriate native species are recommended within the buffer to offset the loss of landscape trees and to reduce indirect impacts to the forest feature. The removal and control of existing invasive species within the MAMM2-1 is recommended. Landscaping features including the paving stones, fountain, and bird bath are also recommended to be removed and are also likely to reduce dumping and encroachment into natural areas. Chainlink fence without gate access are recommended at the limit of the established buffer. Placement of chainlink fence to protect 10 m buffer and forest to be coordinated with agencies. Existing household and yard waste will be removed prior to occupancy. It is anticipated that new occupants are less likely to dump new waste if the retained features are free of waste.
Alterations to Soil Moisture Regimes through Creation of Impervious Surfaces and Water Quality from Urban Stormwater	The forest or marsh feature may be impacted by altered stormwater contributions, affecting the soil moisture regime or lower quality stormwater inputs	D: Long-term. GE: Impacts could extend beyond the development envelope. M: Moderate if moisture regime or stormwater contribution of forest and marsh is disrupted.	The proposed stormwater management plan intends on maintaining the pre-development stormwater quantity as illustrated in the FSR.
Lighting	Lighting on buildings may cause potential disruption to wildlife	D: On-going in evening. GE: Could potentially extend into natural areas, affecting the patterns of nocturnal wildlife. M: Low to moderate as the number of buildings will not be changing.	Lighting on new buildings should be directed downward and away from the forest and buffer. The installation of additional woody vegetation is recommended within the buffer to act as an additional barrier to light trespass. It is not anticipated that lighting from the proposed development will be significantly different from the existing property.
Noise	Impacts of construction noise on wildlife	D: Short term, during construction phase only. GE: Impacts confined to areas within direct vicinity of site. M: Low, noise anticipated to occur during daylight hours.	Environmental noise will be reduced through the standard operating practices and conformity with noise by-law requirements. The Environmental Inspector will ensure that all operational plans and construction timing associated with noise reduction are being followed. Wildlife in the area is anticipated to be habituated to the noise of the existing roadway and residential areas. The proposed work is not anticipated to add significantly to it.

9.0 Monitoring Plans

Monitoring is required to be carried out by various personnel throughout construction. Table 7 outlines the proposed monitoring to occur at stages of the construction.

Table 7. Summary of Monitoring & Maintenance Requirements

Monitoring Type	Personnel Responsible	Frequency	Maintenance
Prior to Construction			
Erosion control measures	Environmental monitor	Weekly or after significant weather events, as specified by the ESC plan	Fix any deficiencies in ESC measures as they arise. The contractor will be responsible for ensuring that sediment and erosion control measures are in place and are maintained in working condition until lands have been revegetated and are stable.
During Construction			
Plantings (damage)	Environmental monitor	As needed	Replace plantings / seeding following damage
Erosion control measures	Environmental monitor	Weekly or after significant weather events, as specified by the ESC plan	Fix measures immediately
Post Construction			
Plantings (workmanship and establishment)	Project landscape architect	Once, following substantial completion. One year following completion.	Replace plantings or reseed as required Review for new weed outbreaks to determine if post-construction control is required.

10.0 Compliance with Applicable Policies

Table 8 demonstrates how the proposed development predominantly complies with applicable federal, provincial, municipal and KCCA policies respecting natural heritage and natural hazard features. In cases where compliance is not feasible based on the interpretation of the policies, discussion on how concessions may be applied are provided to accommodate the proposed development.

Table 8. Compliance of Proposed Development with Policies

Feature	Applicable Policies	Policy Intent	How Addressed
Migratory Birds	Migratory Birds Convention Act, 1994	Migratory birds and their nests should not be killed or disturbed.	Land will be cleared outside of the breeding season, which generally occurs early April to the end of August, in order to avoid disturbance to nests. If this is not possible, a pre-construction nest survey will be completed no greater than two days prior to the proposed site preparation and clearing activities by a qualified biologist. If nesting species are identified, an appropriate species-specific buffer will be applied until the nest is no longer active.
Protection of Habitat of Endangered Species and Threatened Species	Section 2.1.8 of the Provincial Policy Statement (2020)	Development and site alteration not to be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.	No endangered or threatened species were observed; however, there is potential support for American Badger and species at risk bats to occur within the area. Evidence of badger dens were not observed within the Subject Property during site surveys. Erosion and sediment control fences will deter wildlife (including snakes and turtles), away from site. In the event that an American Badger or a potential den, or other wildlife are observed within the construction limits, a qualified biologist and the MECP should be contacted to confirm identification and to advise on next steps. The animal should be allowed to leave the site and under no circumstances should they be approached. Structures that are to be removed should be inspected for evidence of bird nesting. If nests are suspected to be from barn swallows, the nests should be inspected and identified by an avian biologist. If any barn swallow nests are found that will be impacted by development, the project should be registered with the MECP and

Feature	Applicable Policies	Policy Intent	How Addressed
			applicable compensation measures should be discussed.
Species at Risk	Endangered Species Act, 2007	No impacts to SAR or their habitat	No endangered or threatened species were observed; however, there is potential support for American Badger to occur within the area. Evidence of badger dens were not observed during site surveys, and it is assumed that American Badgers are not present within the site limits. In the event that an American Badger or a potential den are observed within the construction limits, a qualified biologist and the MECP should be contacted to confirm identification and to advise on next steps. The animal should be allowed to leave the site and under no circumstances should they be approached. Erosion and sediment control fences will deter wildlife away from site. Structures that are to be removed should be inspected for evidence of Barn Swallow nesting by an avian biologist. If any nests are found that will be impacted by development, the project should be registered with the MECP and applicable compensation measures should be discussed.

Feature	Applicable Policies	Policy Intent	How Addressed
County OP – Significant Woodlands, Habitat of Endangered and Threatened species, and Significant Wildlife Habitat	County of Elgin Official Plan (2015 Consolidation)	Development and site alteration are not permitted within the Significant Woodland or within the Adjacent Lands (within 120 meters of the woodland) unless it can be demonstrated through an EIS that there will be no negative impacts to the feature or its ecological functions. EIS are required for development and site alteration proposals for sites located within 120 meters of a Significant Woodland and Significant Wildlife Habitat.	Impacts to the adjacent forest anticipated for the following reasons: • The limit of disturbance is limited to the existing low density residential area and the lawn area associated with it. This area provides marginal foraging habitat for tolerant urban species • Cottages and single-family homes have been present in the area for decades, as such wildlife in the area are habituated to the light, encroachment, and noise associated with human occupancy in the areas immediately adjacent to forests. The extent of noise and light attenuation into the adjacent forests is anticipated to remain comparable to predevelopment levels. • SWH and significant habitat of endangered / threatened species is not present within the development limits. The SWH that may be present within the adjacent forest will be sufficiently protected through a ten-meter buffer • Indirect effects can be mitigated through fencing, design, effective ESC measures, and regular environmental inspections.
Municipality of Central Elgin – Significant Woodlands, Habitat of Endangered and Threatened	Municipality of Central Elgin Official Plan (March 2013 consolidation)	EIS is required for development and site alteration proposals for sites located within 120 meters of a Significant	As discussed above, impacts to Significant Forest, SWH, and Significant Habitat of Endangered and Threatened species are not anticipated.

Feature	Applicable Policies	Policy Intent	How Addressed
species, and Significant Wildlife Habitat		Woodlands and Significant Wildlife Habitat.	
Conservation Authority Regulated Lands	Ontario Regulation 181/06	The KCCA regulates the entirety of the subject lands	A permit will be acquired by the proponent to carry out work within the regulated lands.
County Tree By-law	Elgin County Woodlands Conservation By-law 05-03	The removal of trees within woodlots greater than 1.0 ha is regulated based on tree density.	Tree removals will be restricted the CVR_1 ecosite, outside of the forest

11.0 Conclusions

The development of eight (8) single family residences is proposed to replace landscape trees and manicured turfgrass from the Subject Property. Impacts to the forest and its associated natural heritage functions are not anticipated due to the existing residential uses on the Subject Property, establishment of a 10 m buffer from the dripline, as well as ESC protection measures during construction and long-term measures of permanent chainlink fencing and mitigation plantings.

12.0 References

AgMaps. 2020. Ministry of Agriculture, Food, and Rural Affairs, GIS database.

Endangered Species Act. 2007. Statutes of Ontario, Chapter 6.

Environment and Climate Change Canada (ECCC). 2013. Recovery Strategy for the American Badger, jacksoni subspecies (Taxidea taxus jacksoni) in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. 14 pp. + Appendices.

Heagy, A., D. Badzinski, D. Bradley, M. Falconer, J. McCracken, R.A. Reid and K. Richardson. 2014. Recovery Strategy for the Barn Swallow (*Hirundo rustica*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. vii + 64 pp.

Kettle Creek Conservation Authority (KCCA). 2006. *Kettle Creek Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*. Ontario Regulation 181/06. Obtained online at: https://www.ontario.ca/laws/regulation/r06181

Land Resource Science University of Guelph. 1993. Field Manual for Describing Soils in Ontario. 4th Edition.

Lee, H.T, W.D. Bakowsky, J.L. Riley, J. Bowles, M. Puddister, P. Uhlig, and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and its Application. Ontario. Ministry of Natural Resources, Southcentral Region, Science Development and Transfer Branch. Technical Manual ELC-005.

Lee, H.T. 2008. ELC Ecosystem Catalogue – Vegetation Type List: May 2008 Version. Ontario Ministry of Natural Resources, Southcentral Region, Science Development and Transfer Branch.

Land Information Ontario. 2015. Ministry of Natural Resources and Forestry, GIS database.

Migratory Birds Convention Act. 1994. Statues of Canada, Chapter 22.

Ministry of Municipal Affairs and Housing (MMAH). 2020. Provincial Policy Statement (PPS) under the Planning Act. Obtained online at: https://www.ontario.ca/page/provincial-policy-statement-2020.

Ministry of Natural Resources (MNR). March 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 (NHRM). Second Edition. Toronto: Queen's Printer for Ontario. 248 pp.

Ministry of Natural Resources and Forestry (MNRF). Natural Heritage Information Centre (NHIC). Screening completed March 10, 2022. Screening of atlas squares for Species at Risk.

Ministry of Natural Resources and Forestry. January 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E

Schut, L.W. 1992. The Soils of Elgin County – Volume 1. Report No. 63 of the Ontario Centre for Soil Resource Evaluation. Ontario Ministry of Agriculture and Food, Agriculture Canada Research Branch.

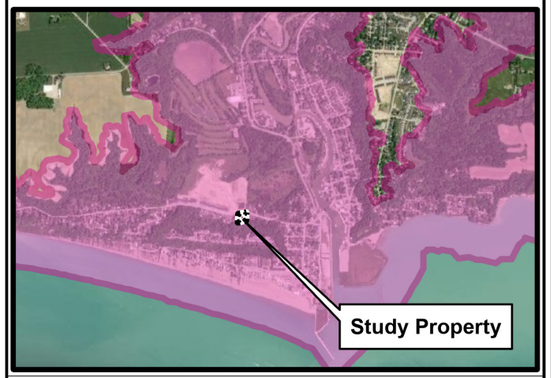
BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Figures

Study Area

Regulation Limits (KCCA)



Sources:

1. Ministry of Natural Resources, © King's Printer for Ontario
2. Natural Resources Canada © His Majesty the King in Right of Canada.

Disclaimer:

R.J. Burnside & Associates Limited and the above mentioned sources and agencies are not responsible for the accuracy of the spatial, temporal, or other aspects of the data represented on this map. It is recommended that users confirm the accuracy of the information represented.

This map is the product of a Geographic Information System (GIS). As such, the data represented on this map may be subject to updates and future reproductions may not be identical.

Datum: North American 1983 CSRS	
Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: 0°	Scale Factor: 0.99960

N

True North

0 5 10 15 20 25 30

Metres

BURNSIDE

Client

CALIBER CONTRACTING

Figure Title

384 GEORGE STREET

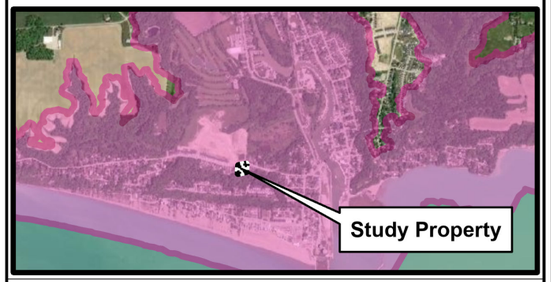
SUBJECT PROPERTY

Drawn	Checked	Date	Figure No.
JS	SY	2022/10/20	1
Scale		Project No.	
H 1:500		300053600	

File Path: \\elmo\shared work areas\053600 384 George Street\05_GIS\053600 - 384 George St.aprx Print Date: 2022/10/20 Time: 09:05 AM

ELC-Code	ELC-Community	Comments
CVR_1	Low Density Residential	
FODM5-2	Dry - Fresh Sugar Maple - Beech Deciduous Forest	
MAMM2-1	Jewelweed Forb Mineral Meadow Marsh Type	Inclusion

- Bird Breeding Survey Station
- Dripline (Burnside 2021)
- Environmental Land Classification
- Study Area
- Regulation Limits (KCCA)



Sources:

1. Ministry of Natural Resources, © King's Printer for Ontario
2. Natural Resources Canada © His Majesty the King in Right of Canada.

Disclaimer:

R.J. Burnside & Associates Limited and the above mentioned sources and agencies are not responsible for the accuracy of the spatial, temporal, or other aspects of the data represented on this map. It is recommended that users confirm the accuracy of the information represented.

This map is the product of a Geographic Information System (GIS). As such, the data represented on this map may be subject to updates and future reproductions may not be identical.

Datum: North American 1983 CSRS	
Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: 0°	Scale Factor: 0.99960

N
True North

0 5 10 15 20 25 30
Metres

BURNSIDE

Client

CALIBER CONTRACTING

Figure Title

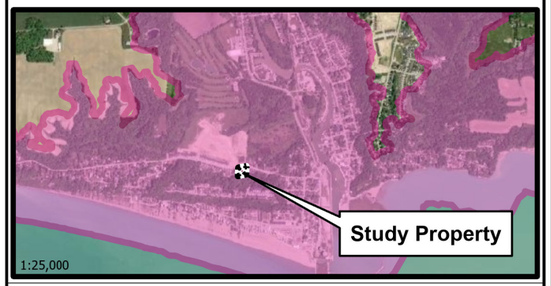
384 GEORGE STREET

ENVIRONMENTAL LAND CLASSIFICATION

Drawn	Checked	Date	Figure No.
JS	SY	2022/10/20	2
Scale		Project No.	
H 1:500		300053600	

File Path: \\elmo\shared work areas\053600 384 George Street\05_GIS\053600 - 384 George St.aprx Print Date: 2022/10/20 Time: 09:06 AM

- Proposed Development
- Dripline (Burnside 2021)
- Woodland Limit - 10m Setback
- Buffer Enhancements
- Study Area
- Regulation Limits - KCCA



Sources:

1. Ministry of Natural Resources, © King's Printer for Ontario
2. Natural Resources Canada © His Majesty the King in Right of Canada.

Disclaimer:

R.J. Burnside & Associates Limited and the above mentioned sources and agencies are not responsible for the accuracy of the spatial, temporal, or other aspects of the data represented on this map. It is recommended that users confirm the accuracy of the information represented.

This map is the product of a Geographic Information System (GIS). As such, the data represented on this map may be subject to updates and future reproductions may not be identical.

Datum: North American 1983 CSRS	
Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: 0°	Scale Factor: 0.99960

N
True North

0 5 10 15 20 25 30
Metres

BURNSIDE

Client

CALIBER CONTRACTING

Figure Title

384 GEORGE STREET

CONSTRAINTS AND OPPORTUNITIES

Drawn	Checked	Date	Figure No.
JS	SY	2022/10/20	3
Scale		Project No.	
H 1:500		300053600	

File Path: \\elmo\shared work areas\053600 384 George Street\05_GIS\053600 - 384 George St.aprx Print Date: 2022/10/20 Time: 09:09 AM

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix A

EIS Terms of Reference

R.J. Burnside & Associates Limited 292 Speedvale Avenue West Unit 20 Guelph ON N1H 1C4 CANADA
telephone (519) 823-4995 **fax** (519) 941-8120 **web** www.rjburnside.com

BURNSIDE
[THE DIFFERENCE IS OUR PEOPLE]

March 31, 2022

Via: Email (blima@elgin.ca)

Mr. Brian Lima
General Manager of Engineering, Planning & Enterprise
Elgin County
450 Sunset Drive
St. Thomas ON N5R 5V1

Dear Mr. Gordon:

Re: EIS Terms of Reference - Scoped Environmental Impact Statement
384 George Street, Port Stanley (Central Elgin)
Project No.: 300054196.0000

Introduction

R.J. Burnside & Associates Limited (Burnside) has been retained by Caliber Contracting to complete a Scoped Environmental Impact Statement (EIS) for the Subject Property at 384 George Street in Port Stanley (Municipality of Central Elgin).

This study is required by the County of Elgin (the County), Municipality of Central Elgin (the Municipality), and the Kettle Creek Conservation Authority (KCCA) to accompany the development application. The following Terms of Reference (TOR) have been prepared in accordance with the EIS guidelines provided within the Central Elgin Official Plan (2013).

This TOR document, once approved, will be appended to the combined EIS to assist the agency staff in their review.

Understanding of the Project

The Subject Property is located at 384 George Street in Port Stanley. Structures are currently present on the Subject Property including one main central building and seven smaller cabins. The remainder of the site is characterized as having a gravel driveway, manicured turf, ornamental gardens, and open-grown trees. The rear (southern) portion of the property is bordered by a large woodland feature that extends south, east, and west of the Subject Property. This woodland feature is considered to be ecologically important within Elgin County. It is likely to be considered Significant within the County and Municipality due to its size (i.e., >10 ha and >2 ha respectively) and high likelihood to support Species at Risk (SAR) including SAR bats. A considerable portion of the woodland feature is also classified as a Natural Hazard based on Schedule G of the Central Elgin Official Plan.

The adjacent land uses are residential to the east and west, and agricultural lands to the north. Deciduous woodlands are located to the south of the Subject Property and extends south of the adjacent residential properties. The Lake Erie shoreline is located approximately 160 meters to the south of the Subject Property.

Figure 1: The Subject Property in relation to the woodlands to the south.

As per Section D1.2.7 of the County of Elgin Official Plan and Sections 3.1.1.2 and 3.4 of the Central Elgin Official Plan, an EIS is required due to the proximity of the proposed development to the anticipated Significant Woodland.

An EIS is also required as a part of the submission by the development team as a portion of the Subject Lands are located within the KCCA's regulatory limits due to the site's proximity to Natural Hazard lands (steeply sloped lands). As such, the KCCA requires that an investigation of the natural heritage features, natural hazard features, and functions is completed to ensure conformity with the Municipality of Central Elgin, County of Elgin, KCCA and Provincial policies.

The findings of this investigation will inform the development team and the agencies of the existing constraints and how the development will work within or mitigate those constraints. The EIS will demonstrate that the ecological considerations are being incorporated into the proposed design. Burnside ecologists will coordinate efforts with the development team, including CVD Engineering who is completing the slope stability study.

EIS Framework

The EIS will be comprised of the following sections, subject to input from the Town, the County, and the KCCA.

Executive Summary

This section will provide a brief summary of the EIS including existing conditions, proposed development, impacts, policy conformity, mitigation, and monitoring. An opinion of suitability of the development for protection of natural heritage features and linkages and their associated functions will be summarized.

1.0 Introduction

The study area will be defined and mapped, and the rationale for its boundaries provided. The study area will encompass the subject site and include adjacent lands that might reasonably be directly or indirectly affected by the proposed development.

1.1 Background Information Review

A review of available information on the history of the site and adjacent lands will be completed. Local policy documents such as The Official Plan of the County of Elgin (Consolidated 2015) and Central Elgin Official Plan (2013) will be reviewed to assist with site's context within the greater natural heritage features, functions, and characteristics. Other relevant background information sources such as the Elgin Natural Heritage Systems Study (2019) will also be reviewed.

2.0 Policy Review

This section will identify opportunities and constraints to development within the subject property based on relevant land use policies established by the Province, the County, the Municipality, and regulatory agencies including the KCCA. Policies to be addressed include the following:

- Migratory Birds Convention Act (1994);
- Provincial Policy Statement (2020);
- Endangered Species Act (2007);
- The Official Plan of the County of Elgin (Consolidated 2015);
- Central Elgin Official Plan (2013); and
- Ontario Regulation 181/06 and other KCCA policies.

A Species at Risk screening will review information from the Natural Heritage Information Centre (NHIC) database, as well as information from the Ministry of Environment Climate and Parks. This information will help to inform subsequent field surveys.

Also, a Significant Wildlife Habitat (SWH) Screening to be completed based on the Ministry of Natural Resources and Forestry (MNRF) SWH Criteria Schedule 7E.

3.0 Field Inventory Methodology

This section will identify the methods used to characterize the natural heritage features and functions of the subject site and on lands immediately adjacent.

Completion of an on-site, single season ecological inventory which includes:

- A single-season vegetation inventory (summer);

- Delineation and categorization of vegetation communities using the methodology of the Ecological Land Classification for Southern Ontario: First Approximation and Its Application (Lee et al. 1998) to be completed as part of the vegetation inventory;
- Two breeding bird surveys will be completed according to the Ontario Breeding Bird Atlas (OBBA, 2001) and will be completed according to the following schedule:
  - First Survey (Between May 24 and June 15); and
  - Second Survey (Between June 15 and July 10) Incidental wildlife and wildlife habitat observations documented during field investigations.
- Incidental observations of wildlife and habitat will be made during the field investigations.

Details of dates, weather, and other fieldwork conditions will be provided within a summary table that documents the personnel and their expertise that completed the inventory components.

Staking of the woodland dripline was completed by a Burnside ecologist to confirm the woodland boundary was also completed in Summer 2021, the results of which will be included in the final EIS.

4.0 Existing Conditions

A description of the subject site and the adjacent lands will be provided based on the background desktop investigation and materials provided by agency staff, included Nature Counts site summaries (if available for the subject site).

4.1 Site Description

This section will provide details of the subject site the following components:

4.1.1 Physiography

A brief description of soils will be provided based on historical soils mapping. Topography will be described based on the site investigations and topographic survey.

4.1.2 Vegetation

4.1.2.1 Ecological Land Classification

Vegetation communities within the study area will be described according to Ecological Land Classification for Southern Ontario (ELC), where possible. A discussion of the natural heritage features and functions will be provided within the description of the communities.

Eastern Prickly Pear (*Opuntia cespitosa*; END), Broad Beech Fern (*Phegopteris hexagonoptera*; SC), and Common Hop Tree (*Ptelea trifoliata*; SC) are known to occur within the vicinity of the Subject Property. Eastern Prickly Pear is a provincially listed endangered cactus species.

4.1.3 Wildlife

4.1.3.1 Breeding Birds

Burnside will conduct two breeding bird surveys using point count stations within the EIS study area with focus on the forested area feature. Surveys will be completed within the window times and dates and in consideration appropriate weather conditions as per Ontario Breeding Bird Atlas Guidelines (Cadman et al. 2007). Incidental bird observations made during site surveys

will be also be noted and included in the final EIS. Background information from the OBBA will also be provided.

The existing structures on-site will also be examined for evidence of Barn Swallow nesting.

All bird observations will be listed with federal, provincial, and local rankings.

4.1.3.2 Incidental Wildlife

Incidental wildlife recorded during site visits and anticipated wildlife species will be listed and discussed.

4.1.4 Species at Risk Screening

A SAR screening will be completed by reviewing the MNRF NHIC database and using the MNRF's municipal list.

Our NHIC screening of the area indicated that the following species at risk may occur within the area:

- Barn Swallow (*Hirundo rustica*; THR);
- Bank Swallow (*Riparia riparia*; THR);
- Broad Beech Fern (*Phegopteris hexagonoptera*; SC);
- Common Hop Tree (*Ptelea trifoliata*; SC);
- Eastern Prickly Pear (*Opuntia cespitosa*; END);
- Little Brown Myotis (*Myotis lucifugus*; END);
- Northern Bobwhite (*Colinus virginianus*; END)
- Northern Myotis (*Myotis septentrionalis*; END);
- Silver Chub (*Macrhybopsis storeriana*; THR);
- Spiny Softshell (*Apalone spinifera*; END); and
- Tricolored Bat (*Perimyotis subflavus*; END).

The proposed breeding bird surveys will serve as targeted surveys for avian SAR.

Surveys for the SAR plants will occur throughout the course of the single-season vegetation inventory.

If any SAR or associated protected habitats are identified, additional studies, reporting, and permitting may be necessary. A scope of work will be established, as required.

5.0 Description of Development Proposal

The proposed development plan will be described that illustrates that the natural heritage features and linkage constraints, requirements, and opportunities, including the application of adequately sized buffers / setbacks to protect features and functions.

6.0 Description of Impacts

All anticipated impacts to natural heritage features and linkage and their functions on the Subject Property and on adjacent lands will be presented. Impacts will be qualified as short or long term, and direct, indirect, and cumulative. A table summarizing these impacts will be provided at the end of this section.

6.1 Mitigation Measures

Potential impacts identified in the EIS will be analyzed for the appropriateness of mitigation / restoration / enhancement strategies and technologies that may minimize, eliminate, or offset direct impacts or other detrimental effects to the subject site and surrounding lands.

Measures such as mitigation plantings, if feasible, will be provided as guidelines to be detailed within landscape plans. The effectiveness of mitigation measures in reducing environmental impacts to the subject site and the surrounding landscape will be discussed, and recommended strategies (timing windows, development setbacks, etc.) will be justified.

7.0 Monitoring Plan

Monitoring requirements to ensure that mitigation measures are effective will be provided. Personnel responsible, frequency of monitoring, and potential maintenance will be assigned to each monitoring type. Each monitoring type will be divided into one of the following sections: prior to construction, during construction and post-construction.

8.0 Policy and Legislative Framework

Conformity of the development within policies of the Municipality of Central Elgin, County of Elgin, Kettle Creek Conservation Authority, and Province of Ontario will be discussed further within this section and will be summarized within a table. These include but are not limited to:

- Migratory Birds Convention Act (1994);
- Provincial Policy Statement (2020);
- Endangered Species Act (2007);
- The Official Plan of the County of Elgin (Consolidated 2015);
- Central Elgin Official Plan (2013); and
- Ontario Regulation 181/06 and other KCCA policies.

Findings from the natural heritage inventories will be assessed and considered during the policy and legislative framework discussion.

9.0 Recommendations and Conclusions

A professional opinion of the development, based on the EIS, that indicates that the application is maintaining or enhancing the natural heritage features and functions described in the document.

10.0 Appendices

Data and supporting documentation by project team members will be included in the appendices, as needed.

11.0 Figures

Figures will illustrate findings of the site investigation, woodland boundary, ELC, linkage and vegetation units, wildlife records, regulatory limits (Municipal, Regional, KCCA regulated areas), and buffers required to protect and enhance the natural features. The figures will also illustrate proposed development and the recommended mitigation guidelines.

Please advise that these Terms of Reference are acceptable to initiate our investigation and reporting on the site.

Yours truly,

R.J. Burnside & Associates Limited

Sarah Yoshida, B.Sc. (Env), G. Cert. E.R.
Ecologist
SY:sm

cc: Kevin McClure (Central Elgin Planning Office)
Brian Lima (Elgin County)

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix B

Agency Response to EIS Terms of Reference

From: Joe Gordon <joe@kettlecreekconservation.on.ca>
Sent on: Friday, April 1, 2022 3:18:29 PM
To: Sarah Yoshida <Sarah.Yoshida@rjburnside.com>
Subject: RE: EIS Terms of Reference for KCCA Review - 384 George Street, Port Stanley ON

Hi Sarah,

KCCA does not have any technical advisory agreements with the Municipality of Central Elgin for Natural Heritage related policies.
Therefore, I would recommend that you circulate the ToR to the municipality for approval.

KCCA's interests in the subject development will be solely in regards to s.3 natural hazard policies of the PPS and the Conservation Authority s.28 CA Act regulations.

Thank you for the opportunity to comment.

Thank you,

Joe Gordon
Assistant Manager
Supervisor of Planning & Conservation Areas
Kettle Creek Conservation Authority

From: Sarah Yoshida <Sarah.Yoshida@rjburnside.com>
Sent: March 31, 2022 4:45 PM
To: Joe Gordon <joe@kettlecreekconservation.on.ca>
Subject: EIS Terms of Reference for KCCA Review - 384 George Street, Port Stanley ON

Good afternoon Joe

Please see the attached copy of the Terms of Reference for the Subject Lands located as 384 George Street, Port Stanley for you review.

Please let us know if you have any questions regarding our submission.

We look forward to hearing from you,

Sarah

BURNSIDE

Sarah Yoshida, B.Sc. (Env.) G. Cert. E.R.
Ecologist

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, Ontario, N1H 1C4
Office: 800-265-9662 Direct Line: 519-362-3947
www.rjburnside.com

From: McClure, Kevin <kmcclure@stthomas.ca>
Sent on: Friday, April 1, 2022 3:42:47 PM
To: Sarah Yoshida <Sarah.Yoshida@rjburnside.com>
CC: Kevin Butt <Kevin.Butt@rjburnside.com>
Subject: RE: EIS Terms of Reference for Municipality of Central Review - 384 George Street, Port Stanley ON

Good morning Sarah,

I note in your Terms of Reference that you are only proposing a single-season inventory. Please note that the County OP requires a three season inventory and this would be consistent with the Natural Heritage Reference Manual by the Province.

If you are proceeding with a single season inventory, I would recommend that a rationale as to why that approach was taken is addressed in the EIS.

Regards,

KEVIN McCLURE, MCIP RPP Planner
Central Elgin Planning Office | Planning & Building Services Dept.
9 Mondamin Street, St. Thomas, Ontario N5P 2T9
e. kmcclure@stthomas.ca
t. 519-631-1680 ext: 4164
t. 519-633-2560
f. 519-633-6581

ST. THOMAS
THE RAILWAY CITY

From: Sarah Yoshida <Sarah.Yoshida@rjburnside.com>
Sent: April 1, 2022 11:23 AM
To: McClure, Kevin <kmcclure@stthomas.ca>
Cc: Kevin Butt <Kevin.Butt@rjburnside.com>
Subject: EIS Terms of Reference for Municipality of Central Review - 384 George Street, Port Stanley ON

Good morning Kevin,

Please see the attached copy of the Terms of Reference for the Subject Lands located as 384 George Street, Port Stanley for you review.

Please let us know if you have any questions regarding our submission.

We look forward to hearing from you,

Sarah

BURNSIDE
Sarah Yoshida, B.Sc. (Env.) G. Cert. E.R.
Ecologist

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, Ontario, N1H 1C4
Office: 800-265-9662 Direct Line: 519-362-3947
www.rjburnside.com

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix C

NHIC and OBBA Data

Project Name: 384 George St, Port Stanley Evironmental Impact Study
Project Number: 300053600.0000

NHIC Data								
OGF ID	**Element Type**	**Common Name**	**Scientific Name**	**SRank**	**SARO Status**	**COSEWIC Status**	**ATLAS NAD83 IDENT**	**COMMENTS**
881047	SPECIES	Oak Hairstreak	Satyrium favonius				17MH8123	
881047	SPECIES	Differential Grasshopper	Melanoplus differentialis				17MH8123	
881047	SPECIES	Eastern Prickly-pear Cactus	Opuntia cespitosa		END	END	17MH8123	
881047	SPECIES	Northern Bobwhite	Colinus virginianus		END	END	17MH8123	
881047	SPECIES	Silver Chub	Macrhybopsis storeriana		THR	END	17MH8123	
881047	SPECIES	Erect Knotweed	Polygonum erectum				17MH8123	
881047	SPECIES	Spiny Softshell	Apalone spinifera		END	END	17MH8123	
881047	SPECIES	Stiff Gentian	Gentianella quinquefolia				17MH8123	
881047	SPECIES	Barn Swallow	Hirundo rustica		THR	THR	17MH8123	
881047	SPECIES	Bank Swallow	Riparia riparia		THR	THR	17MH8123	
881047	SPECIES	Broad Beech Fern	Phegopteris hexagonoptera		SC	SC	17MH8123	
881047	SPECIES	Common Hop-tree	Ptelea trifoliata		SC	SC	17MH8123	
881047	RESTRICTED SPECIES	Restricted Species	Restricted Species				17MH8123	

881047	RESTRICTED SPECIES	RESTRICTED SPECIES	RESTRICTED SPECIES		END	END	17MH8123	

Project Name: 384 George St, Port Stanley Evironmental Impact Study
Project Number: 300053600.0000

Square	Species	Scientific Name	SRank	ESA	Breeding Evidence	
					Max BE	Categ
17MH82	Canada Goose	*Branta canadensis*	S5		FY	CONF
17MH82	Wood Duck	*Aix sponsa*	S5B,S3N		NY	CONF
17MH82	American Black Duck	*Anas rubripes*	S4		NE	CONF
17MH82	Mallard	*Anas platyrhynchos*	S5		NE	CONF
17MH82	Blue-winged Teal	*Spatula discors*	S3B,S4M		NY	CONF
17MH82	Hooded Merganser	*Lophodytes cucullatus*	S5		V	PROB
17MH82	Ruddy Duck	*Oxyura jamaicensis*	S3B,S4N,S5M		FY	CONF
17MH82	Ruffed Grouse	*Bonasa umbellus*	S5		V	PROB
17MH82	Wild Turkey	*Meleagris gallopavo*	S5		FY	CONF
17MH82	Northern Bobwhite	*Colinus virginianus*	S1		A	PROB
17MH82	Great Blue Heron	*Ardea herodias*	S4		H	POSS
17MH82	Green Heron	*Butorides virescens*	S4B		NY	CONF
17MH82	Turkey Vulture	*Cathartes aura*	S5B,S3N		H	POSS
17MH82	Northern Harrier	*Circus hudsonius*	S5B,S4N		NY	CONF
17MH82	Sharp-shinned Hawk	*Accipiter striatus*	S5		P	PROB
17MH82	Cooper's Hawk	*Accipiter cooperii*	S4		D	PROB
17MH82	Red-tailed Hawk	*Buteo jamaicensis*	S5		FY	CONF
17MH82	American Kestrel	*Falco sparverius*	S4		NY	CONF
17MH82	Virginia Rail	*Rallus limicola*	S4S5B		D	PROB
17MH82	Sora	*Porzana carolina*	S5B		S	POSS
17MH82	Killdeer	*Charadrius vociferus*	S4B		NY	CONF
17MH82	Rock Pigeon	*Columba livia*	SNA		AE	CONF
17MH82	Spotted Sandpiper	*Actitis macularius*	S5B		AE	CONF
17MH82	American Woodcock	*Scolopax minor*	S4B		FY	CONF
17MH82	Mourning Dove	*Geothlypis philadelphia*	S5B		NY	CONF
17MH82	Yellow-billed Cuckoo	*Coccyzus americanus*	S4B		V	PROB
17MH82	Black-billed Cuckoo	*Coccyzus erythropthalmus*	S4S5B		CF	CONF
17MH82	Eastern Screech-Owl	*Megascops asio*	S4		NY	CONF
17MH82	Great Horned Owl	*Bubo virginianus*	S4		NY	CONF
17MH82	Chimney Swift	*Chaetura pelagica*	S3B		P	PROB
17MH82	Ruby-throated Hummingbird	*Archilochus colubris*	S5B		NY	CONF

Project Name: 384 George St, Port Stanley Evironmental Impact Study
Project Number: 300053600.0000

17MH82	Belted Kingfisher	*Megaceryle alcyon*	S5B,S4N	CF	CONF
17MH82	Red-headed Woodpecker	*Melanerpes erythrocephalus*	S3	FY	CONF
17MH82	Red-bellied Woodpecker	*Melanerpes carolinus*	S5	NE	CONF
17MH82	Yellow-bellied Sapsucker	*Sphyrapicus varius*	S5B,S3N	AE	CONF
17MH82	Downy Woodpecker	*Dryobates pubescens*	S5	FY	CONF
17MH82	Hairy Woodpecker	*Dryobates villosus*	S5	NE	CONF
17MH82	Northern Flicker	*Colaptes auratus*	S5	NY	CONF
17MH82	Pileated Woodpecker	*Dryocopus pileatus*	S5	FY	CONF
17MH82	Eastern Wood-Pewee	*Contopus virens*	S4B	T	PROB
17MH82	Acadian Flycatcher	*Empidonax virescens*	S1B	NY	CONF
17MH82	Willow Flycatcher	*Empidonax traillii*	S4B	NY	CONF
17MH82	Least Flycatcher	*Empidonax minimus*	S5B	T	PROB
17MH82	Eastern Phoebe	*Sayornis phoebe*	S5B	NE	CONF
17MH82	Great Crested Flycatcher	*Myiarchus crinitus*	S5B	NY	CONF
17MH82	Eastern Kingbird	*Tyrannus tyrannus*	S4B	NY	CONF
17MH82	Yellow-throated Vireo	*Vireo flavifrons*	S4B	CF	CONF
17MH82	Warbling Vireo	*Vireo gilvus*	S5B	NY	CONF
17MH82	Red-eyed Vireo	*Vireo olivaceus*	S5B	CF	CONF
17MH82	Blue Jay	*Cyanocitta cristata*	S5	NE	CONF
17MH82	American Crow	*Corvus brachyrhynchos*	S5	NE	CONF
17MH82	Horned Lark	*Eremophila alpestris*	S4	AE	CONF
17MH82	Purple Martin	*Progne subis*	S3B	AE	CONF
17MH82	Tree Swallow	*Tachycineta bicolor*	S4S5B	AE	CONF
17MH82	Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	S4B	CF	CONF
17MH82	Bank Swallow	*Riparia riparia*	S4B	AE	CONF
17MH82	Cliff Swallow	*Petrochelidon pyrrhonota*	S4S5B	AE	CONF
17MH82	Barn Swallow	*Hirundo rustica*	S4B	AE	CONF
17MH82	Black-capped Chickadee	*Poecile atricapillus*	S5	NY	CONF
17MH82	Tufted Titmouse	*Baeolophus bicolor*	S3	FY	CONF
17MH82	Red-breasted Nuthatch	*Sitta canadensis*	S5	V	PROB
17MH82	White-breasted Nuthatch	*Sitta carolinensis*	S5	CF	CONF
17MH82	Brown Creeper	*Certhia americana*	S5	V	PROB
17MH82	Carolina Wren	*Thryothorus ludovicianus*	S4	CF	CONF

Project Name: 384 George St, Port Stanley Evironmental Impact Study
Project Number: 300053600.0000

17MH82	House Wren	*Troglodytes aedon*	S5B	NY	CONF
17MH82	Winter Wren	*Troglodytes hiemalis*	S5B,S4N	T	PROB
17MH82	Blue-gray Gnatcatcher	*Polioptila caerulea*	S4B	FY	CONF
17MH82	Eastern Bluebird	*Sialia sialis*	S5B,S4N	NY	CONF
17MH82	Veery	*Catharus fuscescens*	S5B	T	PROB
17MH82	Wood Thrush	*Hylocichla mustelina*	S4B	NY	CONF
17MH82	American Robin	*Turdus migratorius*	S5	NY	CONF
17MH82	Gray Catbird	*Dumetella carolinensis*	S5B,S3N	NY	CONF
17MH82	Northern Mockingbird	*Mimus polyglottos*	S4	V	PROB
17MH82	Brown Thrasher	*Toxostoma rufum*	S4B	FY	CONF
17MH82	European Starling	*Sturnus vulgaris*	SNA	FY	CONF
17MH82	Cedar Waxwing	*Bombycilla cedrorum*	S5	NY	CONF
17MH82	Blue-winged Warbler	*Vermivora cyanoptera*	S4B	A	PROB
17MH82	Yellow Warbler	*Setophaga petechia*	S5B	NY	CONF
17MH82	Chestnut-sided Warbler	*Setophaga pensylvanica*	S5B	T	PROB
17MH82	Pine Warbler	*Setophaga pinus*	S5B,S3N	NB	CONF
17MH82	American Redstart	*Setophaga ruticilla*	S5B	T	PROB
17MH82	Ovenbird	*Seiurus aurocapilla*	S5B	T	PROB
17MH82	Louisiana Waterthrush	*Parkesia motacilla*	S2B	CF	CONF
17MH82	Mourning Warbler	*Geothlypis philadelphia*	S5B	T	PROB
17MH82	Common Yellowthroat	*Geothlypis trichas*	S5B,S3N	AE	CONF
17MH82	Eastern Towhee	*Pipilo erythrophthalmus*	S4B,S3N	FY	CONF
17MH82	Chipping Sparrow	*Spizella passerina*	S5B,S3N	NY	CONF
17MH82	Field Sparrow	*Spizella pusilla*	S4B,S3N	FY	CONF
17MH82	Vesper Sparrow	*Pooecetes gramineus*	S4B	AE	CONF
17MH82	Savannah Sparrow	*Passerculus sandwichensis*	S5B,S3N	FY	CONF
17MH82	Song Sparrow	*Melospiza melodia*	S5	NY	CONF
17MH82	Swamp Sparrow	*Melospiza georgiana*	S5B,S4N	CF	CONF
17MH82	White-throated Sparrow	*Zonotrichia albicollis*	S5	H	POSS
17MH82	Scarlet Tanager	*Piranga olivacea*	S5B	AE	CONF
17MH82	Northern Cardinal	*Cardinalis cardinalis*	S5	NY	CONF
17MH82	Rose-breasted Grosbeak	*Pheucticus ludovicianus*	S5B	FY	CONF
17MH82	Indigo Bunting	*Passerina cyanea*	S5B	FY	CONF
17MH82	Bobolink	*Dolichonyx oryzivorus*	S4B	CF	CONF

Project Name: 384 George St, Port Stanley Evironmental Impact Study
Project Number: 300053600.0000

17MH82	Red-winged Blackbird	*Agelaius phoeniceus*	S5		NY	CONF
17MH82	Eastern Meadowlark	*Sturnella magna*	S4B,S3N		AE	CONF
17MH82	Common Grackle	*Quiscalus quiscula*	S5		CF	CONF
17MH82	Brown-headed Cowbird	*Molothrus ater*	S5		NE	CONF
17MH82	Orchard Oriole	*Icterus spurius*	S4B		NY	CONF
17MH82	Baltimore Oriole	*Icterus galbula*	S4B		NY	CONF
17MH82	House Finch	*Haemorhous mexicanus*	SNA		NY	CONF
17MH82	American Goldfinch	*Spinus tristis*	S5		FY	CONF
17MH82	House Sparrow	*Passer domesticus*	SNA		NY	CONF

BURNSIDE

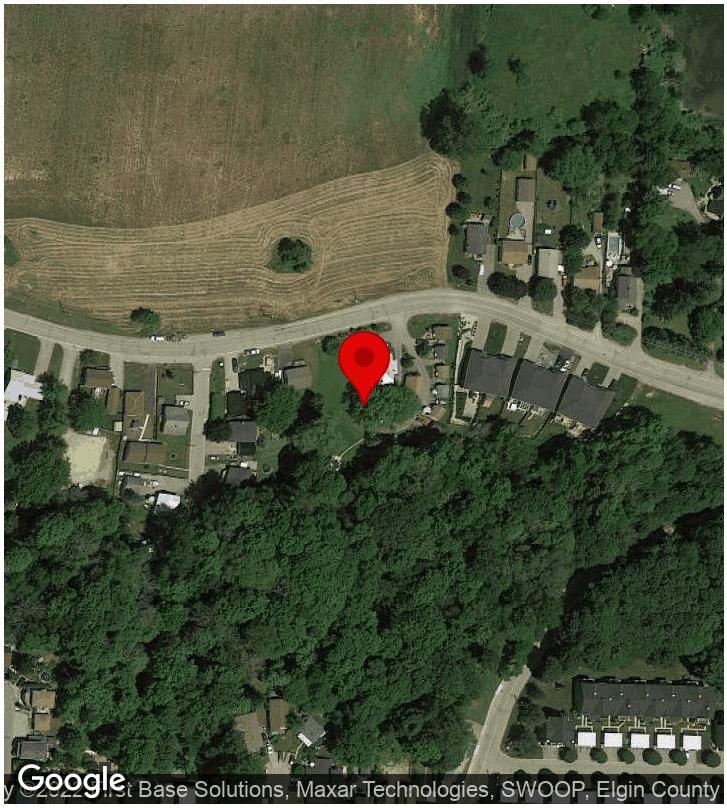
[THE DIFFERENCE IS OUR PEOPLE]

Appendix D

Breeding Bird Survey Field Data

EPA Breeding Bird Survey (2022)

300053600: BBS-001 [Residential]



STATUS

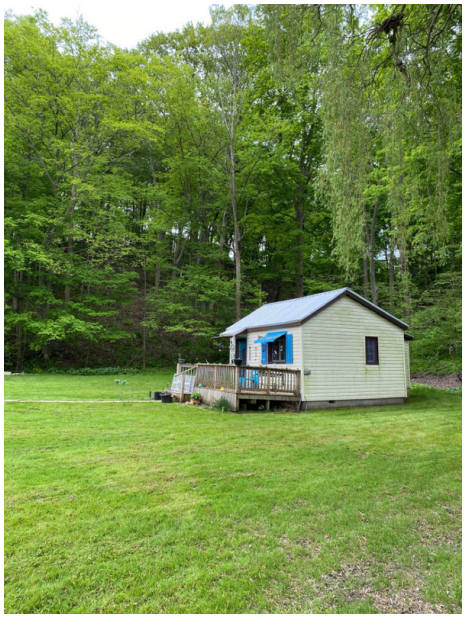
1 Visit Completed

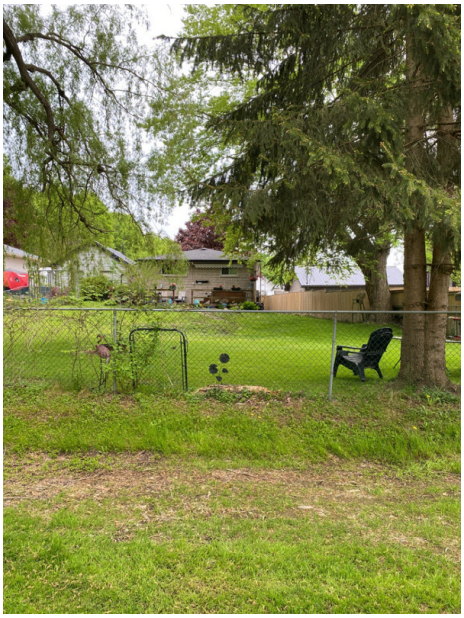
LOCATION

42.664581, -81.221823

HABITAT UNIT SECTION

UTM Coordinates (WGS84)	17-481822m.E 4723592m.N
Record ID Number	001
Habitat Unit	Residential
Habitat Unit Photos	






VISIT (1 Item)

1. Visit 1. 2022-05-26

Record Title	300053600: BBS-001 [Residential]
Record Title (Visit)	Visit 1. 2022-05-26
Observer Name(s)	Dave Szmyr
Observation Date	May 26, 2022
Start Time	09:30
End Time	09:35

SPECIES OBSERVED (10 Items)

1. 2022-05-26: Purple Martin [5]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-05-26: Purple Martin [5]
English Common Name	Purple Martin
Breading Evidence	CONFIRMED ▸ AE: Adult leaving or entering nest sites in circumstances indicating occupied nest.
Tally	5
Species Element ID	180316
ELC Code	ABPAU01010
S Rank	S3B
Provincially Tracked	Y
Species Comment	Neat Box

2. 2022-05-26: Rose-breasted Grosbeak [1]

Record Title	54196: BBS-001 [Residential]
Record Title (Species)	2022-05-26: Rose-breasted Grosbeak [1]
English Common Name	Rose-breasted Grosbeak
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180434
ELC Code	ABPBX61030
S Rank	S5B
Provincially Tracked	N

3. 2022-05-26: American Goldfinch [1]

Record Title	54196: BBS-001 [Residential]
Record Title (Species)	2022-05-26: American Goldfinch [1]
English Common Name	American Goldfinch
Breading Evidence	POSSIBLE ▸ H: Species observed in its breeding season in suitable nesting habitat.
Tally	1
Species Element ID	180496
ELC Code	ABPBY06110
S Rank	S5
Provincially Tracked	N

4. 2022-05-26: Ruby-throated Hummingbird [1]

Record Title	54196: BBS-001 [Residential]
Record Title (Species)	2022-05-26: Ruby-throated Hummingbird [1]
English Common Name	Ruby-throated Hummingbird
Breading Evidence	POSSIBLE ▸ H: Species observed in its breeding season in suitable nesting habitat.
Tally	1
Species Element ID	180278
ELC Code	ABNUC45010
S Rank	S5B
Provincially Tracked	N

5. 2022-05-26: House Sparrow [6]

Record Title	54196: BBS-001 [Residential]
Record Title (Species)	2022-05-26: House Sparrow [6]
English Common Name	House Sparrow
Breading Evidence	POSSIBLE ▸ H: Species observed in its breeding season in suitable nesting habitat.
Tally	6
Species Element ID	180498
ELC Code	ABPBZ01010
Exotic Status	SE
S Rank	SNA
Provincially Tracked	N

6. 2022-05-26: Yellow-bellied Flycatcher [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-05-26: Yellow-bellied Flycatcher [1]
English Common Name	Yellow-bellied Flycatcher
Breading Evidence	Observed ▸ X: Species observed in its breeding season (no breeding evidence).
Tally	1
Species Element ID	180295
ELC Code	ABPAE33010
S Rank	S5B
Provincially Tracked	N

7. 2022-05-26: Baltimore Oriole [1]

Record Title	54196: BBS-001 [Residential]
Record Title (Species)	2022-05-26: Baltimore Oriole [1]
English Common Name	Baltimore Oriole
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180483
ELC Code	ABPBXB9190
S Rank	S4B
Provincially Tracked	N

8. 2022-05-26: American Crow [2]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-05-26: American Crow [2]
English Common Name	American Crow
Breading Evidence	Observed ▸ X: Species observed in its breeding season (no breeding evidence).
Tally	2
Species Element ID	180328
ELC Code	ABPAV10010
S Rank	S5
Provincially Tracked	N

9. 2022-05-26: American Robin [4]

Record Title	54196: BBS-001 [Residential]
Record Title (Species)	2022-05-26: American Robin [4]
English Common Name	American Robin
Breading Evidence	CONFIRMED ▸ FY: Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight.
Tally	4
Species Element ID	180362
ELC Code	ABPBJ20170
S Rank	S5
Provincially Tracked	N

10. 2022-05-26: Northern Cardinal [1]

Record Title	54196: BBS-001 [Residential]
Record Title (Species)	2022-05-26: Northern Cardinal [1]
English Common Name	Northern Cardinal
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180433
ELC Code	ABPBX60010
S Rank	S5
Provincially Tracked	N

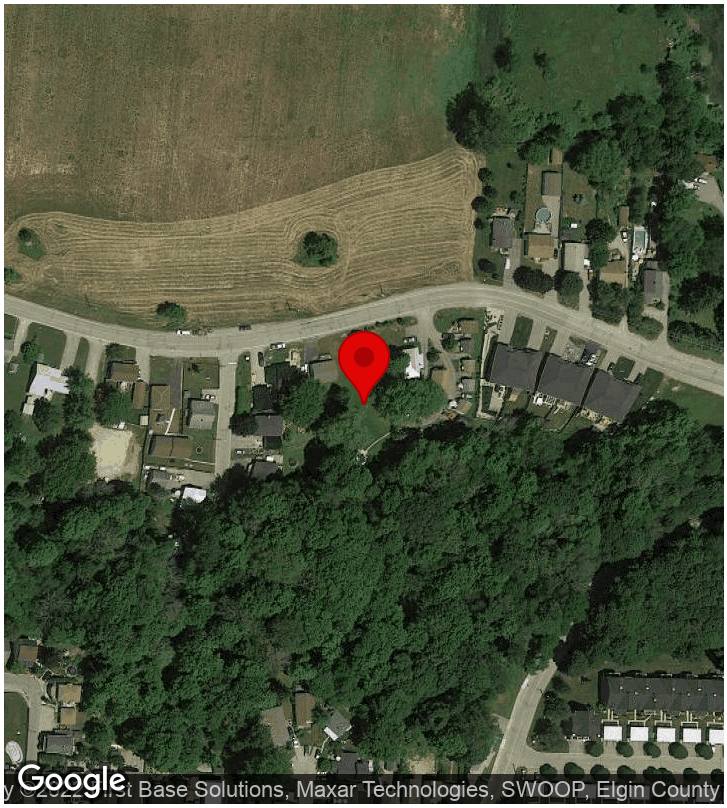
WEATHER RECORDS (1 Item)

1. 1 record

Select Weather Record	*Not Available*
Weather Summary	Observations on 2022-05-26 from 09:35 to undefined || Beaufort Sky Class: undefined || Beaufort Wind Class: undefined || Temp. (Start - End of Survey): 17°C°C - Not-Recorded°C || Overnight Temp. (High - Low): Not-Recorded - Not-Recorded || Overnight Precip.: Non-Applicable || Observed Ground Conditions: undefined || Other Comments: None

EPA Breeding Bird Survey (2022)

300053600: BBS-001 [Residential]



STATUS

2 Visits Completed

LOCATION

42.664557, -81.221967

HABITAT UNIT SECTION

UTM Coordinates (WGS84)	undefined-NaNm.E NaNm.N
Record ID Number	001
Habitat Unit	Residential
Habitat Unit Photos	




VISIT (1 Item)

1. Visit 1. 2022-07-08

Record Title	300053600: BBS-001 [Residential]
Record Title (Visit)	Visit 1. 2022-07-08
Observer Name(s)	Dave Szmyr
Observation Date	July 8, 2022
Start Time	11:19
End Time	11:24

SPECIES OBSERVED (20 Items)

1. 2022-07-08: House Sparrow [4]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: House Sparrow [4]
English Common Name	House Sparrow
Breading Evidence	CONFIRMED ▸ AE: Adult leaving or entering nest sites in circumstances indicating occupied nest.
Tally	4
Species Element ID	180498
ELC Code	ABPBZ01010
Exotic Status	SE
S Rank	SNA
Provincially Tracked	N

2. 2022-07-08: Carolina Wren [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Carolina Wren [1]
English Common Name	Carolina Wren
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180340
ELC Code	ABPBG06130
S Rank	S4
Provincially Tracked	N

3. 2022-07-08: Eastern Wood-pewee [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Eastern Wood-pewee [1]
English Common Name	Eastern Wood-pewee
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180294
ELC Code	ABPAE32060
SARO Status	SC
SARA Status	SC
S Rank	S4B
Provincially Tracked	Y

4. 2022-07-08: Blue Jay [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Blue Jay [1]
English Common Name	Blue Jay
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180325
ELC Code	ABPAV02020
S Rank	S5

Provincially Tracked	N

5. 2022-07-08: Northern Flicker [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Northern Flicker [1]
English Common Name	Northern Flicker
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180290
ELC Code	ABNYF10020
S Rank	S5
Provincially Tracked	N

6. 2022-07-08: Mourning Dove [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Mourning Dove [1]
English Common Name	Mourning Dove
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180251
ELC Code	ABNPB04040
S Rank	S5
Provincially Tracked	N

7. 2022-07-08: Red-winged Blackbird [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Red-winged Blackbird [1]
English Common Name	Red-winged Blackbird
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180472
ELC Code	ABPBXB0010
S Rank	S5
Provincially Tracked	N

8. 2022-07-08: Killdeer [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Killdeer [1]
English Common Name	Killdeer
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180166
ELC Code	ABNNB03090
S Rank	S4B

Provincially Tracked	N

9. 2022-07-08: Indigo Bunting [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Indigo Bunting [1]
English Common Name	Indigo Bunting
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180438
ELC Code	ABPBX64030
S Rank	S5B
Provincially Tracked	N

10. 2022-07-08: Purple Martin [6]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Purple Martin [6]
English Common Name	Purple Martin
Breading Evidence	CONFIRMED ▸ AE: Adult leaving or entering nest sites in circumstances indicating occupied nest.
Tally	6
Species Element ID	180316
ELC Code	ABPAU01010
S Rank	S3B
Provincially Tracked	Y

11. 2022-07-08: Ruby-throated Hummingbird [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Ruby-throated Hummingbird [1]
English Common Name	Ruby-throated Hummingbird
Breading Evidence	PROBABLE ▸ T: Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two days, a week or more appart, at the same place.
Tally	1
Species Element ID	180278
ELC Code	ABNUC45010
S Rank	S5B
Provincially Tracked	N

12. 2022-07-08: European Starling [2]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: European Starling [2]
English Common Name	European Starling
Breading Evidence	Observed ▸ X: Species observed in its breeding season (no breeding evidence).
Tally	2
Species Element ID	180376
ELC Code	ABPBT01010
Exotic Status	SE

S Rank	SNA
Provincially Tracked	N

13. 2022-07-08: Northern Rough-winged Swallow [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Northern Rough-winged Swallow [1]
English Common Name	Northern Rough-winged Swallow
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180319
ELC Code	ABPAU07010
S Rank	S4B
Provincially Tracked	N

14. 2022-07-08: House Wren [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: House Wren [1]
English Common Name	House Wren
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180342
ELC Code	ABPBG09010
S Rank	S5B
Provincially Tracked	N

15. 2022-07-08: Brown-headed Cowbird [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Brown-headed Cowbird [1]
English Common Name	Brown-headed Cowbird
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180480
ELC Code	ABPBXB7030
S Rank	S5
Provincially Tracked	N

16. 2022-07-08: Chipping Sparrow [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Chipping Sparrow [1]
English Common Name	Chipping Sparrow
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180446
ELC Code	ABPBX94020

S Rank	S5B, S3N
Provincially Tracked	N

17. 2022-07-08: Barn Swallow [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Barn Swallow [1]
English Common Name	Barn Swallow
Breading Evidence	Observed ▸ X: Species observed in its breeding season (no breeding evidence).
Tally	1
Species Element ID	180323
ELC Code	ABPAU09030
SARO Status	THR
SARA Status	THR
S Rank	S4B
Provincially Tracked	Y

18. 2022-07-08: Song Sparrow [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Song Sparrow [1]
English Common Name	Song Sparrow
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180459
ELC Code	ABPBXA3010
S Rank	S5
Provincially Tracked	N

19. 2022-07-08: Common Grackle [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: Common Grackle [1]
English Common Name	Common Grackle
Breading Evidence	Observed ▸ X: Species observed in its breeding season (no breeding evidence).
Tally	1
Species Element ID	180479
ELC Code	ABPBXB6070
S Rank	S5
Provincially Tracked	N

20. 2022-07-08: American Robin [1]

Record Title	300053600: BBS-001 [Residential]
Record Title (Species)	2022-07-08: American Robin [1]
English Common Name	American Robin
Breading Evidence	PROBABLE ▸ T: Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two days, a week or more appart, at the same place.
Tally	1

Species Element ID	180362
ELC Code	ABPBJ20170
S Rank	S5
Provincially Tracked	N

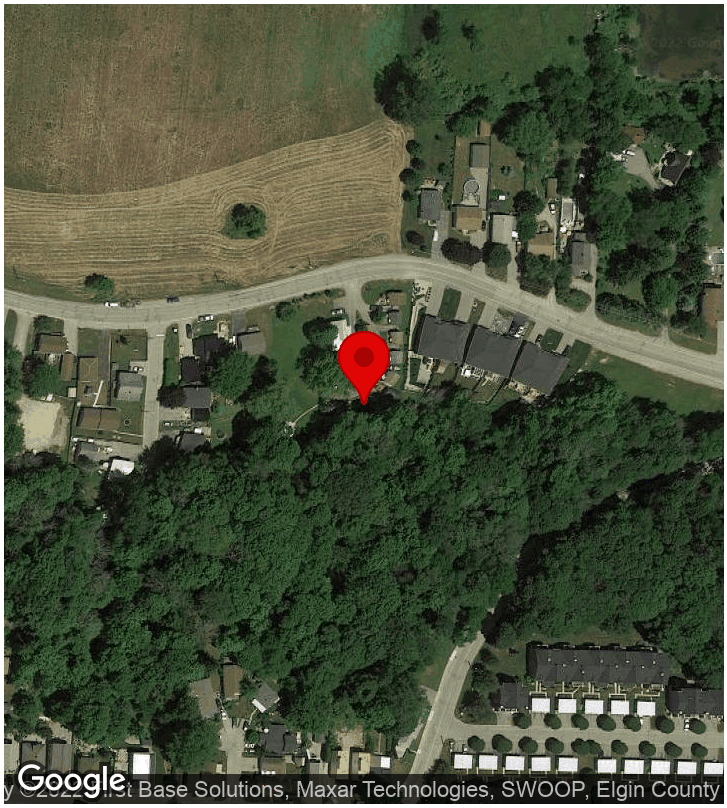
WEATHER RECORDS (1 Item)

1. 1 record

Select Weather Record	WX - 300053600: 2022-07-08 11:26:06
Weather Summary	Observations on 2022-07-08 from 11:26 to undefined || Beaufort Sky Class: (1) Partly Cloudy (scattered or broken or variable) || Beaufort Wind Class: (1) Light air movement, smoke drifts: 3-5km/hr || Temp. (Start - End of Survey): 25°C°C - Not-Recorded°C || Overnight Temp. (High - Low): Not-Recorded - Not-Recorded || Overnight Precip.: Non-Applicable || Observed Ground Conditions: undefined || Other Comments: None

EPA Breeding Bird Survey (2022)

300053600: BBS-002 [Residential]



STATUS

1 Visit Completed

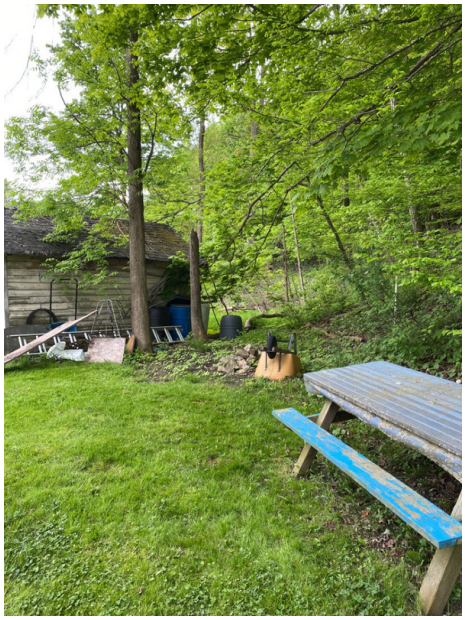
LOCATION

42.664445, -81.221573

HABITAT UNIT SECTION

UTM Coordinates (WGS84)	17-481842m.E 4723577m.N
Record ID Number	002
Habitat Unit	Residential
Habitat Unit Photos	



VISIT (1 Item)

1. Visit 1. 2022-05-26

Record Title	300053600: BBS-002 [Residential]
Record Title (Visit)	Visit 1. 2022-05-26
Observer Name(s)	Dave Szmyr
Observation Date	May 26, 2022
Start Time	09:48
End Time	09:53

SPECIES OBSERVED (9 Items)

1. 2022-05-26: House Wren [1]

Record Title	300054196: BBS-002 [Residential]
Record Title (Species)	2022-05-26: House Wren [1]
English Common Name	House Wren
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180342
ELC Code	ABPBG09010
S Rank	S5B
Provincially Tracked	N

2. 2022-05-26: Bank Swallow [4]

Record Title	300053600: BBS-002 [Residential]
Record Title (Species)	2022-05-26: Bank Swallow [4]
English Common Name	Bank Swallow
Breading Evidence	Observed ▸ X: Species observed in its breeding season (no breeding evidence).
Tally	4
Species Element ID	180320
ELC Code	ABPAU08010
SARO Status	THR
SARA Status	THR
S Rank	S4B
Provincially Tracked	Y

3. 2022-05-26: Baltimore Oriole [1]

Record Title	300054196: BBS-002 [Residential]
Record Title (Species)	2022-05-26: Baltimore Oriole [1]
English Common Name	Baltimore Oriole
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180483
ELC Code	ABPBXB9190
S Rank	S4B
Provincially Tracked	N

4. 2022-05-26: White-breasted Nuthatch [1]

Record Title	300054196: BBS-002 [Residential]
Record Title (Species)	2022-05-26: White-breasted Nuthatch [1]
English Common Name	White-breasted Nuthatch
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180337
ELC Code	ABPAZ01020
S Rank	S5
Provincially Tracked	N

5. 2022-05-26: Brown-headed Cowbird [4]

Record Title	300054196: BBS-002 [Residential]
Record Title (Species)	2022-05-26: Brown-headed Cowbird [4]
English Common Name	Brown-headed Cowbird
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	4
Species Element ID	180480
ELC Code	ABPBXB7030
S Rank	S5
Provincially Tracked	N
Species Comment	2 M, 2 F walking on lawn

6. 2022-05-26: Red-eyed Vireo [1]

Record Title	300054196: BBS-002 [Residential]
Record Title (Species)	2022-05-26: Red-eyed Vireo [1]
English Common Name	Red-eyed Vireo
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180384
ELC Code	ABPBW01240
S Rank	S5B
Provincially Tracked	N

7. 2022-05-26: Common Grackle [2]

Record Title	300054196: BBS-002 [Residential]
Record Title (Species)	2022-05-26: Common Grackle [2]
English Common Name	Common Grackle
Breading Evidence	POSSIBLE ▸ H: Species observed in its breeding season in suitable nesting habitat.
Tally	2
Species Element ID	180479
ELC Code	ABPBXB6070
S Rank	S5
Provincially Tracked	N

8. 2022-05-26: Red-bellied Woodpecker [1]

Record Title	300054196: BBS-002 [Residential]
Record Title (Species)	2022-05-26: Red-bellied Woodpecker [1]
English Common Name	Red-bellied Woodpecker
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180284
ELC Code	ABNYF04170
S Rank	S5

Provincially Tracked	N

9. 2022-05-26: Yellow Warbler [1]

Record Title	300054196: BBS-002 [Residential]
Record Title (Species)	2022-05-26: Yellow Warbler [1]
English Common Name	Yellow Warbler
Breading Evidence	POSSIBLE ▸ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Element ID	180392
ELC Code	ABPBX03010
S Rank	S5B
Provincially Tracked	N

WEATHER RECORDS (1 Item)

1. 1 record

Select Weather Record	*Not Available*
Weather Summary	Observations on 2022-05-26 from 09:35 to undefined || Beaufort Sky Class: undefined || Beaufort Wind Class: undefined || Temp. (Start - End of Survey): 17°C°C - Not-Recorded°C || Overnight Temp. (High - Low): Not-Recorded - Not-Recorded || Overnight Precip.: Non-Applicable || Observed Ground Conditions: undefined || Other Comments: None

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix E
Significant Wildlife Habitat (SWH) Screening Table for Ecoregion 7E

Project Number: 300054196.0000
Project Name: 384 George St EIS
Significant Wildlife Habitat Screening in the Study Area– Ecoregion 7E Criteria (2015)

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Confirmed Significant Wildlife Habitat in the Study Area?**
Table 1.1: Seasonal Concentration Areas of Animals					
Waterfowl Stopover & Staging Areas (Terrestrial) **<u>Rationale</u>**: Habitat important to migrating waterfowl.	CUM1 CUT1 - Plus evidence of annual spring flooding from melt water or run-off within these ecosites. Fields with seasonal flooding and waste grains in the Long Point, Rondeau, Lake St. Clair, Grand Bend and Point Pelee areas may be important to Tundra Swans.	Fields with sheet water during Spring (mid-March to May). • Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. • Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available.	American Black Duck Northern Pintail Gadwall Blue-winged Teal Green-winged Teal American Wigeon Northern Shoveler Tundra Swan	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects. • Any mixed species aggregations of 100 or more individuals required. • The flooded field ecosite habitat plus a 100-300 m radius area, dependent on local site conditions and adjacent land use is the SWH. • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). • **SWHMiST Index #7** provides development effects and mitigation measures.	No potential. • Suitable habitat is not present.
Waterfowl Stopover & Staging Areas (Aquatic) **<u>Rationale:</u>** Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	• Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and SWM ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water).	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye	**Studies carried out & verified presence of:** • Aggregations of 100 or more of listed species for 7 days, results in >700 waterfowl use days. • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH. • The combined area of the Ecological Land Classification (ELC) ecosites and a 100 m radius area is the SWH. • Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are SWH. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded).	No potential. • Suitable habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	Presence of Confirmed Significant Wildlife Habitat in the Study Area?
			Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback Ruddy Duck	• **SWHMiST Index #7** provides development effects and mitigation measures.	
Shorebird Migratory Stopover Area **<u>Rationale</u>**: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	• Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. • Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. • Sewage treatment ponds and storm water ponds do not qualify as a SWH.	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel RuddyTurnstone Sanderling Dunlin	**Studies confirming:** • Presence of 3 or more of listed species and >1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period). • Whimbrel stop briefly (<24 hrs.) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100 m radius area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • **SWHMiST Index #8** provides development effects and mitigation measures.	No potential. • Suitable habitat is not present.
Raptor Wintering Area **<u>Rationale</u>**: Sites used by multiple species, a high number of individuals and used annually are most significant.	<u>Hawks/Owls:</u> Combination of ELC Community Series; need to have present one Community Series from each land class; <u>Forest:</u> FOD, FOM, FOC. <u>Upland</u>: CUM; CUT; CUS; CUW. <u>Bald Eagle:</u>	• The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. • Raptor wintering sites (hawk/owl) need to be **>** 20 ha, with a combination of forest and upland. • Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands. • Field area of the habitat is to be wind swept with limited snow depth or accumulation. • Eagle sites have open water, large trees and snags available for roosting.	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl **<u>Special Concern:</u>** Short-eared Owl Bald Eagle	**Studies confirm the use of these habitats by:** • One or more Short-eared Owls or; One or more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species. • To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. • The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects." • **SWHMiST Index #10 and #11** provides development effects and mitigation measures.	No potential. • Suitable combination of habitats are not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	Presence of Confirmed Significant Wildlife Habitat in the Study Area?
	Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).				
Bat Hibernacula **<u>Rationale</u>:** Bat hibernacula are rare habitats in all Ontario landscapes.	**Bat Hibernacula may be found in these ecosites:** CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	• Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. • Active mine sites should not be considered as SWH. • The locations of bat hibernacula are relatively poorly known.	Big Brown Bat Tri-coloured Bat	• All sites with confirmed hibernating bats are SWH. • The habitat area includes a 200 m radius around the entrance of the hibernaculum for most development types and 1000 m for wind farms. • Studies are to be conducted during the peak swarming period (August to September). Surveys should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #1** provides development effects and mitigation measures.	No potential. • Suitable habitat is not present.
Bat Maternity Colonies **<u>Rationale:</u>** Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Maternity colonies considered SWH are found in forested ecosites. **All ELC ecosites in ELC Community Series:** FOD FOM SWD SWM	• Maternity colonies can be found in tree cavities, vegetation and often in buildings are not considered to be SWH). • Maternity roosts are not found in caves and mines in Ontario. • Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25 cm dbh) wildlife trees. • Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. • Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred.	Big Brown Bat Silver-haired Bat	• Maternity Colonies with confirmed use by: – >10 Big Brown Bats – >5 Adult Female Silver- haired Bats • The area of the habitat includes the entire woodland, or a forest stand ELC ecosite or an ecoelement containing the maternity colonies. • Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #12** provides development effects and mitigation measures.	Moderate potential • The woodlands on site / adjacent to the site are sufficiently large to meet the habitat criteria for this feature, it is not known if the woodland contains >10/ha large diameter (>25 cm dbh) wildlife trees. • Acoustic surveys were not included in the scope of work for tis project
Turtle Wintering Areas **<u>Rationale:</u>** Generally, sites are the only known sites in the area. Sites with the highest number of	Snapping and Midland Painted Turtles. **ELC Community Classes:** SW, MA, OA and SA	• For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. • Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.	Midland Painted Turtle **<u>Special Concern:</u>** Northern Map Turtle Snapping Turtle	• Presence of 5 over-wintering Midland Painted Turtles is significant. • One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. • The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH.	No potential. • Suitable habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	Presence of Confirmed Significant Wildlife Habitat in the Study Area?
individuals are most significant.	**ELC Community Series:** FEO and BOO For Northern Map Turtle: Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.			• Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (September–October) or spring (March–May). • Congregation of turtles is more common where wintering areas are limited and therefore significant. • **SWHMiST Index #28** provides development effects and mitigation measures for turtle wintering habitat.	
Reptile Hibernaculum **<u>Rationale</u>:** Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.	• For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. • Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock groundcover.	**<u>Snakes</u>**: Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake **<u>Special Concern</u>**: Milksnake Eastern Ribbonsnake	**Studies confirming:** • Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. • Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (e.g., foundation or rocky slope) on sunny warm days in Spring (April/May) and Fall (September/October). • **Note**: If there are Special Concern Species present, then site is SWH. • **Note:** Sites for hibernation possess specific habitat parameters (e.g., temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e., strong hibernation site fidelity). Other critical life processes (e.g., mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH. • **SWHMiST Index #13** provides development effects and mitigation measures for snake hibernacula.	Not present • Potential snake hibernacula were not identified on-site.
Colonially - Nesting Bird Breeding Habitat (Bank & Cliff) **<u>Rationale</u>:** Historical use and number of nests in a colony make this habitat significant.	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns. **Habitat found in the following ecosites:** CUM1	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	**Studies confirming:** • Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50 m radius habitat area from the peripheral nests. • Field surveys to observe and count swallow nests are to be completed during the breeding season.	No potential. • Suitable habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	Presence of Confirmed Significant Wildlife Habitat in the Study Area?
An identified colony can be very important to local populations. All swallow population are declining in Ontario.	CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1			Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #4** provides development effects and mitigation measures.	
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) **<u>Rationale:</u>** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree.	Great Blue Heron Black-crowned Nigh-Heron Great Egret Green Heron	**Studies confirming:** • Presence of 2 or more active nests of Great Blue Heron or other listed species. • The habitat extends from the edge of the colony and a minimum 300 m radius or extent of the Forest ecosite containing the colony or any island <15.0 ha with a colony is the SWH. • Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells. • **SWHMiST Index #5** provides development effects and mitigation measures.	No potential. • Suitable habitat is not present.
Colonially - Nesting Bird Breeding Habitat (Ground) **<u>Rationale;</u>** Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer’s Blackbird). MAM1 – 6 MAS1 – 3 CUM CUT CUS	• Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. • Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer’s Blackbird	**Studies confirming:** • Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. • Presence of 5 or more pairs for Brewer’s Blackbird. • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. • The edge of the colony and a minimum 150 m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0 ha with a colony is the SWH. • Studies would be done during May/June when actively nesting. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #6** provides development effects and mitigation measures.	No potential. • Suitable habitat is not present.
Migratory Butterfly Stopover Areas **<u>Rationale:</u>** Butterfly stopover areas are extremely	Combination of ELC Community Series; need to have present one Community Series from each land class.	• A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present and will be located within 5 km of Lake Erie or Ontario. • The habitat is typically a combination of field and forest and provides the butterflies with a	Painted Lady Red Admiral <u>Special Concern</u> Monarch	S**tudies confirm:** • The presence of Monarch Use Days (MUD) during fall migration (August/October). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals	No potential • Woodlot lacks meadow habitat

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	Presence of Confirmed Significant Wildlife Habitat in the Study Area?
rare habitats and are biologically important for butterfly species that migrate south for the winter.	Field: CUM CUT CUS Forest: FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	location to rest prior to their long migration south. • The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. • Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes.		using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. • MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. • **SWHMiST Index #16** provides development effects and mitigation measures.	
Landbird Migratory Stopover Areas **Rationale:** Sites with a high diversity of species as well as high numbers are most significant.	**All ecosites associated with these ELC Community Series:** FOC FOM FOD SWC SWM SWD	• Woodlots >5 ha in size and within 5 km of Lake Erie and Ontario. • If woodlands are rare in an area of shoreline, woodland fragments 2-5 ha can be considered for this habitat. • If multiple woodlands are located along the shoreline those Woodlands <2 km from Lake Ontario are more significant. • Sites have a variety of habitats; forest, grassland and wetland complexes. • The largest sites are more significant. • Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5 km of Lake Erie and Ontario are Candidate SWH.	All migratory songbirds. Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1 All migrant raptors species: *Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997.* Schedule 7: Specially Protected Birds (Raptors)	**Studies confirm:** • Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. • Studies should be completed during spring (April/May) and fall (August/October) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • **SWHMiST Index #9** provides development effects and mitigation measures.	Moderate potential • Wooded areas on-site are part of a larger contiguous woodland that is located within 1km of Lake Erie and spans >10 ha • Surveys of migrants birds are not included in the scope of work for this project
Deer Winter Congregation Areas **Rationale:** Deer movement during winter in the southern areas of Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid	**All Forested ecosites with these ELC Community Series:** FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	• Woodlots >100 ha in size or if large woodlots are rare in planning area woodlots >50 ha. • Deer movement during winter in the southern areas of Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands. • Large woodlots > 100 ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. • Woodlots with high densities of deer due to artificial feeding are not significant.	White-tailed Deer	**Studies confirm:** • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. • Use of the woodlot by white- tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF. • Studies should be completed during winter (January/February) when >20 cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey. • **SWHMiST Index #2** provides development effects and mitigation measures.	Not present • Site has not been identified by the MNRF as a deer winter congregation area

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Confirmed Significant Wildlife Habitat in the Study Area?**
the impacts of winter conditions.					
Table 1.2.1: Rare Vegetation Communities					
Cliffs and Talus Slopes **<u>Rationale:</u>** Cliffs and Talus Slopes are extremely rare habitats in Ontario.	**Any ELC ecosite within Community Series:** TAO CLO TAS CLS TAT CLT	• Most cliff and talus slopes occur along the Niagara Escarpment. • A Cliff is vertical to near vertical bedrock >3 m in height. • A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.		• Confirm any ELC Vegetation Type for Cliffs or Talus Slopes. • **SWHMiST Index #21** provides development effects and mitigation measures.	Not present
Sand Barren **<u>Rationale;</u>** Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry.	**ELC ecosites:** SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always <u>≤</u> 60%.	A sand barren area >0.5 ha in size. • Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.		• Confirm any ELC Vegetation Type for Sand Barrens • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • **SWHMiST Index #20** provides development effects and mitigation measures.	Not present
Alvar **<u>Rationale;</u>** Alvars are extremely rare habitats in Ecoregion 7E.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 **Five Alvar Indicator Species:** *Carex crawei* *Panicum philadelphicum* *Eleocharis compressa* *Scutellaria parvula* *Trichostema brachiatum* These indicator species are very specific to Alvars within Ecoregion 7E.	• An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animals species. Vegetation cover varies from patchy to barren with a less than 60% tree cover. • An Alvar site > 0.5 ha in size. • Alvar is particularly rare in Ecoregion 7E where the only known sites are found in the western islands of Lake Erie.		**Field studies that identify:** • Four of the five Alvar Indicator Species at a Candidate Alvar site is Significant. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses. • **SWHMiST Index #17** provides development effects and mitigation measures.	Not present

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Confirmed Significant Wildlife Habitat in the Study Area?**
Old Growth Forest **<u>Rationale;</u>** Due to historic logging practices and land clearance for agriculture, old growth forest is rare in the Ecoregion 7E.	**Forest Community Series:** FOD FOC FOM SWD SWC SWM	• Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.		**Field Studies will determine:** • If dominant trees species of the are >140 years old, then the area containing these trees is SWH. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present). • The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest forest area containing the old growth characteristics. • **SWHMiST Index #23** provides development effects and mitigation measures.	Not present
Savannah **<u>Rationale:</u>** Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	• No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. • A Savannah is a tallgrass prairie habitat that has tree cover between 25–60%. • In Ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in Toronto area (north of Lake Ontario).		**Field studies confirm:** • one or more of the Savannah indicator species listed in Appendix N should be present. **Note**: Savannah plant spp. list from Ecoregion 7E should be used. • Area of the ELC ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). • **SWHMiST Index #18** provides development effects and mitigation measures.	Not present
Tallgrass Prairie **<u>Rationale:</u>** Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	• No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway Right of Ways (ROW) are not considered to be SWH. • A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover. • In Ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in Toronto area (north of Lake Ontario).		**Field studies confirm:** • One or more of the Prairie indicator species listed in Appendix N should be present. **Note:** Prairie plant spp. list from Ecoregion 7E should be used. • Area of the ELC ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). • **SWHMiST Index #19** provides development effects and mitigation measures.	Not present
Other Rare Vegetation Communities **<u>Rationale:</u>**	• Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG.	• ELC ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M. • The MNRF/Natural Heritage Information Centre (NHIC) will have up to date listing for rare vegetation communities.		**Field studies should confirm:** • If an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG.	No potential • On-site communities are not rare

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Confirmed Significant Wildlife Habitat in the Study Area?**
Plant communities that often contain rare species which depend on the habitat for survival.	• Any ELC ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	• Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.		• Area of the ELC Vegetation Type polygon is the SWH. • **SWHMiST Index #37** provides development effects and mitigation measures.	
Table 1.2.2: Specialized Habitats for Wildlife considered Significant Wildlife Habitat					
Waterfowl Nesting Area **<u>Rationale;</u>** Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	**All upland habitats located adjacent to these wetland ELC ecosites are Candidate SWH:** MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 Note: includes adjacency to Provincially Significant Wetlands (PSW).	• A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120 m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. • Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. • Wood Ducks and Hooded Mergansers utilize large diameter trees (>40 cm dbh) in woodlands for cavity nest sites.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	**Studies confirmed:** • Presence of 3 or more nesting pairs for listed species excluding Mallards, or; • Presence of 10 or more nesting pairs for listed species including Mallards. • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. • **SWHMiST Index #25** provides development effects and mitigation measures.	No potential. • Suitable habitat is not present.
Bald Eagle & Osprey Nesting, Foraging & Perching Habitat **<u>Rationale;</u>** Nest sites are fairly uncommon in Eco-region 7E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	**ELC Forest Community Series:** FOD FOM FOC SWD SWM and SWC (directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.	• Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. • Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree’s canopy. • Nests located on man-made objects are not to be included as SWH (e.g., telephone poles and constructed nesting platforms).	Osprey **Special Concern** Bald Eagle	**Studies confirm the use of these nests by**: • One or more active Osprey or Bald Eagle nests in an area. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800 m is dependent on-site lines from the nest to the development and inclusion of perching and foraging habitat. • To be significant a site must be used annually. When found inactive, the site must be known to	Not present • Site is located >500m from the Lake Erie Shoreline.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	Presence of Confirmed Significant Wildlife Habitat in the Study Area?
				be inactive for >3 years or suspected of not being used for >5 years before being considered not significant. • Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid-March to mid-August. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • **SWHMiST Index #26** provides development effects and mitigation measures.	
Woodland Raptor Nesting Habitat **<u>Rationale:</u>** Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.	May be found in all forested ELC ecosites. **May also be found in:** SWC SWM SWD and CUP3	• All natural or conifer plantation woodland/forest stands >30 ha with >4ha of interior habitat. Interior habitat determined with a 200 m buffer. • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest.	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	**Studies confirm:** • Presence of 1 or more active nests from species list is considered significant. • Red-shouldered Hawk and Northern Goshawk – A 400 m radius around the nest or 28 ha area of habitat is the SWH (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest). • Barred Owl – A 200 m radius around the nest is the SWH. • Broad-winged Hawk and Coopers Hawk– A 100 m radius around the nest is the SWH. • Sharp-Shinned Hawk – A 50 m radius around the nest is the SWH. • Conduct field investigations from early March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • **SWHMiST Index #27** provides development effects and mitigation measures.	No potential • Site is not suitably large and lacks interior habitat
Turtle Nesting Areas **<u>Rationale:</u>** These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	**Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC ecosites:** MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.	Midland Painted Turtle <u>Special Concern Species:</u> Northern Map Turtle Snapping Turtle	**Studies confirm:** • Presence of 5 or more nesting Midland Painted Turtles. • One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100 m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100 m area of habitat. • Field investigations should be conducted in prime nesting season typically late spring to early	No potential. • Suitable habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	Presence of Confirmed Significant Wildlife Habitat in the Study Area?
				summer. Observational studies observing the turtles nesting is a recommended method. • **SWHMiST Index #28** provides development effects and mitigation measures for turtle nesting habitat.	
Seeps and Springs **<u>Rationale</u>:** Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Seeps/Springs are areas where ground water comes to the surface. Often, they are found within headwater areas within forested habitats. Any forested ecosite within the headwater areas of a stream could have seeps/springs.	• Any forested area (with <25% meadow/field/ pasture) within the headwaters of a stream or river system. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	**Field Studies confirm:** • Presence of a site with 2 or more seeps/springs should be considered SWH. • The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat. • **SWHMiST Index #30** provides development effects and mitigation measures.	No present • Potential seepagage areas identified along the slope south of 384 George St (presence of Spotted Jewelweed) however areas is not located within the headwaters of a stream
Amphibian Breeding Habitat (Woodland) **<u>Rationale:</u>** These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations.	All ecosites associated with these ELC Community Series: FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	• Presence of a wetland, pond or woodland pool (including vernal pools) >500 m^2 (about 25 m diameter) within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. • Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	**Studies confirm:** • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. • The habitat is the wetland area plus a 230 m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. • **SWHMiST Index #14** provides development effects and mitigation measures.	No potential. • Wetland present are not sufficiently large to meet the >500 m^2 minimum size
Amphibian Breeding Habitat (Wetlands) **<u>Rationale;</u>** Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within	**ELC Community Classes:** SW MA FE BO OA and SA.	• Wetlands >500 m2 (about 25 m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog	**Studies confirm:** • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3 or; Wetland with confirmed breeding Bullfrogs are significant. • The ELC ecosite wetland area and the shoreline are the SWH.	No potential. • Suitable habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Confirmed Significant Wildlife Habitat in the Study Area?**
Central Ontario landscapes.	Typically, these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g., Bull Frog) may be adjacent to woodlands.	• Bullfrogs require permanent water bodies with abundant emergent vegetation.	Bullfrog	• A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • **SWHMiST Index #15** provides development effects and mitigation measures.	
Woodland Area-Sensitive Bird Breeding Habitat **<u>Rationale</u>:** Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	**All ecosites associated with these ELC Community Series:** FOC FOM FOD SWC SWM SWD	• Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs. old) forest stands or woodlots >30 ha. • Interior forest habitat is at least 200 m from forest edge habitat.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren Pileated Woodpecker **Special Concern:** Cerulean Warbler Canada Warbler	**Studies confirm:** • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. • **Note**: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. • Conduct field investigations in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #34** provides development effects and mitigation measures.	No potential • Woodland is not sufficiently large and lacks interior forest habitat
Table 1.3: Habitat for Species of Conservation Concern considered Significant Wildlife Habitat					
Marsh Breeding Bird Habitat **<u>Rationale;</u>** Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 **For Green Heron:** All SW, MA and CUM1 sites	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	**Studies confirm:** • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or breeding by any combination of 4 or more of the listed species. • **Note**: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. • Area of the ELC ecosite is the SWH. • Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #35** provides development effects and mitigation measures.	No potential. • Suitable habitat is not present.
Open Country Bird Breeding Habitat **<u>Rationale;</u>**	CUM1 CUM2	• Large grassland areas (includes natural and cultural fields and meadows) >30 ha. • Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e., no	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier	**Field Studies confirm:** • Presence of nesting or breeding of 2 or more of the listed species.	No potential. • Suitable habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	Presence of Confirmed Significant Wildlife Habitat in the Study Area?
This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.		row cropping or intensive hay or livestock pasturing in the last 5 years). • Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. • The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species.	Savannah Sparrow **Special Concern** Short-eared Owl	• A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #32** provides development effects and mitigation measures.	
Shrub/Early Successional Bird Breeding Habitat **Rationale:** This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species.	• Large field areas succeeding to shrub and thicket habitats >10 ha in size. • Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e., no row-cropping, haying or live-stock pasturing in the last 5 years). • Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands.	**Indicator Spp:** Brown Thrasher Clay-coloured Sparrow **Common Spp.** Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Yellow-breasted Chat Golden-winged Warbler	**Field Studies confirm:** • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. • A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as SWH. • The area of the SWH is the contiguous ELC ecosite field/thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST cxlix Index #33** provides development effects and mitigation measures.	No potential. • Suitable habitat is not present.
Terrestrial Crayfish **Rationale:** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	• Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for Terrestrial Crayfish. • Constructs burrows in marshes, mudflats, meadows, the ground can’t be too moist. Can often be found far from water. • Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed.	Chimney or Digger Crayfish (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish (*Cambarus Diogenes*)	**Studies Confirm:** • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. • Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. • Surveys should be done April to August in temporary or permanent water. **Note** the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult. • **SWHMiST Index #36** provides development effects and mitigation measures.	Not present • Crayfish burrows were not identified near the MAM inclusion

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Confirmed Significant Wildlife Habitat in the Study Area?**
Special Concern and Rare Wildlife Species **Rationale:** These species are quite rare or have experienced significant population declines in Ontario.	All plant and animal Element Occurrences (EO) within a 1 or 10 km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC ecosites.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the NHIC.	**Studies Confirm:** • Assessment/inventory of the site for the identified Special Concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g., specific nesting habitat or foraging habitat. • **SWHMiST Index #37** provides development effects and mitigation measures.	Confirmed present for the following species • Eastern Wood-pewee
Table 1.4.1: Animal Movement Corridors					
Amphibian Movement Corridors **Rationale;** Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1.	• Movement corridors between breeding habitat and summer habitat. • Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat–Wetland) of this Schedule.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. • Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. • Corridors should have at least 15 m of vegetation on both sides of waterway or be up to 200 m wide of woodland habitat and with gaps <20 m. • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. • **SWHMiST Index #40** provides development effects and mitigation measures.	Not present • Suitable habitat is not present
Table 1.5.1: Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 7E					
7E-2 - Bat Migratory Stopover Area **Rationale:** Stopover areas for long distance migrant bats are important during fall migration.	No specific ELC types	• Long distance migratory bags typically migrate during late summer and early fall from summer breeding habitats throughout Ontario to southern wintering areas. Their annual fall migration may concentrate these species of bats at stopover areas. • This is the only known bat migratory stopover habitats based on current information.	• Long Point ($42^0$35'N, 80^0 30'E, to $42^0$33'N, $80^0$03'E) has been identified as a significant stop-over habitat for fall migrating Silver-haired Bats, due to significant increases in abundance, activity and feeding that was documented during fall migration. • The confirmantion criteria and habitat areas for this SWH are still being determined. • **SWH MIST Index #38** provides development effects and mitigation measures.	No potential. • Site is not located at Long Point.

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix F
Species at Risk Screening Table

COMMON NAME	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial SARO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description	Habitat Present on Site?	Species Observed?
Birds									
Northern Bobwhite	Colinus virginianus	S1	END	END	END	1	Generally inhabits a variety of edge and grassland type - habitats including non-intensively farmed agricultural lands.7	No potential. Suitable habitat is absent.	Confirmed absent.
Barn Swallow	Hirundo rustica	S4B	THR	THR	THR	1	Prefers farmland, lake/river shorelines, wooded clearings, urban populated areas, rocky cliffs, and wetlands. Nests inside or on exterior of buildings; under bridges and in road culverts; on rock faces, and in caves, etc.8	Low potential, residences on site may provide suitable nesting habitat however suitable foraging habitat is not present in the immediate vicinity of the site.	Observed as a flyover but confirmed to not be breeding within the Subject Property.
Bank Swallow	Riparia riparia	S4B	THR	THR	THR	1	Prefers open habitats including, farmland, lake/river shorelines, grasslands, and wetlands. Nests in exposed earthen banks along shorelines and in artificial sites such as gravel pits.7	No potential. Suitable habitat is absent.	Observed as a flyover but confirmed to not be breeding within the Subject Property.
Common Nighthawk	Chordeiles minor	S4B	SC	SC	THR	1	Nests in open habitats, in forests and in urban areas. It prefers rock outcrops, alvars, sand barrens, bogs, fens, and in forests, openings created by clearcuts and burns. In southern Ontario, grasslands, agricultural fields, gravel pits, prairies, and alvars and at airports. In	No potential. Suitable habitat is absent.	Confirmed absent.
Eastern Whip-poor-will	Antrostomus vociferus	S4B	THR	THR	THR	1	Generally prefer semi-open deciduous forests or patchy forests with clearings; areas with little ground cover are also preferred. In Ontario, its preferred habitats include rock or sand barrens with scattered trees, savannahs, old burns in a state of early forest succession, and open	No potential. Suitable habitat is absent.	Confirmed absent.
Chimney Swift	Chaetura pelagica	S4B,S4N	THR	THR	THR	1	Historically nested in large hollow trees, other tree cavities and cracks in cliffs. Currently, most are found in developed areas in large, uncapped chimneys. Proximity to lakes is also a preferred habitat feature as they will forage for flying insects close to water.7	Residences do not have suitably large chimneys.	Confirmed absent.
King Rail	Rallus elegans	S2B	END	END	END	1	Breeds in cattail marshes, wet meadows and natural, sometimes shrubby swales where water depths are generally less than 25 cm and there is fairly thick emergent vegetation. This species needs an interspersion of wet and dry areas, with drier areas being frequented by	No potential. Suitable habitat is absent.	Confirmed absent.
Black Tern	Chlidonias niger	S3B	SC	NAR	NAR	No schedule	Generally prefers freshwater marshes and wetlands; nests either on floating material in a marsh or on the ground, very close to water.7	No potential. Suitable habitat is absent.	Confirmed absent.
Least Bittern	Ixobrychus exilis	S4B	THR	THR	THR	1	Most frequently found in marshes of at least 5 ha, although much smaller marshes, including sites such as cattail stands along creeks and farm ponds partially filled with cattail, may be used occasionally. Breeding sites typically dominated by cattail, but also sometimes	No potential. Suitable habitat is absent.	Confirmed absent.
Bald Eagle	Haliaeetus leucocephalus	S2N,S4B	SC	NAR	NAR	No schedule	Prefers deciduous and mixed deciduous forest and habitat close to water bodies such as lakes and rivers. They roost in "supercanopy" trees such as pine.7	Low potential. Site is >200 meters from Lake Eries shoreline	Confirmed absent.
Barn Owl	Tyto alba	S1	END	END	THR	1	Generally prefer low-elevation, open country; often associated with agricultural lands, especially pasture. Nests are located in buildings, hollow trees and cavities in cliffs.7	No potential. Suitable habitat is absent.	Confirmed absent.
Red-headed Woodpecker	Melanerpes erythrocephalus	S4B	SC	END	THR	1	Breeds in open woodland and woodland edges, especially oak savannah and riparian forest. These habitats can occur in parks, golf courses, cemeteries and private woodlands. Existence of large, dead, weathered trees or live trees with large dead branches are an important	Site is located along margins of large woodland.	Confirmed absent.
Peregrine Falcon	Falco peregrinus	S3B	SC	NAR	SC	1	Nests on cliffs near water bodies, or at urban sites such as tall buildings, bridges, and smokestacks.7	No potential. Suitable habitat is absent.	Confirmed absent.
Eastern Wood-Pewee	Contopus virens	S4B	SC	SC	SC	1	Prefers open space near the nest in the form of forest edges, clearings, roadways, and water. Does not require large areas of woods but occurs less frequently in woodlots surrounded by development than in those without.7	Moderate potential. Woodlands adjacent to the Subject Property provides suitable habitat.	Confirmed present.
Acadian Flycatcher	Empidonax virescens	S2S3B	END	END	END	1	Generally requires large areas of mature, undisturbed forest; avoids the forest edge; often found in well wooded swamps and ravines.7	No potential. Suitable habitat is absent.	Confirmed absent.
Wood Thrush	Hylocichla mustelina	S4B	SC	THR	THR	1	Inhabits and breeds in woodlands ranging from small (3 ha) and isolated to large and contiguous. The presence of tall trees and a thick understorey are usually prerequisites for site occupancy.7	Low potential. Forested lands lack thick understory.	Confirmed absent.
Grasshopper Sparrow	Ammodramus savannarum	S4B	SC	SC	SC	1	Prefers drier, sparsely vegetated grasslands, particularly rough or unimproved pastures with scattered forb and shrub growth, at least 30 ha in size. It will occasionally also use cultivated hayfields and cereal crops.7	No potential. Suitable habitat is absent.	Confirmed absent.

Yellow-breasted Chat	Icteria virens	S2B	END	END	END	1	Prefers scrubby, early successional habitats. In Ontario, the Yellow-breasted Chat uses regenerating old fields, forest edges, railway and hydro rights-of-way, young coniferous reforestations and occasionally wet willow-ash-elm thickets bordering wetlands. Tangles of grape and	No potential. Suitable habitat is absent.	Confirmed absent.
Bobolink	Dolichonyx oryzivorus	S4B	THR	THR	THR	1	Generally prefers open grasslands and hay fields for nesting, typically featuring relatively tall vegetation. Sometimes uses large fields of winter wheat and rye in southwestern Ontario. Sensitive to vegetation structure and composition. Positively associated with high grass-to-forb ratios;	No potential. Suitable habitat is absent.	Confirmed absent.
Eastern Meadowlark	Sturnella magna	S4B	THR	THR	THR	1	Generally prefers grassy pastures, meadows and hay fields. Prefers moderately tall grass with abundant litter cover, a high proportion of grass cover, moderate forb density, low proportions of shrub and woody vegetation cover, and low percent of bare ground. Prefers to nest in	No potential. Suitable habitat is absent.	Confirmed absent.
Louisiana Waterthrush	Parkesia motacilla	S3B	THR	THR	SC	1	Generally inhabits mature forests along steeply sloped ravines adjacent to running water. It prefers clear, cold streams and densely wooded swamps.7	No potential. Steep ravines are absent and site is not adjacent to cold streams or wooded swamps.	Confirmed absent.
Golden-winged Warbler	Vermivora chrysoptera	S4B	SC	THR	THR	1	Generally prefer areas of early successional vegetation, found primarily on field edges, hydro or utility right-of-ways, or recently logged areas.7	No potential. Suitable habitat is absent.	Confirmed absent.
Prothonotary Warbler	Protonotaria citrea	S1B	END	END	END	1	Generally found in the dead trees of flooded woodlands or deciduous swamp forests of the Carolinian Zone.7	No potential. Suitable habitat is absent.	Confirmed absent.
Canada Warbler	Cardellina canadensis	S4B	SC	THR	THR	1	Generally prefers wet coniferous, deciduous and mixed forest types, with a dense shrub layer. Nests on the ground, on logs or hummocks, and uses dense shrub layer to conceal the nest.7	No potential. Forested lands lack a dense shrub layer.	Confirmed absent.
Fish									
Silver Chub (Great Lakes - Upper St. Law	Macrhybopsis storeriana	S2	THR	END	No status	No schedule	Prefers medium to large rivers with substantial current and silt, sand or gravel bottoms, but in Ontario it is only found in the Great Lakes. Usually found in depths between 7 and 12 m and spawns in open water areas.10	No potential. Watercourses are not present within or immediately adjacent of the Subject Property.	N/A
Mammals									
American Badger	Taxidea taxus	S2	END	END	END	1	Generally prefers open habitats, whether natural (grasslands) or manmade (agricultural fields, road rights-of-ways, golf courses).10	Moderate potential. Woodland edges are present and MNRF has identieied regulated habitat in the area.	Denning sites were not observed within the Subject Lands. Candidate dens sites were observed within the adjacent woodland but were >15 meters away from the dripline and will not be impacted by the proposed project.
Little Brown Myotis	Myotis lucifugus	S4	END	END	END	1	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius. Maternal Roosts: Often associated with buildings (attics, barns etc.). Occasionally found in trees (25-44 cm dbh).15	Moderate potential. Suitable roosting trees observed within the adjacent woodlands.	Not observed.
Northern Myotis	Myotis septentrionalis	S3	END	END	END	1	Overwintering habitat: Caves and mines that remain above 0 Maternal Roosts: Often associated with cavities of large diameter trees (25-44 cm dbh). Occasionally found in structures (attics, barns etc.)15	Suitable roosting trees observed within the adjacent woodlands.	Not observed.
Tri-colored Bat	Perimyotis subflavus	S3?	END	END	END	1	Overwintering habitat: Deepest parts of caves and mines where temperature is the least variable. Maternal Roosts: Less is known about roosts of Tri-colored Bats. Most roost sites found within forested habitats. May roost in clumps of dead foliage and lichens. In more anthropogenically modified landscapes, maternity roosts may be barns or similar human-made structures.15	Moderate potential. Suitable roosting trees observed within the adjacent woodlands.	Not observed.
Reptiles									
Spiny Softshell	Apalone spinifera	S2	END	END	END	1	Highly aquatic species of turtle, inhabits soft-bottomed, rivers with aquatic vegetation and sandbars or mudflats. May also occur in lakes or impoundments. Requires deep water for overwintering.14	No potential. Suitable habitat is absent.	N/A
Snapping Turtle	Chelydra serpentina	S3	SC	SC	SC	1	Generally inhabit shallow waters where they can hide under the soft mud and leaf litter. Nesting sites usually occur on gravely or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits.10	No potential. Suitable habitat is absent.	N/A
Eastern Milksnake	Lampropeltis triangulum	S4	NAR	SC	SC	1	Habitat generalist. Found in wide variety of habitats, from open woodlands, bogs, swamps, woodland edges, marshes, lakeshores, old fields, pastures, farmyards, parks, gardens. Often in or near farm outbuildings, barns, and sheds, and are attracted to piles of rocks, logs, firewood, or building materials, or any place that offers shelter to snakes and their prey (rodents).14	Moderate potential. Suitable habitat is present. Suitable cover is present along woodland margins.	Not observed.

Eastern Ribbonsnake	Thamnophis sauritus	S4	SC	SC	SC	1	Generally occur along the edges of shallow ponds, streams, marshes, swamps, or bogs bordered by dense vegetation that provides cover. Abundant exposure to sunlight is also required, and adjacent upland areas may be used for nesting.20	No potential. Suitable habitat is absent.	N/A
Massasauga (Carolinian population)	Sistrurus catenatus pop. 2	S1	END	END	0	0	Found in association with water. This species is a habitat generalist and can be found in forests, meadows, shoreline habitats, wetlands, rock barrens, grasslands and old fields. Requires semi-open habitat sto provide opportunities for thermoregulation as well as predator avoidance 14	Species is extirpated from area. Most recent observation is from 1930.	N/A
Vegetation									
Eastern Prickly-pear Cactus	Opuntia cespitosa	S1	END	END	END	1	Dry sandy soils, in open savannahs, sand dunes, and ridges.20	Not present, exirpated from area.	Not observed.
Broad Beech Fern	Phegopteris hexagonoptera	S3	SC	SC	0	0	Rich, moist deciduous forests, often at bases of slopes, edges of seeps, and along streams.24	Moderate potential.	Not observed.
Eastern False Rue-Anemone	Enemion biternatum	S2	THR	THR	0	0	Floodplain woods, thickets, and rich wooded slopes. 24	No potential. Suitable habitat not present.	Not observed.
Eastern Flowering Dogwood	Cornus florida	S2?	END	END	END	1	Generally grows in deciduous and mixed forests, in the drier areas of its habitat, although it is occasionally found in slightly moist environments; Also grows around forest edges and hedgerows.20	Moderate potential.	Not observed.
American ginseng	Panax quinquefolius	S2	END	END	END	1	Grows in rich, moist, undisturbed and relatively mature deciduous woods in areas of neutral soil (such as over limestone or marble bedrock).20	Very low potential.	Not observed.
Swamp Rose-Mallow	Hibiscus moscheutos	S3	SC	SC	SC	1	Generally grows in open, coastal marshes, but it is also sometimes found in open wet woods, thickets and drainage ditches.20	No potential. Suitable habitat not present.	Not observed.
Blue Ash	Fraxinus quadrangulata	S2?	THR	THR	0	0	Floodplain forests, sandy woods and alvar woodlands. 24	No potential. Suitable habitat not present.	Not observed.
Spring blue-eyed Mary	Collinsia verna	SX	EXP	EXP	0	0	Extirpated	N/A	Extirpated.
Common hop-tree	Ptelea trifoliata	S3	SC	SC	THR	1	Generally grows in sandy soils in areas with a lot of natural disturbance - such as the outer edge of shoreline vegetation, sand spits, and sand points.20	Suitable habitat not present.	Not observed.
Butternut	Juglans cinerea	S2?	END	END	END	1	Butternut grows best in rich, moist and well-drained soils or limestone gravel sites. They are less commonly found in dry, rocky and sterile soils. They generally grow alone or in small groups in deciduous forests that are commonly comprised of Basswood, Black Cherry, Beed, Black Walnut, Elm, Hemlock, Hickory, Oak, Red Maple, Sugar Maple, Poplar, White Ash and Yellow Birch.6 In Ontario, they can be found throughout the southern Ontario, south of the Canadian Shield.10	Moderate potential. Sauitable associate species present. Suitable soils present.	Not observed.
White colicroot	Aletris farinosa	S2	END	END	0	0	Shade intolerant species. Occurs in open, sunny, and moist habitats on sandy or mucky soil. Habitats include prairies and old abandoned fields.25	No potential. Suitable habitat is absent.	Not observed.
Drooping trillium	Trillium flexipes	S1	END	END	END	1	Generally grows in dry, sandy loam, non-acidic soils of mature, deciduous woodlands that are usually associated with watercourses.20	Low potential. Sit is not associated with a watercourse.	Not observed.
Purple twayblade	Liparis liliifolia	S2S3	THR	THR	0	0	Somewhat shade intolerant. Occurs within open oak woodland and savannah, mixed deciduous forest, shrub thicket, shrub alvar, and decidusous swamps. Also documented within conifer plantations. 25	No potential. Suitable habitat is absent.	Not observed.
Hill's Pondweed	Potamogeton hillii	S2S3	SC	SC	0	0	Cold, clear, alkaline water. Known to occur within channels of open wetlands, small, slow-moving streans, ponds, and beaver ponds. Requires muddy substrate.25	No potential. Suitable habitat is absent.	Not observed.
Shumard Oak	Quercus shumardii	S3	SC	SC	SC	No schedule	Generally grows in deciduous forests where soils are poorly drained clay and clay loam. Requires full sunlight.20	No potential. Soils are imperfectly drained soils with varying textures.	Not observed.
American water-willow	Justicia americana	S2	END	END	THR	1	Generally grows along shorelines and sometimes in nearby wetlands, as well as along streams where the bottom is composed of gravel, sand or organic matter.20	No potential. Suitable habitat is absent.	Not observed.
Dense blazing-star	Liatris spicata	S2	THR	THR	THR	1	Generally found in moist prairies, grassland savannahs, wet areas between sand dunes, and abandoned fields.10	No potential. Suitable habitat is absent.	Not observed.
Crooked-stem aster	Symphyotrichum prenanthoides	S2?	SC	SC	0	0	Riverbanks, seepages. Prefers rich, sandy, loamy soil. General found along the margins of woodlands. 24	Moderate potential. Seepages are suspected to be present.	Not observed.
Riddell's goldenrod	Solidago riddellii	S3	SC	SC	0	0	Moist prairies and prairie-like habitats. Known to occur along railway corridors. 25	No potential. Suitable habitat is absent.	Not observed.
False hop sedge	Carex lupuliformis	S1	END	END	END	1	Occur around vernal pools, small shallow ponds in marshes isolated in swamps. 25	No potential. Suitable habitat not present.	N/A

American Chestnut	Castanea dentata	S1S2	END	END	END	1	Found in deciduous forest communities; this tree prefers arid forests with acid and sandy soils.20	No potential. Suitable soils are not present.	N/A
Green dragon	Arisaema dracontium	S3	SC	SC	0	0	Rich floodplain woods, swamps, and along stream and river floodplains of the Carolinian Lifezone. 24 25	No potential. Suitable habitat not present.	N/A

[1]**S-Ranks (provincial)**

Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario.

(Provinical Status from MNR Biodiversity Explorer September 2012)

75

S1 Critically Imperiled - 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 - 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.

23

[2]**SARO *Endangered Species Act, 2007***

(provincial status from MNR December 2014)

The provincial review process is implemented by the MNR's Committee on the Status of Species at Risk in Ontario (COSSARO).

EXT Extinct - A species that no longer exists anywhere.

EXP Extirpated - A species that no longer exists in the wild in Ontario but still occurs elsewhere.

END Endangered - A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's Endangered Species Act (ESA) (END-R designations are no longer relevant as species are covered under new ESA April 2009)

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

SC Special Concern (formerly Vulnerable) - A species with characteristics that make it sensitive to human activities or natural events.

NAR Not at Risk - A species that has been evaluated and found to be not at risk.

DD Data Deficient (formerly Indeterminate) - A species for which there is insufficient information for a provincial status recommendation.

[3]**SARA (Federal *Species at Risk Act*) Status and Schedule (includes COSEWIC Status)**

The Act establishes Schedule 1, as the official list of wildlife species at risk. It classifies those species as being either Extirpated, Endangered, Threatened, or a Special Concern. Once listed, the measures to protect and recover a listed wildlife species are implemented.

EXT Extinct - A wildlife species that no longer exists.

EXP Extirpated - A wildlife species that no longer exists in the wild in Canada, but exists elsewhere in the wild.

END Endangered - A wildlife species that is 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 a threatened or an endangered species because of a combination of biological characteristics and identified threats.

[4]**SARA Schedule**

Schedule 1: is the official list of species that are classified as extirpated, endangered, threatened, and of special concern.

Schedule 2: species listed in Schedule 2 are species that had been designated as endangered or threatened, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

Schedule 3: species listed in Schedule 3 are species that had been designated as special concern, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

The Act establishes Schedule 1 as the official list of wildlife species at risk. However, please note that while Schedule 1 lists species that are extirpated, endangered, threatened and of special concern, the prohibitions do not apply to species of special concern.

Species that were designated at risk by COSEWIC prior to October 1999 (Schedule 2 & 3) must be reassessed using revised criteria before they can be considered for addition to Schedule 1 of SARA. After they have been assessed, the Governor in Council may on the recommendation of the Minister, decide on whether or not they should be added to the List of Wildlife Species at Risk.

[5]**Habitat Present on Site**

Determination of suitability of the site to be support each species based on 'Key Habitats Used By Species'.

Yes - Specific habitat present and species and / or evidence observed;

Likely – The whole study area or portions of it contain conditions that could support the species;

Unlikely – Few similarities between study area conditions and preferred habitat exist;

No - Specific habitat not present and species and / or evidence not observed

[6]**Species Observed**

Reported sighting of species during fall field investigations by RJB biologists

Additional Sources:

Sources:

[7] Cadman, M.D., et al. (eds). 2007. *Atlas of the Breeding Birds of Ontario, 2001-2005*. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto, xxii + 706 pp

[8] Species at Risk Public Registry http://www.sararegistry.gc.ca

[9] McCracken, J.D. et al. 2013. Recovery Strategy for the Bobolink (Dolichonyx oryzivorus) and Eastern Meadowlark (Sturnella magna) in Ontario .Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario, viii + 88 pp.

[10] MNR SARO List Species Descriptions (http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/MNR_SAR_CSSR_SARO_LST_EN.html)

[11] COSEWIC Species Assessment Report

[12] Naughton, Donna. 2012. *The Natural History of Canadian Mammals*. Canadian Museum of Nature and University of Toronto Press, Toronto, + 784 pp

[13]Farrar, John Laird, 2017, *Trees in Canada*, Natural Resources Canada | Canada Forest Services, and, Fitchenry &Whiteside Limited, pp.238 - 239

[14]Ontario Nature Reptile and Amphibian Atlas (https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/species/)

[15]Environment Canada. 2015. Recovery Strategy for Little Brown Myotis (Myotis lucifugus), Northern Myotis (Myotis septentrionalis) and Tri-colored Bat (Perimyotis subflavus) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. lx + 110 pp.

16Humphrey, C. 2017. Recovery Strategy for the Eastern Small-footed Myotis (Myotis leibii) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. vii + 76 pp.

[17]Department of Fisheries and Oceans (DFO) Aquatic Species at Risk found online at: http://www.dfo-mpo.gc.ca/species-especes/sara-lep/identify-eng.html.

[18]Paulson, D. 2011. Dragonflies and Damselflies of the East. Princeton University Press, Princeton, NJ.

[19]Harding, J.H., 1997. Amphibians and Reptiles of the Great Lakes Region. The University of Michigan Press. Ann Arbor, Michigan

[20]MNRF. 2018. City of Niagara Falls Species at Risk Table. Guelph District.

[21]Michigan Flora found online at https://michiganflora.net/search.aspx

[22]Natural Heritage Information Centre (https://www.ontario.ca/page/get-natural-heritage-information)