SCOPED ENVIRONMENTAL IMPACT STUDY

Proposed Development at 1855 Saddler Street East, Municipality of West Grey

Prepared by EcoTec Environmental Consultants Inc.
on behalf of Cobide Engineering Inc.

FINAL REPORT
August 2022

EcoTec
ENVIRONMENTAL CONSULTANTS INC.

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1.0 INTRODUCTION

1.1 General

EcoTec Environmental Consultants Inc. (EcoTec) was retained by Cobide Engineering Inc. (Cobide) in order to complete a scoped Environmental Impact Study (EIS) at a property located within the Municipality of West Grey, County of Grey. The subject property includes two lots with an approximated area of 1.5 hectares. It is understood by EcoTec that the property owners are proposing to develop both parcels into multi-residential lots (Figure 1).

The proposed subdivision will include approximately 1.5 hectares of the total subject property. The *Municipality of West Grey Official Plan, 2020* and the *County of Grey Official Plan, 2019* indicates that neither property contain any wetlands, watercourses, significant woodlands, or significant valleylands, however, does contain a Karst Area. The properties do not contain any Saugeen Valley Conservation Authority (SVCA) regulated areas. The proposed development lots are zoned as Residential lands in the Municipality of West Grey Official Plan *Land Use Plan Schedule 'A'*.

Due to the potential development's proximity to sensitive environmental features, it was determined that a scoped EIS was required to evaluate whether any negative impacts to the surrounding sensitive natural environment would occur as a result of the proposed development.

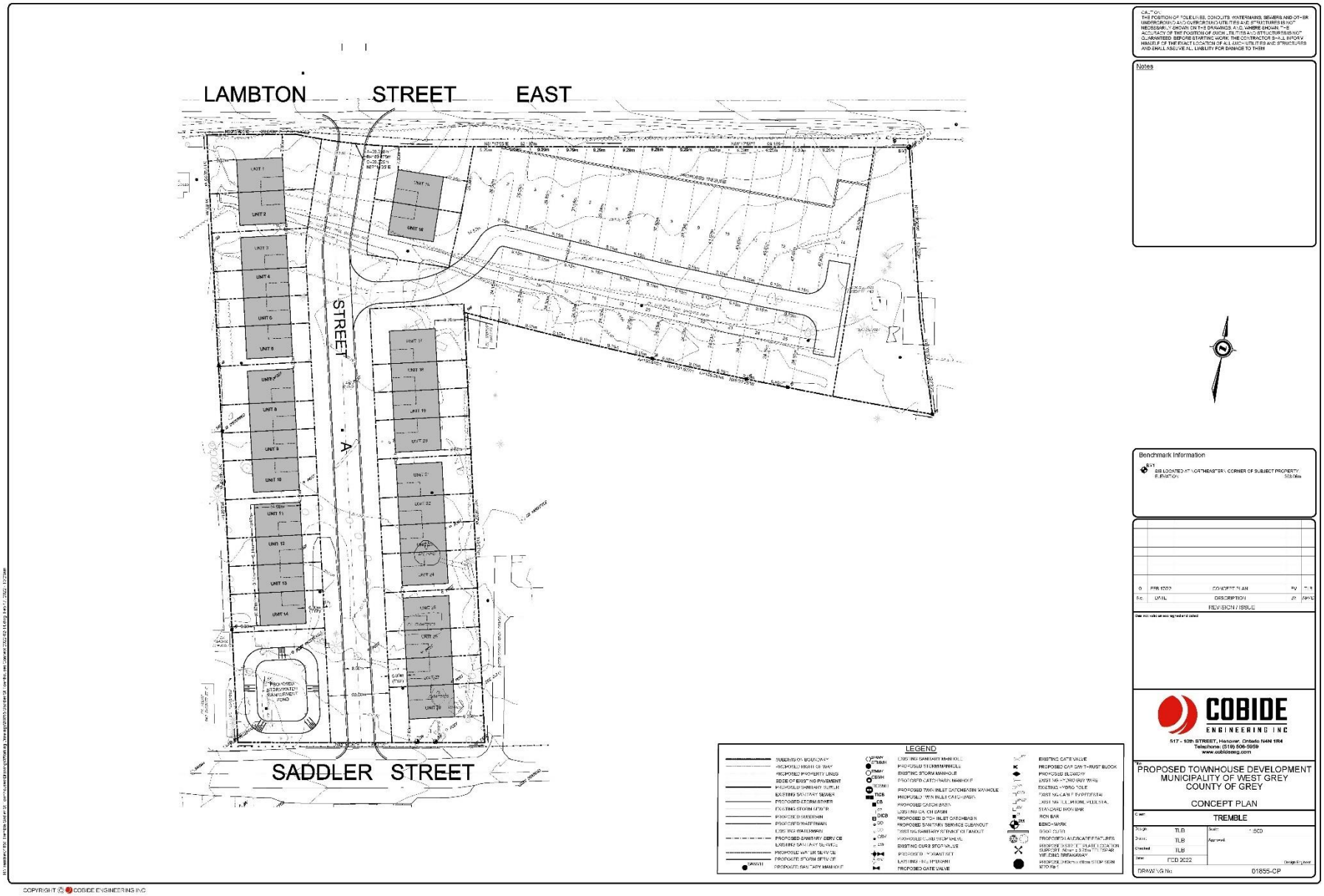

Figure 1. *Proposed development plans for the subject property.*

1.2 Site Description and Location

The study area (Figure 2) encompasses the properties with the Assessment Roll Numbers 420526000524901 and 420526000524907, Municipality of West Grey, County of Grey. The property with Assessment Roll Number 420526000524901 has an area of 1.45 hectares, while the property with Assessment Roll Number 420526000524907 has an area of 1.13 hectares. Currently, both properties are vacant lots, containing natural heritage features, manicured grass, and ornamental gardens.

Figure 2. *Aerial photograph showing study area property boundaries.*

1.3 Applicable Environmental Legislation and Policies

The following section contains a description of relevant legislation and policies that pertain to the development of the subject properties. This includes:

- Ontario Provincial Policy Statement, 2020;
- The County of Grey Official Plan, 2019;
- The Municipality of West Grey Official Plan, 2020; and
- Migratory Birds Convention Act, 1994.

1.3.1 Ontario Provincial Policy Statement, 2020

The *Provincial Policy Statement, 2020* (PPS) guides the planning policies for municipalities for the protection of natural heritage features (Ontario Ministry of Municipal Affairs and Housing, 2020). Section 2.1 of the PPS defines natural heritage features and adjacent lands, as well as provides planning policy for each. The PPS defines the following natural heritage features as being non-developable:

- Significant Coastal Wetlands;
- Significant Wetlands in Ecoregions 5E, 6E and 7E;
- Fish Habitat, except in accordance with provincial and federal requirements; and
- Habitat of species designate as Endangered and Threatened, except in accordance with provincial and federal requirements.

An EIS must be completed in order to demonstrate that there will be no negative impact on natural features, or their ecological function, if development is proposed in one of the following:

- Significant wetlands in the Canadian Shield;
- Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- Significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- Significant wildlife habitat;
- Significant Areas of Natural and Scientific Interest;
- Other Coastal Wetlands in Ecoregions 5E, 6E and 7E; and
- Lands defined as Adjacent Lands to all the above natural heritage features.

Each natural heritage feature assumes varying levels of protection, guidelines, and regulations.

1.3.2 The County of Grey Official Plan, 2019

The County of Grey OP recognizes both properties as having the land use type of Primary Settlement Area. The County of Grey OP, Map 3 of Appendix B indicates that a portion of the study area contains Karst Area (Figure 6).

As per the County of Grey OP, for development within “areas mapped as 'Karst Area' on Appendix A, it may be required for the proponent of any planning application to provide an assessment of the proposed area of development completed by a qualified individual.

The County of Grey OP does not identify any watercourses, significant wetlands, woodlands, or ANSI’s as being located within the study area.

1.3.3 The Municipality of West Grey Official Plan, 2020

The Municipality of West Grey OP Land Use Plan identifies both properties as Residential (Figure 3). Properties to the North of Lambton Street East, east of George Street East are zone as Open Space and Environmental Protection designation.

The Municipality of West Grey OP does not identify any watercourses, significant wetlands, woodlands, or ANSI’s as being located within the study area.

The *Ontario Provincial Policy Statement, 2020,* the *County of Grey Official Plan, 2019*, and the *Municipality of West Grey Official Plan, 2020* outline the following policies pertaining to natural features:

- Development shall generally be directed to areas outside of karst topography unless the effects and risk to public safety are minor so as to be managed or mitigated. Depending on the site and the scale of the development, an EIS, Hydrogeological or Karst Study completed by a qualified individual may be required.

1.3.4 Migratory Birds Convention Act, 1994

The Migratory Birds Convention Act (1994) (MBCA) protect most species of migratory birds, along with their nests and eggs from harm or destruction. Compliance with the MBCA can be achieved through adherence to the Avoidance Guidelines and Best Management Practices by Environment Canada.

1.4 Proposed Site Development

It is understood by EcoTec that the property owners are proposing a 28 unit, multi-residential development with a future development of 25 multi-residential lots on the east portion of the property with a stormwater management block located at the southwestern extent of the development.

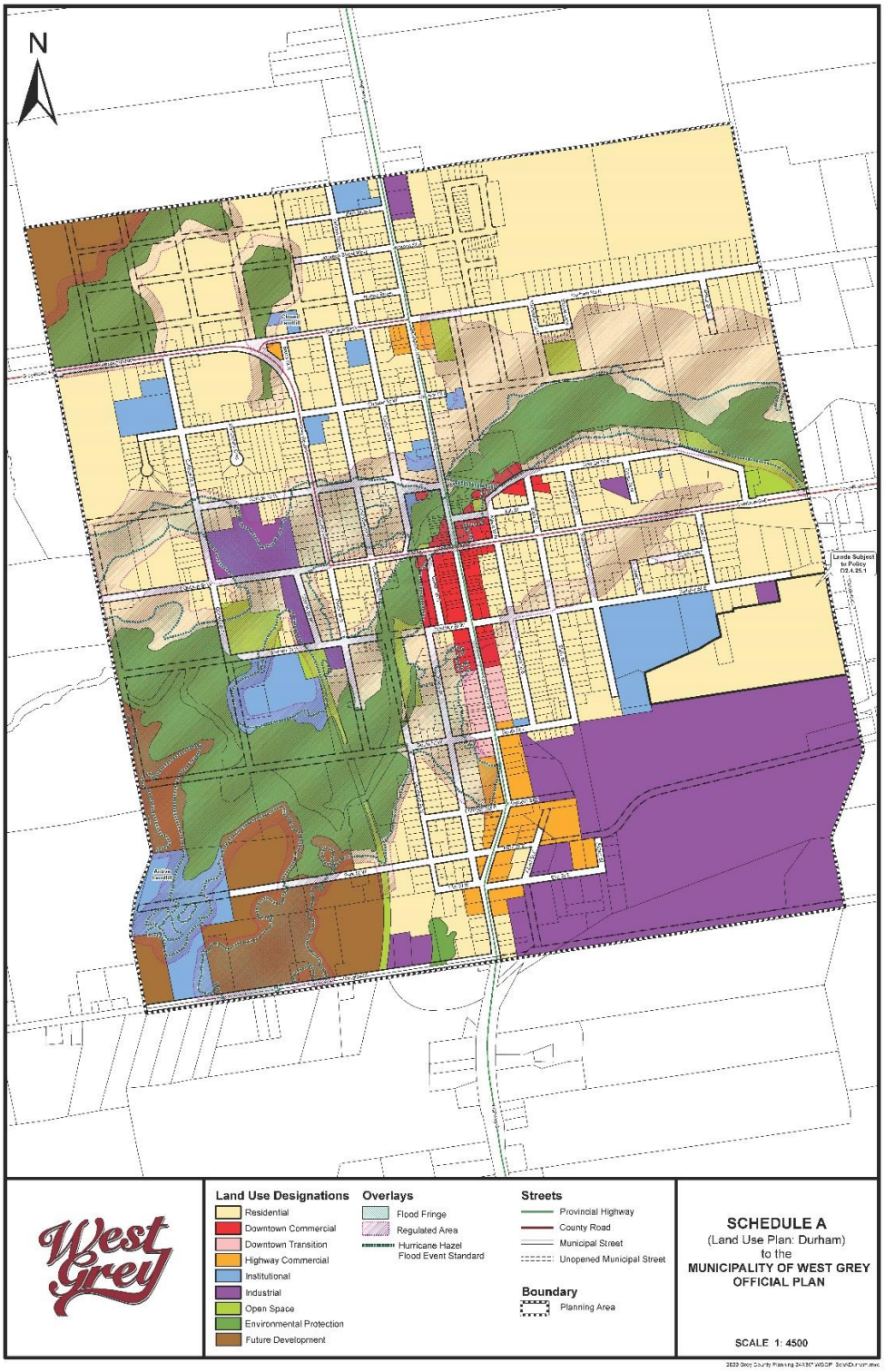

Figure 3. *Municipality of West Grey Land Use Plan Map, Durham, Ontario.*

2.0 METHODOLOGY

2.1 Background Data Collection

Historical background information and field data were gathered from numerous sources to determine the existing condition of the natural resource features within the subject area. Background information sources included the following:

- Natural Heritage Information Center (NHIC);
- Atlas of the Breeding Birds of Ontario;
- Ontario Butterfly Atlas;
- Ontario Reptile & Amphibian Atlas;
- Ontario Geological Survey; and
- Aerial photography.

2.2 Field Methodologies and Study Area

In order to acquire current information on the biophysical conditions of the study area, EcoTec's ecologists carried out three field surveys of the subject properties on May 31 and June 23, 2021, as well as April 21, 2022. The surveys conducted within the subject area included identification of the following:

- Species at Risk;
- Existing vegetation communities; and
- Resident and migratory bird and wildlife species.

2.1.1 Survey Area

The study area consists of the properties with the Assessment Roll Numbers 420526000524901 and 420526000524907, Municipality of West Grey within the County of Grey. The entirety of the study area was surveyed.

2.1.2 Vegetation Surveys

Vegetation data was collected using a modified Ecological Land Classification Protocol (Lee *et al.* 1998). Vegetation communities were first identified using satellite imagery and verified in the field. During field surveys, each vegetation community was then sampled for their species composition and habitat characteristics.

2.1.3 Wildlife Surveys

Mammal, herpetofauna, and bird species noted during field investigations were identified using visual observations and vocalizations. Birds and animals identified within, and adjacent to the subject property, were both recorded as animal movement patterns may utilize areas within and outside the surveyed areas.

2.1.4 Bird Point Count Surveys

Breeding bird surveys were conducted in accordance with the Ontario Breeding Bird Atlas (OBBA; Cadman and Kopysh, 2001) point survey protocol. Surveys were conducted within the first five (5) hours after dawn, with suitable wind (Winds <19 km/hr.), no thick fog, and no precipitation. Two (2) surveys were conducted at one (1) count station on the properties. The count station was located along the woodlot edge. The point station was surveyed for ten (10) minutes for birds within and outside of one hundred meters (Figure 4). Any evidence of breeding behavior including nest incubation or nest building were also noted. Surveys were conducted on May 31 and June 23.

Following the completion of the field surveys, each bird species was reviewed to determine their provincial, national, and global conservation status using the Natural History Information Center. Each species was also cross referenced with *the Significant Wildlife Habitat Criteria Schedules For Ecoregion 6E* to determine if they were an indicator of significant wildlife habitat.

Figure 4. *Aerial photograph indicating the location of breeding bird point count stations.*

3.0 EXISTING CONDITIONS

3.1 Topography and Drainage

The Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF) online mapping tool (Make-a-Map: Natural Heritage Areas) does not identify any wetlands or watercourses present within the study area. Map 3 of the County of Grey OP does not identify the properties as being within any wellhead protection areas but does identify a karst feature within the northern extent of the study area.

Topographic maps indicate that the property drains from Saddler Street East, towards Lambton Street East.

3.2 Superficial Geology

Within the subject limits, the underlying bedrock is of the Solina Formation (Ontario Geological Survey, 2006). This rock formation consists of limestone, sandstone, shale, dolostone, gypsum and salt.

Limestone outcrops were observed to be present within the northern portion of the property. These outcrops are consistent with the presence of karst topography, as indicated by the Grey County OP, Map 3 of Schedule A, and the Ontario Geological Survey (OGS) mapping for karst areas.

The Ontario Geological Survey mapping indicates that the approximately 0.59 hectares of the subject properties is located within a known karst area which is defined as “observed, measured field data or data from published reports. Key features include: karren, cave types and associated precipitates, sinkholes and disappearing streams.” (Ontario Geological Survey, 2008).

3.3 Vegetation

Under the Ecological Land Classification (ELC) - First Approximation and Applications (1998), the subject site is classified as Zone 6E. Three (3) distinct plant communities were identified during the site visits (Figure 5). Within the study there is Manicured Lawn, Fresh-Moist White Cedar Coniferous Forest Type (FOC4-1), and Mixed Plantation Type (CUP2). A complete list of vegetation identified on-site, their provincial conservation status, and wetness coefficient can be found within Appendix C.

Figure 5. Aerial photograph indicating the location of vegetation communities identified within the study area.

3.3.1 Manicured Lawn

Within the maintained lawn area, there are inclusions of planted ornamental tree, shrub and herbaceous species. This area is approximately 1.07 hectares in size

Communities that are cultural in origin, and dominated by introduced species, are not tracked by the NHIC, and as such are not considered sensitive to development.

3.3.2 Fresh-Moist White Cedar Coniferous Forest Type (FOC4-1)

The FOC4-1 ecosite is located at the northern edge of the property and covers approximately 0.16 hectares. Within this ecosite limestone outcrops were observed, which can be indicative of karst formations. Plant richness in this ecosite is considerably low and is dominated by eastern white cedar (*Thuja occidentalis*), with black cherry (*Prunus serotina*) and jack-in-the-pulpits (*Arisaema triphyllum*) being sparsely observed. The southern edge of the ecosite did contain a number of herbaceous species, with the majority being ornamental or invasive species common in disturbed fringe habitat.

Globally and provincially, FOC4-1 ecosite type ranks as secure, with widespread distribution across Ontario and as such are not considered sensitive to development.

3.3.3 Mixed Plantation Type (CUP2)

The CUP2 ecosite is located south of what appears to be a maintained trail and covers approximately 0.27 hectares. Within this ecosite there is an abundance of ornamental, non-native and invasive herbaceous species, as well as invasive shrubs such as tartarian honeysuckle (*Lonicera tatarica*), European buckthorn (*Rhamnus cathartica*), and common species found in disturbed ecosites such as Manitoba maple (*Acer negundo*).

Communities that are cultural in origin, and dominated by introduced species, are not tracked by the NHIC, and as such is not considered sensitive to development.

3.4 Wildlife Observations

3.4.1 Birds & Bird Habitat

The study area is suitable nesting habitat for a variety of common bird species. During field surveys, 17 species of birds were recorded. Of the 17 observed species, 11 were possible breeders and the remaining were considered flyovers. A list of species encountered is included in Appendix C. A table including results of breeding bird species identified within a 10 km by 10 km square (ID # 17TNJ19) encompassing the subject lands are also included in Appendix C.

Overall, the study area provides potentially suitable nesting habitat for a variety of common backyard bird species.

3.4.2 Herpetofauna, and Mammal Observations

During breeding bird point counts and vegetation surveys, incidental wildlife and evidence of wildlife were noted. Species include gray squirrel (*Sciurus carolinensis*) and racoon (*Procyon lotor*).

A table of reptile and amphibian species identified within a 10 km by 10 km square (ID 17NJ19 Ontario Reptile & Amphibian Atlas) encompassing the subject lands have also been included in Appendix D. No herpetofauna species were observed during site visits.

3.5 Species at Risk (SAR)

3.5.1 Natural Heritage Information Center (NHIC)

Based on a background search of the natural heritage database, one (1) species at risk plant, Hart's Tongue Fern (*Asplenium scolopendrium var. Americanum*) and two (2) species at risk birds, bobolink (*Dolichonyx oryzivorus)* and eastern meadowlark (*Sturnella magna*) were reported to potentially occur within a 1 km by 1 km square encompassing the subject area. No species at risk were observed within the study area by EcoTec during field investigations. A summary of the SAR noted in the NHIC and their associated habitats are included within Table 2.

Table 2. NHIC square 17NJ1591 SAR summary and habitat requirements.

Common Name	Scientific Name	ESA/SARA Status	Suitable Habitat Present?	Habitat Requirements
Vegetation				
Hart's-tongue Fern	*Asplenium scolopendrium var. americanum*	Special Concern/ Special Concern	No	Moss covered limestone or dolostone under deciduous trees in deep shade (COSEWIC, 2016) https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/cosewic-assessments-status-reports/american-hart-tongue-fern-2016.html#_3_1
Birds				
Bobolink	*Dolichonyx oryzivorus*	THR/ THR	No	Tallgrass prairie, open meadows and hayfields, nesting in dense grass (COSEWIC, 2010).
Eastern Meadowlark	*Sturnella magna*	THR/ THR	No	Tall grasslands, orchards, shrubby overgrown fields (COSEWIC$_b$, 2011).

3.5.2 Ontario Breeding Bird Atlas

Based on the breeding bird survey data provided by the Ontario Breeding Bird Atlas, nine (9) avian species at risk were identified to potentially occur within a 10 km by 10 km square encompassing the subject lands. Existing records of avian SAR within the subject area include bank swallow (*Riparia* riparia), barn swallow (*Hirundo rustica)*, bobolink (*Dolichonyx oryzivorus)*, Canada warbler (*Cardellina canadensis*), chimney swift (*Chaetura pelagica)*, common nighthawk (*Chordelles minor)*, eastern meadowlark (*Sturnella magna*), eastern wood-peewee (*Contopus virens)*, and wood thrush (*Hylocichla mustelina)*.

Table 3 below provides a summary of each species habitat requirements and whether the specified requirements are available within the subject area. All the species listed in Table 4 are protected under the provincial *Endangered Species Act* (2007) and/or federal *Species at Risk Act* (2002).

Table 3. SAR birds recorded during the OBBA surveys within a 10 km by 10 km area that encompasses the study area

Common Name	Scientific Name	ESA/ SARA Status	Suitable Habitat Present?	Habitat Requirements
Bank Swallow	*Riparia riparia*	THR/ THR	No	Natural and artificial sites with vertical banks.
Barn Swallow	*Hirundo rustica*	THR/ THR	No	Artificial structures with a horizontal nesting surface or a vertical face.
Bobolink	*Dolichonyx oryzivorus*	THR/ THR	No	Tallgrass prairie, open meadows and hayfields, nesting in dense grass.
Canada Warbler	*Cardellina canadensis*	SC/ THR	No	Range of wet forests with a well-developed, dense shrub layer.
Chimney Swift	*Chaetura pelagica*	THR/ THR	No	Hollow trees or concentration of chimneys.
Common Nighthawk	*Chordelles minor*	SC/ THR	No	Open habitat with ground devoid of vegetation.
Eastern Meadowlark	*Sturnella magna*	THR/ THR	No	Tall grasslands, orchards, shrubby overgrown fields.
Eastern wood-peewee	*Contopus virens*	SC/ SC	No	Mature to intermediate aged deciduous and mixed-wood forest and is associated with forest clearings.
Wood Thrush	*Hylocichla mustelina*	SC/ THR	No	Deciduous or mixed-wood forests with dense understory.

3.5.3 Ontario Reptile and Amphibian Atlas

Based on amphibian and reptile SAR occurrence records provided by the Ontario Reptile and Amphibian Atlas (ORAA), no herpetofauna species at risk were identified to occur within a 10 km by 10 km square encompassing the subject lands.

3.6 Environmentally Significant Areas

3.6.1 Karst Topography

The County of Grey OP, “areas mapped as 'Karst Area'” on Map 3 of Appendix A, as well as OGS mapping indicates that approximately 0.59 hectares of the proposed development would occur within known karst topography (Figure 6). Limestone outcrops were observed within the footprint of the known karst feature; however, no known karst sinkholes are present within the footprint as per OGS mapping, and the nearest sinkhole occurs well over 15 kilometres northeast of the proposed development.

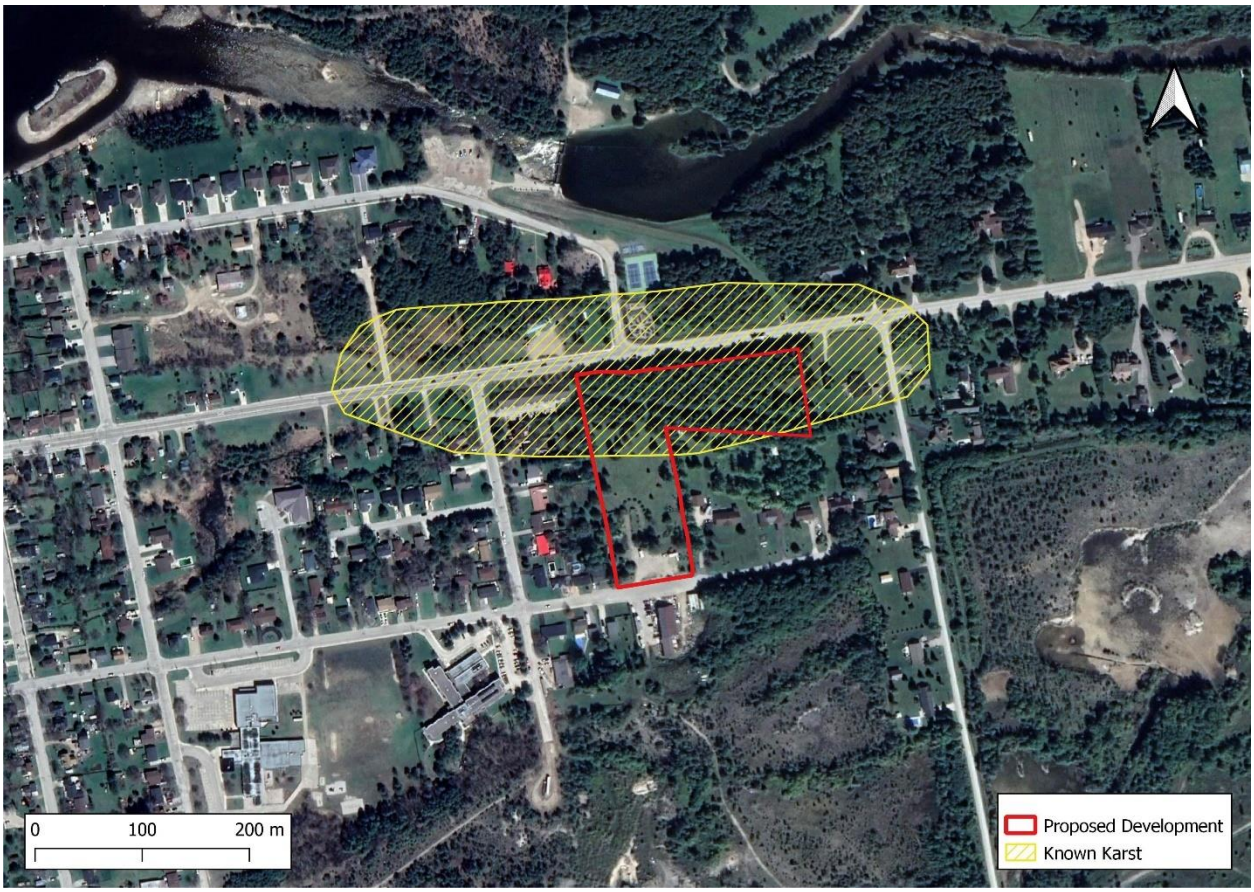

Figure 6. Aerial photograph indicating the location of known karst topography within the study area.

3.6.2 Significant Woodlands

As per the Municipality of West Grey OP, no significant woodlands are located within the settlement areas of Durham or Newstadt, and therefore no policies are included within the official plans pertaining to this feature.

The County of Grey OP states that Significant Woodlands are classified as being equal or greater than 4 hectares in size within a settlement area. Based on aerial photography, the woodlot within the footprint of the proposed development is less than 4 hectares, therefore is not considered to be significant. Additionally, the forest ecosites located within the property are not considered to be at risk from development.

3.6.3 Significant Wildlife Habitat

The possibility of significant habitat being present within the study area was considered by consulting the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E*. The presence of reptile hibernacula were considered due to site characteristics.

Reptile Hibernacula

A portion of the proposed development falls within a karst area. Karsts are known to be areas with limestone outcrops that persist below the frost line and are considered to be potentially suitable for snake hibernaculum. During the field investigations conducted by EcoTec it was noted that most of the known karst area is now covered by manicured grass. Approximately 0.20 hectares of known karst area within the study area has potential for limestone outcrops being impacted by the proposed development.

No snakes were observed within the study area during the site visit, and the ecosite within the karst area contains a dense forest stand with low suitability for snake basking sites.

4.0 POTENTIAL IMPACTS AND MITIGATION

This section of report outlines the potential impacts on the biophysical environment associated with the proposed property development. Also included within this section are potential mitigation measures to prevent and minimize any deleterious effects from construction activities on the natural environment.

4.1 Vegetation Removal

Based on the draft development plans for this project, the displacement of vegetation communities within the development footprint would be required.

Since most of the vegetation present within the study area consists of a variety of non-native and invasive species, EcoTec suggests creating higher quality bird habitat within the stormwater management block by planting native tree and shrub vegetation.

4.2 Impacts on Wildlife Species

Due to the highly disturbed characteristics of the study area, it's proximity to residential development, fragmentation of the woodlot due to the presence of roads, and the small size of the woodlot, loss of wildlife habitat with the proposed development will be minimal. The habitat provided by the area consists largely of cultural type ecosites that have likely developed due to anthropogenic changes. This area does not provide any habitat for SAR.

The karst feature has potential for snake hibernacula, but most of the mapped footprint of the known karst is covered with manicured lawn, therefore limiting suitability for reptile hibernacula. Approximately 0.20 hectares of the proposed development contains karst that is potentially exposed, however this area lacks any suitable thermoregulation areas due to being dominated by dense coniferous forest ecotype. More suitable reptile hibernacula areas are located adjacent to the proposed development. In order to prevent harm or harassment to reptiles, it is suggested that initial excavations within the known karst area occur outside of the hibernation period for reptiles (November to March).

In order to avoid impacts during the breeding bird window, no clearing of vegetation should occur between April 1st to August 31st. If clearing must be completed within this time period, an avian biologist should be on-site to complete a nesting survey.

4.3 Species at Risk

4.5.1 Birds

No habitat for SAR birds was identified as being present within the study area as such, no negative impacts to avian SAR are anticipated.

4.5.2 Vegetation

The NHIC identified the potential for one SAR vegetative species, Hart's Tongue Fern, to potentially occur within a 1 kilometre by 1 kilometre square occupied by the subject property. Hart's Tongue Fern was not identified within the study area upon investigation. Additionally, suitable habitat for the Hart's Tongue Fern is deciduous forest with moss covered limestone outcrops which is not present within the study area.

5.0 CONCLUSIONS AND RECOMENDATIONS

The following is a summary of recommendations for the potential development of a multi-residential development at Saddler Street East, Durham, Ontario.

It is recommended that the design plan and development activities implement the following to ensure that risks to wildlife and natural heritage features are mitigated:

- Vegetation removal should occur outside of the breeding bird window (April 1 – August 31).

- In order to ensure that no snakes are harmed during site grading operations, initial excavations within the FOC 4-1 ecosite in the known karst topography should occur outside the hibernation period for reptiles (November to March).

- Only clean fill should be used on-site to prevent the introduction of any invasive species.

- All earth material stockpiles should be surrounded with silt fence barrier until such time that they are removed from site or blended into the existing site grading.

- Silt fence barrier should be installed around the perimeter of the construction site prior to commencing grading activities and should remain in place throughout the construction process.

- Any exposed soils should be seeded or vegetated following the conclusion of construction activities.

- Tree protection barrier should be installed around the dripline of any specimen trees to be retained.

- A spill control and response plan should be developed prior to starting construction. The spill plan should consider all potential pollutants and spill risk based on their intended use.

If the recommendations are followed, it is anticipated that study area will not be negatively impacted

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APPENDIX A: PHOTOGRAPHIC RECORD

Photo 1. Representation of the mixed plantation. Photo taken facing north (May 31, 2021).

Photo 2. Representation of the mixed plantation. Photo taken facing south (May 31, 2021).

Photo 3. Representation of the vegetation in FOC4-1. (May 31, 2021).

Photo 4. Limestone outcrop observed within the FOC4-1 community. (May 31, 2021).

Photo 5. Representation of the understory dominated by non-native species within the mixed plantation ecosite. Photo taken facing west (May 31, 2021).

Photo 6. Representation of the understory dominated by non-native species within the mixed plantation ecosite. (May 31, 2021).

APPENDIX B: VEGETATION INVENTORY

Vegetation			
Common Name	**Scientific Name**	**S Rank**	**Wetness Coefficient**
Eastern white cedar	*Thuja occidentalis*	*S5*	*-3*
White birch	Betula papyrifera	S5	3
Eastern red cedar	*Juniperus virginiana var. virginiana*	S5	3
Rose of Sharon	*Hibiscus syriacus*	*SNA*	*NA*
Manitoba Maple	*Acer negundo*	*SU*	*0*
Silver Maple	*Acer saccharinum*	*S5*	*-3*
Red Pine	*Pinus resinosa*	*S5*	*3*
Norway Maple cv. 'Crimson King'	*Acer platanoides*	*SNA*	*5*
Common Lilac	*Syringa vulgaris*	*SNA*	*5*
European Buckthorn	*Rhamnus cathartica*	*SNA*	*0*
Norway Spruce	*Picea abies*	*SNA*	*5*
Littleleaf Linden	Tilia cordata	*SNA*	*5*
Tatarian Honeysuckle	Lonicera tatarica	*SNA*	*3*
Elderberry sp.	*Sambucus sp*	*NA*	*NA*
Black Spruce	*Picea mariana*	*S5*	*-3*
Red-osier Dogwood	*Cornus sericea*	*S5*	*-3*
Tall Buttercup	*Ranunculus acris*	*SNA*	*0*
Scots Pine	*Pinus sylvestris*	*SNA*	*3*
Herb Robert	*Geranium robertianum*	*S5*	*3*
Common Dandelion	*Taraxacum officinale*	*SNA*	*3*
Greater Celandine	*Chelidonium majus*	*SNA*	*5*
Virginia Creeper	*Parthenocissus quinquefolia*	*S4*	*3*
Riverbank Grape	*Vitis riparia*	*S5*	*0*
Amur Maple	*Acer ginnala*	*SNA*	*5*
Norway Maple	*Acer platanoides*	*SNA*	*5*
Black Walnut	*Juglans nigra*	*S4*	*3*
Creeping Ground Ivy	*Glechoma hederacea*	*SNA*	*3*
Daylily	*Hemerocallis fulva*	*SNA*	*5*
Ground Cherry	*Physalis*	*SNA*	*NA*
Goldenrod sp.	*Solidago sp.*	*NA*	*NA*
Basswood	*Tilia americana*	*S5*	*3*
Field Strawberry	*Geum fragarioides*	*S5*	*5*
Bittersweet Nightshade	*Solanum dulcamara*	*SNA*	*0*
Geranium sp.	*Geranium sp.*	*SNA*	*NA*
Black Raspberry	*Rubus occidentalis*	*S5*	*5*
Red Raspberry	*Rubus idaeus ssp. Strigosus*	*s5*	*3*
Garlic Mustard	*Alliaria petiolata*	*SNA*	*0*

Vegetation			
Common Name	**Scientific Name**	**S Rank**	**Wetness Coefficient**
Alternate-leaved Dogwood	*Cornus alternifolia*	*S5*	*3*
White Ash	*Fraxinus americana*	*S4*	*3*
Eastern White Pine	*Pinus strobus*	*S5*	*3*
Violet sp.	*Viola sp.*	*NA*	*NA*
Forget-me-not	*Myosotis sylvatica*	*SNA*	*5*
Thistle sp.	*Cirsium sp.*	*SNA*	*NA*
Colts Foot	*Tussilago farfara*	*SNA*	*3*
Bleeding Hearts	*Lamprocapnos spectabilis*	*NA*	*NA*
Japanese Knotweed	*Reynoutria japonica var. japonica*	*SNA*	*3*
Dames Rocket	*Hesperis matronalis*	*SNA*	*3*
Wild Cucumber	*Echinocystis lobata*	*S5*	*-3*
Ground Cedar	*Diphasiastrum digitatum*	*S5*	*5*
Speedwell sp.	*Veronica sp.*	*SNA*	*NA*
Euonymus sp.	*Euonymus sp.*	*NA*	*NA*
Common Periwinkle	*Vinca minor*	*SNA*	*5*
Jack-in-the-pulpit	*Arisaema triphyllum*	*S5*	*-3*
Black Cherry	*Prunus serotina var. serotina*	*S5*	*3*
Queen Anne's Lace	*Daucus carota*	*SNA*	*5*
Trefoil	*Lotus corniculatus*	*SNA*	*3*
White Spruce	*Picea glauca*	*S5*	*3*
Ninebark	*Physocarpus opulifolius*	*S5*	*-3*
Hawthorn sp.	*Crataegus sp.*	*NA*	*NA*

**SX = Presumed Extirpated; SH = Possibly Extirpated (Historical); S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; S4 = Apparently Secure; S5 = Secure; SNR = Unranked; SU = Unrankable; SNA = Not Applicable.*

APPENDIX C: WILDLIFE OBSERVATIONS AND RECORDS

BIRD SPECIES NOTED DURING 2021 FIELD SURVEYS

Bird Species		Date	
Common Name	**Scientific Name**	**May 31, 2021**	**June 23, 2021**
American Robin	*Turdus migratorius*	X	X
Chipping Sparrow	*Spizella passerina*	X	
Eastern Phoebe	*Sayornis phoebe*	X	
Blue Jay	*Cyanocitta cristata*	X	
American Crow	*Corvus brachyrhynchos*	X	X
Field Sparrow	*Spizella pusilla*	X	
Ring-billed Gull	*Larus delawarensis*	X	
Eastern Towhee	*Pipilo erythrophthalmus*		X
Song Sparrow	*Melospiza melodia*		X
Mourning Dove	*Zenaida macroura*		X
European Starling	*Sturnus vulgaris*		X
Gray Catbird	*Dumetella carolinensis*		X
House Wren	*Troglodytes aedon*		X
Common Grackle	*Quiscalus quiscula*		X
Black-capped Chickadee	*Poecile atricapillus*		X
Red-eyed Vireo	*Vireo olivaceus*		X
Black-billed Cuckoo	*Coccyzus erythropthalmus*		X

ONTARIO BREEDING BIRD ATLAS SPECIES LIST
SQUARE ID# 17TNJ19

Common Name	Scientific Name	Breeding Evidence*
Canada Goose	*Branta canadensis*	Confirmed (FY)
Wood Duck	*Aix sponsa*	Probable (T)
Mallard	*Anas platyrhynchos*	Confirmed (NY)
Hooded Merganser	*Lophodytes cucullatus*	Confirmed (FY)
Common Merganser	*Mergus merganser*	Possible (H)
Wild Turkey	*Meleagris gallopavo*	Confirmed (NY)
Ruffed Grouse	*Bonosa umbellus*	Confirmed (NY)
Ring-necked Pheasant	*Phasianus colchicus*	Probable (P)
Rock Pigeon	*Columba livia*	Probable (D)
Mourning Dove	*Zenaida macroura*	Possible (S)
Common Nighthawk	*Chordeiles minor*	Possible (H)
Chimney Swift	*Chaetura pelagica*	Probable (V)
Ruby-throated Hummingbird	*Archilochus colubris*	Possible (H)
Sandhill Crane	*Grus canadensis*	Possible (H)
Killdeer	*Charadrius vociferus*	Confirmed (DD)
American Woodcock	*Scolopax minor*	Probable (T)
Wilson's Snipe	*Gallinago delicata*	Probable (T)
Spotted Sandpiper	*Actitis macularius*	Probable (T)
Common Loon	*Gavia immer*	Possible (S)
Great Blue Heron	*Ardea herodias*	Possible (H)
Green Heron	*Butorides virescens*	Confirmed (FY)
Turkey Vulture	*Cathartes aura*	Possible (H)
Northern Harrier	*Circus cyaneus*	Possible (H)
Cooper’s Hawk	*Accipiter cooperii*	Confirmed (NY)
Northern Goshawk	*Accipiter gentilis*	Possible (H)
Red-shouldered Hawk	*Buteo lineatus*	Probable (P)
Broad-winged Hawk	*Buteo platypterus*	Possible (H)
Red-tailed Hawk	*Buteo jamaicensis*	Possible (H)
Eastern Screech Owl	*Megascops asio*	Probable (T)
Great Horned Owl	*Bubo virginianus*	Probable (T)
Belted Kingfisher	*Megaceryle alcyon*	Probable (T)
Yellow-bellied Sapsucker	*Sphyrapicus varius*	Possible (S)
Red-bellied Woodpecker	*Melanerpes carolinus*	Possible (S)
Downy Woodpecker	*Picoides pubescens*	Confirmed (AE)
Hairy Woodpecker	*Leuconotopicus villosus*	Confirmed (FY)
Pileated Woodpecker	*Dryocopus pileatus*	Confirmed (NY)
Northern Flicker	*Colaptes auratus*	Possible (S)
American Kestrel	*Falco sparverius*	Possible (H)

Common Name	Scientific Name	Breeding Evidence*
Eastern Wood-pewee	*Contopus virens*	Possible (S)
Least Flycatcher	*Empidonax minimus*	Confirmed (NY)
Eastern Phoebe	*Sayornis phoebe*	Confirmed (CF)
Great Crested Flycatcher	*Myiarchus crinitus*	Possible (S)
Eastern Kingbird	*Tyrannus tyrannus*	Possible (H)
Warbling Vireo	*Vireo gilvus*	Possible (S)
Red-eyed Vireo	*Vireo olivaceus*	Possible (S)
Blue Jay	*Cyanocitta cristata*	Confirmed (FY)
American Crow	*Corvus brachyrhynchos*	Confirmed (FY)
Common Raven	*Corvus corax*	Possible (H)
Black-capped Chickadee	*Poecile atricapillus*	Confirmed (FY)
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	Possible (H)
Tree Swallow	*Tachycineta bicolor*	Possible (H)
Bank Swallow	*Riparia riparia*	Confirmed (AE)
Barn Swallow	*Hirundo rustica*	Possible (H)
Cliff Swallow	*Petrochelidon pyrrhonota*	Confirmed (NY)
Red-breasted Nuthatch	*Sitta canadensis*	Possible (H)
White-breasted Nuthatch	*Sitta carolinensis*	Possible (S)
House Wren	*Troglodytes aedon*	Possible (S)
Winter Wren	*Troglodytes hiemalis*	Possible (S)
European Starling	*Sturnus vulgaris*	Confirmed (NY)
Gray Catbird	*Dumetella carolinensis*	Probable (P)
Brown Thrasher	*Toxostoma rufum*	Probable (T)
Eastern Bluebird	*Sialia sialis*	Confirmed (CF)
Veery	*Catharus fuscescens*	Possible (S)
Hermit Thrush	*Catharus guttatus*	Confirmed (CF)
Wood Thrush	*Hylocichla mustelina*	Possible (S)
American Robin	*Turdus migratorius*	Confirmed (CF)
Cedar Waxwing	*Bombycilla cedrorum*	Confirmed (FY)
House Sparrow	*Passer domesticus*	Possible (H)
House Finch	*Haemorhous mexicanus*	Confirmed (NY)
Purple Finch	*Haemorhous purpureus*	Possible (S)
American Goldfinch	*Spinus tristis*	Probable (P)
Chipping Sparrow	*Spizella passerina*	Possible (S)
Field Sparrow	*Spizella pusilla*	Possible (S)
Dark-eyed Junco	*Junco hyemalis*	Probable (P)
White-throated Sparrow	*Zonotrichia albicollis*	Probable (A)
Savannah Sparrow	*Passerculus sandwichensis*	Possible (S)
Song Sparrow	*Melospiza melodia*	Probable (A)
Swamp Sparrow	*Melospiza georgiana*	Possible (S)

Common Name	Scientific Name	Breeding Evidence*
Eastern Towhee	*Pipilo erythrophthalmus*	Possible (S)
Bobolink	*Dolichonyx oryzivorus.*	Confirmed (AE)
Eastern Meadowlark	*Sturnella magna*	Possible (S)
Baltimore Oriole	*Icterus galbula*	Possible (S)
Red-winged Blackbird	*Agelaius phoeniceus*	Confirmed (CF)
Brown-headed Cowbird	*Molothrus ater*	Possible (H)
Common Grackle	*Quiscalus quiscula*	Confirmed (FY)
Ovenbird	*Seiurus aurocapilla*	Possible (S)
Northern Waterthrush	*Seiurus noveboracensis*	Possible (S)
Canada Warbler	*Cardellina canadensis*	Possible (S)
Black-and-white Warbler	*Mniotilta varia*	Possible (S)
Nashville Warbler	*Leiothlypis ruficapilla*	Possible (S)
Common Yellowthroat	*Geothlypis trichas*	Possible (S)
American Redstart	*Setophaga ruticilla*	Possible (S)
Yellow Warbler	*Setophaga petechia*	Possible (S)
Pine Warbler	*Setophaga pinus*	Possible (S)
Yellow-rumped Warbler	*Setophaga coronata*	Possible (S)
Prairie Warbler	*Setophaga discolor*	Possible (S)
Black-throated Green Warbler	*Setophaga virens*	Possible (S)
Canada Warbler	*Cardellina canadensis*	Possible (S)
Northern Cardinal	*Cardinalis cardinalis*	Possible (S)
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	Probable (P)
Indigo Bunting	*Passerina cyanea*	Possible (S)

**H = Suitable habitat present; S = Singing male in suitable habitat; P = Pair observed in suitable habitat; T = Territorial song; A = Agitated behaviour V = Visiting probable nesting site; FY = Recently fledged young; AE = Adult leaving/entering nest; CF = Adult carrying food; NY = Nest with young; DD = Distraction display*

ONTARIO REPTILE AND AMPHIBIAN ATLAS SPECIES LIST

Common Name	Scientific Name	Most Recent Record
Midland Painted Turtle	*Chrysemys picta marginata*	2018
Snapping Turtle	*Chelydra serpentina*	2019
Eastern Gartersnake	*Thamnophis sirtalis sirtalis*	1996
Red-bellied Snake	*Storeria occipitomaculata*	1980
Smooth Greensnake	*Opheodrys vernalis*	2018
American Bullfrog	*Lithobates catesbeianus*	1996
Green Frog	*Rana clamitans*	1996
Mink Frog	*Lithobates septentrionalis*	1989
Northern Leopard Frog	*Lithobates pipiens*	2008
Pickerel Frog	*Lithobates palustris*	1987
Spring Peeper	*Pseudacris crucifer*	1992
Wood Frog	*Lithobates sylvaticus*	2016
American Toad	*Anaxyrus americanus*	2016
Eastern Red-backed Salamander	*Plethodon cinereus*	1987
Spotted Salamander	*Ambystoma maculatum*	1981