

Environmental Impact Study: Plan 5151 Lot 51 Sunset Blvd Christie Beach, Town of Blue Mountains



Vincenzo Macchia

P/N 3566 | May 1, 2023

Grey County

Town of Blue Mountains

Plan 515 Lot 51 Sunset Blvd Christie Beach

SBA Skelton Brumwell
& Associates Inc.

ENGINEERING PLANNING ENVIRONMENTAL CONSULTANTS

Revision History

Issue	Date	Prepared by:	Revision Notes
First Issue	May 1, 2023	Taylor Wynia, Hon BSc Michael Wynia, MCIP, RPP	
Revision 1			
Revision 2			
Revision 3			

Disclaimer of Responsibilities to Third Parties

Skelton, Brumwell and Associates Inc. (SBA) prepared this report solely for the use of the intended recipient in accordance with the professional services agreement. The intended recipient is solely responsible for the disclosure of any information contained in this report. The content and opinions contained in this report are based upon the observations and/or the information available to SBA at the time of preparation. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance or decisions. SBA does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report. This limitation statement is considered an integral part of this report.

This report is produced and may be delivered as a digital file. As the digital file transmitted to the intended recipient is no longer under the control of SBA, its integrity cannot be assured. As such, SBA does not guarantee any modifications made to this digital file subsequent to its transmission to the intended recipient.

Executive Summary

This Environmental Impact Study (EIS) has been prepared on behalf of Vincenzo Macchia in support of proposed development of a single detached dwelling.

Skelton Brumwell & Associates Inc. has been retained to prepare this Environmental Impact Study, which includes a description of the subject lands and the development proposal, analysis of the environmental planning framework, the results of background research and field investigations, and assessment of impacts, proposed mitigation, and an opinion with respect to the proposed natural heritage policy compliance of the proposed development.

The subject lands are located at Plan 515 51 Sunset Blvd Christie Beach in the Town of Blue Mountains. The property is approximately 0.17 ha in size

The proposal involves creation of a development envelope in the front portion of the lot 25m north of the south lot line. It also involves installation of an armour stone wall along the top of bank of a watercourse along the westerly lot line.

The proposal, with full implementation of recommended avoidance and mitigation measures, results in an acceptable level of policy consistency and conformity in the context of the requirements set out by the provincial and municipal policies applicable to the development of the subject lands.

In accordance with those requirements, this EIS recommends as follows:

- To minimize disruption to the significant woodlands to the south, tree removal should be limited to the extent required only for construction of the armour stone wall in the area 25m north of the south lot line.
- It is recommended that when the building envelope be staked on-site and the disturbance area required for the construction of the armour stone wall similarly be identified. An ecologically based tree retention plan can then be prepared by an ecologist to ensure that integrity of a buffer for the significant woodlands is maintained to maximum possible extent. The emphasis on the tree retention plan will be to maintain contiguous blocks of woodland and recommend more detailed tree protection and mitigation for ecological purposes within the proposed lot and in relation to the adjacent lands on the subject property. The tree retention plan would also identify removal of invasive species and any compensation planting required in the proposed construction area for the armour stone wall to re-establish appropriate cover for the watercourse.
- It is recommended that clearing adhere to the provisions of the Migratory Birds Convention Act and bat roosting periods, with no cutting between April 1st–October 15th. Where this is not possible, tree removal should occur under supervision of an ecologist to ensure no nesting birds or bat roosting areas are disturbed.
- An existing ditch/swale is situated between the proposed building envelope and the top of bank of the watercourse. This feature should be retained as a drainage and infiltration feature for runoff from the building envelope
- Prior to any site disturbance, including tree clearing, the development area be isolated with silt fencing. This fencing should be maintained until construction is completed and a stable surface cover is restored.

- The work to construct an armour stone rock retaining wall along the existing top of bank of the watercourse should be conducted during low water flows and the disturbance area should be isolated with silt fencing to be installed prior to any site disturbance and this should be maintained until a stable surface cover is restored.

Table of Contents

Revision History.....	i
Disclaimer of Responsibilities to Third Parties.....	i
Executive Summary	ii
1.0 Introduction	1
2.0 Proposal.....	1
3.0 Policy Context	3
4.0 Background Information.....	3
5.0 Field Investigations	4
5.1 Vegetation and Ecological Land Classification	4
5.1.1 Methodology	4
5.1.2 Data.....	4
5.2 Birds.....	7
5.2.1 Methodology	7
5.2.2 Data.....	7
5.3 Reptiles and Amphibians.....	15
5.3.1 Methodology	15
5.3.2 Data.....	15
5.4 Mammals.....	16
5.4.1 Methodology	16
5.5 Data	16
5.6 Other Terrestrial Fauna.....	16
5.6.1 Methodology	16
5.6.2 Data.....	16
5.7 Fish	17
5.7.1 Methodology	17
5.7.2 Data.....	17
6.0 Natural Heritage Features Identification	17
6.1 Wetlands.....	17
6.2 Significant Woodlands	17
6.3 Significant Valleylands.....	18
6.4 Areas of Natural and Scientific Interest	18
6.5 Species at Risk – Threatened and Endangered	18
6.6 Significant Wildlife Habitat	19
6.7 Fish Habitat	19

6.8	Connectivity and Linkages.....	19
6.9	Other Natural Heritage Features.....	20
7.0	Analysis of Impacts and Recommendations	20
7.1	Wetlands.....	20
7.1.1	Avoidance	20
7.1.2	Mitigation	20
7.1.3	Buffers and Setbacks.....	20
7.1.4	Compensation	20
7.1.5	Net Impacts	20
7.2	Significant Woodlands	20
7.2.1	Avoidance	20
7.2.2	Mitigation	20
7.2.3	Buffers And Setbacks.....	21
7.2.4	Compensation	21
7.2.5	Net Impacts	21
7.3	Significant Valleylands.....	21
7.3.1	Avoidance	21
7.3.2	Mitigation	21
7.3.3	Buffers And Setbacks.....	21
7.3.4	Compensation	22
7.3.5	Net Impacts	22
7.4	Areas Of Natural and Scientific Interest	22
7.4.1	Avoidance	22
7.4.2	Mitigation	22
7.4.3	Buffers and Setbacks.....	22
7.4.4	Compensation	22
7.4.5	Net Impacts	22
7.5	Species at Risk – Threatened and Endangered	22
7.5.1	Avoidance	22
7.5.2	Mitigation	22
7.5.3	Buffers and Setbacks.....	22
7.5.4	Compensation	22
7.5.5	Net Impacts	23
7.6	Significant Wildlife Habitat	23
7.6.1	Avoidance	23
7.6.2	Mitigation	24
7.6.3	Buffers and Setbacks.....	24

7.6.4	Compensation	24
7.6.5	Net Impacts	24
7.7	Fish Habitat	24
7.7.1	Avoidance	24
7.7.2	Mitigation	25
7.7.3	Buffers and Setbacks.....	25
7.7.4	Compensation	25
7.7.5	Net Impacts	25
7.8	Connectivity and Linkages.....	25
7.8.1	Avoidance	25
7.8.2	Mitigation	25
7.8.3	Buffers and Setbacks.....	26
7.8.4	Compensation	26
7.8.5	Net Impacts	26
7.9	Other Natural Heritage Features.....	26
7.9.1	Avoidance	26
7.9.2	Mitigation	26
7.9.3	Buffers and Setbacks.....	26
7.9.4	Compensation	26
7.9.5	Net Impacts	26
8.0	Conclusion - Net Impact Assessment and Policy Compliance	26

Appendix A – Species at Risk Assessment
Appendix B – Significant Wildlife Screening

Environmental Impact Study

Plan 515 Lot 51 Sunset Blvd Christie Beach

1.0 Introduction

This Environmental Impact Study (EIS) has been prepared on behalf of Vincenzo Macchia in support of proposed development of a single detached dwelling.

Skelton Brumwell & Associates Inc. has been retained to prepare this Environmental Impact Study, which includes a description of the subject lands and the development proposal, analysis of the environmental planning framework, the results of background research and field investigations, and assessment of impacts, proposed mitigation, and an opinion with respect to the proposed natural heritage policy compliance of the proposed development.

2.0 Proposal

The subject lands are located at Plan 515 51 Sunset Blvd Christie Beach in the Town of Blue Mountains. The property is approximately 0.17 ha in size.



Figure 1 Location

The property is covered by successional woodlands and is bounded on the west side by a small watercourse which enters Georgian bay a short distance to the north. The lot is situated on the south side of Sunset Boulevard. Lands to the south consist of a large parcel which supports a large woodland and wetlands.

The study involves assessing the environmental impacts of a proposed building envelope for a for a single detached residential dwelling.



3.0 Policy Context

The lands are governed by the Official Plans of the County of Grey and Town of the Blue Mountains and the Comprehensive Zoning By-law of the Town.

The County of Grey Official Plan designates the lands as Recreational Resort Area and Hazard Lands. The County Official Plan also identifies the lands as containing a Stream and being adjacent to Significant Woodlands located south of the lot.

The Town of the Blue Mountains Official Plan designates the lands as Residential Recreational Area and Hazard. The Town's Official Plan also identifies the subject lot as containing Significant Woodland and Stream constraints. It is noted that the Significant Woodland mapping is qualified as showing Significant Woodlands as identified in the County Official Plan. As indicated the County Official Plan does not designate the woodlands on the lot as significant. It is also noted that policy in the Town Plan does not prohibit development in significant woodlands as long as there is no negative impact to the feature and ecological functions. The lands are zoned Residential One (R1-1) and Hazard (H) in the Town of the Blue Mountains Comprehensive Zoning By-law.

The Official Plans and Zoning By-law are generally prohibitive of development within identified natural heritage features although development may be supported in certain features subject to the findings of an environmental impact study.

The requirement for an environmental impact study, or natural heritage assessment, therefore arises from the fact that the subject lands are mapped as containing and/or being adjacent to natural heritage features. Preparation of an environmental impact study was specifically requested by the Town.

The environmental impact study requirement is intended to ensure that the natural heritage features and areas have been appropriately identified and that development on lands adjacent to the those features and areas will not have a negative impact.

Compliance with the natural heritage protection policies of the Provincial and municipal documents applicable to the lands requires a determination of whether or not any of the following exist on the site or adjacent lands: significant wetlands; habitat of endangered or threatened species; permanent and intermittent streams and fish habitat; significant woodlands; significant valley lands; significant wildlife habitat; and significant areas of natural and scientific interest.

In accordance with the Provincial Policy Statement 2020, development and site alteration are not permitted in significant wetlands. Development may be permitted within significant woodlands, significant valleylands, significant wildlife habitat and areas of natural and scientific interest, as well on lands adjacent to natural heritage features, where it has been demonstrated that there will be no negative impacts on the natural features and their ecological functions.

The following sections of this report are intended to address the natural heritage policy requirements of the Province and municipalities to assess consistency and conformity with provincial and municipal requirements.

4.0 Background Information

In order to determine the potential for various key natural heritage features of the development area and adjacent lands, existing sources of information were used including the official plan and natural heritage resource mapping, aerial photography and other existing data base information.

Background research was completed to identify previously identified natural heritage features and functions on/or adjacent to the lot. The documents/sources listed below provided additional resources for this study and are referred to, as applicable, in the analysis set out in this report:

- Ministry of Natural Resources (MNR) Natural Heritage Information Centre (NHIC);
- Town of Blue Mountains Official Plan and Comprehensive Zoning By-law;
- Grey County Interactive Mapping;
- Ontario Nature Reptile & Amphibian Atlas; and
- iNaturalist and eBird mapping.

5.0 Field Investigations

A single site visit was conducted. Field investigations occurred only on the subject lands. All other adjacent lands were investigated using remote, roadside and property line observations.

Survey	Staff Initials	Date	Start Time	Temperature	Cloud Cover	Precipitation	Wind (Beaufort Wind Scale)
Field Survey	TMW, MJW	October 5, 2022	11:30am	23	0%	None	0

5.1 Vegetation and Ecological Land Classification

5.1.1 Methodology

A vascular plant survey was completed using a roving transect through all habitats and areas planned for development. Particular attention was paid during field investigations for Species at Risk listed in the Ontario Endangered Species Act (2007).

Vegetation communities were identified using the Ecological Land Classification (ELC) for Southern Ontario, First Approximation (Lee et al., 1998). Polygons were delineated using aerial photography, field sampled and classified into the most appropriate vegetation type. The polygons were identified based on vegetative cover, soils and landscape features.

The significance of the vegetation communities was assessed based on the Natural Heritage Information Centre's (NHIC) rankings where applicable and no significant vegetation communities were identified.

The iNaturalist data was reviewed relative to documented occurrence of all special concern and provincially rare (S1-S3, SH) plant and animal species.

5.1.2 Data

There were 44 plant species identified within property. All species observed on the property are found to be common to similar habitats found in Ontario.

A list of vascular plants and their status in Ontario is included is set out below:

Common Name	Latin Name	S_Rank
American Basswood	<i>Tilia americana</i>	S5
American Elm	<i>Ulmus americana</i>	S5
Balsam Poplar	<i>Populus balsamifera</i>	S5
Calico Aster	<i>Symphyotrichum lateriflorum</i>	S5
Canada Anemone	<i>Anemone canadensis</i>	S5
Canada Goldenrod	<i>Solidago canadensis</i>	S5
Chicory	<i>Cichorium intybus</i>	SNA
Climbing Nightshade	<i>Solanum dulcamara</i>	SNA
Colt's-foot	<i>Tussilago farfara</i>	SNA
Common Dandelion	<i>Taraxacum officinale</i>	SNA
Common Milkweed	<i>Asclepias syriaca</i>	S5
Common Mullein	<i>Verbascum thapsus ssp. thapsus</i>	SNA
Common Plantain	<i>Plantago major</i>	SNA
Common Ragweed	<i>Ambrosia artemisiifolia</i>	S5
Common Red Raspberry	<i>Rubus idaeus</i>	S5
Cow Vetch	<i>Vicia cracca</i>	SNA
Eastern White Cedar	<i>Thuja occidentalis</i>	S5
English Ivy	<i>Hedera helix</i>	SNA
European Buckthorn	<i>Rhamnus cathartica</i>	SNA
Green Ash	<i>Fraxinus pennsylvanica</i>	S4
New England Aster	<i>Symphyotrichum novae-angliae</i>	S5
Periwinkle	<i>Vinca minor</i>	SNA
Pin Cherry	<i>Prunus pensylvanica</i>	S5
Poison Ivy	<i>Toxicodendron radicans</i>	S5
Red Maple	<i>Acer rubrum</i>	S5
Red Osier Dogwood	<i>Cornus stolonifera</i>	S5
Sensitive Fern	<i>Onoclea sensibilis</i>	S5
Star-flowered False Solomon's Seal	<i>Maianthemum stellatum</i>	S5
Sugar Maple	<i>Acer saccharum</i>	S5
Tall Buttercup	<i>Ranunculus acris</i>	SNA
Tatarian Honeysuckle	<i>Lonicera tatarica</i>	SNA
Trembling Aspen	<i>Populus tremuloides</i>	S5
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	S4
White Ash	<i>Fraxinus americana</i>	S4
White Birch	<i>Betula papyrifera</i>	S5
Wild Carrot	<i>Daucus carota</i>	SNA
Wild Grape	<i>Vitis riparia</i>	S5

Wild Sarsaparilla	<i>Aralia nudicaulis</i>	S5
Woodland Horsetail	<i>Equisetum sylvaticum</i>	S5
Woodland Strawberry	<i>Fragaria vesca</i>	S5

No observations were recorded on the subject or adjacent lands in the reviewed iNaturalist data relative to documented occurrence of all special concern and provincially rare (S1-S3, SH) plant species.

Vegetation communities were identified within the study area using ELC to the Vegetation Type shown in Figure 3.

FOD8-1 Fresh – Moist Poplar Deciduous Forest Type

This community is dominated by Trembling Aspen (*Populus tremuloides*) and White Birch (*Betula papyrifera*). Associate species included Green Ash (*Fraxinus pennsylvanica*), Red Maple (*Acer rubrum*), Sugar Maple (*Acer saccharum*), American Basswood (*Tilia americana*), Balsam Poplar (*Populus balsamifera*), American Elm (*Ulmus americana*) and Eastern White Cedar (*Thuja occidentalis*). Subcanopy consisted almost exclusively of European Buckthorn (*Rhamnus cathartica*). Ground cover was diverse with a mix of woodland and meadow species. Species included Periwinkle (*Vinca minor*), English Ivy (*Hedera helix*), Wild Grape (*Vitis riparia*), Woodland Horsetail (*Equisetum sylvaticum*), New England Aster (*Symphyotrichum novae-angliae*) and Calico Aster (*Symphyotrichum lateriflorum*) among others.



Figure 3 ELC

The lands contained a large amount of introduced and invasive plant species which dominated the understorey. The site exhibited characteristics of a disturbed ecosystem.

5.2 Birds

5.2.1 Methodology

Due to the limited size of the subject property and proximity of adjacent residential development, it was determined that a breeding bird survey was not required.

A stick nest survey was conducted on the entire subject property during the October 5, 2022 survey. This stick nest survey resulted in no nest observations.

The website eBird's data was also reviewed relative to determination of the potential presence of threatened and endangered species as well as Significant Wildlife Habitat for birds within 200m of the site. The iNaturalist data was also reviewed relative to documented occurrence of bird species.

5.2.2 Data

There were 9 bird species identified within property as follows:

Common Name	Scientific Name	S_Rank
American Crow	<i>Corvus brachyrhynchos</i>	S5B
American Goldfinch	<i>Carduelis tristis</i>	S5B
American Robin	<i>Turdus migratorius</i>	S5B
Black-capped Chickadee	<i>Poecile atricapillus</i>	S5
Blue Jay	<i>Cyanocitta cristata</i>	S5
Downy Woodpecker	<i>Picoides pubescens</i>	S5
Pileated Woodpecker	<i>Dryocopus pileatus</i>	S5
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	S5B
Mourning Dove	<i>Zenaida macroura</i>	S5

All species observed on the subject property are considered common within the province.

Based on site conditions, the following bird habitat is not present on the site or adjacent lands:

- waterfowl stopover or staging areas (terrestrial);
- colonial-nesting habitat (bank and cliff);
- colonial nesting habitat (trees/shrubs);
- colonial nesting habitat (ground);
- migratory stopover area;
- waterfowl nesting area;
- marsh bird breeding habitat;
- open country breeding habitat; and
- shrub/early successional habitat.

The combination of field observations as well as previously documented species therefore indicates the following species of conservation significance on, or with potential habitat on, the site:

(modified chart below to list only the species with on site or adjacent land observations)

Species	Conservation Significance	Observed Yes/No	NHIC Record Yes/No And Square #	eBird/iNaturalist record within 200m. Yes/No/NA NA applies where habitat does not occur on site or adjacent land
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i>	Endangered	No	No	Yes – No habitat on subject property – relies on oak and beech forests
Bald Eagle <i>Haliaeetus leucocephalus</i>	Special Concern, Bald Eagle and Osprey Nesting, Foraging, Perching Habitat	No	No	Yes – No habitat on subject property – incidental observation of species – woodland character and existing disturbances do not support nesting habitat and no stick nests observed.
Canada Warbler <i>Cardellina canadensis</i>	Special Concern, Woodland Area-Sensitive Species	No	No	Yes – No habitat on subject property – woodland does not provide interior habitat – existing residential development precludes interior habitat
Common Nighthawk <i>Chordeiles minor</i>	Special Concern	No	No	Yes – No habitat on subject property

Eastern Wood-Pewee <i>Contopus virens</i>	Special Concern	No	No	Yes – No habitat on subject property – proximity of adjacent houses eliminates nesting habitat on site but habitat exists in adjacent woodlands
Evening Grosbeak <i>Coccothraustes vespertinus</i>	Special Concern	No	No	Yes – No habitat on subject property – primarily a northern Ontario species – relies heavily on spruce budworm for feeding
Horned Grebe <i>Podiceps auritus</i>	Special Concern	No	No	Yes – No habitat on subject property
Wood Thrush <i>Hylocichla mustelina</i>	Special Concern	No	No	Yes – No habitat on subject property – avoids habitat surrounded by houses – proximity of development negates habitat on lot but habitat occurs on adjacent lands to the south
Yellow-bellied Sapsucker <i>Sphyrapicus varius</i>	Woodland Area-Sensitive Species	Yes	No	Yes – No habitat on subject property - woodland does not provide interior habitat – existing residential development precludes interior habitat

Red-breasted Nuthatch <i>Sitta canadensis</i>	Woodland Area-Sensitive Species	No	No	Yes – No habitat on subject property woodland does not provide interior habitat – existing residential development precludes interior habitat
Veery <i>Catharus fuscescens</i>	Woodland Area-Sensitive Species	No	No	Yes – No habitat on subject property woodland does not provide interior habitat – existing residential development precludes interior habitat
Black-throated Green Warbler <i>Setophaga americana</i>	Woodland Area-Sensitive Species	No	No	Yes – No habitat on subject property woodland does not provide interior habitat – existing residential development precludes interior habitat
Blackburnian Warbler <i>Setophaga fusca</i>	Woodland Area-Sensitive Species	No	No	Yes – No habitat on subject property woodland does not provide interior habitat – existing residential development precludes interior habitat
Black-throated Blue Warbler <i>Setophaga caerulescens</i>	Woodland Area-Sensitive Species	No	No	Yes – No habitat on subject property

				woodland does not provide interior habitat – existing residential development precludes interior habitat
Ovenbird <i>Seiurus aurocapilla</i>	Woodland Area-Sensitive Species	No	No	Yes – No habitat on subject property woodland does not provide interior habitat – existing residential development precludes interior habitat
Scarlet Tanager <i>Seiurus aurocapilla</i>	Woodland Area-Sensitive Species	No	No	Yes – No habitat on subject property woodland does not provide interior habitat – existing residential development precludes interior habitat
Brown Thrasher <i>Toxostoma rufum</i>	Shrub/Early Successional Species	No	No	Yes – No habitat on subject property
Black-billed Cuckoo <i>Spizella pusilla</i>	Shrub/Early Successional Species	No	No	Yes – No habitat on subject property
Eastern Towhee <i>Pipilo erythrophthalmus</i>	Shrub/Early Successional Species	No	No	Yes – No habitat on subject property
Great Blue Heron <i>Ardea herodias</i>	Colonial Nesting Bird breeding habitat (Tree/Shrubs)	No	No	Yes – No habitat on subject property incidental observation of species – woodland

				character and existing disturbances do not support nesting habitat and no stick nests observed
Green Heron <i>Butorides virescens</i>	Colonial Nesting Bird breeding habitat (Tree/Shrubs)	No	No	Yes – No habitat on subject property incidental observation of species – woodland character and exsiting disturbances do not support nesting habitat and no stick nests observed
Herring Gull <i>Butorides virescens</i>	Colonial Nesting Bird Breeding Habitat (Ground)	No	No	Yes – No habitat on subject property
Ring-billed Gull <i>Larus delawarensis</i>	Colonial Nesting Bird Breeding Habitat (Ground)	No	No	Yes – No habitat on subject property
Common Tern <i>Sterna hirundo</i>	Colonial Nesting Bird Breeding Habitat (Ground)	No	No	Yes – No habitat on subject property
Cooper's Hawk <i>Accipiter cooperii</i>	Woodland Raptor Nesting Habitat	No	No	Yes – No habitat on subject property - incidental observation of species – woodland character does not support nesting habitat and no stick nests observed
Sharp-shinned Hawk <i>Accipiter striatus</i>	Woodland Raptor Nesting Habitat	No	No	Yes – No habitat on subject property- incidental

				observation of species – woodland character does not support nesting habitat and no stick nests observed
Barred Owl <i>Strix varia</i>	Woodland Raptor Nesting Habitat	No	No	Yes – No habitat on subject property- incidental observation of species – woodland character does not support nesting habitat and no stick nests observed
Wild Turkey <i>Meleagris gallopavo</i>	Springs and Seeps	No	No	Yes – No habitat on subject property
Common Loon <i>Gavia immer</i>	Marsh Bird Breeding Habitat	No	No	Yes – No habitat on subject property
Sandhill Crane <i>Antigone canadensis</i>	Marsh Bird Breeding Habitat	No	No	Yes – No habitat on subject property
Red-tailed Hawk <i>Buteo jamaicensis</i>	Raptor Wintering Area	No	No	Yes – No habitat on subject property- incidental observation of species – woodland character does not support nesting habitat and no stick nests observed
Spotted Sandpiper <i>Actitis macularius</i>	Shorebird Migratory Stopover Area	No	No	Yes – No habitat on subject property

Dunlin <i>Calidris alpina</i>	Shorebird Migratory Stopover Area	No	No	Yes – No habitat on subject property
Canada Goose <i>Branta canadensis</i>	Waterfowl Stopover and Staging Area (Aquatic)	No	No	Yes – No habitat on subject property
Cackling Goose <i>Branta hutchinsii</i>	Waterfowl Stopover and Staging Area (Aquatic)	No	No	Yes – No habitat on subject property
American Wigeon <i>Mareca americana</i>	Waterfowl Stopover and Staging Area (Aquatic)	No	No	Yes – No habitat on subject property
Hooded Merganser <i>Lophodytes cucullatus</i>	Waterfowl Stopover and Staging Area (Aquatic), Waterfowl Nesting Area	No	No	Yes – No habitat on subject property
Common Merganser <i>Mergus merganser</i>	Waterfowl Stopover and Staging Area (Aquatic)	No	No	Yes – No habitat on subject property
Common Goldeneye <i>Bucephala clangula</i>	Waterfowl Stopover and Staging Area (Aquatic)	No	No	Yes – No habitat on subject property
Bufflehead <i>Bucephala albeola</i>	Waterfowl Stopover and Staging Area (Aquatic)	No	No	Yes – No habitat on subject property
Redhead <i>Aythya americana</i>	Waterfowl Stopover and Staging Area (Aquatic)	No	No	Yes – No habitat on subject property
Red-breasted Merganser <i>Mergus serrator</i>	Waterfowl Stopover and Staging Area (Aquatic)	No	No	Yes – No habitat on subject property
Wood Duck <i>Aix sponsa</i>	Waterfowl Stopover and Staging Area (Terrestrial), Waterfowl Nesting Area	No	No	Yes – No habitat on subject property
Green-winged Teal <i>Anas carolinensis</i>	Waterfowl Stopover and Staging Area (Terrestrial), Waterfowl Stopover and Staging Area	No	No	Yes – No habitat on subject property

	(Aquatic), Waterfowl Nesting Area			
Mallard <i>Anas platyrhynchos</i>	Waterfowl Stopover and Staging Area (Terrestrial), Waterfowl Nesting Area	No	No	Yes – No habitat on subject property
Northern Shoveler <i>Spatula clypeata</i>	Waterfowl Stopover and Staging Area (Terrestrial), Waterfowl Stopover and Staging Area (Aquatic), Waterfowl Nesting Area	No	No	Yes – No habitat on subject property
American Wigeon <i>Mareca americana</i>	Waterfowl Stopover and Staging Area (Terrestrial)	No	No	Yes – No habitat on subject property
Gadwall <i>Mareca strepera</i>	Waterfowl Stopover and Staging Area (Terrestrial), Waterfowl Stopover and Staging Area (Aquatic), Waterfowl Nesting Area	No	No	Yes – No habitat on subject property

5.3 Reptiles and Amphibians

5.3.1 Methodology

Incidental observations were made for herptiles (amphibians and reptiles) during field investigations through observations of direct sightings and physical evidence (scats, tracks) and for shelter, feeding and breeding sites (e.g., vernal pools, beneath logs, rocks, etc.).

The iNaturalist data was reviewed relative to documented occurrence of reptile and amphibian species.

5.3.2 Data

Field investigation found very small (Under 10 Square Meters) potential vernal pools that appear to be man-made. These features are too small in area to represent significant wildlife habitat.

No incidental reptile and amphibian observations were documented on the property or neighboring lands.

A review of iNaturalist data indicated that no observations of reptile or amphibian species were recorded on the subject or adjacent lands (250m).

5.4 Mammals

5.4.1 Methodology

Incidental observations were made for mammals during field investigations through observations of direct sightings and physical evidence (scats, tracks, shelter, and evidence of feeding).

A modified bat snag/roost survey was completed on the property which documented no bat snag and roost habitats within the subject property. This is due to the nature of tree species dominating the forest type as well as the relatively small diameter of trees on the subject property.

The iNaturalist data was reviewed relative to documented occurrence of mammal species.

5.5 Data

A number of mammals were observed on the property as follows:

Common Name	Scientific Name	S_Rank
Northern Raccoon	<i>Procyon lotor</i>	S5
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>	S5
Eastern Cottontail	<i>Sylvilagus floridanus</i>	S5

These species are considered to be common within the Province of Ontario.

A review of iNaturalist data indicated that no observations of mammal species were recorded on the subject or adjacent lands (250m).

5.6 Other Terrestrial Fauna

5.6.1 Methodology

Incidental observations were made for other fauna during field investigations through observations of direct sightings and physical evidence (scats, tracks) and for shelter, feeding and breeding evidence.

The iNaturalist data was reviewed relative to documented occurrence of other terrestrial fauna.

5.6.2 Data

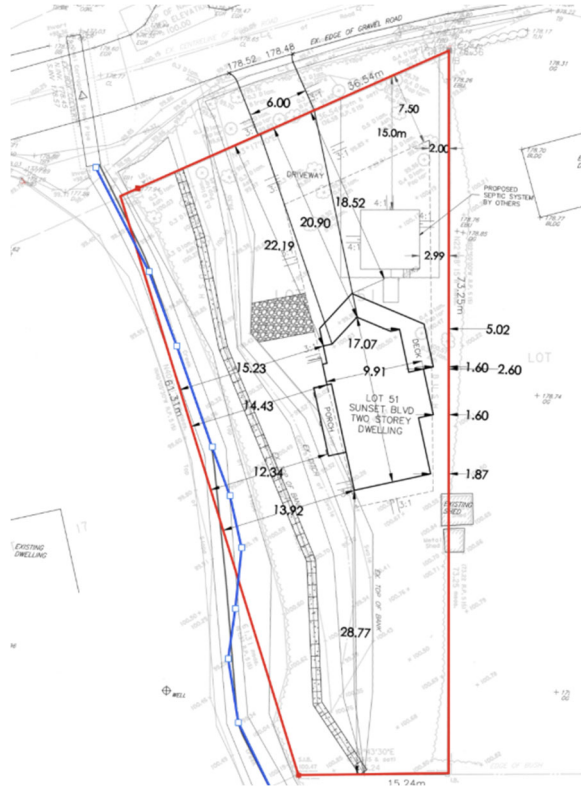
No observations of other terrestrial fauna were recorded on the subject or adjacent lands.

A review of iNaturalist data indicated that no observations of other terrestrial fauna were recorded on the subject or adjacent lands.

5.7 Fish

5.7.1 Methodology

The potential presence of fish species as indicated by fish habitat was assessed through a review of mapping and aerial photography and site visits.



A small watercourse was observed on the western property edge. This watercourse enters Georgian Bay approximately 90m from the northern edge of the subject property.

5.7.2 Data

Small bodied fish species were observed within pools of the watercourse feature. This watercourse had many fish barriers due to low water levels.

Fish sampling was not undertaken due to limited water depths and the absence of flow in portions of the channel.

The channel is indicative of flash flows with high flows occurring during run off events and little to no flow absent such events. This is typical of watercourses originating on the nearby Niagara Escarpment face.

6.0 Natural Heritage Features Identification

6.1 Wetlands

Ministry of Natural Resources and Forestry mapping indicated no wetland on the subject property. A small wetland pocket was mapped approximately 60m from the southern border of the subject property on adjacent lands.

Field investigation on the subject property confirmed that there are no wetland features on the subject property. Very small depressions were found on the subject property that appear to be man-made and have the potential to be vernal pool habitats. These features however would not be Significant Wildlife Habitat due to the extremely small size (i.e. under 10 square meters in area).

6.2 Significant Woodlands

The presence of significant woodlands was assessed through a review of planning authority information.

The Grey County Official Plan Appendix “B” indicates that the subject property does not contain Significant Woodlands. However, extensive Significant Woodlands are present along the southern border of the subject property. The Town of the Blue Mountains Official Plan maps the woodlands



Figure 4 Significant Woodlands

on the property as significant but this is qualified by indicating that mapping is intended to reflect County identification of significant woodlands. It is apparent in County mapping that there was a deliberate intent to exclude significant woodlands in the existing residential lots in this area.

6.3 Significant Valleylands

The presence of significant valleylands was assessed through a review of planning authority information which potentially identifies significant valleylands.

No significant valleylands are present on or in the vicinity of the subject lands.

6.4 Areas of Natural and Scientific Interest

The presence of Areas of Natural and Scientific Interest (ANSI) was assessed through a review of planning authority information which potentially identifies Areas of Natural and Scientific Interest (ANSI).

No Areas of Natural and Scientific Interest (ANSI) are present on or in the vicinity of the subject lands.

6.5 Species at Risk – Threatened and Endangered

An endangered and threatened species screening was undertaken and identified potential presence of Red-headed Woodpecker (*Melanerpes erythrocephalus*), Butternut (*Juglans cinerea*), Black Ash (*Fraxinus nigra*), Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-coloured Bat (*Perimyotis subflavus*).

Red-headed Woodpecker (*Melanerpes erythrocephalus*) was identified as being observed on eBird on adjacent lands to the north-east. This species occupies openings and edges of deciduous forests. These forests are usually dominated by Oak and Beech tree species which provide food for this

species. The subject property does not represent quality habitat for this species due to the absence of Oak and Beech and limited size and nature of tree cover.

Due to a widespread prevalence in the general area, specific attention was directed to the potential presence of Butternut (*Juglans cinerea*) during all surveys. No Butternut were observed on or immediately adjacent to the property.

The Black Ash (*Fraxinus nigra*), occupy a variety of wetland habitats. No Black Ash were observed within the subject property.

Due to the nature of tree cover within the proposed lot and the immediately surrounding area habitat for at risk bat species is anticipated to be situated outside the potential development area. A modified bat snag/roost survey was completed on the property which documented no bat snag and roost habitats within the subject property. This is due to the nature of tree species dominating the forest type as well as the relatively small diameter of trees on the subject property.

NHIC data base in squares 17NK3837 and 17NK3838 had records of Lake Sturgeon (Great Lakes Population) (*Acipenser fulvescens* pop 3). This species is currently listed as Threatened within the Province. The watercourse present on the subject property does not represent habitat for this species as there are multiple fish barriers and extremely low levels to no water during the majority of the year. The subject property does not support or provide Lake Sturgeon habitat other than the connection of the watercourse to Georgian Bay.

There were no other records of threatened or endangered species on the site or on adjacent lands in the NHIC data base, eBird or iNaturalist.

There are no other threatened or endangered species or their habitat on the proposed lot or the surrounding lands.

6.6 Significant Wildlife Habitat

A significant wildlife habitat screening was undertaken. This screening was based on site work as well as the background review of natural heritage information.

This screening, set out in Appendix B indicated the potential and confirmed significant wildlife habitat features and functions on lands adjacent to the property. These include: waterfowl stopover and staging areas (aquatic); shorebird migratory stopover area; raptor wintering area; bat maternity colonies; bat migratory stopover areas; turtle wintering areas; bald eagle and osprey nesting, foraging and perching areas; woodland raptor nesting habitat; amphibian breeding habitat (woodland & wetland); woodland area-sensitive bird breeding habitat; special concern and rare wildlife species.

6.7 Fish Habitat

Fish habitat is present on the subject property. The proposed dwelling is to be situated approximately 12m from the watercourse along the western boundary of the lot.

6.8 Connectivity and Linkages

Site investigation indicated that there are no terrestrial linkages within the subject property. There are potential aquatic linkages within the small watercourse along the western boundary of the subject property. This feature however has many fish barriers and extremely low water in some areas. During the fall survey portions of the watercourse had no surface water.

6.9 Other Natural Heritage Features

No other natural heritage features are present on the subject lands.

7.0 Analysis of Impacts and Recommendations

7.1 Wetlands

7.1.1 Avoidance

Based on site assessments, there are no wetland features on the property.

Wetlands were observed up-gradient of the site during background review on adjacent lands to the south. There will be a fully vegetated buffer of approximately 60m width between the wetland and subject property which is more than sufficient to protect this feature. As the development is located down-gradient of the wetland there is no potential for site disturbance to result in sedimentation of the wetland. The proposed use is consistent with a pattern of residential use along Sunset Boulevard that has co-existed with the wetland feature. The introduction of this use does not significantly alter the nature or intensity of land uses in vicinity of this feature.

The level of development proposed is minimal and is not expected to result in any direct or indirect impact on the wetlands.

7.1.2 Mitigation

Additional mitigation is not required.

7.1.3 Buffers and Setbacks

No additional buffers or setbacks are required.

7.1.4 Compensation

Compensation requirements are not applicable as there will be no loss of wetland features.

7.1.5 Net Impacts

The level of development proposed is minimal and intensity of the land use is correspondingly minimal and is not expected to result in any direct or indirect impact on the wetlands adjacent to the subject lands.

7.2 Significant Woodlands

7.2.1 Avoidance

There are no significant woodlands on the subject property. The proposed dwelling is approximately 29m from the edge of the southern boundary of significant woodlands located to the south. Direct impacts to the significant woodland to the south are therefore avoided.

7.2.2 Mitigation

Development of the lot will require extensive tree removal particularly within the building envelope, associated fill slopes and along the creek for the installation of the armour stone wall.

To minimize disruption to the significant woodlands to the south, tree removal should be limited to the extent required only for construction of the armour stone wall in the area 25m north of the south lot line.

It is recommended that when the building envelope be staked on-site and the disturbance area required for the construction of the armour stone wall similarly be identified. An ecologically based tree retention plan can then be prepared by an ecologist to ensure that integrity of a buffer for the significant woodlands is maintained to maximum possible extent. The emphasis on the tree retention plan will be to maintain contiguous blocks of woodland and recommend more detailed tree protection and mitigation for ecological purposes within the proposed lot and in relation to the adjacent lands on the subject property. The tree retention plan would also identify removal of invasive species and any compensation planting required in the proposed construction area for the armour stone wall.

Required tree removal should occur outside the nesting season. Although no bat habitat is expected to be impacted to avoid any unforeseen impacts it is also recommended that clearing occur outside potential roosting seasons. Therefore, it is recommended that clearing adhere to the provisions of the Migratory Birds Convention Act and bat roosting periods, with no cutting between April 1st– October 15th. Where this is not possible, tree removal should occur under supervision of an ecologist to ensure no nesting birds or bat roosting areas are disturbed.

7.2.3 Buffers And Setbacks

An approximately 25m setback from the proposed dwelling building envelope and fill slope area is in place from the southern border of the subject property. This setback is sufficient to protect the significant woodlands on adjacent lands on the basis of the recommended ecological tree retention plan to be prepared once the development and construction areas are flagged.

7.2.4 Compensation

Compensation requirements are not applicable as there will be no loss of significant woodlands.

7.2.5 Net Impacts

As significant woodlands will not be directly or indirectly impacted there is no negative impact to significant woodlands.

There is a discrepancy in the mapping of significant woodlands between Town and County mapping. Town mapping is intended to reflect County mapping which indicates there are no significant woodlands on the lot. Even if there was a determination that the woodlands on the lot should be considered to be significant, despite the clear intent of the County, the primary functions of this feature are associated with the large woodland block situated to the south of the lot. The development in immediate proximity of the lot on three sides suggest that the removal of this area of woodland would have no detrimental impact to the larger woodland block as long as recommended mitigation is employed.

7.3 Significant Valleylands

7.3.1 Avoidance

There are no significant valleylands and avoidance is not applicable.

7.3.2 Mitigation

There are no significant valleylands and mitigation is not applicable.

7.3.3 Buffers And Setbacks

There are no significant valleylands and buffers and setbacks are not applicable.

7.3.4 Compensation

There are no significant valleylands and compensation is not applicable.

7.3.5 Net Impacts

There are no significant valleylands identified on the subject property or within 120 metres. There is therefore no potential to impact significant valleylands.

7.4 Areas Of Natural and Scientific Interest

7.4.1 Avoidance

There are no Areas of Natural and Scientific Interest (ANSI) and avoidance is not applicable.

7.4.2 Mitigation

There are no Areas of Natural and Scientific Interest (ANSI) and mitigation is not applicable.

7.4.3 Buffers and Setbacks

There are no Areas of Natural and Scientific Interest (ANSI) and buffers and setbacks are not applicable.

7.4.4 Compensation

There are no Areas of Natural and Scientific Interest (ANSI) and compensation is not applicable.

7.4.5 Net Impacts

There are no Areas of Natural and Scientific Interest (ANSI) identified on the subject property or within 120 metres. There is therefore no potential to impact Areas of Natural and Scientific Interest (ANSI).

7.5 Species at Risk – Threatened and Endangered

7.5.1 Avoidance

No threatened or endangered species were observed on the subject property during site investigations. The subject property does not provide habitat for threatened or endangered species. Species at Risk bats may be present in woodlands on adjacent lands, however the 29m buffer between the proposed dwelling and the southern border of the subject property is sufficient to avoid any potential impacts.

7.5.2 Mitigation

It is recommended that tree clearing adhere to the provisions of bat roosting periods, with no cutting between April 1st–October 15th. Where this is not possible, tree removal should occur under supervision of an ecologist to ensure no incidental (i.e. below assessment threshold) bat roosting areas are disturbed.

7.5.3 Buffers and Setbacks

Additional buffers and setbacks are not required.

7.5.4 Compensation

Compensation is not applicable.

7.5.5 Net Impacts

The absence of threatened and endangered species and their habitat establishes compliance with the Endangered Species Act.

7.6 Significant Wildlife Habitat

7.6.1 Avoidance

Potential significant wildlife habitat features are associated with the large waterbodies, and wooded and wetland areas in the vicinity of the subject property. This screening, set out in Appendix B indicated the potential and confirmed significant wildlife habitat features and functions on the portions of the property. These include: waterfowl stopover and staging areas (aquatic); shorebird migratory stopover area; raptor wintering area; bat maternity colonies; bat migratory stopover areas; bald eagle and osprey nesting, foraging and perching areas; woodland raptor nesting habitat; amphibian breeding habitat (woodland & wetland); woodland area-sensitive bird breeding habitat; special concern and rare wildlife species.

Waterfowl stopover and staging areas (aquatic) and shorebird migratory stopover areas have potential to be on adjacent lands to the north along the shoreline of Georgian Bay. These potential features are a minimum of 90m from the subject property and separated from the property by a road and residential development. The proposed development is adequately separated and buffered from such potential features and will have no impact on these significant wildlife habitat features.

Raptor wintering areas may be associated woodlands and adjacent fields. The subject property is a surrounded on three sides by development. It is anticipated that an additional dwelling along the road corridor, with recommended minimization of tree removal, will have no anticipated negative effects to raptor wintering areas in the large woodlands located to the south of the subject lands. Extensive areas of woodlands on surrounding lands should be sufficient to maintain this feature and function.

As previously indicated, no bat snags or roosting habitat was observed on the subject property and bat maternity habitat is outside of the proposed disturbance area. Impacts is further avoided by avoiding tree removal during the roosting period. This will also assist in avoiding impacts to potential migratory stopover areas.

Bald Eagle and Osprey, foraging and perching areas are also potentially associated with adjacent lands along the Georgian Bay coastline which is a minimum of 90m from the subject property. Nesting opportunities may also be available in the extensive woodlands to the south of the property. No nests or any evidence of these bird species were observed on subject lands. The watercourse on the subject property does not provide feeding habitat for these species due to the low water depth and general size of the feature and absence of larger fish species. The potential nesting sites in the woodlands to the south are sufficiently separated and buffered from the proposed development area.

No stick nests were observed on the subject property or in the immediately adjacent area. Potential for woodland raptor nesting habitat exists in areas south of the subject property within the mature woodlands. Again, the minor encroachment of development into the frontage of the site should not disturb the potential for this habitat feature to continue to be present in the extensive woodlands to the south.

Potential amphibian breeding habitat (woodland & wetland) is present within adjacent lands to the south based on the presence of unevaluated wetland features. Mapping shows these features as

being situated approximately 60m from the subject lot's southern lot line. This fully vegetated buffer is sufficient to ensure no detrimental impacts occur on potential amphibian breeding habitat.

Although shrub/early successional species were reported on an adjacent site in eBird, the subject lot does not provide nesting habitat for these species as woodland cover, while not fully mature, is beyond the successional stage favoured by these species.

Woodland area-sensitive breeding birds, including the special concern species Eastern Wood Pewee and Wood Thrush were observed in eBird data, have the potential to be using the larger intact woodlands south of the subject property. The subject property is extremely narrow and small (0.16ha) in size and has residential development situated on three sides. This property does not represent quality habitat for woodland area-sensitive breeding birds. However, this property does have the potential to represent some feeding areas as demonstrated by evidence of Yellow-bellied Sapsucker holes within the property. As the property is extremely small and supports no interior habitat in comparison to the southern woodlands, and maximum tree retention is proposed in the 25m buffer on the subject lands, there should be no impact to woodland area-sensitive breeding habitat.

The fact that the residential development is setback a minimum of 25m from the southern lot line and occurs in a limited portion of the site in-between existing residential dwellings results in no anticipated impacts to significant wildlife habitat features.

7.6.2 Mitigation

Where tree clearing is to occur, it is recommended that clearing adhere to the provisions of the Migratory Birds Convention Act and bat roosting periods, with no cutting between April 1st–October 15th. Where this is not possible, tree removal should occur under supervision of an ecologist to ensure no nesting birds or incidental (i.e. below assessment threshold) bat roosting areas are disturbed.

7.6.3 Buffers and Setbacks

No additional buffers or setbacks are required.

7.6.4 Compensation

No compensation is required.

7.6.5 Net Impacts

There are no anticipated impacts on significant wildlife habitat features or functions.

7.7 Fish Habitat

7.7.1 Avoidance

Small bodied fish species were observed within the small watercourse along the western portion of the subject property. This watercourse has many fish barriers and flashy flow characteristics with little to no flows over extended periods which already impacts the quality of fish habitat.

The proposed development includes construction of a rock armour wall to stabilize the extent of the riparian area. The proposed dwelling is situated approximately 12m from the watercourse which is similar to that of existing adjacent development.

There is no encroachment into or re-alignment of the watercourse proposed.

An existing ditch/swale is situated between the proposed building envelope and the top of bank of the watercourse. This feature is proposed to be retained and will be a drainage and infiltration

feature for runoff from the building envelope. This provides a feature to avoid any direct discharge to the watercourse.

7.7.2 Mitigation

The presence of the existing swale between the development area and the watercourse will assist in mitigating the potential for sediment to be introduced to the watercourse during construction. However, it is also recommended that prior to any site disturbance, including tree clearing, the development area be isolated with silt fencing. This fencing should be maintained until construction is completed and a stable surface cover is restored.

The project also includes the placement of an armour stone rock retaining wall along the existing top of bank of the watercourse. This work should be conducted during low water flows and the disturbance area should be isolated with silt fencing to be installed prior to any site disturbance and this should be maintained until a stable surface cover is restored.

It is anticipated that vegetation removal will be required for the purposes of installation of the retaining wall. It is recommended that the disturbance area required for the construction of the armour stone wall be identified prior to any site disturbance. An ecologically based tree retention plan can then be prepared by an ecologist to ensure that integrity of riparian woodland cover is maintained to maximum possible extent. The emphasis on the tree retention plan will be to maintain woodland cover for the watercourse and recommend more detailed tree protection and mitigation for ecological purposes within the proposed lot. The tree retention plan would also identify removal of invasive species and any compensation planting required in the proposed construction area for the armour stone wall to re-establish appropriate cover for the watercourse.

7.7.3 Buffers and Setbacks

No additional buffers or setbacks are required.

7.7.4 Compensation

Compensation is not applicable.

7.7.5 Net Impacts

The proposed residential dwelling is not anticipated to impact fish habitat based on recommended mitigation.

7.8 Connectivity and Linkages

7.8.1 Avoidance

No terrestrial connectivity or linkages were observed on the subject property due to the extent surrounding development.

Potential aquatic linkages were observed within the watercourse along the western portion of the subject property. There is an approximately 12m setback from this watercourse's feature. The proposed development will have no impact on aquatic connectivity or linkages.

7.8.2 Mitigation

No additional mitigation is not required.

7.8.3 Buffers and Setbacks

No additional buffers or setbacks are required.

7.8.4 Compensation

Compensation is not applicable or required.

7.8.5 Net Impacts

There are no anticipated net impacts on connectivity or linkages.

7.9 Other Natural Heritage Features

7.9.1 Avoidance

No other natural heritage features have been identified.

7.9.2 Mitigation

No other natural heritage features have been identified and mitigation is not required.

7.9.3 Buffers and Setbacks

No other natural heritage features have been identified and additional buffers and setbacks are not required.

7.9.4 Compensation

Compensation is not applicable or required.

7.9.5 Net Impacts

No other natural heritage features have been identified and no net impacts are therefore anticipated.

8.0 Conclusion - Net Impact Assessment and Policy Compliance

The proposal, with full implementation of recommended avoidance and mitigation measures, results in an acceptable level of policy consistency and conformity in the context of the requirements set out by the provincial and municipal policies applicable to the development of the subject lands.

In accordance with those requirements, this EIS recommends as follows:

- To minimize disruption to the significant woodlands to the south, tree removal should be limited to the extent required only for construction of the armour stone wall in the area 25m north of the south lot line.
- It is recommended that when the building envelope be staked on-site and the disturbance area required for the construction of the armour stone wall similarly be identified. An ecologically based tree retention plan can then be prepared by an ecologist to ensure that integrity of a buffer for the significant woodlands is maintained to maximum possible extent. The emphasis on the tree retention plan will be to maintain contiguous blocks of woodland and recommend more detailed tree protection and mitigation for ecological purposes within the proposed lot and in relation to the adjacent lands on the subject property. The tree retention plan would also identify removal of invasive species and any compensation planting required in the proposed construction area for the armour stone wall to re-establish appropriate cover for the watercourse.

- It is recommended that clearing adhere to the provisions of the Migratory Birds Convention Act and bat roosting periods, with no cutting between April 1st–October 15th. Where this is not possible, tree removal should occur under supervision of an ecologist to ensure no nesting birds or bat roosting areas are disturbed.
- An existing ditch/swale is situated between the proposed building envelope and the top of bank of the watercourse. This feature should be retained as a drainage and infiltration feature for runoff from the building envelope
- Prior to any site disturbance, including tree clearing, the development area be isolated with silt fencing. This fencing should be maintained until construction is completed and a stable surface cover is restored.
- The work to construct an armour stone rock retaining wall along the existing top of bank of the watercourse should be conducted during low water flows and the disturbance area should be isolated with silt fencing to be installed prior to any site disturbance and this should be maintained until a stable surface cover is restored.

All of which is respectfully submitted,

SKELTON, BRUMWELL & ASSOCIATES INC.

Per:

Appendix A

Species at Risk Assessment

Common Name	Latin Name	Status	Habitat Characteristics	Candidate for Subject Property? Yes or No or Possible	Rationale
Acadian Flycatcher	<i>Empidonax virescens</i>	Endangered	Mostly in large deciduous forests and forest ravines, often near wetlands.	No	No observations in area/habitat not present.
American White Pelican	<i>Pelecanus erythrorhynchos</i>	Threatened	Islands and shorelines of large waterbodies with little tree cover.	No	No observations in area/habitat not present.
Bank Swallow	<i>Riparia riparia</i>	Threatened	Stable banks made of silt or sand.	No	No observations in area/habitat not present.
Barn Owl	<i>Tyto alba</i>	Endangered	Open grasslands and orchards.	No	No observations in area/habitat not present.
Barn Swallow	<i>Hirundo rustica</i>	Threatened	Usually found near human development, like unpainted ruff wood to nest.	No	No observations in area/habitat not present.
Bobolink	<i>Dolichonyx oryzivorus</i>	Threatened	Hay fields and long grass meadows.	No	No observations in area/habitat not present.
Cerulean Warbler	<i>Setophaga cerulea</i>	Threatened	Mature deciduous forests with large, tall trees and open understory.	No	No observations in area/habitat not present.
Chimney Swift	<i>Chaetura pelagica</i>	Threatened	Most often found in urban settlements, often close to water for feeding.	No	No observations in area/habitat not present.
Eastern Meadowlark	<i>Sturnella magna</i>	Threatened	Open meadow or field habitats.	No	No observations in area/habitat not present.
Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	Threatened	Forest openings and rock outcropping.	No	No observations in area/habitat not present.
Golden Eagle	<i>Aquila chrysaetos</i>	Endangered	Large undisturbed forests near open areas.	No	No observations in area/habitat not present.

Henslow's Sparrow	<i>Ammodramus henslowii</i>	Endangered	Tall grass fields and flowering plants.	No	No observations in area/habitat not present.
Hudsonian Godwit	<i>Limosa haemastica</i>	Threatened	During migration mud flats, flooded fields, costal wetlands	No	No observations in area/habitat not present.
King Rail	<i>Rallus elegans</i>	Endangered	Densly vegetated freshwater marshs.	No	No observations in area/habitat not present.
Kirtlands Warbler	<i>Setophaga kirtlandii</i>	Endangered	Large stands of young jack pine stands.	No	No observations in area/habitat not present.
Least Bittern	<i>Ixobrychus exilis</i>	Threatened	Primarily cattail marshes.	No	No observations in area/habitat not present.
Loggerhead Shrike	<i>Lanius ludovicianus</i>	Endangered	Pasture and grasslands with Hawthorn.	No	No observations in area/habitat not present.
Louisiana Waterthrush	<i>Parkesia motacilla</i>	Threatened	Deciduous forests with steep ravines and fast flowing stream/ occasionally woodland swamps.	No	No observations in area/habitat not present.
Northern Bobwhite	<i>Colinus virginianus</i>	Endangered	Grasslands/Savannahs/Farm Fields.	No	No observations in area/habitat not present.
Piping Plover	<i>Charadrius melodus</i>	Endangered	Along sandy and gravel beaches above high-water levels.	No	No observations in area/habitat not present.
Prothonotary Warbler	<i>Protonotaria citrea</i>	Endangered	Carolinian Deciduous flooded or swamp forests.	No	No observations in area/habitat not present.
Red Knot (Rufa Subspecies)	<i>Calidris canutus rufa</i>	Endangered	Beaches/Mudflats/Coastal Lagoons.	No	No observations in area/habitat not present.
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Endangered	Open woodlands and edges of Oak and Beech forests	No	No observations in area/habitat not present.
Yellow-breasted Chat	<i>Icteria virens</i>	Endangered	Thickets and scrub, overgrown clearings.	No	No observations in area/habitat not present.

Common Name	Latin Name	Status	Habitat Characteristics	Candidate for Subject Property? Yes or No or Possible	Rationale
Allegheny Mountain Dusky Salamander	<i>Desmognathus ochrophaeus</i>	Endangered	Small slow flowing rocky streams.	No	No observations in area/habitat not present.
Northern Dusky Salamander	<i>Desmognathus fuscus</i>	Endangered	Small slow flowing rocky streams.	No	No observations in area/habitat not present.
Jefferson Salamander	<i>Ambystoma jeffersonianum</i>	Endangered	Mole salamander, lives underground but best chance to see it is during breeding season in vernal pools, usually lives near wetland.	No	No observations in area/habitat not present.
Small-mouthed Salamander	<i>Ambystoma texanum</i>	Endangered	Mole Salamander, lives under ground and can be seen just under the leaf litter. Usually lives near wetland.	No	No observations in area/habitat not present.
Folwers Toad	<i>Anaxyrus fowleri</i>	Endangered	Sandy Shorelines.	No	No observations in area/habitat not present.

Common Name	Latin Name	Status	Habitat Characteristics	Candidate for Subject Property? Yes or No or Possible	Rationale
Five Lined Skink (Carolinian population)	<i>Plestiodon fasciatus</i>	Endangered	Found within open forest habitats and stabilized sand dunes.	No	No observations in area/habitat not present.
Blue Racer	<i>Coluber constrictor foxii</i>	Endangered	Typically found in open grassland habitats but can be found in open forest and edge habitats.	No	No observations in area/habitat not present.
Bulter's Gartersnake	<i>Thamnophis butleri</i>	Endangered	Found in open grassy and meadow habitats, often found under cover.	No	No observations in area/habitat not present.
Eastern Foxsnake (Carolinian population)	<i>Pantherophis gloydi</i>	Endangered	Often found near human development, most found in edge habitats.	No	No observations in area/habitat not present.
Eastern Foxsnake (Georgian Bay population)	<i>Pantherophis gloydi</i>	Threatened	Found near water in edge or open habitats/require rotting logs for nesting's.	No	No observations in area/habitat not present.
Eastern Hog-nosed Snake	<i>Heterodon platirhinos</i>	Threatened	Edge habitats near water but can be found within primarily deciduous forests.	No	No observations in area/habitat not present.
Queensnake	<i>Regina septemvittata</i>	Endangered	Within rivers with rocky shorelines.	No	No observations in area/habitat not present.
Gray Ratsnake (Carolinian population)	<i>Pantherophis spiloides</i>	Endangered	Arboreal species found within deciduous forest and edge habitats.	No	No observations in area/habitat not present.
Gray Ratsnake (Frontenac Axis population)	<i>Pantherophis spiloides</i>	Threatened	Arboreal species found within deciduous forest and edge habitats.	No	No observations in area/habitat not present.

Eastern Massasauga Rattlesnake (Carolinian population)	<i>Sistrurus catenatus</i>	Endangered	Within 50km from water usually closer, most often found in edge habitats.	No	No observations in area/habitat not present.
Eastern Massasauga Rattlesnake (Great Lakes population)	<i>Sistrurus catenatus</i>	Threatened	Within 50km from water usually closer, most often found in edge habitats.	No	No observations in area/habitat not present.
Spiny Softshell	<i>Apalone spinifera</i>	Endangered	Found in large rivers with sandy bottoms.	No	No observations in area/habitat not present.
Spotted Turtle	<i>Clemmys guttata</i>	Endangered	Small shallow wetlands, bogs and marshes sometimes ponds.	No	No observations in area/habitat not present.
Wood Turtle	<i>Glyptemys insculpta</i>	Endangered	Rivers that are not too fast and their tributaries.	No	No observations in area/habitat not present.
Blanding's Turtle	<i>Emydoidea blandingii</i>	Threatened	Ideal habitat is wetlands and ponds with clean water and mucky bottoms but can be found within lakes and degraded habitat.	No	No observations in area/habitat not present.

Common Name	Latin Name	Status	Habitat Characteristics	Candidate for Subject Property? Yes or No or Possible	Rationale
American Eel	<i>Anguilla rostrata</i>	Endangered	Most diverse habitat characteristics of any Ontario fish.	No	No observations in area/habitat not present.
Black Redhorse	<i>Moxostoma duquesnei</i>	Threatened	Sandy gravel bottoms of pools and riffles.	No	No observations in area/habitat not present.
Cutlip Minnow	<i>Exoglossum maxillingua</i>	Threatened	Warm slow-moving rivers with rocky and gravel bottoms.	No	No observations in area/habitat not present.
Eastern Sand Darter	<i>Ammocrypta pellucida</i>	Endangered	Shallow habitats in lakes streams and rivers with clean sandy bottoms.	No	No observations in area/habitat not present.
Lake Chubsucker	<i>Erimyzon sucetta</i>	Threatened	Lakes and marshes with clear warm water and plenty of aquatic vegetation.	No	No observations in area/habitat not present.
Lake Sturgeon (Great Lakes - Upper St Lawrence population)	<i>Acipenser fulvescens</i>	Endangered	Lakes or Rivers with soft bottoms of mud/sand or gravel.	No	No observations in area/habitat not present.
Lake Whitefish (Opeongo)	<i>Coregonus clupeaformis</i>	Threatened	Lake Opeongo, Algonquin Park	No	No observations in area/habitat not present.
Northern Madtom	<i>Noturus stigmosus</i>	Endangered	Large creeks and rivers with moderate to swift current with sand, gravel and mud bottoms.	No	No observations in area/habitat not present.
Pugnose Minnow	<i>Opsopoeodus emiliae</i>	Threatened	Coastal wetlands, clear warm water with abundant vegetation.	No	No observations in area/habitat not present.
Pugnose Shiner	<i>Notropis anogenus</i>	Threatened	Lakes and clam water with clear water and sandy or muddy bottoms.	No	No observations in area/habitat not present.

Redsided Dace	<i>Clinostomus elongatus</i>	Endangered	Pools and slow-moving small streams with gravel bottoms.	No	No observations in area/habitat not present.
River Darter	<i>Percina shumardi</i>	Endangered	Medium to large rivers with gravel and cobble.	No	No observations in area/habitat not present.
Shortjaw Cisco	<i>Coregonus zenithicus</i>	Threatened	Large lakes 55-180 metres of water.	No	No observations in area/habitat not present.
Shortnose Cisco	<i>Coregonus reighardi</i>	Endangered	Large Lakes 22-144 metres of water.	No	No observations in area/habitat not present.
Silver Chub	<i>Macrhybopsis storeriana</i>	Threatened	Usually in 12 metres of water.	No	No observations in area/habitat not present.
Silver Shiner	<i>Notropis photogenis</i>	Threatened	Medium to large streams with swift currents with gravel or boulder bottoms.	No	No observations in area/habitat not present.
Spotted Gar	<i>Lepisosteus oculatus</i>	Endangered	Coastal wetlands with abundant vegetation.	No	No observations in area/habitat not present.
Warmouth	<i>Lepomis gulosus</i>	Endangered	Silt free marshes with mucky bottoms and abundant vegetation.	No	No observations in area/habitat not present.

Common Name	Latin Name	Status	Habitat Characteristics	Candidate for Subject Property? Yes or No or Possible	Rationale
Algonquin Wolf	<i>Canis sp.</i>	Threatened	Deciduous or mixed forests, dens in coniferous forests near water.	No	No observations in area/habitat not present.
American Badger (Northwestern Ontario)	<i>Taxidea taxus</i>	Endangered	Tall grass prairie/ sand barrens and farmlands.	No	No observations in area/habitat not present.
American Badger (Southwestern Ontario)	<i>Taxidea taxus</i>	Endangered	Tall grass prairie/ sand barrens and farmlands.	No	No observations in area/habitat not present.
Caribou (Boreal)	<i>Rangifer tarandus</i>	Threatened	Dense Boreal Forests.	No	No observations in area/habitat not present.
Eastern Small-footed Myotis	<i>Myotis leibii</i>	Endangered	Under rocks/buildings/ caves.	No	No observations in area/habitat not present.
Gray Fox	<i>Urocyon cinereoargenteus</i>	Threatened	Deciduous forests and marshes.	No	No observations in area/habitat not present.
Little Brown Myotis	<i>Myotis lucifugus</i>	Endangered	Deciduous forests with snags and urban areas.	Possible	Possible habitat on subject property.
Mountain Lion	<i>Puma concolor</i>	Endangered	Large forests with abundant white-tailed deer populations.	No	No observations in area/habitat not present.
Northern Myotis	<i>Myotis septentrionalis</i>	Endangered	Forests.	Possible	Possible habitat on subject property.
Tri-coloured Bat	<i>Perimyotis subflavus</i>	Endangered	Deciduous Forest/ Oaks and Maples Primarily.	Possible	Possible habitat on subject property.
Wolverine	<i>Gulo gulo</i>	Threatened	Boreal Forests.	No	No observations in area/habitat not present.

Common Name	Latin Name	Status	Habitat Characteristics	Candidate for Subject Property? Yes or No or Possible	Rationale
Broad-Banded Forestsnail	<i>Allogona profunda</i>	Endangered	Forests with sandy soils.	No	No observations in area/habitat not present.
Carolina Mantleslug	<i>Philomycus carolinianus</i>	Threatened	Old Growth Forests with decayed wood.	No	No observations in area/habitat not present.
Eastern Banded Tigersnail	<i>Anguispira kochi kochi</i>	Endangered	Deciduous forests.	No	No observations in area/habitat not present.
Fawnsfoot	<i>Truncilla donaciformis</i>	Endangered	Shallow waters or slow-moving medium to large rivers.	No	No observations in area/habitat not present.
Hickorynut	<i>Obovaria olivaria</i>	Endangered	Sandy beds in large wide deep rivers with moderate to strong currents.	No	No observations in area/habitat not present.
Kidneyshell	<i>Ptychobranchus fasciolaris</i>	Endangered	Small to medium shallow clear fast-moving streams with gravel and sand bottoms.	No	No observations in area/habitat not present.
Lilliput	<i>Toxolasma parvum</i>	Threatened	Variety of soft river bottoms.	No	No observations in area/habitat not present.
Northern Riffleshell	<i>Epioblasma torulosa rangiana</i>	Endangered	Riffles in streams with rocky or sand or gravel bottoms.	No	No observations in area/habitat not present.
Proud Globelet	<i>Patera pennsylvanica</i>	Endangered	Sandy Oak Forests.	No	No observations in area/habitat not present.
Rayed Bean	<i>Villosa fabalis</i>	Endangered	Sand or gravel in shallow clear headwaters and riffles of small tributaries.	No	No observations in area/habitat not present.
Round Hickorynut	<i>Obovaria subrotunda</i>	Endangered	Moderate to fast flowing rivers with clay/sand/gravel bottoms.	No	No observations in area/habitat not present.
Round Pigtoe	<i>Pleurobema sintoxia</i>	Endangered	Deep rivers with sandy/rocky or mud bottoms.	No	No observations in area/habitat not present.

Shagreen	<i>Inflectarius inflectus</i>	Enagered	Pelee Island	No	No observations in area/habitat not present.
Salamander Mussel	<i>Simpsonaias ambigua</i>	Endangered	Swift current rivers with soft bottoms.	No	No observations in area/habitat not present.
Snuffbox	<i>Epioblasma triquetra</i>	Endangered	Clean, Clear swift flowing streams with rocky/gravel or sand bottoms.	No	No observations in area/habitat not present.
Threehorn Wartyback	<i>Obliquaria reflexa</i>	Threatened	Large rivers with moderate current and stable gravel, sand or mud bottoms.	No	No observations in area/habitat not present.
Toothed Globe	<i>Mesodon zaletus</i>	Endangered	Essex and Middlesex County	No	No observations in area/habitat not present.
Wavy-rayed Lampmussel	<i>Lampsilis fasciola</i>	Threatened	Small to medium sized rivers with moderate currents in riffles with sand or rocky or gravel bottoms.	No	No observations in area/habitat not present.

Common Name	Latin Name	Status	Habitat Characteristics	Candidate for Subject Property? Yes or No or Possible	Rationale
American Chesnut	<i>Castanea dentata</i>	Endangered	Carolinian habitat, dryer upland deciduous forests with sandy, acidic to neutral soils.	No	No observations in area/habitat not present.
American Columbo	<i>Frasera caroliniensis</i>	Endangered	Dry upland open deciduous forests.	No	No observations in area/habitat not present.
American Ginseng	<i>Panax quinquefolius</i>	Endangered	Along ridges and ravines of deciduous or mixed forests/ Micro habitats.	No	No observations in area/habitat not present.
American Water-Willow	<i>Justicia americana</i>	Threatened	Grows along the shores and in the water with wave action.	No	No observations in area/habitat not present.
Bent Spike Rush	<i>Eleocharis geniculata</i>	Endangered	Wet, sandy, muddy soil in open flats.	No	No observations in area/habitat not present.
Birds-foot Violet	<i>Viola pedata</i>	Endangered	Black Oak Savanna.	No	No observations in area/habitat not present.
Black Ash	<i>Fraxinus nigra</i>	Endangered	Wetlands, floodplains and fens	Possible	No observations on subject property.
Blue Ash	<i>Fraxinus quadrangulata</i>	Threatened	Deciduous floodplain forests and along sandy beaches and limestone outcroppings.	No	No observations in area/habitat not present.
Bluehearts	<i>Buchnera americana</i>	Endangered	Wet meadow communities between sand dunes/tall grass prairies.	No	No observations in area/habitat not present.
Blunt-lobed Woodsia	<i>Woodsia obtusa</i>	Endangered	Steep chalky rock faces in deciduous forests.	No	No observations in area/habitat not present.
Branched Bartonian	<i>Bartonia paniculata</i> ssp. <i>paniculata</i>	Threatened	Sphagnum bog and fen wetlands dominated by sedges.	No	No observations in area/habitat not present.

Butternut	<i>Juglans cinerea</i>	Endangered	Deciduous forests, prefers moist well drained soil often found along streams with lot of sun, can grow in gravel dominated soils.	Possible	No observations on subject property.
Cherry Birch	<i>Betula lenta</i>	Endangered	Moist well drained clay loam soil over limestone bedrock with or deciduous trees.	No	No observations in area/habitat not present.
Colicroot	<i>Aletris farinosa</i>	Endangered	Open sunny moist habitats with sandy or mucky soil such as prairie or old fields.	No	No observations in area/habitat not present.
Cucumber Tree	<i>Magnolia acuminata</i>	Endangered	Upland moist deciduous or mixed forest habitats, well drained soils.	No	No observations in area/habitat not present.
Downy Yellow False Foxglove	<i>Aureolaria virginica</i>	Endangered	Waterloo, Halton, Hamilton, Norfolk, Brant	No	No observations in area/habitat not present.
Deerberry	<i>Vaccinium stamineum</i>	Threatened	Dry open woods on sandy well drained soils growing under oaks, pitch pine or white pine near large water bodies.	No	No observations in area/habitat not present.
Dense Blazing Star	<i>Liatris spicata</i>	Threatened	Dense moist prairies, grasslands, wet areas between dunes and abandoned fields.	No	No observations in area/habitat not present.
Drooping Trillium	<i>Trillium flexipes</i>	Endangered	Damp sandy soil in mature deciduous forests close to a river.	No	No observations in area/habitat not present.
Dwarf Hackberry	<i>Celtis tenuifolia</i>	Threatened	Several different habitats, dry sandy areas near lakeshores	No	No observations in area/habitat not present.

			inland dunes, ridge tops and limestone alvars.		
Eastern Flowing Dogwood	<i>Cornus florida</i>	Endangered	Mid age to mature deciduous or mixed forests in flood plains, ravines or on slopes or bluffs.	No	No observations in area/habitat not present.
Eastern Prairie Fringed- Orchid	<i>Platanthera leucophaea</i>	Endangered	Wetlands, fens, swamps, and tall grass prairie.	No	No observations in area/habitat not present.
Eastern Prickly Pear Cactus	<i>Opuntia humifusa</i>	Endangered	Dry sandy areas in full sun.	No	No observations in area/habitat not present.
Engelmanns Quillwort	<i>Isoetes engelmannii</i>	Endangered	Aquatic plant, shallow water in lakes and rivers.	No	No observations in area/habitat not present.
False Hop Sedge	<i>Carex lupuliformis</i>	Endangered	Riverine swamps and marshes around temporary forest ponds.	No	No observations in area/habitat not present.
Flase Rue- anemone	<i>Enemion biterdatum</i>	Threatened	Deciduous forests and thickets with rich, moist soil, often in valleys, floodplains and ravine bottoms.	No	No observations in area/habitat not present.
Fern-leaved Yellow False Foxglove	<i>Aureolaria pedicularia</i>	Threatened	Savanna and open woodlands , Hamilton, Halton, Lambton, Norfolk, Niagara	No	No observations in area/habitat not present.
Few-flowered Club Rush	<i>Trichophorum planifolium</i>	Endangered	Steep slopes of oak forests.	No	No observations in area/habitat not present.
Forked Three- awned Grass	<i>Aristida basiramea</i>	Endangered	Open bare ground sparsely covered grassy areas/ Disturbed areas.	No	No observations in area/habitat not present.
Four-leaved Milkweed	<i>Asclepias quadrifolia</i>	Endangered	Dry woodlands dominated by tallgrass prairie herbs, bur oak and shagbark hickory/ woodland alvar dominated by red	No	No observations in area/habitat not present.

			cedar and pastureland.		
Gattinger's Agalinus	<i>Agalinis gattingeri</i>	Endangered	Dry open tall grass prairie and alvars.	No	No observations in area/habitat not present.
Gillman's Goldenrod	<i>Solidago gillmanii</i>	Endangered	Sand Dunes of Lake Huron	No	No observations in area/habitat not present.
Hairy Valerian	<i>Valeriana edulis ssp. Ciliata</i>	Threatened	Wet Prairies and Fens, Brant and Huron County	No	No observations in area/habitat not present.
Heart-leaved Plantain	<i>Plantago cordata</i>	Endangered	Undisturbed wet woods, near slow moving streams and have limestone base/Strongly associated with maple trees.	No	No observations in area/habitat not present.
Hill's Thistle	<i>Cirsium hillii</i>	Threatened	Open alvar grasslands, limestone bedrock, prairie or sand dunes also used.	No	No observations in area/habitat not present.
Hoary Mountain-mint	<i>Pycnanthemum incanum</i>	Endangered	Dry oak woodland habitat on steep warm slopes.	No	No observations in area/habitat not present.
Horsetail Spike-rush	<i>Eleocharis equisetoides</i>	Endangered	Shallow water along the edges of ponds.	No	No observations in area/habitat not present.
Houghton's Goldenrod	<i>Solidago houghtonii</i>	Threatened	Open alvars very little soil and bedrock.	No	No observations in area/habitat not present.
Juniper Sedge	<i>Carex juniperorum</i>	Endangered	Open alvars, and oak savannah.	No	No observations in area/habitat not present.
Kentucky Coffee-tree	<i>Gymnocladus dioicus</i>	Threatened	Moist rich soil, floodplains, shade intolerant.	No	No observations in area/habitat not present.
Lakeside Daisy	<i>Tetraneuris herbacea</i>	Threatened	Open Grassland and pavement alvars.	No	No observations in area/habitat not present.
Large Whorled Pogonia	<i>Isotria verticillata</i>	Endangered	Deciduous or mixed forests with sandy soil and thick leaf litter.	No	No observations in area/habitat not present.

Lowland Toothcup	<i>Rotala ramosior</i>	Endangered	Along lakes on thin sandy muddy or gravelly soils on Precambrian bedrock.	No	No observations in area/habitat not present.
Nodding Pogonia	<i>Triphora trianthophora</i>	Endangered	Rich moist deciduous forests, well developed tree canopy with deep leaf litter.	No	No observations in area/habitat not present.
Ogden's Pondweed	<i>Potamogeton ogdenii</i>	Endangered	Clear slow-moving streams, beaver ponds and lakes.	No	No observations in area/habitat not present.
Pale Showy Goldenrod	<i>Solidago pallida</i>	Threatened	Prairie grassland – northwestern Ontario	No	No observations in area/habitat not present.
Pink Milkwort	<i>Polygala incarnata</i>	Endangered	Open Moist to dry sandy prairie habitats.	No	No observations in area/habitat not present.
Pitcher's Thistle	<i>Cirsium pitcheri</i>	Threatened	Windblown sand dunes ridges, requires sand movement in these open bare areas.	No	No observations in area/habitat not present.
Purple Twayblade	<i>Liparis liliifolia</i>	Threatened	Wide variety of habitat, open oak woodland, savannah, shrub thicket, shrub alvar, deciduous swamp, coniferous plantations.	No	No observations in area/habitat not present.
Red Mulberry	<i>Morus rubra</i>	Endangered	Forested valleys and floodplains.	No	No observations in area/habitat not present.
Round-leaved Greenbrier	<i>Smilax rotundifolia</i>	Threatened	open wet sandy soil Carolinian forests.	No	No observations in area/habitat not present.
Scarlet Ammannia	<i>Ammannia robusta</i>	Endangered	Mudflats, sandy beaches, edges of wetlands and ponds that are seasonally flooded.	No	No observations in area/habitat not present.
Showy Goldenrod (Boreal)	<i>Solidago speciosa</i>	Threatened	Prairie Grasslands on south facing slope bordered with pine.	No	No observations in area/habitat not present.

Skinner's Agalinis	<i>Agalinis skinneriana</i>	Endangered	Tallgrass prairie habitats.	No	No observations in area/habitat not present.
Slender Bush-clover	<i>Lespedeza virginica</i>	Endangered	Dry sandy soil in tallgrass prairie habitats.	No	No observations in area/habitat not present.
Small White Lady's Slipper	<i>Cypripedium candidum</i>	Endangered	Moist prairie savannahs and limestone fens.	No	No observations in area/habitat not present.
Small Whorled Pogonia	<i>Isotria medeoloides</i>	Endangered	Moist mixed forests with acidic soils and decaying leaves.	No	No observations in area/habitat not present.
Small-flowered Lipocarpa	<i>Lipocarpa micrantha</i>	Threatened	Sandy beaches seasonally flooded and protected from waves.	No	No observations in area/habitat not present.
Smooth Yellow False Foxglove	<i>Aureolaria flava</i>	Threatened	Essex, Norfolk, Walpole, Hamilton, Waterloo, Halton	No	No observations in area/habitat not present.
Spotted Wintergreen	<i>Chimaphila maculata</i>	Threatened	Dry oak pine woodland habitats with sandy soils.	No	No observations in area/habitat not present.
Stiff-leaved Showy Goldenrod	<i>Solidago rigidiuscula</i>	Endangered	Southwestern and Northwestern Ontario	No	No observations in area/habitat not present.
Virginia Goat's-rue	<i>Tephrosia virginiana</i>	Endangered	Acidic sand deposits in remnant black oak savannah.	No	No observations in area/habitat not present.
Virginia Mallow	<i>Sida hermaphrodita</i>	Endangered	Loose sandy or rocky soils which are wet, usually around rivers, ditches or railroads.	No	No observations in area/habitat not present.
Western Silvery Aster	<i>Symphyotrichum sericeum</i>	Endangered	Open bur oak savannahs on shallow soils or bedrock.	No	No observations in area/habitat not present.
White Prairie Gentian	<i>Gentiana alba</i>	Endangered	Sunny oak hickory savannah.	No	No observations in area/habitat not present.
White Wood Aster	<i>Eurybia divaricata</i>	Threatened	open dry deciduous forests dominated by Beech and Sugar maple	No	No observations in area/habitat not present.

Wild Hyacinth	<i>Camassia scilloides</i>	Threatened	Openings in woodlots, shrubby areas and forest edges with rich soil.	No	No observations in area/habitat not present.
Willowleaf Aster	<i>Symphyotrichum praealtum</i>	Threatened	Oak Savannas, along roadsides, railways, abandoned fields.	No	No observations in area/habitat not present.
Wood-poppy	<i>Stylophorum diphyllum</i>	Endangered	Rich mixed deciduous woodlands, forested ravines and slopes along wooded streams.	No	No observations in area/habitat not present.

Common Name	Latin Name	Status	Habitat Characteristics	Candidate for Subject Property? Yes or No or Possible	Provide Rationale
Golden eyed-lichen	<i>Teloschistes chrysophthalmus</i>	Endangered	Open habitats near water on various tree species.	No	No observations in area/habitat not present.
Pale-bellied frost lichen	<i>Physconia subpallida</i>	Endangered	Requires open habitat, the bark of hardwood trees such as White ash, Black walnut, and American elm. It can also be found growing on fence posts and boulders.	No	No observations in area/habitat not present.
Spoon-leaved moss	<i>Bryoandersonia illecebra</i>	Endangered	low-lying areas that are seasonally flooded under trees or shrub thickets, associated with swamps, marshes, and wet meadows.	No	No observations in area/habitat not present.
White-rimmed Shingle Lichen	<i>Fuscopannaria leucosticte</i>	Endangered	Thunder Bay, Quetico, Rainy River, Superior PP	No	No observations in area/habitat not present.

Common Name	Latin Name	Status	Habitat Characteristics	Candidate for Subject Property? Yes or No or Possible	Rationale
Aweme borer moth	<i>Papaipema aweme</i>	Endangered	prairie habitats, such as sand dunes and oak savannas.	No	No observations in area/habitat not present.
Bogbean buckmoth	<i>Hemileuca sp. 1</i>	Endangered	restricted to open, chalky, low shrub fens containing large amounts of bogbean.	No	No observations in area/habitat not present.
False-foxglove Sun Moth	<i>Pyrrhia aurantiago</i>	Endangered	Pinery, Windsor, London Delhi	No	No observations in area/habitat not present.
Gypsy Cuckoo Bumble Bee	<i>Bombus bohemicus</i>	Endangered	Occurs in diverse habitats such as open meadows, agricultural and urban areas, boreal forest and woodlands.	No	No observations in area/habitat not present.
Hine's emerald	<i>Somatochlora hineana</i>	Endangered	groundwater-fed wetlands with grassy vegetation.	No	No observations in area/habitat not present.
Hoptree Borer	<i>Prays atomocella</i>	Endangered	Common Hoptree.	No	No observations in area/habitat not present.
Hungerford's crawling water beetle	<i>Brychius hungerfordi</i>	Endangered	small to medium-sized streams with cool, high quality, fast-flowing water, often immediately downstream from beaver dams, culverts and man-made barriers.	No	No observations in area/habitat not present.
Lake Huron Grasshopper	<i>Trimerotropis huroniana</i>	Threatened	lives exclusively in open dune habitat along the shores.	No	No observations in area/habitat not present.
Laura's clubtail	<i>Stylurus laurae</i>	Endangered	shallow, sandy or sandy-muddy bottomed creeks with forested shorelines.	No	No observations in area/habitat not present.

Mottled duskywing	<i>Erynnis martialis</i>	Endangered	meadows, open barrens, sandy patches among woodlands, and alvars.	No	No observations in area/habitat not present.
Nine-spotted Lady Beetle	<i>Coccinella novemnotata</i>	Endangered	Almost any habitat. No Records since 1990	No	No observations in area.
Northern barrens tiger beetle	<i>Cicindela patruela</i>	Endangered	sandy oak-pine woodlands and savannah.	No	No observations in area/habitat not present.
Pygmy snaketail	<i>Ophiogomphus howei</i>	Endangered	large, fast flowing rivers having substrates of sand and gravel.	No	No observations in area/habitat not present.
Rapids clubtail	<i>Phanogomphus quadricolor</i>	Endangered	found in clear, cool medium-to-large rivers with gravel shallows and muddy pools.	No	No observations in area/habitat not present.
Riverine clubtail	<i>Stylurus amnicola</i>	Endangered	streams and rivers with sandy, muddy, or gravely beds.	No	No observations in area/habitat not present.
Rusty-patched bumble bee	<i>Bombus affinis</i>	Endangered	open habitat such as mixed farmland, urban settings, savannah, open woods and sand dunes.	No	No observations in area/habitat not present.
Transverse Lady Beetle	<i>Coccinella transversoguttata</i>	Endangered	Almost any habitat. No Records since 1990	No	No observations in area.

Appendix B

Significant Wildlife Habitat Screening

<u>Wildlife Habitat</u>	<u>Wildlife Species</u>	<u>ELC Ecosite Codes</u>	<u>Habitat Criteria and Information Sources</u>	<u>Candidate SWH? Yes or No or Possible</u>	<u>Provide Rationale</u>
<u>Seasonal Concentration Areas of Animals</u>	-	-			
Waterfowl Stopover and Staging Areas (Terrestrial)	American Black Duck, Wood Duck, Green-winged Teal, Blue-winged Teal, Mallard, Northern Pintail, Northern Shoveler, American Wigeon, Gadwall	CUM1, CUT1 - plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	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.	No	Habitat feature not present on site or adjacent lands.
Waterfowl Stopover and Staging Areas (Aquatic)	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, Bufflehead, Redhead, Ruddy Duck, Red-breasted Merganser, Brant, Canvasback, Ruddy Duck	MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, SWD1, SWD2, SWD3, SWD4, SWD5, SWD6, SWD7	Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Need aggregations of 100 or more of listed species for 7 days and >700 waterfowl use days.	Possible	Habitat feature possible on adjacent lands.

Shorebird Migratory Stopover Area	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, Ruddy Turnstone, Sanderling, Dunlin	BB01, BB02, BBS1, BBS2, BBT1, BBT2, SD01, 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 are extremely important. Need 3 or more listed species and >1000 shorebird use days in spring or fall migration period to confirm significance.	Possible	Habitat feature possible on adjacent lands.
Raptor Wintering Area	Rough-legged Hawk, Red-tailed Hawk, Northern Harrier, American Kestrel, Snowy Owl Special Concern: Short-eared Owl	Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW.	Habitat consists of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Need to be >20Ha with combination of forest and upland.	Possible	Habitat feature possible on site and adjacent lands.
Bat Hibernacula	Big Brown Bat, Little Brown Myotis, Eastern Pipistrelle/Tri-coloured Bat, Northern Myotis, Eastern Small-footed Myotis	CCR1, CCR2, CCA1, CCA2 (buildings not considered SWH)	Caves, mine shafts, underground foundations and Karsts. Studies should be done during the peak swarming period (Aug-Sept).	No	Habitat feature not present on site or adjacent lands.

Bat Maternity Colonies	Big Brown Bat, Little Brown Myotis, Silver-haired Bat, Northern Myotis	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD, FOM	Tree cavities, vegetation and often in buildings. Not caves and mines in Ontario. Located in mature (>80 yrs old) deciduous or mixed forest stands with > 10Ha large diameter (>25cm dbh) wildlife tree (snags).	Possible	Habitat feature possible within subject property and adjacent lands.
Bat Migratory Stopover Area	Hoary Bat, Eastern Red Bat, Silver-haired Bat	No specific ELC types.		Possible	Habitat feature possible within subject property and adjacent lands.
Turtle Wintering Areas	Midland Painted Turtle Special Concern: Northern Map Turtle, Snapping Turtle	Snapping and Midland Painted turtles, ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO Northern Map Turtle - Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	Water has to be deep enough not to freeze and have soft mud substrates. Permanent waterbodies, large wetlands, and bogs or fens with adequate dissolved oxygen.	Possible	Habitat feature possible within adjacent lands.
Reptile Hibernaculum	Snakes: Eastern Gartersnake, Northern Watersnake, Northern Red-bellied Snake, Northern Brownsnake, Smooth Green Snake, Northern Ring-necked Snake Special Concern: Milksnake, Eastern Ribbonsnake	Any ecosites in Ontario.	Sites located below frost lines in burrows, rock crevices and other natural locations. Areas of broken and fissured rock are valuable since they provide access to sites below the frost lines. Wetlands can also be important over-wintering habitat.	No	Habitat feature not present on site or adjacent lands.

	Lizard: Special Concern (Southern Shield population): Five-lined Skink				
Colonial-Nesting Bird Breeding Habitat (Bank and Cliff)	Bank Swallow, Cliff Swallow, Northern Rough-winged Swallow	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles (Bank Swallow and N. Rough-winged Swallow). Cliff faces, bridge abutments, silos, barns (Cliff Swallows). Habitat found in the following ecosites: CUM1, CUT1, CUS1, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1	Exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. Man-made structures or recently disturbed soil areas (berms/embankments/stockpiles not included).	No	Habitat feature not present on site or adjacent lands.
Colonial Nesting Bird Breeding Habitat (Trees/Shrubs)	Great Blue Heron, Black-crowned Night-Heron, Great Egret, Green Heron	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. Most nests in trees are 11-15m from ground, near the top of the tree.	No	No nests observed on subject property or adjacent lands.
Colonial Nesting Bird Breeding Habitat (Ground)	Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer's Blackbird	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;	Any rocky island or peninsula within a lake or large river. Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird).	No	Habitat feature not present on site or adjacent lands.

		MAS1 – 3; CUM, CUT, CUS			
Migratory Butterfly Stopover Areas	Painted Lady, White Admiral Special Concern: Monarch	Combination of ELC Community Series; need to have present one Community Series from each landclass: Field: CUM, CUT, CUS Forest: FOC, FOD, FOM, CUP Anecdotally, a candidate sight for butterfly stopover will have a history of butterflies being observed.	need minimum 10Ha with field and forest habitat and needs to be located within 5 Km of LO.	No	Habitat feature not present on site or adjacent lands.
Landbird Migratory Stopover Areas	All migratory songbirds. Canadian Wildlife Service Ontario website: http://www.on.ec.gc.ca/wildlife_e.html All migrant raptors species. Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)	All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD	woodlots>10Ha and within 5 Km of LO, woodlots located on peninsulas or points or oriented in N to S direction along the shore and located within 5 Km of LO.	No	Habitat feature not present on site or adjacent lands.
Deer Yarding Areas	White-tailed Deer	Note: OMNR to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC. Or these ELC Ecosites;		No	Habitat feature not present on subject property.

		CUP2, CUP3, FOD3, CUT			
Deer Winter Congregation Areas	White-tailed Deer	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.		No	Habitat feature not present on the subject property.

Rare Vegetation Communities	-	-			
Talus Slope (Cliffs and Talus Slopes)		Any ELC Ecosite within Community Series: TAO, TAS, TAT, CLO, CLS, CLT	Cliff and talus slopes occur along the Niagara Escarpment.	No	Vegetation feature not present on site.
Sand Barren		ELC Ecosites: SB01, SBS1, SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SB01), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always < 60%.	Exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Little or no solid and the underlying rock protrudes through the surface. Usually located within forests or savannah. Vegetation can vary from patchy and barren to tree covered by less than 60%.	No	Vegetation feature not present on site.
Alvar		ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2	Unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. Alternating periods of inundation and drought. Sparse lichen-moss, grasslands, shrublands and indicator plants. Vegetation cover varies from patchy to barren with a less than 60% tree cover.	No	Vegetation feature not present on site.
Old Growth Forest		Forest Community Series: FOD, FOC, FOM	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. Stands 30Ha or greater in size or with at least 10Ha interior habitat assuming 100m buffer at edge of forest.	No	Vegetation feature not present on site.

Savannah		TPS1, TPS2, TPW1, TPW2, CUS2	Tallgrass prairie habitat that has tree cover between 25-60%. No minimum size to site.	No	Vegetation feature not present on site.
Tallgrass Prairie		TP01, TP02	Has ground cover dominated by prairie grasses. An open tallgrass prairie habitat has < 25% tree cover. No minimum size to site.	No	Vegetation feature not present on site.
Other Rare Vegetation Communities		Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTGcxlvi. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Alvar, cliffs, beaches, fens, forest, marsh, barrens, dunes, swamps, and prairies.	No	Vegetation feature not present on site.

<u>Specialized Habitat for Wildlife</u>	-	-			
Waterfowl Nesting Area	American Black Duck, Northern Pintail, Northern Shoveler, Gadwall, Blue-winged Teal, Green-winged Teal, Wood Duck, Hooded Merganser, Mallard	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	Extends 120m from a wetland (>0.5 Ha) or a wetland (>0.5Ha) within 120m or a cluster of 3 or more small (<0.5Ha) wetlands within 120m of each individual wetland where waterfowl nesting is known to occur.	No	Habitat feature not present on site.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Osprey Special Concern: Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	A list of ecosites directly adjacent to riparian areas-rivers, lakes, ponds and wetlands. Nests along forested shorelines, islands, or on structures over water. Osprey nests: top of tree, Eagle nests: in super canopy trees in notch within the tree's canopy.	Possible	Habitat feature possible on adjacent lands.
Woodland Raptor Nesting Habitat	Northern Goshawk, Cooper's Hawk, Sharp-shinned Hawk, Red-shouldered Hawk, Barred Owl, Broad-winged Hawk	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 >30Ha with 10Ha of interior habitat. Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees.	Possible	Habitat feature possible on site or adjacent lands.

Turtle Nesting Areas	Midland Painted Turtle Special Concern Species: Northern Map Turtle, Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) cxlviii or within the following ELC Ecosites: MAM2, MAM3, MAM4, MAM5, MAM6, MAM1, MAM2, MAM3, SAS1, SAM1, SAF1, BOO1, FEO1	Exposed mineral soil areas adjacent or within the listed ecosites. Close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. It must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas.	No	Habitat feature not present on site or adjacent lands.
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp.	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.	Areas where groundwater comes to the surface. Often, they are found within headwater areas within forested habitats. Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system.	No	Habitat feature not present on the subject property.
Amphibian Breeding Habitat (Woodland)	Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog	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	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, lake, or pond within or adjacent (within 120m) to a woodland (no minimum size). Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.	Possible	Habitat feature possible within woodlands on the subject property.

Amphibian Breeding Habitat (Wetland)	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	ELC Community Classes SW, MA, FE, BO, OA and SA.	Wetlands and pools >500m2 supporting high species diversity, small or ephemeral habitats could also be significant. Presence of shrubs and logs increase significance of pond for some amphibian species (structures for calling, foraging, escape and concealment from predators). Permanent waterbodies with abundant emergent vegetation (bullfrogs).	No	Habitat feature not present on the subject property.

<u>Habitat for Species of Conservation Concern</u>	-				
Marsh Bird Breeding Habitat	<p>American Bittern, Virginia Rail, Sora, Common, Moorhen, American Coot, Pied-billed Grebe, Marsh Wren, Sedge Wren, Common Loon, Sandhill Crane, Green Heron, Trumpeter Swan</p> <p>Special Concern: Black Tern, Yellow Rail</p>	<p>MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, FE01, BO01</p> <p>For Green Heron: All SW, MA and CUM1 sites.</p>	Nesting occurs in wetlands. All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present.	No	Habitat feature not present on site or adjacent lands.
Woodland Area-Sensitive Bird Breeding Habitat	<p>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</p> <p>Special Concern: Cerulean Warbler, Canada Warbler</p>	<p>All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD</p>	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30Ha. Interior forest is at least 100m from forest edge habitat.	Possible	Habitat feature possible on adjacent lands.
Open Country Bird Breeding Habitat	<p>Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow</p> <p>Special Concern: Short-eared Owl</p>	<p>CUM1 CUM2</p>	Large grassland areas >30Ha. Not Class 1 or 2 agricultural lands and not being actively used for farming.	No	Habitat feature not present on site or adjacent lands.

Shrub/Early Successional Bird Breeding Habitat	<p>Indicator Spp: Brown Thrasher, Clay-coloured Sparrow</p> <p>Common Spp.: Field Sparrow, Black-billed, Cuckoo, Eastern Towhee, Willow Flycatcher</p> <p>Special Concern: Yellow-breasted Chat, Golden-winged Warbler</p>	<p>CUT1, CUT2, CUS1, CUS2, CUW1, CUW2</p> <p>Patches of shrub ecosites can be complexed into a larger habitat for some bird species</p>	Large natural field areas succeeding to shrub and thicket habitats >30Ha in size.	No	Habitat feature not present on subject property.
Terrestrial Crayfish	<p>Chimney or Digger Crayfish; (Fallicambarus fodiens)</p> <p>Devil Crawfish or Meadow Crayfish; (Cambarus Diogenes)</p>	MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3	Meadow and edges of shallow marshes (no minimum size) identified should be surveyed for terrestrial crayfish.	No	Habitat feature not present on site or adjacent lands.
Special Concern and Rare Wildlife Species	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy		Lake Sturgeon	Discussed within EIS
<u>Animal Movement Corridors</u>	-	-			
Amphibian Movement Corridors	<p>Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog</p>	<p>Corridors may be found in all ecosites associated with water.</p> <ul style="list-style-type: none"> Corridors will be determined based on identifying the significant 	Corridors may be found in all ecosites associated with water. Movement corridors between breeding habitat and summer habitat. Movement corridors must be determined when Amphibian breeding	No	Habitat feature not present on the subject property.

		breeding habitat for these species in Table 1.1	habitat is confirmed as SWH.		
Deer Movement Corridors	White-tailed Deer	<p>Corridors may be found in all forested ecosites.</p> <p>A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.</p>		No	Habitat feature not present on the subject property.