

Prepared By:



# 112754 Grey Road 14, Township of Southgate Environmental Impact Study

Project No. 03-003-2024

August 2025



23 Herrell Ave  
Barrie, Ontario  
L4N 6T5

August 21, 2025

Solomon Bauman  
Southgate Metals  
186155 Grey Road 9  
Dundlalk, Ontario  
NOC 1B0

**RE: BIRKS NHC File No. 03-003-2024  
Environmental Impact Study - 112754 Grey Road 14, Township of  
Southgate, County of Grey**

Dear Mr. Bauman,

Thank you for retaining Birks Natural Heritage Consultants Inc. ('Birks NHC') to prepare an Environmental Impact Study ('EIS') for the property identified as 112754 Grey Road 14 in the Township of Southgate. It is our understanding that you are proposing development in the eastern portion of the property and that an EIS is required as part of a building application due to the presence of wetlands, woodlands and mapped hazard lands.

The purpose of this EIS is to identify and characterize potential natural heritage features and functions present within and adjacent to the proposed development area and to determine if potential ecological impacts to those features and functions could arise from the proposed development.

Birks NHC completed field surveys in 2024 to review the existing conditions of the property with a focus on identifying and characterizing natural heritage features and functions present within the proposed development area and adjacent lands. Through completion of the field surveys,





review of background information, and applicable policies and regulations, we have determined that the proposed development area and adjacent lands contain natural heritage features and functions relating to the presence of woodland and wetland habitat.

The report provides an assessment of potential impacts associated with the proposed development area and provides recommendations to mitigate for impact, where required. At this time, negative ecological impacts to the identified features and functions are not expected with development/site alteration within the proposed development envelope provided that the listed recommendations and mitigation measures in this report are applied accordingly.

If you have any questions or concerns regarding this report, please do not hesitate to contact the undersigned.

Yours truly,  
Birks Natural Heritage Consultants, Inc.

Ecologist

Reviewed by:

Stephanie Brady, HBES  
Ecologist



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# 1 INTRODUCTION

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## 1.1 PURPOSE

Birks Natural Heritage Consultants, Inc. ('Birks NHC') was retained by Solomon Bauman (property owner) to undertake an Environmental Impact Study ('EIS') for the property identified as 112754 Grey Road 14, in the Township of Southgate. It is our understanding that the property owner intends to construct a single residential dwelling and agricultural structures in the eastern portion of the property and that an EIS is required as part of a building permit application.

Due to the presence of natural features associated with the property and adjacent lands, including woodlands, a watercourse, and wetlands, an EIS is required as part of the application. The purpose of the EIS is to identify and characterize natural heritage features and functions associated with the property, and in particular within the vicinity of the proposed development area and evaluate potential impacts to those features and functions that may be associated with the proposed development. Where potential impacts are identified, recommendations or mitigation measures are proposed to ensure that the appropriate natural heritage policies and legislation can be followed.

This report has been prepared to address the natural heritage requirements of the Provincial Planning Statement (2024), *Endangered Species Act* (2007), *Conservation Authorities Act* (1990), County of Grey Official Plan (2019), and Township of Southgate Official Plan (2022).

## 1.2 SITE DESCRIPTION

The property is within the 'countryside' of the Township of Southgate and is accessed from Grey Road 14 at the eastern property limit. The property is rectangular shaped and measures approximately 20.9 hectares ('ha') in size. The property is primarily undeveloped, with a mix of woodland and wetland communities. A watercourse originating from the north flows in a southerly direction into the property where it continues westward and converges with a main tributary that flows in a general north-west direction off the property, ultimately contributing to the Saugeen River approximately 2.6 km to the north.

Temporary structures (*i.e.*, trailer and storage 'sea can' container) and disturbance are present in the eastern area of the property, within 30 metres ('m') of Grey Road 14. Timber harvesting has also occurred in this area, creating open disturbed areas in the eastern portion of the property. An existing entrance is present at the north-eastern corner of the property, and an access laneway traverses the property from the north-eastern corner west to the middle of the property.

Adjacent lands are agricultural, with riparian natural lands that surround watercourses.





Grey County, Maxar, Microsoft

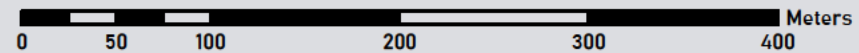
112754 County Road 14  
Township of Southgate

- Property Limit
- Watercourse (Birks NHC/LIO)
- 120m Study Area
- Development Envelope (0.6 ha)

Figure 1.  
Study Area



MAP DRAWING INFORMATION:  
DATA PROVIDED BY: DISTRICT OF MUSKOKA  
MAP CREATED BY: SB  
MAP CHECKED BY: HM  
MAP PROJECTION: NAD 1983 UTM ZONE 17N



FILE LOCATION:  
Path: C:\Users\S\_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\03-003-2024 Grey Road 14  
PROJECT: 03-003-2024 STATUS: DRAFT DATE: 13/08/2025





### 1.3 STUDY AREA

For the purpose of this EIS, the Study Area is focused within an area approximately 120 m surrounding the proposed development area, as illustrated in Figure 1. The Ministry of Natural Resources ('MNR') recommends a distance of 120 m for consideration of development and/or site alteration impacts to adjacent features, as outlined within the Natural Heritage Reference Manual (MNR, 2010).

## 2 ENVIRONMENTAL POLICY FRAMEWORK

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The following summarizes the planning policies and regulations related to natural heritage that apply to the proposed development.

### 2.1 PROVINCIAL PLANNING STATEMENT (2024)

The Provincial Planning Statement (PPS, 2024) is a policy statement issued under the authority of Section 3 of the *Planning Act* and came into effect on October 20, 2024. The PPS provides overall policy directions on matters of provincial interest related to land use planning and development in Ontario. The 2024 PPS is a streamlined province-wide land use planning policy framework that replaces both the Provincial Policy Statement, 2020 and A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2019.

Section 4.1 of the PPS (2024) specifies policy related to protection of natural heritage features and functions.

According to Section 4.1.4 of the PPS, development and site alteration shall not be permitted in the following features:

- a) Significant wetlands in Ecoregions 5E, 6E, and 7E; and,
- b) Significant coastal wetlands.

Section 4.1.5 of the PPS states that, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall not be permitted in:

- a) Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;
- b) Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
- c) Significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
- d) Significant wildlife habitat ('SWH');
- e) Significant areas of natural and scientific interest; and,
- f) Coastal wetlands in Ecoregions 5E, 6E, and 7E that are not subject to policy 4.1.4(b).



While many of these features are mapped and direction is available to allow for candidate features and functions to be identified, it remains the responsibility of the province and/or the municipality to designate areas identified within Section 4.1.4 and 4.1.5 of the PPS as significant. The Natural Heritage Reference Manual (MNR, 2010) and Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015) were used within this report to identify candidate features and functions not currently identified by the province and/or municipality.

Sections 4.1.6 and 4.1.7 state that development and site alteration is not permitted in fish habitat or habitat of endangered and threatened species except in accordance with federal and provincial requirements.

Section 4.1.8 extends protection of those features defined above to adjacent lands, typically those within 120 m of the potential impact. Section 4.1.8 states that development and site alteration shall not be permitted on adjacent lands to natural heritage features identified in policies 4.1.4, 4.1.5, and 4.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological function.

## 2.2 ONTARIO ENDANGERED SPECIES ACT (2007)

Ontario's *Endangered Species Act, 2007* ('ESA') provides regulatory protection to Endangered and Threatened species as listed under Ontario Regulation ('O. Reg.') 230/08 Species at Risk in Ontario List. Currently, the ESA prohibits capture, harm and/or killing of individuals listed on the Species at Risk in Ontario List and prohibits destruction of their habitats, with habitat being defined as the following:

- For animal species:
  - a dwelling place, such as a den, nest, or similar place, occupied or habitually occupied by one or more members of a species for the purposes of breeding, rearing, staging, wintering, or hibernating;
  - the area immediately surrounding a dwelling place described above that is essential for the purposes mentioned.
- For vascular plant species:
  - the critical root zone surrounding a member of the species.
- For all other species (for example, lichens):
  - an area on which any member of the species directly depends to carry out its life processes.

As noted above, only species listed as Endangered and Threatened receive species and habitat protection through the ESA. Species designated as Special Concern may receive habitat protection under the SWH provisions of the PPS. Note that under the *Protect Ontario by Unleashing Our Economy Act, 2025*, the ESA is to be repealed once the new *Species Conservation Act* is proclaimed into force.





### 2.3 CONSERVATION AUTHORITIES ACT (1990)

Ontario's Conservation Authorities fall under the jurisdiction of the *Conservation Authorities Act*, which was most recently amended in April 2024. The purpose of *Conservation Authorities Act* is to "provide for the organization and delivery of programs and services that further the conservation, restoration, development and management of natural resources in watersheds in Ontario".

An authority may issue a permit to a person to engage in an activity specified in the permit if, in the opinion of the authority, the activity is not likely to: a) affect the control of flooding, erosion, dynamic beaches or pollution or the conservation of land; b) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; and, (c) any other requirements that may be prescribed by the regulations are met.

The Study Area is mapped as being in a screening area by Saugeen Valley Conservation Authority under O. Reg. 41/24 *Prohibited Activities, Exemptions and Permits* (Appendix A). A site visit occurred with Saugeen Valley Conservation Authority on July 31, 2024 to discuss the proposed development area; resulting correspondence is provided in Appendix A.

### 2.4 GREY COUNTY OFFICIAL PLAN (2019)

Schedule A, Map 2 of the County of Grey Official Plan maps the Study Area as 'Hazard Lands' and 'Agricultural' (Appendix B). The Study Area is further illustrated as containing a stream, Significant Woodlands and Other Wetlands (Appendix B).

The Agricultural land use type includes traditional Class 1, 2, or 3 agricultural land classifications as well as larger blocks of agricultural land under active production (generally 160 ha or larger). Permitted uses include: a) agricultural uses, and normal farm practices; b) agricultural-related uses; c) on-farm diversified uses; d) cannabis production in accordance with any federal laws; e) forestry; f) conservation uses; g) institutional uses on existing lots, serving those segments of the population whose primary means of transportation is via horse and buggy and active transportation; h) sand and/or gravel operations proposed within Aggregate Resource Areas; i) licensed aggregate operations identified as Mineral Resource Extraction; j) wayside pits and quarries; and, k) portable asphalt or concrete plants used for a specific public use contract (Grey County, 2019, Section 5.2.1). Residential dwellings are generally permitted on existing lots of record.

Hazard Lands include floodplains, steep or erosion prone slopes, unstable soils, poorly drained areas and lands along the Georgian Bay shoreline. New development shall be directed away from Hazard Lands. Permitted uses are forestry and uses connected with the conservation of water, soil, wildlife and other natural resources. Other uses may be permitted such as passive public parks, public utilities, resource based recreational uses, and agriculture (Grey County, 2019, Section 7.2.2). Development or site alterations may be permitted in Hazard Lands only if the hazards can be safely addressed, that no new



hazards are created, no adverse environmental impacts would result from the development/site alterations, and that approval of the Conservation Authority is obtained.

No development or site alteration may occur in Other Wetlands, Significant Woodlands or adjacent lands unless it has been demonstrated that there would be no negative impacts on the natural features or their ecological functions (Grey County, 2019, Sections 7.3.2 and 7.4(1)). The County of Grey generally encourages develop be setback from wetlands by 30 m.

The EIS Terms of Reference was confirmed with the County of Grey and a site visit with Natalie Mechalko, Grey County Planning Ecologist was conducted on July 24, 2025.

## **2.5 TOWNSHIP OF SOUTHGATE OFFICIAL PLAN (2022)**

The Study Area is mapped by the Township of Southgate Official Plan as 'Agricultural' and 'Hazard' land uses (Appendix C). Similar to the County of Grey, the Township of Southgate natural heritage features overlay indicates Stream, Other Wetlands and Significant Woodlands within the Study Area (Appendix C).

The Township of Southgate countryside includes Agricultural, Rural and Mineral Resource Extraction lands. The Agricultural land use type includes traditional Class 1, 2, or 3 agricultural land classifications as well as larger blocks of agricultural land under active production (generally 160 ha or larger). Permitted uses in the Agricultural designation are: all types, sizes and intensities of agricultural uses, and normal farm practices, including accessory uses; agricultural-related uses; on-farm diversified uses; cannabis production in accordance with any federal laws; forestry; conservation uses; institutional uses on existing lots servicing those segments of the population whose primary means of transportation is via horse and buggy and active transportation, wayside pits and quarries; and, portable asphalt or concrete plants used for a specific public use contract (Township of Southgate, 2022, Section 5.4.1.1). Residential dwellings are generally permitted on existing lots of record (Township of Southgate, 2022, Section 5.4.1.2(6)).

Hazard land mapping provided by Conservation Authorities that applies to floodplains, steep or erosion prone slopes, organic or unstable soils and poorly drained areas was utilized by the Township of Southgate to designate Hazard Lands. New development shall generally be directed away from Hazard Lands. Permitted uses in the Hazard Lands designation are: forestry and uses connected with the conservation of water, soil, wildlife and other natural resources; agriculture; passive public parks; public utilities; and, resource-based recreational uses. The aforementioned uses will only be permitted where site conditions are suitable and where the relevant hazard impacts have been reviewed and found to be acceptable to the Township in consultation with the Conservation Authority (Township of Southgate, 2022, Section 5.5.2.1).



No development or site alteration may occur in Other Wetlands, Significant Woodlands or adjacent lands unless it has been demonstrated that there would be no negative impacts on the natural features or their ecological functions (Township of Southgate, 2022, Sections 6.2(3) and 6.8).

### 3 STUDY APPROACH

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The following activities and assessments were undertaken to fulfill the objectives of this study:

#### 3.1 BACKGROUND REVIEW AND DATA SOURCES

Background documents provide information on site characteristics, habitat, wildlife, rare species and communities, and other aspects of the Study Area. For the purpose of this EIS, the following sources were considered:

- Ontario GeoHub for provincial mapping of natural heritage features (MNR/GEO, 2024)
- Natural Heritage Information Centre data (NHIC; MNR, 2024)
- Ontario Reptile and Amphibian Atlas (Ontario Nature, accessed November 2024)
- Species at Risk in Ontario List (MECP, 2025)
- Aquatic Species at Risk Map (DFO, 2024)

#### 3.2 FIELD SURVEYS

The following sections outline the methods and protocols used for each of the surveys conducted to characterize natural heritage features and functions of the Study Area. Incidental wildlife, plant and habitat observations were considered during all surveys. Searches were also conducted to document the presence or absence of suitable habitat, based on habitat requirements of Threatened or Endangered species with habitat ranges overlapping the Study Area. The dates and times when surveys were completed are included in Table 1 below.

**Table 1: Summary of Field Surveys Conducted**

| Dates                         | Start/End Time               | Type of Survey  | Birks NHC Ecologist |
|-------------------------------|------------------------------|---|---------------------|
| April 23, 2024                | 10:30 – 12:00                | Preliminary Constraints Site Visit and Preliminary Wetland Boundary | H. Marcks           |
| July 11, 2024                 | 9:00 – 12:00                 | Fish Habitat Assessment and Wetland Delineation                     | M. Fuller           |
| July 31, 2024                 | 10:30 – 12:15                | Vascular Plant Survey and Vegetation Community Mapping              | H. Marcks           |
| June 5, 2024<br>June 26, 2024 | 8:10 – 8:45<br>10:15 – 10:30 | Dawn Breeding Bird Surveys  | K. Tuininga         |



### 3.2.1 Vegetation Community Mapping and Surveys

The Ecological Land Classification ('ELC') system for Southern Ontario (Lee *et al.*, 1998) was used with modifications. In early 2007, the MNR refined their original vegetation type codes to encompass the vast range of natural and cultural communities across Southern Ontario. These updated ELC codes have also been used for reporting purposes in this study.

Wetland boundary in the north-eastern portion of the property was established in the field using the Ontario Wetland Evaluation System ('OWES') to identify a boundary between upland and wetland habitat based on vegetation cover. The wetland boundary indicated on Figure 2 was marked July 11, 2024 by Birks NHC utilizing a hand-held GPS unit.

A list of vegetative species identified through the course of the surveys has been compiled for inclusion in this report (Appendix D).

### 3.2.2 Breeding Bird Surveys

Dawn breeding bird surveys followed methods outlined in the Ontario Breeding Bird Atlas Guide for Participants (Cadman *et al.*, 2001). Specifically, breeding bird surveys consisted of ten-minute point counts that were used to establish qualitative estimates of bird abundance, species presence, and breeding activity in habitat types with potential to be impacted. Surveys were conducted on June 5 and June 26 of 2024 at two locations (Figure 2). A formal list of species encountered during the breeding bird surveys and incidentals recorded during vegetation surveys is included in Appendix E.

### 3.2.3 General Wildlife Surveys

A wildlife habitat assessment within the Study Area was completed through incidental observations while on site. Any incidental observations of wildlife were noted, as well as other wildlife evidence such as dens, tracks, and scat. These observations also helped validate our conclusions regarding the ecological function of the ecosystems identified within the Study Area.

Wildlife habitat functions were evaluated according to provincial criteria outlined in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015). SWH functions were assessed utilizing expert knowledge of the site; habitat and species data sources were reviewed in addition to field data gathered by Birks NHC. The SWH assessment is included as Appendix F of this report.

## 3.3 SPECIES AT RISK

Birks NHC staff reviewed data obtained through desktop review and the field surveys related to potential habitat for provincially designated species, notably Species at Risk listed under O. Reg. 230/08 of the ESA as Threatened or Endangered. The Species at Risk assessment included an analysis of the habitat requirements of Species at Risk reported to occur in the area to identify those having potential to occur within the Study Area. Habitat requirements of Threatened or Endangered species with habitat



ranges overlapping the property were considered to document the presence or absence of suitable habitat.

## 4 EXISTING CONDITIONS

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Existing conditions were determined through the various field surveys and background research described in Section 3. The following sections present an examination of our observations and findings as they relate to natural heritage features and functions of the Study Area, in particular the proposed development area and adjacent lands.

### 4.1 VEGETATION COMMUNITIES AND PLANTS

The property is primarily undeveloped, with a mix of woodland and wetland communities. Woodlands within the Study Area were primarily coniferous, with Eastern White Cedar being the prominent species. Temporary structures (*i.e.*, trailer and storage 'sea can' container) and open disturbed areas are present in the eastern area of the property (mapped as MEFM1 Forb Meadow at top of slope and a linear stretch of MEMM4 fresh-moist mixed meadow occupies a disturbed area at the base of the slope). An existing entrance is present at the north-eastern corner of the property and an access laneway traverses the property from the north-eastern corner west to the middle of the property. Unevaluated wetlands occupy the western portion of the Study Area, with swamp lands to the west (SWCM1-2; White Cedar – Conifer Mineral Coniferous Swamp).

Plant species recorded by Birks NHC are provincially and locally common. Non-native/'exotic' plant species were prevalent in the disturbed meadow community, with species such as Tufted Vetch, Field Sow-thistle, Wild Chicory, Black Medick, Garden Bird's-foot Trefoil, Common Dandelion, Wild Carrot, and Common Timothy.

The location of the vegetation communities is illustrated on Figure 2; vegetative species list is provided in Appendix D.

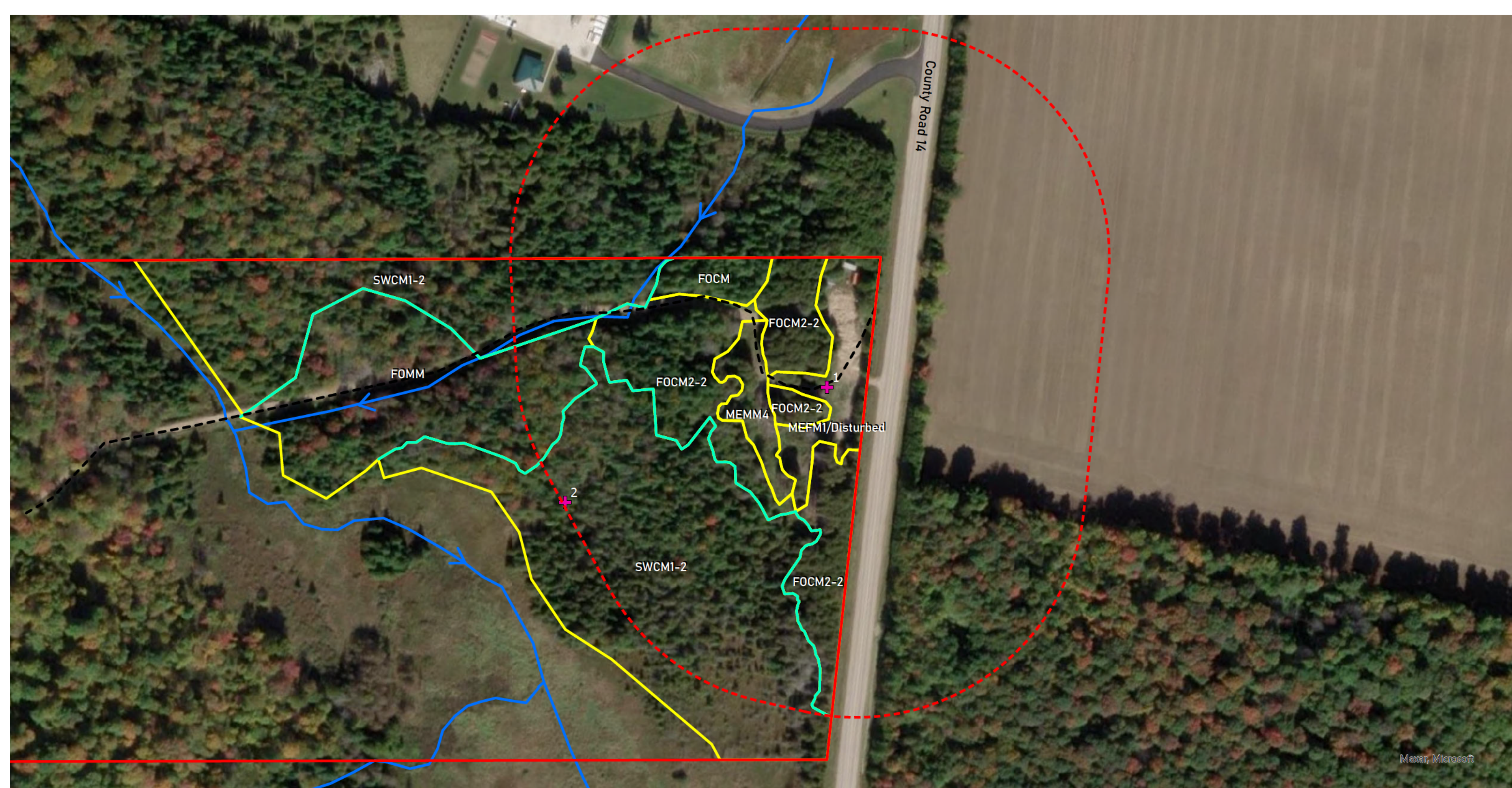
### 4.2 WILDLIFE HABITAT

#### 4.2.1 Birds

A total of 23 bird species were recorded during the field surveys (Appendix E). Species recorded are considered provincially and locally common and are representative of the woodland and wetland habitats in the area. Common bird species such as Northern Cardinal, American Crow, American Robin, Song Sparrow, and Black-capped Chickadee were observed.

Given the expanse of woodland habitat within and adjacent to the Study Area (see Figure 3), it is expected that woodland area-sensitive breeding bird species. Two species listed in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNR, 2015) in association with





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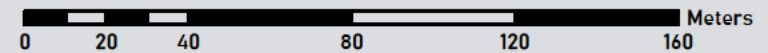
112754 County Road 14  
Township of Southgate

- Property Limit
- 120m Study Area
- Watercourse (Birks NHC/LIO)
- + Dawn Breeding Bird Survey Location
- Trail
- Wetland Limit (July 2024; Birks NHC)
- ELC

- MEFM1 Dry-Fresh Forb Meadow
- FOCM2-2 Dry-Fresh White Cedar Coniferous Forest
- SWCM1-2 White Cedar - Conifer Mineral Coniferous Swamp
- MEMM4 Fresh-Moist Mixed Meadow/Disturbed
- FOCM Coniferous Forest
- FOMM Mixed Forest

Figure 2.  
Existing Conditions & Survey Locations

MAP DRAWING INFORMATION:  
DATA PROVIDED BY: DISTRICT OF MUSKOKA  
MAP CREATED BY: SB  
MAP CHECKED BY: HM  
MAP PROJECTION: NAD 1983 UTM ZONE 17N



FILE LOCATION:  
Path: C:\Users\S\_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\03-003-2024 Grey Road 14  
PROJECT: 03-003-2024 STATUS: DRAFT DATE: 13/08/2025





Woodland Area-Sensitive Breeding Bird Habitat SWH were recorded by Birks NHC [Winter Wren (during one of the breeding bird surveys) and Black-throated Green Warbler (recorded at breeding bird survey station 1; probable breeding)]; no interior woodland habitat is present in the Study Area, however the larger woodland feature does contain interior habitat to the west. Interior habitat is also present within the feature to the west of Grey Road 14 (see Figure 3).

While the Study Area also contains open habitat, habitat for grassland breeding birds is not present; the open habitat on the property and adjacent lands on the opposite side of County Road 14 would not be appropriate for open country breeding birds due to size and active agricultural use.

#### 4.2.2 Mammals

Typical mammals observed in central Ontario are expected to utilize the habitats in the Study Area such as Red Fox, Eastern Chipmunk, White-tailed Deer, and small rodents. Red Squirrel was observed on the property. Based on available background mapping, no deer wintering habitat has been mapped by the MNR within the Study Area.

The presence of aquatic habitats, woodlands and open fields may indicate presence of bat foraging habitat. Forested habitat may also provide roosting habitat for bats. Typically, bats in Ontario roost in mature trees in the early stages of decay, with features such as cracks, crevices or loose bark. One species (Tri-colored Bat) is known to roost in clusters of tree leaves/needles. The Study Area woodlands on the property, however are primarily coniferous and White Cedar dominated, which are less likely to support bat habitat in terms of maternity colony roosting and a high density of snag trees was not noted in the Study Area.

#### 4.2.3 Fish

The Study Area is located within the Upper Main Saugeen River subwatershed. The Saugeen River watershed is primarily composed of agricultural land, however approximately 69% of the Upper Main Saugeen River subwatershed contains forest, wetland or riparian cover (SVCA, 2024). Surface water quality in the subwatershed was reported to be excellent by the 2024 Saugeen Valley Conservation Watershed Report Card.

A stream originating from north of the property flows through wetlands in a southerly direction into the property where it continues westward parallel to the property trail. Wetted width was noted to be approximately 1 m, with water depth of approximately 20 cm to 30 cm during the July 2024 site assessment. No information on this stretch of the feature is available on GeoHub.

The feature converges with a channel to the west, outside of the Study Area. That channel flows in a general north-west direction, contributing to the Saugeen River approximately 2.6 km to the north of the Study Area. The thermal regime of the stream to the west of the Study Area is characterized as cold-water based on fish species present (GeoHub, 2024). Species at Risk mapping indicates Saugeen River



and the west channel that feeds into it as Critical Habitat for Species at Risk Redside Dace (DFO, 2024). Given the seasonality of the feature in the Study Area, it has been assumed to be indirect fish habitat, contributing to fish habitat downstream of the Study Area.

#### 4.2.4 Amphibians and Reptiles

No targeted amphibian or reptile surveys were conducted by Birks NHC within the Study Area given that no amphibian breeding habitat was noted in the proposed development area as it contains upland Eastern White Cedar forest and open upland disturbed meadow. However, habitat features appropriate for amphibians and reptiles are present in the Study Area. Given the habitats present, species range maps, and observations in the general area (Ontario Nature, 2024), the following amphibians and reptiles may utilize habitats associated with the Study Area: Spring Peeper, Gray Treefrog, Wood Frog, and Eastern Gartersnake.

## 5 NATURAL HERITAGE FEATURES AND FUNCTIONS

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In the following sections we summarize the range of natural heritage features and functions attributable to the Study Area based on existing designations/delineations by agencies and as revealed through the application of provincial guidelines for identification of significant natural heritage features and functions.

### 5.1 PROVINCIALY SIGNIFICANT WETLAND

No Provincially Significant Wetlands are mapped in the Study Area.

### 5.2 OTHER WETLANDS

Birks NHC identified coniferous swamp within the Study Area. The wetland boundary illustrated on Figure 2 was established on July 11, 2024 by Birks NHC. Other unevaluated wetlands within the Study Area, outside of the property, are mapped by MNR (Figure 1).

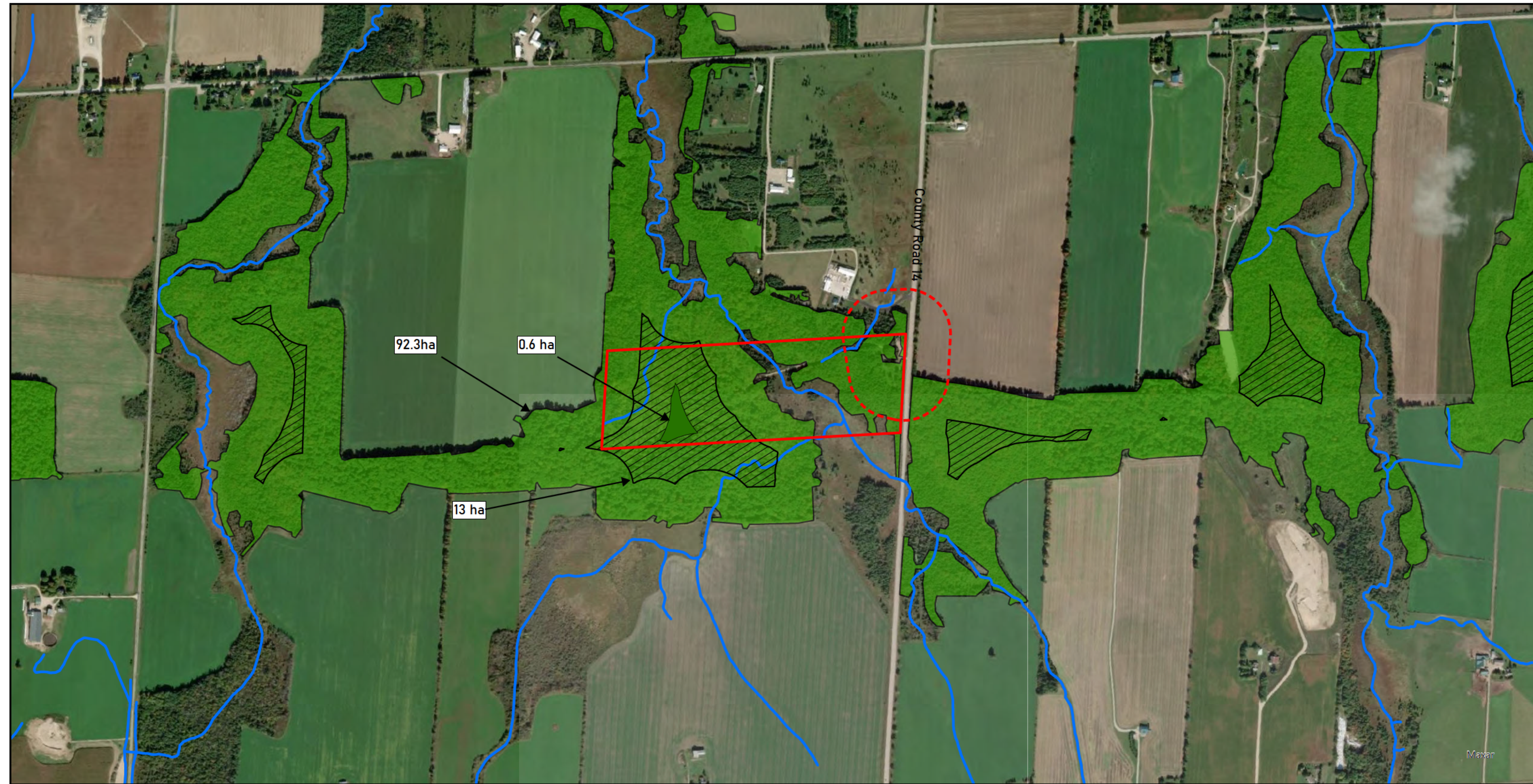
### 5.3 SIGNIFICANT WOODLAND

The Study Area contains forest stands that are part of a larger feature that contains interior habitat, particularly to the west (Figure 3). The woodland feature has been measured as approximately 92.3 ha, with approximately 0.6 ha of interior forest habitat (measured as 100 m from the edge).

The County of Grey and Township of Southgate map Significant Woodlands in the Study Area. In addition, the woodland feature would be considered significant according to provincial evaluation criteria in the Natural Heritage Reference Manual (MNR, 2010, Section 7.3.1, Table 7-1) due to the feature's size, water protection, linkage and proximity to other significant features.

Therefore, Significant Woodlands are considered to be present in the Study Area.





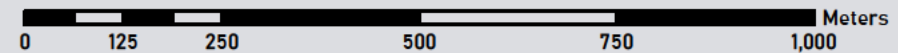
112754 County Road 14  
Township of Southgate

- Property Limit
- 120m Study Area
- Watercourse (Birks NHC/LIO)
- Grey County - Significant Woodlands
- 100m Woodland Interior
- 200m Woodland Interior

Figure 3  
Significant Woodland Mapping



MAP DRAWING INFORMATION:  
DATA PROVIDED BY: DISTRICT OF MUSKOKA  
MAP CREATED BY: SB  
MAP CHECKED BY: HM  
MAP PROJECTION: NAD 1983 UTM ZONE 17N



FILE LOCATION:  
Path: C:\Users\S\_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\03-003-2024 Grey Road 14  
PROJECT: 03-003-2024 STATUS: DRAFT DATE: 06/23/2025





#### 5.4 SIGNIFICANT VALLEYLANDS

The County of Grey Official Plan Constraint mapping (Appendix B) and the Township of Southgate Official Plan Natural Heritage Features mapping (Appendix C) include Significant Valleylands. No Significant Valleylands are mapped in the Study Area.

#### 5.5 SIGNIFICANT WILDLIFE HABITAT

The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015) was reviewed by Birks NHC as part of this study to determine whether any portion of the Study Area would meet the criteria for candidate or confirmed SWH. SWH functions were assessed utilizing expert knowledge of the site; habitat and species data sources were reviewed in addition to field data gathered by Birks NHC. The SWH assessment is included as Appendix F of this report.

Based on the SWH assessment, the following SWH functions have been carried forward for consideration within the EIS:

##### 5.5.1 Bat Maternity Colonies

Bat Maternity Colonies is identified as SWH because known locations of forested bat maternity colonies are extremely rare in Ontario. According to Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015), maternity colonies located in mature deciduous or mixed forest stands with more than 10 large diameter (greater than 25 cm dbh) wildlife trees (snags) per ha are candidates for SWH designation.

The proposed development area and adjacent vegetation communities on the property within the Study Area are predominantly coniferous and therefore are not expected to provide this function of SWH habitat for Bat Maternity Colonies (MNRF, 2015). Mixed woods to the east of County Road 14, outside of the property, may provide this function to the listed bat species in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015).

##### 5.5.2 Amphibian Breeding Habitat

Ecosites associated with forest, swamp, marsh, fen, bog and open water communities are candidate habitat for amphibian breeding. The presence of a wetland, pond or woodland pool containing water in most years until at least mid-July are more likely to be used as breeding habitat (MNRF, 2015). No targeted amphibian surveys were conducted by Birks NHC within the Study Area, however, possible breeding habitat features are present. No amphibian breeding habitat was noted in the proposed development area as it contains upland Eastern White Cedar forest and open upland disturbed meadow.

Wetlands were present in adjacent Study Area lands. No standing water was noted in the fresh-moist mixed meadow adjacent to the development area, and no ponds or woodland pools were noted during the July 2024 site visit. However, amphibian breeding habitat is considered to potentially be present in



the Study Area (outside of the development area) due to the presence of wetlands and drainage features.

### 5.5.3 Woodland Area-Sensitive Breeding Bird Habitat

Woodland Area-Sensitive Breeding Bird Habitat generally requires large mature trees present in contiguous forest communities with sufficient area of interior forest habitat at least 200 m from the forest edge. The woodland feature was measured to be approximately 92 ha in size and contain approximately 0.6 ha of interior habitat (200 m from forest edges). Given the expanse of woodland habitat, it is expected that woodland area-sensitive breeding bird species and nesting raptors may be associated with the property in general, and more particularly to the west outside of the Study Area.

Two species listed in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNR, 2015) in association with Woodland Area-Sensitive Breeding Bird Habitat SWH were recorded by Birks NHC [Winter Wren (possible breeding evidence) and Black-throated Green Warbler (probable breeding evidence)]; no interior woodland habitat is present in the Study Area but is present in the larger woodland feature (Figure 3). The woodlands in the Study Area are separated from those to the east by County Road 14, and from those to the west with open wetlands in the centre of the property. It can therefore be assumed that although the woodland habitat within the property contributes to this function, the Study Area lacks the features required to support woodland area-sensitive breeding bird habitat.

### 5.5.4 Special Concern and Rare Wildlife Species

Habitat for all Special Concern and provincially rare (S1-S3, SH) plant and animal species is considered SWH. When an occurrence is identified within a survey grid square for a Special Concern or provincially rare species, an assessment of the Study Area to provide candidate habitat for the species is warranted. The following Special Concern wildlife species was identified as potentially occurring within the Study Area:

#### Snapping Turtle

The Snapping Turtle occurs in almost any freshwater habitat including small wetlands, ponds, and ditches. This species has occurrences recorded in the survey grid square immediately south of the Study Area (NHIC square 17NJ3587) and is known to the general area (Ontario Nature, 2024). Snapping Turtle has potential to utilize the wetland habitats, particularly the drainage features within and outside of the Study Area.

## 5.6 AREAS OF NATURAL AND SCIENTIFIC INTEREST (ANSI)

ANSIs are areas of land and/or water containing natural landscapes or features that have been identified by MNR as important for natural heritage protection, appreciation, scientific study or education. An Earth Science ANSI contains a feature that was created by a geological process and consists of physical elements of a natural landscape, such as the bedrock, landforms, and fossils. A Life Science ANSI



exhibits ecological features and consists of the biodiversity of the area and its landscapes and has not been affected by human development. No ANSIs are mapped within the Study Area.

## 5.7 FISH AND FISH HABITAT

A stream originating from north of the property flows through wetlands in a southerly direction into the property where it continues westward parallel to the property trail. The feature converges with a channel to the west, outside of the Study Area. Given the seasonality of the feature in the Study Area, it has been assumed to be indirect fish habitat, contributing to fish habitat downstream of the Study Area.

## 5.8 HABITAT OF THREATENED AND ENDANGERED SPECIES

The habitat requirements of species listed as Threatened or Endangered under the ESA were considered in relation to the habitat features noted within the proposed development area and adjacent lands. Based on data available, it was determined that potential habitat for Threatened and Endangered species may be present in the Study Area. Of the species identified, Redside Dace and Endangered bat species are relevant to the Study Area and are therefore considered further.

### 5.8.1 Redside Dace (Endangered)

Redside Dace is a small fish found in pools and slow-moving areas of small streams and headwaters with a gravel bottom. Species at Risk mapping indicates Saugeen River and the west channel that feeds into it as Critical Habitat for Redside Dace (DFO, 2024). Regulated Redside Dace habitat is described as any part of a watercourse that is being used by Redside Dace or was used at any time during the previous 20 years and in which the habitat is suitable (MNRF, 2016). Recovery habitat includes formerly occupied stream reaches that are located in the same or adjacent sub-watershed. Regulated habitat also refers to the area encompassing the meander belt width and any stream or headwater drainage feature, groundwater discharge area or wetland that augments or maintains the baseflow, coarse sediment supply or surface water quality to occupied or recovery reaches, provided an average bankfull width of 7.5 m or less (MNRF, 2016). Given the connection of the drainage feature in the Study Area to the channels mapped as Critical Habitat for Redside Dace, it would be expected to be considered regulated habitat under Ontario's ESA.

### 5.8.2 Endangered Bat Species

Eight species of bats live in Ontario, seven of which are currently listed as Endangered in Ontario. Eastern Red Bat, Hoary Bat and Silver-haired Bat were recently added as Endangered species in January of 2025, along with Eastern Small-footed Myotis, Little Brown Myotis, Northern Myotis, and Tri-colored bat which have been listed as Endangered since 2013. The main threats to populations of these bat species are wind energy turbines (for migratory bat species - Hoary Bat, Eastern Red Bat, and Silver-haired Bat), White Nose Syndrome (a fungal disease), and loss of forested roosting habitats.

Important habitat functions for these species include hibernacula, day roosts, foraging habitat, and maternity roosts. Hibernacula for bats in Ontario are often found in caves, abandoned mine shafts,



underground foundations, and karsts. These features were not documented within the surveyed area of the property and are unlikely to be present in adjacent lands within the Study Area. As mentioned above, potential foraging habitat would be associated with open woodland, meadow and wetland communities that provide an abundance of flying insects. Foraging habitat is widely available within the matrix of natural areas common throughout the Township.

Day roosts are those that are used by males and non-reproductive females as they move across the landscape and can take the form of any mature tree with appropriate features such as loose bark, cracks, crevices, or clusters of tree leaves/needles. Maternity roosting habitat is found in forest habitats providing a relatively high density of large wildlife cavity trees (i.e., snags). Forested habitat within the Study Area may provide roosting habitat for bats. Typically, bats in Ontario roost in mature trees in the early stages of decay, with features such as cracks, crevices or loose bark. Tri-colored Bat and Eastern Red Bat are known to utilize foliage and roost in clusters of tree leaves/needles. The Study Area woodlands, however, are primarily coniferous and White Cedar dominated, which are less likely to support bat habitat in terms of maternity colony roosting and a high density of candidate roost trees was not noted in the Study Area. Mixed woods to the east side of County Road 14, and to the west of the Study Area, may provide this function.

### 5.9 NATURAL HERITAGE FEATURES AND FUNCTIONS SUMMARY

The results of the field surveys and review of background information indicate both confirmed and candidate natural heritage features and functions associated within the Study Area. Our impact assessment will consider potential impacts only to features and functions summarized in Table 2 below.

**Table 2: Natural Heritage Features and Functions Summary**

| Natural Heritage Feature / Function | Within Proposed Development Area | Within 120 m of Proposed Development Area   | Actions Required  |
|-------------------------------------|----------------------------------|---|---|
| Provincially Significant Wetland    | None                             | None  | No further consideration required.  |
| Other Wetland                       | None                             | Birks NHC identified swamp wetland within the Study Area.<br><br>Other unevaluated wetlands within the Study Area, outside of the property, are mapped by MNR (Figure 1). | Further consideration required for potential impacts. This is provided in the following sections. |



**Table 2: Natural Heritage Features and Functions Summary**

| Natural Heritage Feature / Function                        | Within Proposed Development Area  | Within 120 m of Proposed Development Area   | Actions Required  |
|--|---|---|---|
| <b>Significant Woodlands</b>                               | The County of Grey and Township of Southgate map Significant Woodlands in the development area. | The County of Grey and Township of Southgate map Significant Woodlands in the Study Area.   | Further evaluation is required for potential impacts. This is provided in the following sections. |
| <b>Significant Valleylands</b>                             | None  | None  | No further consideration required.  |
| <b>Significant Wildlife Habitat</b>                        | None  | <u>Candidate SWH:</u> <ul style="list-style-type: none"> <li>• Bat Maternity Colonies</li> <li>• Amphibian Breeding Habitat</li> <li>• Special Concern Species (Snapping Turtle)</li> </ul> | Further evaluation is required for potential impacts. This is provided in the following sections. |
| <b>Provincial Areas of Natural and Scientific Interest</b> | None  | None  | No further consideration required.  |
| <b>Fish Habitat</b>  | None  | Indirect fish habitat, contributing to fish habitat downstream of the Study Area  | Further evaluation is required for potential impacts. This is provided in the following sections. |
| <b>Habitat of Threatened or Endangered Species</b>         | None  | <u>Potential</u> <ul style="list-style-type: none"> <li>• Endangered bat species</li> <li>• Redside Dace regulated habitat</li> </ul>   | Further evaluation is required for potential impacts. This is provided in the following sections. |

## 6 IMPACT ASSESSMENT

The intent of this study is to identify natural heritage and functions associated with the Study Area and determine if potential impacts could arise from the proposed development. Impacts are evaluated based upon current knowledge of the Study Area as acquired through background information review



and data collected in 2024 by Birks NHC, in consideration of the proposed development area. In the following sections we assess the potential for negative ecological impacts to the identified natural heritage features and functions within the development area and adjacent lands.

Natural heritage functions are generally grouped within habitat features. Given this association, impacts are considered as they relate to the woodlands and wetlands within the Study Area and their associated functions, as listed:

Wetlands (Outside of Development Area; Adjacent Lands Only)

- Potential SWH – Amphibian Breeding Habitat
- Potential SWH – Habitat for Special Concern Species (Snapping Turtle)
- Potential Species at Risk – Endangered bat species
- Watercourse – Indirect fish habitat, Potential Redside Dace regulated habitat

Woodlands (Outside of Development Area; Adjacent Lands Only)

- Potential SWH – Bat Maternity Colonies
- Potential SWH – Amphibian Breeding Habitat

## 6.1 DEVELOPMENT AREA

The identified development envelope is located over 15 m outside of hazards lands (*i.e.* outside of floodplain extent) as mapped by GEI Consultants (2025) and does not contain wetlands or candidate SWH functions discussed above. Further, as per local and provincial policy, the proposed development area provides a minimum 30 m setback to the main swamp wetland feature and to indirect fish habitat, with the exception of the eastern area where there is a 220 m<sup>2</sup> encroachment into the 30 m setback (Figure 4). It is noted that retaining walls may be required along the western boundary of the proposed development area to achieve overall grading of the site. Retaining walls would also serve to avoid infill within the wetland area setback. The development area contains Significant Woodlands as mapped by the County of Grey and Township of Southgate, however no negative impacts on the woodland feature or its ecological functions are anticipated, as discussed further below.

Overall, the development envelope is 0.6 ha, constituting approximately 3% of the total property area. The intent of the proposed development envelope being that approximately 97% of the property area would remain undeveloped and in its natural state and that connectivity among natural features would be maintained.





Grey County, Maxar, Microsoft

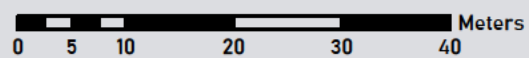
112754 County Road 14  
Township of Southgate

- Property Limit
- Watercourse (Birks NHC/LIO)
- Trail
- Wetland Limit (July 2024; Birks NHC)
- 30m Wetland Setback
- Development Envelope (0.6 ha)
- Compensation Plantings Area

Figure 4.  
Proposed Development Area



MAP DRAWING INFORMATION:  
DATA PROVIDED BY: DISTRICT OF MUSKOKA  
MAP CREATED BY: SB  
MAP CHECKED BY: HM  
MAP PROJECTION: NAD 1983 UTM ZONE 17N



FILE LOCATION:  
Path: C:\Users\S\_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\03-003-2024 Grey Road 14  
PROJECT: 03-003-2024 STATUS: DRAFT DATE: 13/08/2025





## 6.2 DIRECT IMPACTS

Direct impacts are those that are immediately evident as a result of a development. Typically, the adverse effects of direct impacts are most evident during the site preparation and construction phase of a development. Potential impacts of development/site alteration in the identified development envelope are as follows:

### 6.2.1 Tree and Vegetation Removals

Development and site alteration is not permitted within Significant Woodlands nor adjacent lands unless the ecological function of the feature has been evaluated and it has been demonstrated that there will be no negative impact to the natural feature or its ecological functions.

Significant Woodlands as mapped by the County of Grey and Township of Southgate are located within the proposed development envelope, with approximately 0.25 ha of the 92.3 ha woodland feature being within the development envelope area. The development envelope currently consists of both woodland and open lands and is located at the edge of a feature which is primarily fragmented by County Road 14 to the east, existing development to the north, and by the stream channel and marsh wetlands to the west.

There is no expectation that vegetation removals within the development envelope would constitute a negative ecological impact to the Significant Woodland feature, including the ecological functions associated with the feature. That is, the woodland feature post-development would continue to maintain ecological functions, including provision of interior habitat in the western portion of the property, water protection, linkage to other features (woodlands, wetlands), and candidate SWH functions such as amphibian breeding habitat.

Further, the woodlands in the development envelope consist of monoculture Eastern White Cedar. The monocultural community has little structure and provides limited habitat for wildlife. Higher quality treed habitats with greater diversity, complexity and understory growth can be found on the property and are to be retained as part of the proposed development. Nonetheless, compensation plantings are proposed for future tree removals within the development envelope (planting area identified on Figure 4).

### 6.2.2 Loss of Potential Habitat for Species at Risk and Potential for Incidental Harm

#### Endangered Bat Species

Natural bat roosting habitat can take the form of any tree with appropriate snag features such as loose bark, cracks or crevices. The woodlands, primarily coniferous (White Cedar dominated), however are less likely to support bat habitat in terms of roosting. There is a small possibility, however, that trees within the development area could be utilized as day roost trees. It is therefore recommended that development and site alteration proceed in consideration of the protection of bats and bat habitats,



through minimizing removal of snag trees and adhere to timing restrictions set out in Section 7 of this report.

Potential foraging habitat would be associated with open woodland, meadow and wetland communities that provide an abundance of flying insects. Foraging habitat is widely available and common to the area, and there is a significant amount of woodland and wetland habitat that would remain within the property and on adjacent lands that would be available for roosting and foraging.

Therefore, provided the recommendations and mitigation measures provided are applied accordingly, it is anticipated that the proposed development can proceed in accordance with the ESA in terms of Endangered bats and bat habitat.

### **6.3 INDIRECT IMPACTS**

Indirect impacts are those that do not always manifest in the core development area but in the lands adjacent to the development envelope. Indirect impacts include the following:

#### **6.3.1 Disturbance to Wildlife and Wildlife Habitat**

A variety of common wildlife species utilize the habitats within the Study Area. In addition, woodland and wetland habitats within the lands adjacent to the development envelope may function as amphibian breeding habitat and contribute to habitat for fish and At-Risk wildlife species (Snapping Turtle, Endangered bat species). The development envelope, as proposed, would not be removing the habitat features required for those functions listed above. Additionally providing a 19 m to 30+ m setback from the wetlands and over 30 m from the drainage feature (Figure 4).

Further, given the relatively small area of the proposed development envelope in relation to the size of the property and adjacent natural habitats, and that natural heritage features and functions have already been exposed to existing low levels of anthropogenic influence, site alteration within the development envelope is not expected to result in a noticeable intensification of indirect human impacts and disturbance. It is expected that wildlife would continue to access and utilize adjacent habitats and that the proposed development would not result in negative impacts to wildlife or their habitats.

#### **6.3.2 Changes to the Hydrology/Water Quality Entering Sensitive Features**

The development envelope is proposed outside of the naturalized setback to identified wetlands in the Study Area (Figure 4). The setback will remain post development and no site alteration is to occur beyond the development envelope, which will serve to limit the potential for deleterious substances to enter sensitive features.

Water quality controls such as limiting impervious surfaces, avoiding inappropriate disposal of deleterious substances (oil, gas, paint, etc.) and ensuring successful operation any future septic system can limit the potential for contaminated water to enter adjacent retained natural features.



Existing drainage patterns should be considered during future site plan development so that water will continue to permeate and contribute to subsurface water resources, and contributions to the wetlands be unaltered as a result of the development. Going forward, mitigation measures have been provided in Section 7 to ensure protection of retained wetlands, in relation to release of contaminant and contaminated water resources.

### 6.3.3 Increased Potential for Invasion of Non-native Species

Site disturbance may increase the likelihood that non-native and/or invasive vegetation species will become established within the retained vegetation communities. Additionally, if construction equipment is not properly cleaned between use, invasive species transport may occur. Currently, non-native/'exotic' plant species are prevalent in the developable envelope. Mitigation measures are provided in Section 7 below.

## 7 RECOMMENDATIONS AND MITIGATION MEASURES

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Mitigation refers to the avoidance or reduction of impacts associated with the proposed works through best practices. Where applied correctly, mitigation is intended to reduce the potential for impacts to ensure that the natural heritage features and functions will continue uninhibited by the proposed development. Thus, mitigation would be required to ensure that there is no negative impact, and development/site alteration within the development envelope can proceed in conformity with the relevant planning documents and in compliance with environmental law.

To support the implementation of local policies, mitigation and compensation measures have been proposed to avoid disturbance to the identified Study Area features and functions and provide additional protection. The following mitigation measures are recommended to minimize the potential natural heritage impacts identified within this report.

### 7.1 SPECIES AT RISK

Given the dynamic character of the natural environment, as well as changes to policy (*i.e.*, new species listing, changes in species health or habitat conditions), annual consideration of current legislation and Species at Risk habitats is recommended in the interpretation of potential presence of Threatened or Endangered species as protected under the ESA.

This report was produced based on the most up-to-date policy information however, it is not intended to act as a long-term assessment of potential Species at Risk. The ESA is recognized as being a 'proponent-driven' piece of legislation and therefore it is the responsibility of the landowner/developer to ensure compliance with the regulations made under this act. Should a considerable length of time and/or sudden change in policy occur prior to construction, it is recommended that a review of the



assessment provided within this report be undertaken by a qualified ecologist to ensure compliance with the ESA at that time.

All current Threatened or Endangered species listed under O. Reg. 230/08 made under the ESA (last amended January 2025) have been considered within this report.

#### 7.1.1 Timing Windows - Endangered Bat Species

The trees within the development envelope being primarily coniferous and smaller in diameter are less likely to support bat habitat in terms of roosting. However, there is a possibility that trees within the development area could be utilized as day roost trees. Therefore, tree removals should occur outside of the active breeding/day roosting/nesting season for all Species at Risk that may utilize habitats in the area, including bats.

Tree cutting should be timed to occur during the period between November 1 to March 31 and no removals outside of the designated development area should occur. This will ensure that no nesting birds or bats actively roosting in trees will be killed or harmed as a result of clearing activities.

## 7.2 BREEDING BIRDS

Construction activities involving the removal of vegetation should be restricted from occurring during the bird breeding season. Migratory birds, nests, and eggs are protected by the Migratory Birds Convention Act, 1994 and the Fish and Wildlife Conservation Act, 1997. Environment Canada outlines dates when activities in any region have potential to impact nests at the Environment Canada Website (<https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html>). For this location, vegetation removal should be avoided between April 1st and August 31st of any given year to protect breeding birds. If vegetation clearing is required between these dates, screening by an ecologist with knowledge of bird species present in the area should be undertaken to ensure that the vegetation has been confirmed to be free of nests prior to clearing.

## 7.3 WOODLAND / WETLAND PROTECTION

- Development activities should be contained within the proposed development envelope. This area should be appropriately delineated prior to beginning of any construction or site alteration to ensure that no accidental deviation occurs from the area of disturbance and intended tree removals. Sediment and erosion control fencing would be sufficient to demark the limit of development area/area of disturbance and act as natural feature protection. Protection fencing is to be in place until all site works have been completed and the risk of tree damage/sediment and erosion is no longer a concern. No site alterations, storage of materials or equipment are permitted outside of the development envelope.
- Equipment maintenance during and post construction should be undertaken in an appropriate area. Tool and vehicle maintenance and cleaning should be completed away from the retained



natural areas in a manner that does not encourage the movement of cleaning or maintenance products including cleaners, oils or fuel into the neighbouring forested and wetland areas. Fuel and chemical storage should follow appropriate legislation to ensure that it is maintained and stored in a way that will not result in accidental release or spills to the neighboring natural areas.

- Potentially contaminated materials (*i.e.*, fill, soil, gravel, excavated materials) shall be controlled and moved by equipment during construction to prevent the spread of invasive plants. Vehicles and equipment shall be inspected and cleaned prior to allowing access to the property to prevent the spread of invasive plant species into the site.
- Water quality controls such as limiting lot coverage with hard surfaces, avoiding inappropriate disposal of deleterious substances (oil, gas, paint, etc.) and ensuring successful operation any future septic system can limit the potential for contaminated water to enter adjacent retained natural features.
- Existing drainage patterns should be considered during future site plan development so that water will continue to permeate and contribute to subsurface water resources, and contributions to the wetlands be unaltered as a result of the development.
- It is noted that retaining walls may be required along the western boundary of the proposed development area to achieve overall grading of the site. Retaining walls would also serve to avoid infill within the wetland area setbacks.
- Compensation plantings for removals of trees within the development envelope. Planting stock is to be of native species and complement the surrounding natural community. Eastern White Cedar, Tamarack, and Balsam Fir tree species are recommended. Preferred location for the plantings has been identified on Figure 4.

#### 7.4 HAZARD LANDS

Hazard Lands include floodplains, steep or erosion prone slopes, unstable soils, and poorly drained areas. Development or site alterations may be permitted in Hazard Lands only if the hazards can be safely addressed, that no new hazards are created, no adverse environmental impacts would result from the development/site alterations, and that approval of the appropriate authorities is obtained. The proposed development envelope is located outside of the mapped wetlands, outside of the floodplain (GEI, 2025) and in an area determined to be low potential for slope instability (GEI, 2024). Future development and any site grading is to take into account the topography of the land and vicinity of the adjacent lands to prevent infilling and the potential impact to existing and future slope stability.



## 8 CONCLUSIONS

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Birks NHC has undertaken this EIS for the proposed development envelope located at the eastern portion of the property 112754 Grey Road 14, Township of Southgate. Through the assessment, it was determined that lands contain natural heritage features and functions relating to the presence of woodland, wetland, and indirect fish habitat. The intent of the EIS was to identify and characterize the pertinent natural heritage features and functions present within and adjacent to the proposed development envelope area and to determine if potential ecological impacts to those features and functions could arise from the proposed development.

Mitigation measures recommended in this report have been developed to avoid and mitigate potential negative ecological impacts associated with the proposed development. Overall, potential ecological impacts are mitigable provided the listed mitigation measures are applied accordingly.



## 9 REFERENCES

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[https://www.saugeenconservation.ca/en/about-us/resources/Conservation-Act-Amendments/Watershed-Based-Resource-Management-Strategy\\_DFT\(forCIRC\).pdf](https://www.saugeenconservation.ca/en/about-us/resources/Conservation-Act-Amendments/Watershed-Based-Resource-Management-Strategy_DFT(forCIRC).pdf)

Township of Southgate. 2022. Township of Southgate Official Plan.

<https://www.southgate.ca/en/municipal-services/southgate-official-plan.aspx>



## **Appendix A**

Saugeen Valley Conservation Authority Screening Area Map and Correspondence



https://camaps.maps.arcgis.com/apps/webappviewer/index.html?id=f0ec744c8d6d4e499895aaaab3d83761

**Saugeen Conservation** SVCA Approximate Regulated & Approximate Screening Areas

112754 County Rd 14, Southg: X Q

Show search results for 112...

Welcome to SVCA GIS Mapping

This mapping is approximate and boundary lines are conceptual. See text of [Ontario Regulation 41/24](#) and the [Conservation Authorities Act](#) for details.

**To use mapping:**

- use the **Search** bar to quickly find a property on the map
- OR
- use the **Map** to navigate and explore
- OR
- use the **Location** icon to zoom to your current location

If you appear to be within the SVCA Approximate Regulated or Approximate Screening area please contact SVCA.

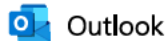
519-364-1255  
planning@svca.on.ca  
**Help**

112754

Earthstar Geographics | Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, NRCan, Parks Cana.

POWERED BY **esri**





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**RE: 112754 County Road 14, Township of Southgate - Property inquiry/Screening Area**

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**From** Planning <planning@svca.on.ca>  
**Date** Tue 2024-07-02 12:55 PM  
**To** Heather Marcks <hmarcks@birksnhc.ca>

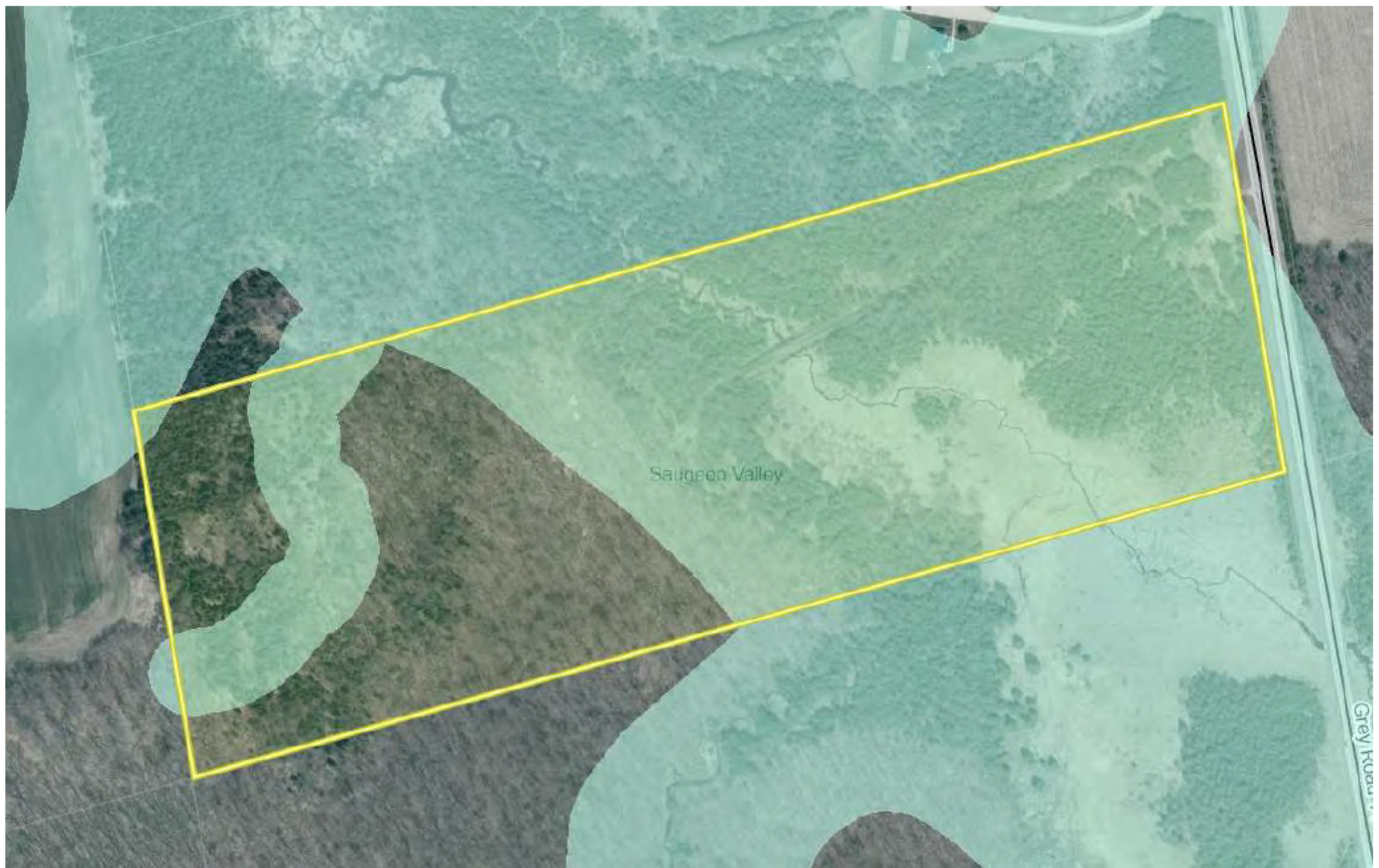
📎 6 attachments (2 MB)

LandownerAuthorization\_2024.pdf; SVCA and County Map Instructions.pdf; SVCA Fee Schedule 2024.pdf; SVCA Navigating The Development Approval Process.pdf; SVCA Regulations Information Sheet\_2024.pdf; 01a. Site Plan.png;

This message's attachments contains at least one web link. This is often used for phishing attempts. Please only interact with this attachment if you know its source and that the content is safe. If in doubt, confirm the legitimacy with the sender by phone.

Good afternoon Heather,

Thanks for contacting us! It is the understanding of SVCA staff that you have been retained by the landowner to undertake an Environmental Impact Study (EIS) to explore potential development opportunities for the subject property: 112754 Grey Road 14 – Roll No. 420709000305506. Please be advised that portions of the subject property are located within the SVCA Approximate Screening Area (teal shaded area on the online mapping), as shown on the map below.



Any proposed “alteration” or “development activity” within the SVCA’s Regulated Area is subject to Ontario Regulation 41/24 (known as Prohibited Activities, Exemptions and Permits) and the *Conservation Authorities Act*. Such legislation requires that a person obtain the written permission of the SVCA prior to any “development activity” within a Regulated Area or “alteration” to a wetland or watercourse. Please see the *SVCA Regulations Information Sheet* attached for further information.

Based on the preliminary site plan provided (attached), it appears to SVCA staff that the proposed development activity and associated site alterations (filling, grading, excavation, etc.) will be located within the SVCA Approximate Screening Area, and so further review from our office will be required prior to undertaking any works. To do so, the following items will need to be submitted in addition to the preliminary site plan:

1. An initial review fee of \$116 which can be paid by credit card, cheque, debit, or e-transfer. If you wish to pay by credit card or debit, please click on the link [here](#). To pay by e-transfer, please send the amount to [payments@svca.on.ca](mailto:payments@svca.on.ca) and include your name and an item description (email address, property location and inquiry). **Please note if an item description is not provided to our office, delays in timelines may occur.** Should you encounter any issues related to the payment process, please contact our Reception/Finance Clerk, Karleigh Porter, by email ([k.porter@svca.on.ca](mailto:k.porter@svca.on.ca)) or phone (519-364-1255 ext. 222). This non-refundable fee is reduced from the cost of a site inspection (\$493) or permit application (See *SVCA Fee Schedule 2024* attached), should either be required.
2. If you are initiating a file on behalf of the landowner, SVCA staff will also need written permission from the owner where the works are proposed. Please see attached the *Landowner Authorization* form.

Once I have received confirmation of payment and the landowner authorization form (if applicable), the file will be assigned to staff to review the proposal and comment.

I hope you find this information helpful. If you have any further questions or concerns, please do not hesitate to contact me!

Kind Regards,

**Cassandra Malo**

*Resources Information Technician*

Saugeen Valley Conservation Authority

1078 Bruce Road 12, PO Box 150, Formosa ON N0G 1W0

519-364-1255 ext 245

[c.malo@svca.on.ca](mailto:c.malo@svca.on.ca)

[www.saugeenconservation.ca](http://www.saugeenconservation.ca)



---

**From:** Michael Oberle <[REDACTED]>  
**Sent:** Thursday, June 27, 2024 10:46 AM  
**To:** Heather Marcks <[REDACTED]>  
**Cc:** Cassandra Malo <[REDACTED]>  
**Subject:** RE: 112754 County Road 14, Township of Southgate - Property inquiry/Screening Area

Good morning Heather,

Cassandra, copied on this email can direct you to the appropriate SVCA filed staff person. She will respond to you at her convenience.

Cassandra: I see that there was a 2021 and 2022 file for the property, not with me though.  
Thanks.

Kind regards,

Mike

Michael Oberle

*Environmental Planning Coordinator*

Cell: 519-373-4175

1078 Bruce Road 12, PO Box 150, Formosa, ON N0G 1W0

[www.saugeenconservation.ca](http://www.saugeenconservation.ca)

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**From:** Heather Marcks <[REDACTED]>  
**Sent:** Wednesday, June 26, 2024 10:39 AM

To: Michael Oberle [REDACTED]

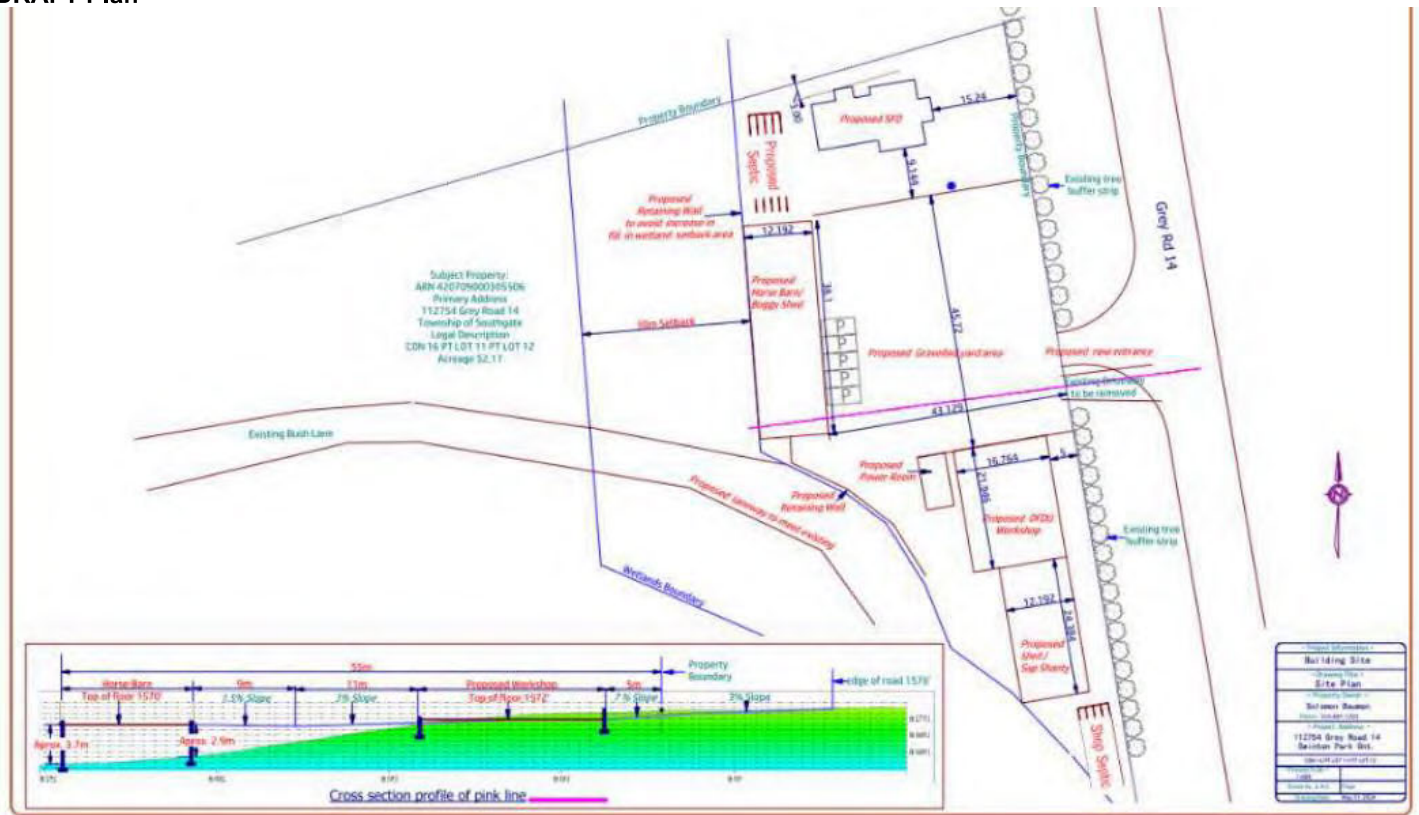
Subject: 112754 County Road 14, Township of Southgate - Property inquiry/Screening Area

**\*\*[CAUTION]: This email originated from outside of the organization. Do not click on links or open attachments unless you recognize the sender and know the content is safe.**

Birks Natural Heritage Consultants, Inc. (Birks NHC) have been retained to undertake an Environmental Impact Study (EIS) for the property located at 112754 County Road 14, Township of Southgate, County of Grey. The client is exploring development of the most eastern portion of the property (i.e., single dwelling, on-farm diversified use structures) and it is our understanding that an EIS would be required due to natural features within and adjacent to the property. We have been in communication with both the County of Grey and Township of Southgate.

Based on the online SVCA Mapping Tool, the proposed development area and adjacent lands are within a SVCA Screening Area. We are working to develop the site plan, keeping in mind providing a suitable setback to the watercourse and wetlands, as well as mapped Hazard Lands.

**DRAFT Plan**



Would you be able to provide SVCA constraint information for this property; i.e. Hazard / flood line mapping (GIS format preferably)?

If you require further information please do not hesitate to contact me,

Thank you,



Heather Marcks, HB.Sc, M.F.C. /Ecologist  
 Birks Natural Heritage Consultants, Inc.  
 p. (705)321-3743  
 w. [www.birksnhc.ca](http://www.birksnhc.ca)  
 a. 23 Herrell Avenue, Barrie L4N 6T5





Sent By E-Mail

September 12, 2024

Solomon Bauman  
c/o Birks Natural Heritage Consultants Inc  
186155 Grey Road 9  
Dundalk, ON  
N0C 1B0

Email: hmarcks@birksnhc.ca

**Subject:** Proposed Construction of Single-Family Residence, Horse Barn/Buggy Shed, Workshop, Sap Shed, Power Room, Retaining Wall, Graveled Yard, Sewage Disposal System and New Laneway  
112754 Grey Road 14  
Part Lot 11 and 12, Concession 16  
Roll No. 420709000305506  
Geographic Township of Proton  
Township of Southgate

Dear Ms. Marcks,

Saugeen Valley Conservation Authority (SVCA) thanks you for the opportunity to work with you and the landowner on the plan to construct a new single-family residence, horse barn/buggy shed, workshop, sap shed, power room, retaining wall, gravelled yard, sewage disposal system and new laneway. We visited the property on July 31, 2024, and the proposed development will need a permit from SVCA. Work should not start until you have a permit from SVCA and all other agency and municipal approvals. Based on our review of the materials you have submitted; your proposal is not acceptable to SVCA staff at this time.

### **Site Description**

The property is located on the west side of Grey Road 14, south of Southgate Road 24. The property consists almost entirely of natural area. The majority of the property consists of wetland. Several watercourse tributaries traverse the central portion of the property flowing from north to south. Associated with these watercourses and wetland is a significant floodplain. The watercourses, floodplain and wetland are identified as hazard lands on SVCA mapping.

There is an existing laneway that travels east to west through the northern half of the property connecting a cleared area near Grey Rd 14 to a hardwood woodlot in the western portion of the lot. The laneway travels through wetlands and floodplain for the majority of its length and is

approximately 350m long. There are two existing watercourse crossings on the laneway and there is significant drainage ditching along the length of the laneway.

## **About the project**

Your current proposal involves the construction of new single-family residence, horse barn/buggy shed, workshop, sap shed, power room, retaining wall, graveled yard, sewage disposal system and new laneway in the eastern portion of the property. Based on your submitted site plan, the proposed development would be located partially within the wetlands, valley slope, and the floodplain of the watercourses on the property.

## **SVCA Regulation**

The majority of the property is in a SVCA regulated area. This regulation (Ontario Regulation 41/24) means that a permit must be obtained before beginning any work in that area. Examples of work that require a permit:

- Construction, reconstruction or placing a structure of any kind
- Change to a structure that increases size, units, or use
- Site grading
- Temporary or permanent placing, dumping or removal of any material, from the site or elsewhere

A permit is also needed for any work in or around rivers, creeks, streams, watercourses, shorelines, or wetlands.

## **SVCA Policy**

During the site visit it was confirmed that your proposed development would be located on/within the river valley slope, within the wetland feature, and within the floodplain of the watercourses on the property. Staff determined that the valley slope would generally be considered stable under Provincial hazard guidelines.

Policy 4.7.1-2 of the SVCA Environmental Planning and Regulations Policies Manual (2018) only permits public infrastructure, public parks and recreational infrastructure, conservation and restoration projects, minor accessory structures and landscaping, replacement of existing buildings and septic systems, minor fill placement and grading and driveway/parking lot construction within a one-zone floodplain provided that it has been demonstrated to the satisfaction of the SVCA that the control of flooding, erosion, dynamic beaches, or unstable soil or bedrock will not be negatively affected.

Based on your site plan, a portion of the proposed construction will be located within the floodplain. Therefore, you would be required to complete a floodplain assessment through the services of a qualified engineer that demonstrates that the proposed development is located outside of the floodplain of both of the tributaries that flow across the property.

You will need to complete a floodplain assessment to determine that the buildings are out of the floodplain and any fill will not impact flood elevations.

Please note that you would also be required to demonstrate that the laneway (at its current/proposed elevation) provides safe access as required under Policy 4.7.1-2 of the SVCA Environmental Planning and Regulations Policies Manual (2018).

Within wetlands, Policy 4.13-1 of the SVCA Environmental Planning and Regulations Policies Manual (2018) only permits public infrastructure, development associated with public parks, or conservation and restoration projects. Otherwise, Policy 4.13-2 does not permit development within wetlands. Therefore, any proposed development would need to be located outside of the wetland boundary mapped by Birks Natural Heritage Consultants Inc. In addition, any fill will not be permitted to be stockpiled within the wetland during construction.

Policy 4.11.2-2 of the SVCA Environmental Planning and Regulations Policies Manual (2018) states that in general, development, interference with wetlands, alterations to shorelines and watercourses will not be permitted within the erosion hazard limit of an apparent river or stream valley.

Policy 4.11.2-4 of the SVCA Environmental Planning and Regulations Policies Manual (2018) states that notwithstanding the above, where technical assessment or studies demonstrate that lands within the erosion hazard of an apparent river or stream valley are not subject to an erosion or flooding hazard, development will be permitted if it has been demonstrated to the satisfaction of the SVCA that the control of flooding, erosion, dynamic beaches, and unstable soil or bedrock will not be negatively affected. The submitted plans should demonstrate that:

- a) no access through the erosion susceptible area is required;
- b) development will not prevent access into and through the valley in order to undertake preventative actions/maintenance or during an emergency;
- c) the potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control and site stabilization/restoration plans;
- d) there is no impact on existing or future slope stability;
- e) bank stabilization or erosion protection works are not required; and
- f) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented, and flooding hazards have been adequately addressed.

In order to address the above policy requirements the landowner will need to have a geotechnical assessment of the slope completed through the services of a qualified engineer for the proposed development to confirm that the development will not negatively impact slope stability and to ensure compliance with Policy 4.11.2-4 noted above.



## **Sewage Disposal System**

SVCA's role is limited to approving the filling and grading work required for your sewage disposal system, as its location is within a Regulated Area. Contact the Township of Southgate to learn about other required approvals.

## **Municipal Building Permit**

Please note, work should not begin until you have received a building permit from the Township of Southgate.

## **Zoning and Official Plan**

SVCA is mandated by the province to comment on planning applications that involve natural hazards. SVCA's comments do not consider whether natural heritage features are present. These comments go directly to the Township of Southgate. Please contact them to learn about the zoning on your property and if a planning application is required for your project. Please note that if a planning application is required, obtaining this letter does not guarantee that your planning application will be approved.

It is the opinion of SVCA staff that the proposed development is located within the mapped Environmental Protection (EP) zone for the property. Staff note that the EP zone for the development area includes the natural hazard features as mapped by the SVCA.

## **Drinking Water Source Protection**

Your project does not fall inside a sensitive area in the Saugeen, Grey Sauble, Northern Bruce Peninsula Drinking Water Source Protection Plan. To confirm, please contact Jim Ellis, the Risk Management Official with the Township of Southgate at [jellis@southgate.ca](mailto:jellis@southgate.ca).

## **Choice to Appeal**

If the staff are unable to issue a permit, or a permit has conditions you disagree with, there is a process for you to have them reviewed. This includes a review by SVCA's Board of Directors, and an appeal to the Ontario Land Tribunal.

To learn more about the Regulation, and how to appeal a decision, please visit our website at:

**[www.saugeenconservation.ca/appeal](http://www.saugeenconservation.ca/appeal)**

## **Limit of Comments**

SVCA staff comments only relate to the project you have planned at this time. Should time pass, or your project change, SVCA may need to update these comments.

## Conclusion

Your development proposal cannot be supported by SVCA staff as submitted.

For SVCA staff to be in a position to support your proposal, you would be required to complete a floodplain assessment through the services of a qualified engineer that demonstrates that the proposed development is located outside of the regulatory floodplain of the tributaries on the property.

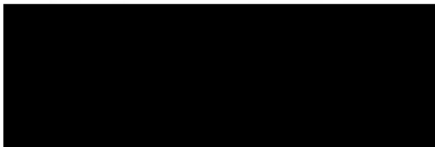
You would also be required to complete a geotechnical assessment of the slope through the services of a qualified engineer for the proposed development to confirm that the development will not negatively impact slope stability and to ensure compliance with Policy 4.11.2-4 noted above. All costs associated with the assessments would be the responsibility of the applicant and the assessments would need to be acceptable to staff. A favourable outcome cannot be guaranteed. SVCA can provide more information on report requirements and related review fees upon request.

In addition, the EIS for the property would need to show that any proposed development is located outside of the wetland.


If you complete the assessments and revise the proposal as required, SVCA staff would be in a position to consider the revised proposal.

Please contact me with any questions you may have, so that I can help you through the process.

Thank you for working with Saugeen Conservation,



Regulations Officer  
Saugeen Conservation

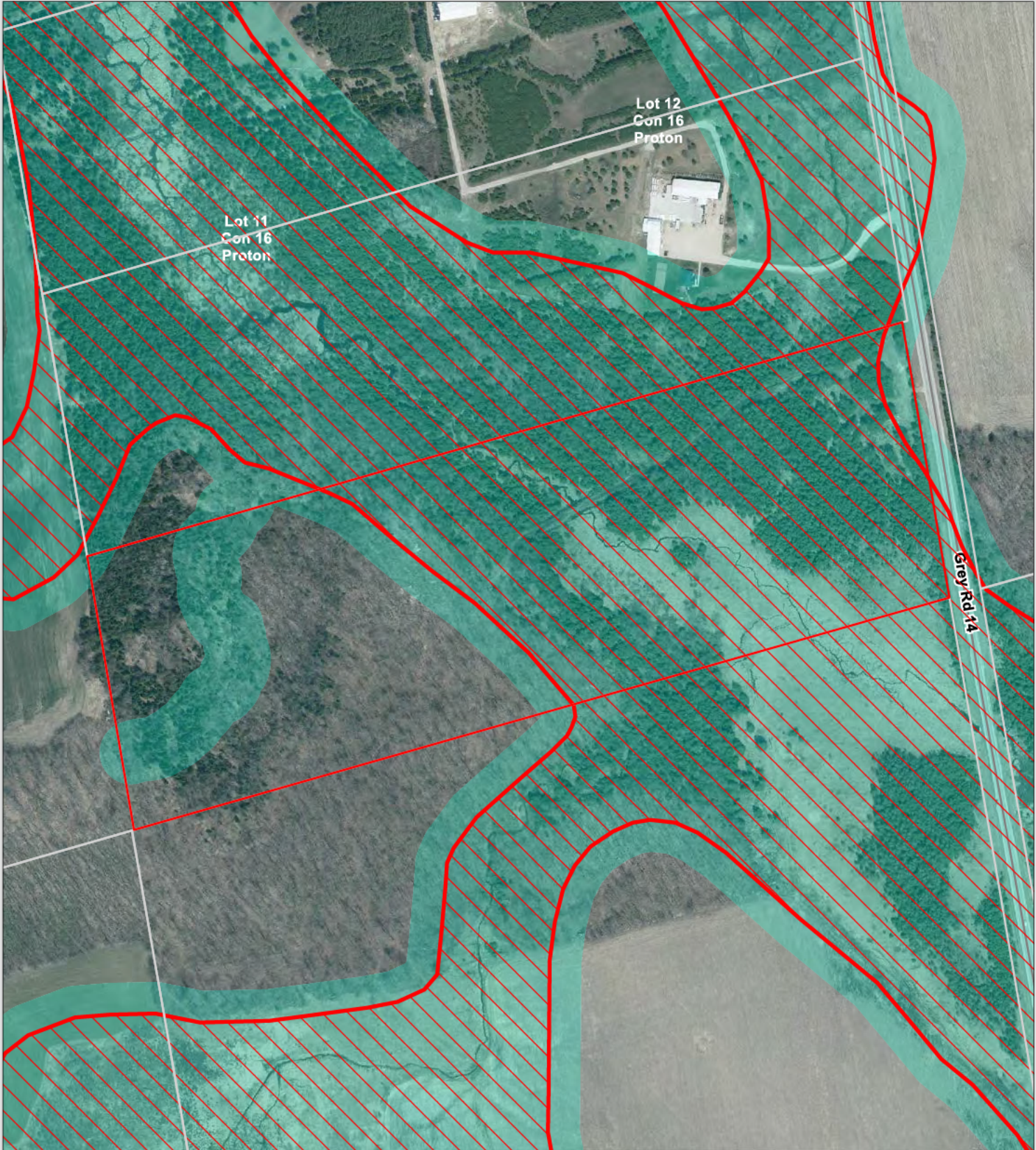
  
519-364-1255 Ext. 243

VV/

Enclosures: SVCA Map

Cc: Barbara Dobreen, Authority Member, SVCA (via email)  
Phil Schram, CBO, Township of Southgate (via e-mail)  
Cathy Maltais, Building Department, Township of Southgate (via e-mail)  
Solomon Bauman, Landowner (via e-mail)





The included mapping has been compiled from various sources and is for information purposes only. Saugeen Valley Conservation Authority (SVCA) is not responsible for, and cannot guarantee, the accuracy of all the information contained within the map.

Produced by SVCA and includes material ©[2024] of the Queen's Printer for Ontario. All Rights Reserved. [2024] May Not be Reproduced without Permission. THIS IS NOT A PLAN OF SURVEY.

This mapping contains products of the South Western Ontario Orthophotography Project 2020 (SWOOP2020). These images were taken in 2020 at 16cm resolution by Mapcon Mapping Ltd. They are the property of Saugeen Valley Conservation Authority ©2024.




September 12, 2024



UTM Zone 17N, NAD 83

1:5000

**Legend**

-  Subject Property
-  Hazard Lands
-  SVCA Screening Area

Solomon Bauman  
 112754 Grey Road 14  
 Pt Lot 11 and 12, Con 16  
 Roll No. 420709000305506  
 Geographic Township of Proton  
 Township of Southgate



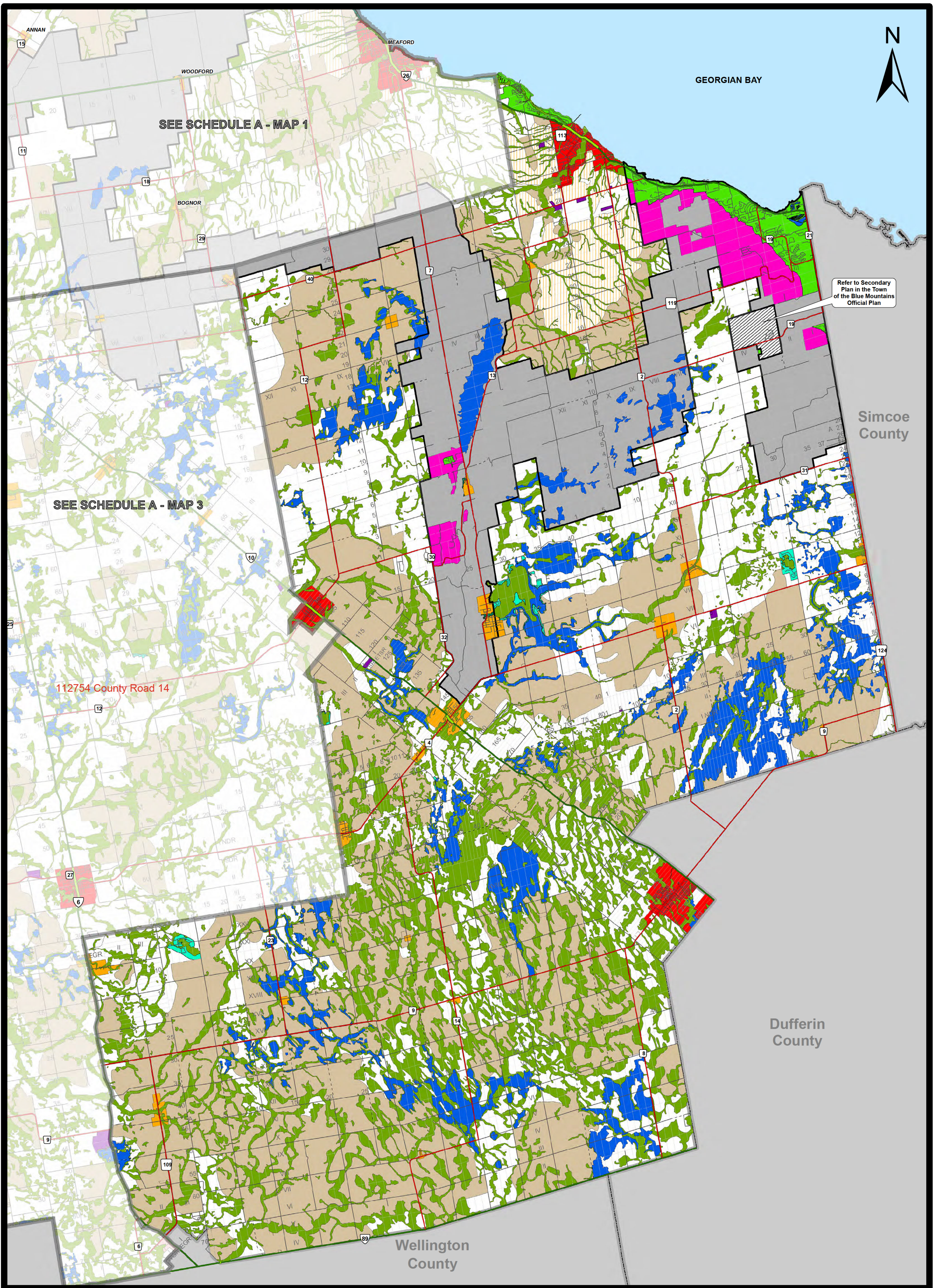


## **Appendix B**

County of Grey Official Plan  
Schedule A: Land Use Types Map 2  
Appendix B: Constraint Mapping Map 2







THE COUNTY OF GREY  
OFFICIAL PLAN

**SCHEDULE A  
Land Use Types**

MAP 2

**LEGEND**

- Provincial Highway Connecting Link
- Provincial Highway
- County Road
- Local Road
- Seasonal Road
- Agricultural

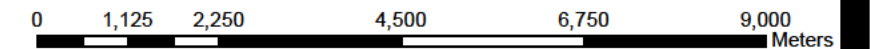
- Special Agricultural
- Rural
- Primary Settlement Area \*
- Secondary Settlement Area \*
- Inland Lakes & Shoreline Settlement Area
- Recreational Resort Settlement Area
- Sunset Strip Settlement Area
- Industrial Business Park Settlement Area

- Space Extensive Industrial and Commercial
- Niagara Escarpment Plan Boundary \*\*
- Niagara Escarpment Development Control Area
- Escarpment Natural Area
- Escarpment Recreation Area
- Hazard Lands
- Provincially Significant Wetlands and Significant Costal Lands

\* refer to Secondary Schedules for further detail.

\*\* certain settlement areas within the Niagara Escarpment Plan Boundary may be subject to Development Control.

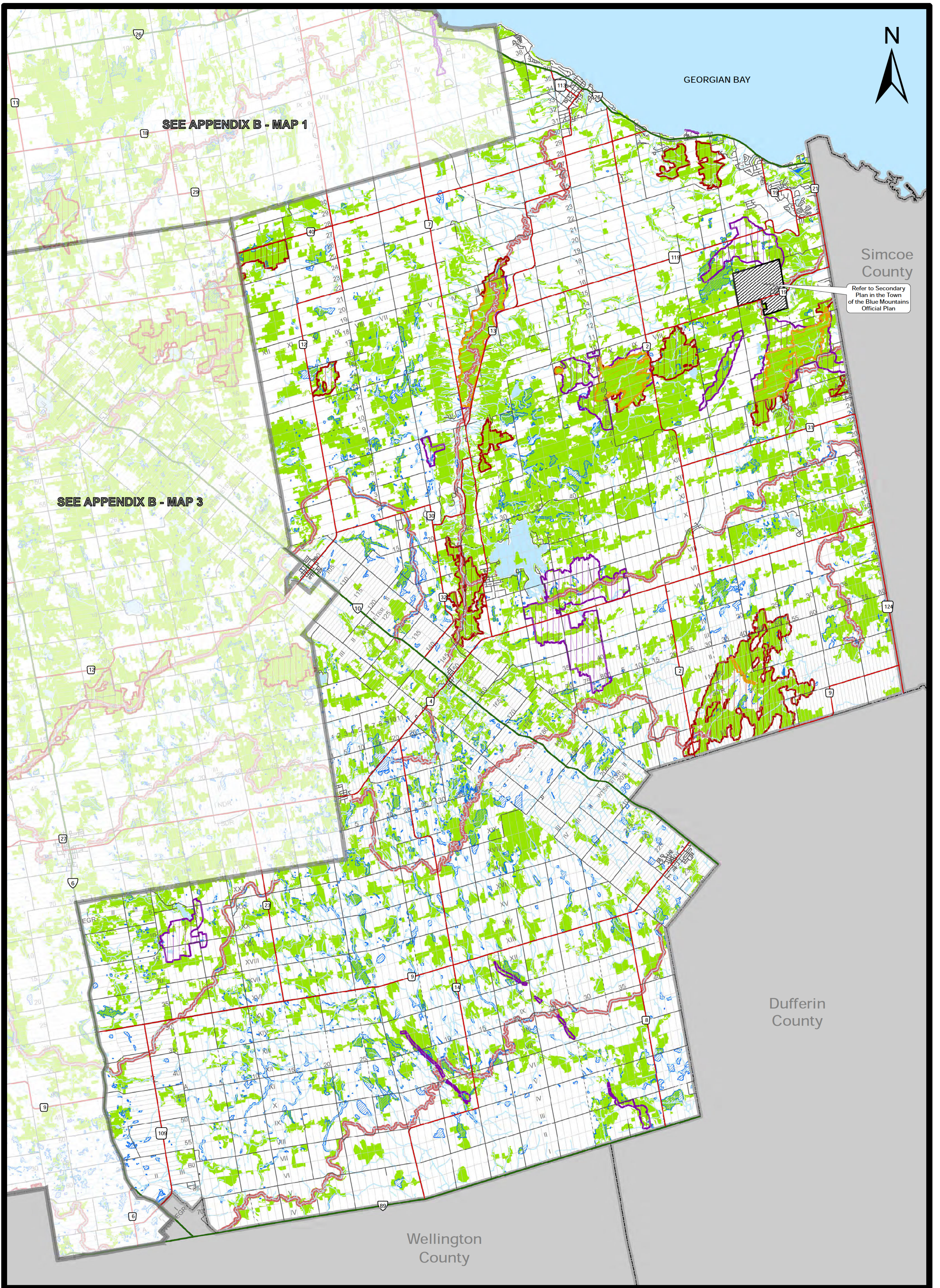
**SCALE 1:95,000**



AUTHOR: Grey County Planning  
FILE NAME: GR\_OP\_SchedA\_Map2eastX36.mxd  
CONSOLIDATION: July 12, 2024  
INTERACTIVE MAP: geo.grey.ca  
DOWNLOAD PDF: grey.ca/planning-development

*This map is for illustrative purposes only. Do not rely on this map as being a precise indicator of routes, location of features or surveying purposes. This map may contain cartographical errors or omissions.*





GEORGIAN BAY

Simcoe County

Refer to Secondary Plan in the Town of the Blue Mountains Official Plan

Dufferin County

Wellington County



THE COUNTY OF GREY OFFICIAL PLAN

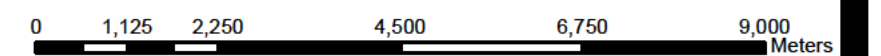
APPENDIX B Constraint Mapping

MAP 2

LEGEND

- Provincial Highway
- County Road
- Local Road
- Seasonal Road
- Stream / River
- Lakes
- Other Wetlands
- Significant Earth & Life ANSI
- Significant Earth ANSI
- Significant Life ANSI
- Significant Valleylands
- Significant Woodlands

SCALE 1:95,000



AUTHOR: Grey County Planning  
 FILE NAME: GR\_OP\_ApdxB\_Map2eastX36.mxd  
 CONSOLIDATION: May 1, 2023  
 INTERACTIVE MAP: geo.grey.ca  
 DOWNLOAD PDF: grey.ca/planning-development

*This map is for illustrative purposes only. Do not rely on this map as being a precise indicator of routes, location of features or surveying purposes. This map may contain cartographical errors or omissions.*



## **Appendix C**

Township of Southgate Official Plan  
Schedule A: Map 1 Land Use  
Schedule C: Natural Heritage Features





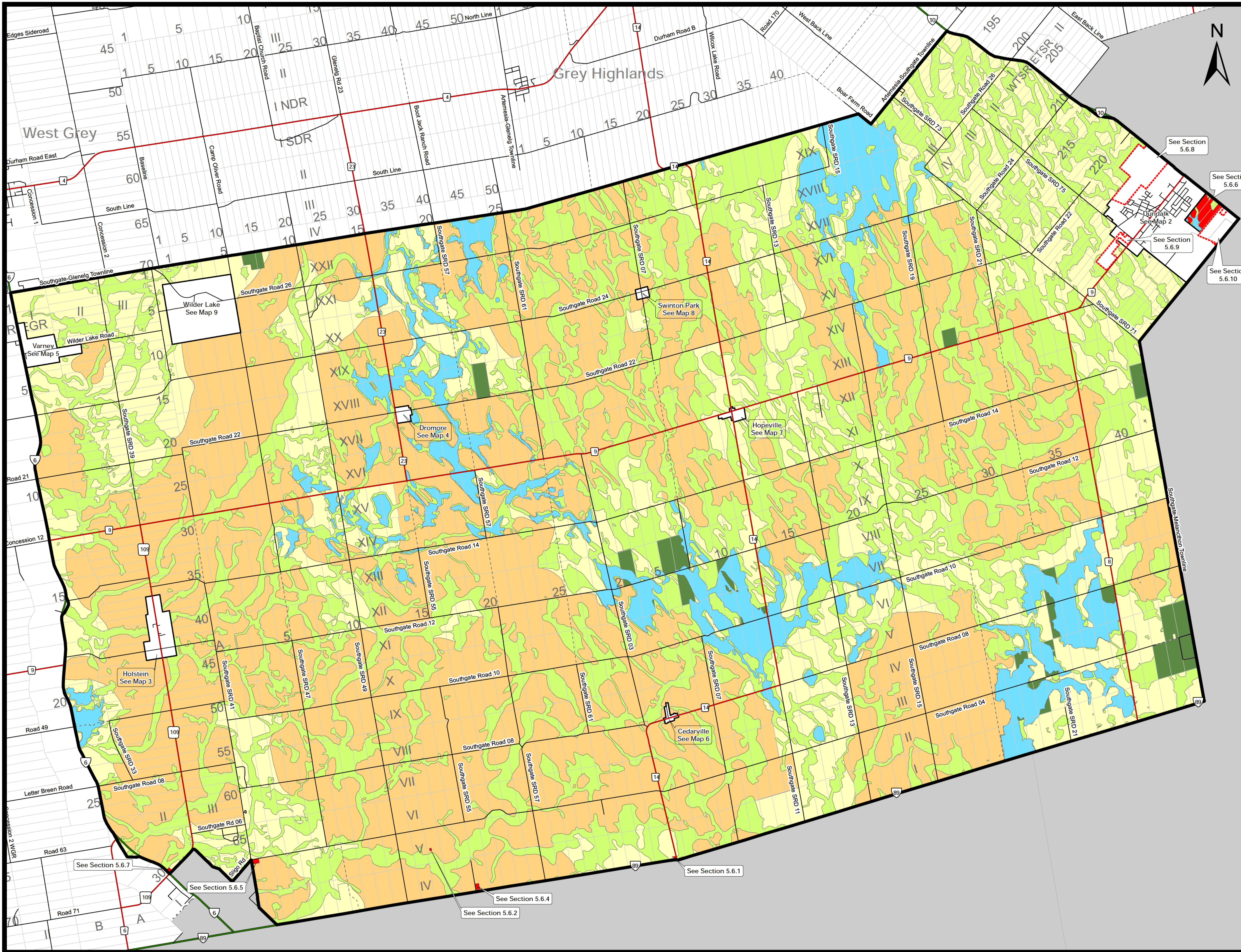
# TOWNSHIP OF SOUTHGATE OFFICIAL PLAN

## Schedule 'A' MAP 1 Land Use

### LAND USE DESIGNATION

- Neighbourhood Area
- Downtown Commercial
- Arterial Commercial
- Industrial
- Public Space
- Future Development
- Agricultural
- Rural
- Village Community
- Inland Lakes
- Hazard Land
- Provincially Significant Wetland
- Major Open Space
- Special Policy Area
- Special Policy Area

Adopted by Township Council on May 4, 2022  
Approved by the County of Grey on October 27, 2022



See Section 5.6.8  
See Section 5.6.6  
See Section 5.6.9  
See Section 5.6.10

See Section 5.6.7  
See Section 5.6.5  
See Section 5.6.4  
See Section 5.6.2  
See Section 5.6.1

West Grey

Grey Highlands

Wilder Lake  
See Map 9

Varney  
See Map 5

Swinton Park  
See Map 8

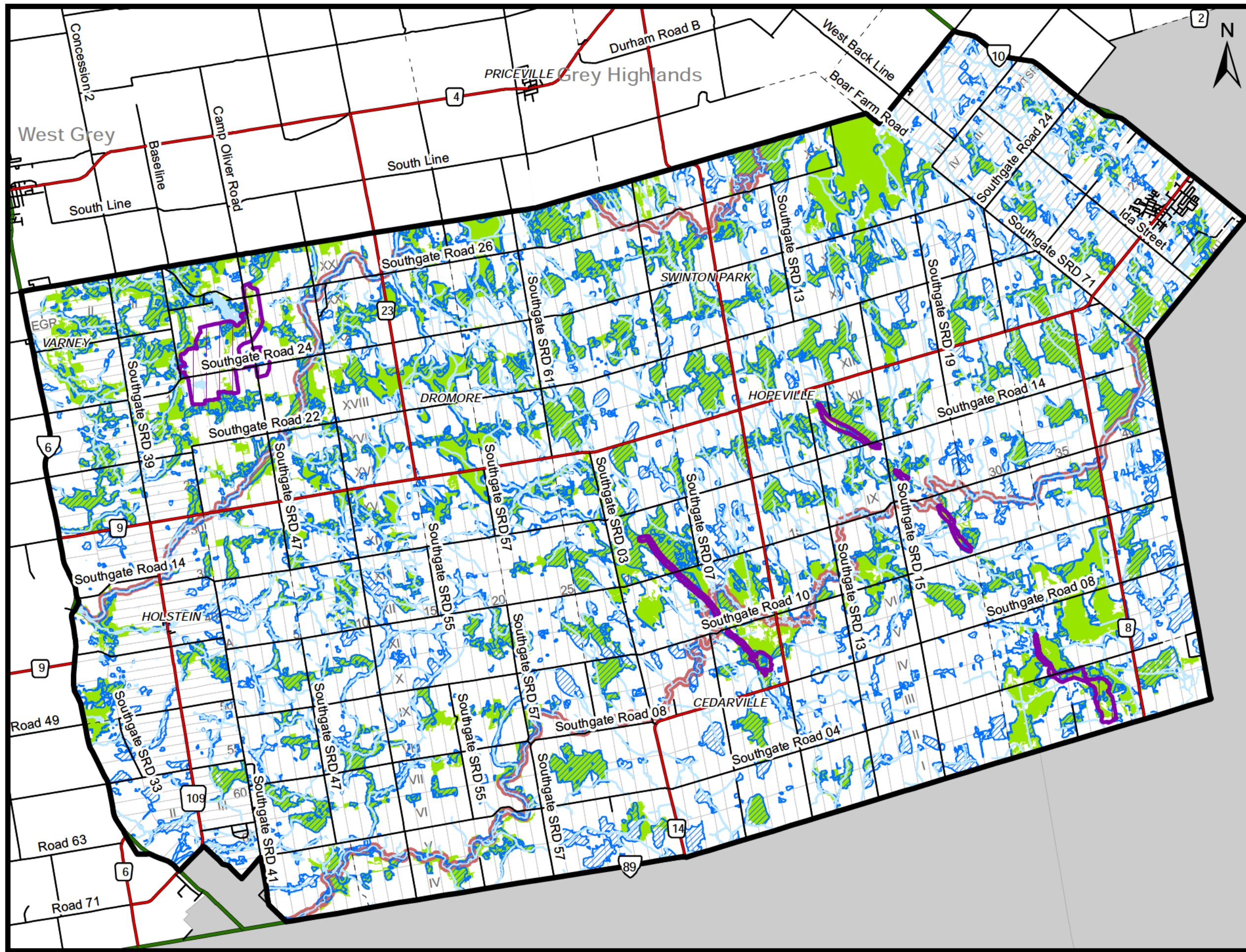
Dromore  
See Map 4

Hopeville  
See Map 7

Holstein  
See Map 3

Cedarville  
See Map 6







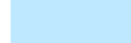





# TOWNSHIP OF SOUTHGATE OFFICIAL PLAN

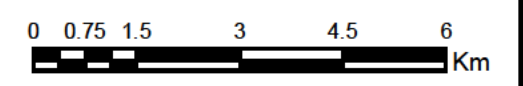
## Schedule 'C'

### Natural Heritage Features

#### Legend

-  Significant Earth & Life ANSI
-  Significant Earth ANSI
-  Significant Life ANSI
-  Stream / River
-  Lakes
-  Other Wetland
-  Significant Valleyland
-  Significant Woodland

Adopted by Township Council on May 4, 2022  
 Approved by the County of Grey on October 27, 2022





## Appendix D

### Plant List



Vascular Plant List

| Scientific Name                    | Common Name                | MEFM1<br>Forb<br>Meadow | MEMM4<br>Mixed Meadow | FOCM<br>Coniferous<br>Forest | FOCM2-2<br>Eastern White<br>Cedar Forest | SWCM1-2<br>White Cedar -<br>Conifer Coniferous<br>Swamp | Exotic<br>Status | Coefficient<br>of Wetness | Subnational<br>(Provincial)<br>S_Rank | Provincial<br>Endangered<br>Species Act | National<br>N_Rank |
|------------------------------------|----------------------------|-------------------------|-----------------------|------------------------------|--|---|------------------|---------------------------|---------------------------------------|---|--------------------|
| <i>Abies balsamea</i>              | Balsam Fir                 |                         |                       |                              |  | X   | ---              | -3                        | S5                                    |   | N5                 |
| <i>Acer rubrum</i>                 | Red Maple                  |                         |                       |                              |  | X   | ---              | 0                         | S5                                    |   | N5                 |
| <i>Achillea millefolium</i>        | Common Yarrow              | X                       |                       |                              |  |   | SE5?             | 3                         | SNA                                   |   | NNR                |
| <i>Ambrosia artemisiifolia</i>     | Common Ragweed             | X                       |                       |                              |  |   | ---              | 3                         | S5                                    |   | N5                 |
| <i>Asclepias incarnata</i>         | Swamp Milkweed             |                         |                       |                              |  | X   | ---              | -5                        | S5                                    |   | N5                 |
| <i>Campanula rapunculoides</i>     | Creeping Bellflower        | X                       |                       |                              |  |   | SE5              | 5                         | SNA                                   |   | NNA                |
| <i>Caulophyllum thalictroides</i>  | Blue Cohosh                |                         |                       | X                            | X  |   | ---              | 5                         | S5                                    |   | N5                 |
| <i>Cichorium intybus</i>           | Wild Chicory               | X                       |                       |                              |  |   | SE5              | 5                         | SNA                                   |   | NNA                |
| <i>Cirsium arvense</i>             | Canada Thistle             | X                       |                       |                              |  |   | SE5              | 3                         | SNA                                   |   | NNA                |
| <i>Cornus alternifolia</i>         | Alternate-leaved Dogwood   |                         |                       |                              |  | X   | ---              | 3                         | S5                                    |   | N5                 |
| <i>Daucus carota</i>               | Wild Carrot                | X                       |                       |                              |  |   | SE5              | 5                         | SNA                                   |   | NNA                |
| <i>Dryopteris cristata</i>         | Crested Wood Fern          |                         |                       |                              |  | X   | ---              | -5                        | S5                                    |   | N5                 |
| <i>Elymus repens</i>               | Quackgrass                 | X                       |                       |                              |  |   | SE5              | 3                         | SNA                                   |   | NNA                |
| <i>Epilobium ciliatum</i>          | Northern Willowherb        |                         | X                     |                              |  |   | ---              | -3                        | S5                                    |   | N5                 |
| <i>Epipactis helleborine</i>       | Broad-leaved Helleborine   |                         |                       | X                            | X  | X   | SE5              | 3                         | SNA                                   |   | NNA                |
| <i>Equisetum pratense</i>          | Meadow Horsetail           |                         |                       |                              |  | X   | ---              | -3                        | S5                                    |   | N5                 |
| <i>Erigeron annuus</i>             | Annual Fleabane            | X                       |                       |                              |  |   | ---              | 3                         | S5                                    |   | N5                 |
| <i>Eupatorium perfoliatum</i>      | Common Boneset             |                         | X                     |                              |  |   | ---              | -3                        | S5                                    |   | N5                 |
| <i>Euphrasia nemorosa</i>          | Common Eyebright           | X                       |                       |                              |  |   | ---              | 0                         | SU                                    |   | N5                 |
| <i>Euthamia graminifolia</i>       | Grass-leaved Goldenrod     |                         | X                     |                              |  |   | ---              | 0                         | S5                                    |   | N5                 |
| <i>Eutrochium maculatum</i>        | Spotted Joe Pye Weed       |                         | X                     |                              |  |   | ---              | -5                        | S5                                    |   | N5                 |
| <i>Frangula alnus</i>              | Glossy Buckthorn           |                         |                       |                              |  | X   | SE5              | 0                         | SNA                                   |   | NNA                |
| <i>Hypericum perforatum</i>        | Common St. John's-wort     | X                       |                       |                              |  |   | SE5              | 5                         | SNA                                   |   | NNA                |
| <i>Impatiens capensis</i>          | Spotted Jewelweed          |                         |                       |                              |  | X   | ---              | -3                        | S5                                    |   | N5                 |
| <i>Larix laricina</i>              | Tamarack                   |                         |                       |                              |  | X   | ---              | -3                        | S5                                    |   | N5                 |
| <i>Leucanthemum vulgare</i>        | Oxeye Daisy                | X                       |                       |                              |  |   | SE5              | 5                         | SNA                                   |   | NNA                |
| <i>Lotus corniculatus</i>          | Garden Bird's-foot Trefoil | X                       |                       |                              |  |   | SE5              | 3                         | SNA                                   |   | NNA                |
| <i>Lysimachia borealis</i>         | Northern Starflower        |                         |                       |                              |  | X   | ---              | 0                         | S5                                    |   | N5                 |
| <i>Lythrum salicaria</i>           | Purple Loosestrife         |                         | X                     |                              |  |   | SE5              | -5                        | SNA                                   |   | N5                 |
| <i>Maianthemum canadense</i>       | Wild Lily-of-the-valley    |                         |                       | X                            | X  | X   | ---              | 3                         | S5                                    |   | N5                 |
| <i>Medicago lupulina</i>           | Black Medick               | X                       | X                     |                              |  |   | SE5              | 3                         | SNA                                   |   | NNA                |
| <i>Oncoclea sensibilis</i>         | Sensitive Fern             |                         |                       |                              |  | X   | ---              | -3                        | S5                                    |   | N5                 |
| <i>Oxalis stricta</i>              | Upright Yellow Wood-sorrel | X                       |                       |                              |  |   | SE5              | 3                         | SNA                                   |   | N5                 |
| <i>Phleum pratense</i>             | Common Timothy             | X                       |                       |                              |  |   | SE5              | 3                         | SNA                                   |   | NNA                |
| <i>Plantago lanceolata</i>         | English Plantain           | X                       |                       |                              |  |   | SE5              | 3                         | SNA                                   |   | NNA                |
| <i>Plantago major</i>              | Common Plantain            | X                       |                       |                              |  |   | SE5              | 3                         | SNA                                   |   | NNR                |
| <i>Populus balsamifera</i>         | Balsam Poplar              |                         | X                     |                              |  |   | ---              | -3                        | S5                                    |   | NNR                |
| <i>Potentilla recta</i>            | Sulphur Cinquefoil         | X                       |                       |                              |  |   | SE5              | 5                         | SNA                                   |   | NNA                |
| <i>Prunella vulgaris</i>           | Common Self-heal           | X                       |                       |                              |  | X   | ---              | 0                         | S5                                    |   | N5                 |
| <i>Prunus serotina</i>             | Black Cherry               |                         |                       | X                            | X  |   | ---              | 3                         | S5                                    |   | N5                 |
| <i>Ranunculus acris</i>            | Common Buttercup           | X                       |                       |                              |  |   | SE5              | 0                         | SNA                                   |   | NNA                |
| <i>Rudbeckia hirta</i>             | Black-eyed Susan           | X                       |                       |                              |  |   | ---              | 3                         | S5                                    |   | N5                 |
| <i>Rumex crispus</i>               | Curled Dock                | X                       |                       |                              |  |   | SE5              | 0                         | SNA                                   |   | NNA                |
| <i>Scirpus atrovirens</i>          | Dark-green Bulrush         |                         | X                     |                              |  |   | ---              | -5                        | S5                                    |   | N5                 |
| <i>Solanum dulcamara</i>           | Bittersweet Nightshade     |                         | X                     | X                            | X  | X   | SE5              | 0                         | SNA                                   |   | NNA                |
| <i>Solidago altissima</i>          | Tall Goldenrod             |                         | X                     |                              |  |   | ---              | 3                         | S5                                    |   | N5                 |
| <i>Solidago juncea</i>             | Early Goldenrod            | X                       |                       | X                            | X  |   | ---              | 5                         | S5                                    |   | N5                 |
| <i>Solidago rugosa</i>             | Rough-stemmed Goldenrod    | X                       | X                     | X                            | X  | X   | ---              | 0                         | S5                                    |   | N5                 |
| <i>Sonchus arvensis</i>            | Field Sow-thistle          | X                       |                       | X                            | X  |   | SE5              | 3                         | SNA                                   |   | NNA                |
| <i>Symphotrichum novae-angliae</i> | New England Aster          |                         | X                     |                              |  |   | ---              | -3                        | S5                                    |   | N5                 |
| <i>Symphotrichum puniceum</i>      | Purple-stemmed Aster       |                         | X                     |                              |  |   | ---              | -5                        | S5                                    |   | NNR                |
| <i>Taraxacum officinale</i>        | Common Dandelion           | X                       |                       |                              |  |   | SE5              | 3                         | SNA                                   |   | N5                 |
| <i>Thelypteris palustris</i>       | Marsh Fern                 |                         |                       |                              |  | X   | ---              | -3                        | S5                                    |   | N5                 |
| <i>Thuja occidentalis</i>          | Eastern White Cedar        |                         |                       | X                            | X  | X   | ---              | -3                        | S5                                    |   | N5                 |
| <i>Trifolium pratense</i>          | Red Clover                 | X                       |                       |                              |  |   | SE5              | 3                         | SNA                                   |   | NNA                |
| <i>Tussilago farfara</i>           | Coltsfoot                  | X                       |                       |                              |  | X   | SE5              | 3                         | SNA                                   |   | NNA                |
| <i>Typha angustifolia</i>          | Narrow-leaved Cattail      |                         | X                     |                              |  |   | SE5              | -5                        | SNA                                   |   | N5                 |
| <i>Vicia cracca</i>                | Tufted Vetch               | X                       |                       |                              |  |   | SE5              | 5                         | SNA                                   |   | NNA                |

Subnational (Provincial) Exotic Status: SE1 to SE5 based on increasing abundance

Coefficient of Wetness: -5 - Obligate wetland species, -3 - Facultative wetland, 0 - Equally likely to occur in wetlands or non-wetlands, 3 - Facultative upland, 5 - Obligate upland species

Subnational (Provincial) Rank: S1 - Critically Imperiled, S2 - Imperiled, S3 - Vulnerable, S4 - Apparently Secure, S5 - Secure, S#? - Inexact Numeric Rank, SNA - Not Applicable, SNR - Unranked

National Rank: N1 - Critically Imperiled, N2 - Imperiled, N3 - Vulnerable, N4 - Apparently Secure, N5 - Secure, N#? - Inexact Numeric Rank, NNA - Not Applicable, NNR - Unranked

Endangered Species Act: EXP (Extirpated), END (Endangered), THR (Threatened), SC (Special Concern), NAR (Not At Risk)



## **Appendix E**

### Breeding Bird Data



Dawn Breeding Bird Data

| Family        | Scientific Name               | English Common Name          | Survey Station               |                              | Incidental | Breeding Evidence | Conservation Rank |                   |                                   |
|---------------|-------------------------------|------------------------------|------------------------------|------------------------------|------------|-------------------|-------------------|-------------------|-----------------------------------|
|               |                               |                              | 1                            | 2                            |            |                   | National N-rank   | Provincial S-rank | Provincial Endangered Species Act |
| Ardeidae      | <i>Butorides virescens</i>    | Green Heron                  |                              | H <sup>b</sup>               |            | Possible          | N4B               | S4B               |                                   |
| Cardinalidae  | <i>Cardinalis cardinalis</i>  | Northern Cardinal            |                              |                              | X          | Observed          | N5                | S5                |                                   |
| Cardinalidae  | <i>Passerina cyanea</i>       | Indigo Bunting               |                              |                              | X          | Observed          | N5B               | S5B               |                                   |
| Corvidae      | <i>Corvus brachyrhynchos</i>  | American Crow                | H <sup>A,B</sup>             | H <sup>A,B</sup>             | X          | Possible          | N5B,N5N           | S5                |                                   |
| Corvidae      | <i>Cyanocitta cristata</i>    | Blue Jay                     |                              |                              | X          | Possible          | N5                | S5                |                                   |
| Fringillidae  | <i>Spinus tristis</i>         | American Goldfinch           |                              |                              | X          | Possible          | N5B,N5N           | S5                |                                   |
| Icteridae     | <i>Agelaius phoeniceus</i>    | Red-winged Blackbird         | S <sup>A</sup>               |                              |            | Possible          | N5B,N5N           | S5                |                                   |
| Paridae       | <i>Poecile atricapillus</i>   | Black-capped Chickadee       |                              | H <sup>A,B</sup>             | X          | Possible          | N5                | S5                |                                   |
| Parulidae     | <i>Geothlypis trichas</i>     | Common Yellowthroat          | S <sup>b</sup>               | S <sup>A,T<sup>b</sup></sup> |            | Probable          | N5B,N3N           | S5B,S3N           |                                   |
| Parulidae     | <i>Mniotilta varia</i>        | Black-and-white Warbler      | S <sup>A,T<sup>b</sup></sup> | S <sup>b</sup>               |            | Probable          | N5B               | S5B               |                                   |
| Parulidae     | <i>Setophaga petechia</i>     | Yellow Warbler               | S <sup>A</sup>               |                              |            | Possible          | N5B               | S5B               |                                   |
| Parulidae     | <i>Setophaga virens</i>       | Black-throated Green Warbler | S <sup>A,T<sup>b</sup></sup> | S <sup>A</sup>               |            | Probable          | N5B               | S5B               |                                   |
| Passerellidae | <i>Melospiza georgiana</i>    | Swamp Sparrow                |                              | S <sup>A,T<sup>b</sup></sup> |            | Probable          | N5B,N4N           | S5B,S4N           |                                   |
| Passerellidae | <i>Melospiza melodia</i>      | Song Sparrow                 | S <sup>A</sup>               | S <sup>A,B</sup>             |            | Probable          | N5B,N5N           | S5                |                                   |
| Passerellidae | <i>Zonotrichia albicollis</i> | White-throated Sparrow       | S <sup>b</sup>               | S <sup>A,T<sup>b</sup></sup> | X          | Probable          | N5B,N5N           | S5                |                                   |
| Picidae       | <i>Colaptes auratus</i>       | Northern Flicker             |                              | S <sup>A</sup>               | X          | Possible          | N5B,N5N           | S5                |                                   |
| Picidae       | <i>Dryobates villosus</i>     | Hairy Woodpecker             |                              | H <sup>A</sup>               |            | Possible          | N5                | S5                |                                   |
| Sittidae      | <i>Sitta carolinensis</i>     | White-breasted Nuthatch      |                              |                              | X          | Possible          | N5                | S5                |                                   |
| Troglodytidae | <i>Troglodytes hiemalis</i>   | Winter Wren                  | S <sup>b</sup>               | S <sup>b</sup>               | X          | Possible          | N5B,N4N           | S5B,S4N           |                                   |
| Turdidae      | <i>Turdus migratorius</i>     | American Robin               | S <sup>A,T<sup>b</sup></sup> |                              | X          | Probable          | N5B,N5N           | S5                |                                   |
| Tyrannidae    | <i>Mniotilta crinitus</i>     | Great Crested Flycatcher     |                              | S <sup>A</sup>               |            | Possible          | N5B               | S5B               |                                   |
| Vireonidae    | <i>Vireo gilvus</i>           | Warbling Vireo               |                              | S <sup>b</sup>               |            | Possible          | N5B               | S5B               |                                   |
| Vireonidae    | <i>Vireo olivaceus</i>        | Red-eyed Vireo               |                              | S <sup>A</sup>               |            | Possible          | N5B,N5N           | S5B               |                                   |

Survey Conditions:

<sup>A</sup> June 5, 2024<sup>1</sup> Start Time 0810hr/ End Time 0845hr; Temperature 19°C; Wind B2; Cloud Cover 90%; Precipitation none; Observer: K. Tuininga

<sup>B</sup> June 26, 2024<sup>1</sup> Start Time 1015hr/ End Time 1030hr; Temperature 20°C; Wind B2; Cloud Cover 60%; Precipitation none; Observer: K. Tuininga

Breeding Evidence Codes:

- H - Species observed in its breeding season in suitable nesting habitat
- C - Call heard (male or female), in suitable nesting habitat in nesting season.
- S - Singing male present, or breeding calls heard, in suitable nesting habitat in nesting season.
- N - Nest Building or excavation of nest hole
- P - Pair observed in suitable nesting habitat in nesting season
- FO - Fly over
- T - Presumed territory based on the presence of an adult bird (usually singing, but not necessarily so), in the same suitable nesting habitat patch on at least two visits, one week or more apart, during the species' breeding season

Conservation Rank:

S-rank: S1 - Critically Imperiled; S2 - Imperiled; S3 - Vulnerable; S4 - Apparently Secure; S5 - Secure; SNR - Unranked; SNA - Not applicable; SU - Unrankable; SNT - Inexact Numeric Rank; SFB - Breeding; SBN - Non-breeding; SSM - Migrant  
 N-rank: N1 - Critically Imperiled; N2 - Imperiled; N3 - Vulnerable; N4 - Apparently Secure; N5 - Secure; NNR - Unranked; NNA - Not applicable; NU - Unrankable; NNT - Inexact Numeric Rank; NRB - Breeding; NBN - Non-breeding; NBM - Migrant  
 Endangered Species Act Species at Risk in Ontario List: EXP (Extirpated), END (Endangered), THR (Threatened), SC (Special Concern), NAR (Not At Risk)

## **Appendix F**

### Significant Wildlife Habitat Assessment







## Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

### Seasonal Concentration Areas of Animals

| Wildlife Habitat  | Wildlife Species  | Candidate SWH  |   | Confirmed SWH   | Assessment   |
|---|---|--|---|---|--|
|   |   | ELC Ecosite Codes  | Habitat Criteria and Information Sources  | Defining Criteria   |  |
| <p><b>Waterfowl Stopover and Staging Areas (Terrestrial)</b></p> <p><u>Rationale:</u><br/>Habitat important to migrating waterfowl.</p>         | <p>American Black Duck<br/>Wood Duck<br/>Green-winged Teal<br/>Blue-winged Teal<br/>Mallard<br/>Northern Pintail<br/>Northern Shoveler<br/>American Wigeon<br/>Gadwall</p>                          | <p>CUM1<br/>CUT1<br/>Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.</p> | <p>Fields with sheet water during Spring (mid-March to May).</p> <ul style="list-style-type: none"> <li>Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl.</li> <li>Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence.</li> <li>Reports and other information available from Conservation Authorities</li> <li>Sites documented through waterfowl planning processes</li> <li>Field Naturalist Clubs</li> <li>Ducks Unlimited Canada</li> <li>Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area</li> </ul> | <p>Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”</p> <ul style="list-style-type: none"> <li>Any mixed species aggregations of 100 or more individuals required.</li> <li>The flooded field ecosite habitat plus a 100-300m radius area, dependant on local site conditions and adjacent land use is the significant wildlife habitat.</li> <li>Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates).</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #7 provides development effects and mitigation measures.</li> </ul> | <p>Suitable habitats for waterfowl stopover and staging (terrestrial) are not present in the proposed development area or adjacent lands on the property.</p> <p>No cultural thicket or fields with spring flooding were observed in the Study Area.</p> <p>None of the listed species were documented during breeding bird surveys.</p> <p>NHIC does not list occurrences of Waterfowl Concentration Area in the area.</p> <p>Suitable habitat for waterfowl stopover and staging (terrestrial) is therefore not present.</p> |
| <p><b>Waterfowl Stopover and Staging Areas (Aquatic)</b></p> <p><u>Rationale:</u><br/>Important for local and migrant waterfowl populations</p> | <p>Canada Goose<br/>Cackling Goose<br/>Snow Goose<br/>American Black Duck<br/>Northern Pintail<br/>Northern Shoveler<br/>American Wigeon<br/>Gadwall<br/>Green-winged Teal<br/>Blue-winged Teal</p> | <p>MAS1<br/>MAS2<br/>MAS3<br/>SAS1<br/>SAM1<br/>SAF1<br/>SWD1<br/>SWD2<br/>SWD3<br/>SWD4</p>                       | <ul style="list-style-type: none"> <li>Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify.</li> <li>These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water)</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Environment Canada.</li> </ul>  | <p>Studies carried out and verified presence of:</p> <ul style="list-style-type: none"> <li>Aggregations of 100 or more of listed species for 7 days, results in &gt; 700 waterfowl use days.</li> <li>Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH</li> <li>The combined area of the ELC ecosites and a 100m radius area is the SWH</li> <li>Wetland area and shorelines associated with sites identified within the Significant</li> </ul>   | <p>Suitable habitats are not present in the Study Area for waterfowl stopover and staging (aquatic).</p> <p>No ponds, lakes, bays, or coastal inlets are within the Study Area and no suitable habitat is present to accommodate large aggregations of waterfowl.</p>  |



| Wildlife Habitat  | Wildlife Species   | Candidate SWH  |  | Confirmed SWH  | Assessment   |
|---|--|--|--|--|--|
|   |  | ELC Ecosite Codes  | Habitat Criteria and Information Sources   | Defining Criteria  |  |
| during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.   | Hooded Merganser<br>Common Merganser<br>Lesser Scaup<br>Greater Scaup<br>Long-tailed Duck<br>Surf Scoter<br>White-winged Scoter<br>Black Scoter<br>Ring-necked duck<br>Common Goldeneye<br>Bufflehead<br>Redhead<br>Ruddy Duck<br>Red-breasted Merganser<br>Brant<br>Canvasback<br>Ruddy Duck  | SWD5<br>SWD6<br>SWD7   | <ul style="list-style-type: none"> <li>Naturalist clubs often are aware of staging/stopover areas.</li> <li>OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging.</li> <li>Sites documented through waterfowl planning processes</li> <li>Ducks Unlimited projects</li> <li>Element occurrence specification by Nature Serve: <a href="http://www.natureserve.org">http://www.natureserve.org</a></li> <li>Natural Heritage Information Centre (NHIC) Waterfowl Concentration Areas</li> </ul>  | <p>Wildlife Habitat Technical Guide Appendix K are significant wildlife habitat.</p> <ul style="list-style-type: none"> <li>Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”</li> <li>Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded).</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #7 provides development effects and mitigation measures.</li> </ul>   | <p>None of the listed species were documented during site investigations.</p> <p>NHIC does not list occurrences of Waterfowl Concentration Area in the area.</p> <p>Suitable habitat for waterfowl stopover and staging (aquatic) is therefore not present.</p>  |
| <p><b>Shorebird Migratory Stopover Area</b></p> <p><b>Rationale:</b> High quality shorebird stopover habitat is extremely rare and typically has a long history of use.</p> | Greater Yellowlegs<br>Lesser Yellowlegs<br>Marbled Godwit<br>Hudsonian Godwit<br>Black-bellied Plover<br>American Golden-Plover<br>Semipalmated Plover<br>Solitary Sandpiper<br>Spotted Sandpiper<br>Semipalmated Sandpiper<br>Pectoral Sandpiper<br>White-rumped Sandpiper<br>Baird’s Sandpiper<br>Least Sandpiper<br>Purple Sandpiper<br>Stilt Sandpiper<br>Short-billed Dowitcher<br>Red-necked Phalarope<br>Whimbrel | BBO1<br>BBO2<br>BBS1<br>BBS2<br>BBT1<br>BBT2<br>SDO1<br>SDS2<br>SDT1<br>MAM1<br>MAM2<br>MAM3<br>MAM4<br>MAM5 | <ul style="list-style-type: none"> <li>Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats.</li> <li>Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October.</li> <li>Sewage treatment ponds and storm water ponds do not qualify as a SWH.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Western hemisphere shorebird reserve network.</li> <li>Canadian Wildlife Service (CWS) Ontario Shorebird Survey.</li> <li>Bird Studies Canada</li> <li>Ontario Nature</li> <li>Local birders and naturalist clubs</li> </ul> | <p>Studies confirming:</p> <ul style="list-style-type: none"> <li>Presence of 3 or more of listed species and &gt; 1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period)</li> <li>Whimbrel stop briefly (&lt;24hrs) during spring migration, any site with &gt;100 Whimbrel used for 3 years or more is significant.</li> <li>The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area</li> <li>Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”</li> </ul> | <p>NHIC does not list occurrences of Shorebird Migratory Concentration Area in the area.</p> <p>Listed species were not documented during site surveys.</p> <p>Suitable habitat is not present for Shorebird Migratory Stopover Area; no rivers, beach areas or un-vegetated shoreline habitats in the Study Area.</p> <p>Suitable habitat for shorebird migratory stopover area is therefore not present.</p> |



| Wildlife Habitat   | Wildlife Species  | Candidate SWH   |  | Confirmed SWH  | Assessment   |
|--|---|---|--|--|--|
|  |   | ELC Ecosite Codes   | Habitat Criteria and Information Sources   | Defining Criteria  |  |
|  | Ruddy Turnstone<br>Sanderling<br>Dunlin   |   | <ul style="list-style-type: none"> <li>Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area</li> </ul>  | <ul style="list-style-type: none"> <li>Significant Wildlife Habitat Mitigation Support Tool Index #8 provides development effects and mitigation measures.</li> </ul>  |  |
| <b>Raptor Wintering Area</b><br><br><b>Rationale:</b><br>Sites used by multiple species, a high number of individuals and used annually are most significant | Rough-legged Hawk<br>Red-tailed Hawk<br>Northern Harrier<br>American Kestrel<br>Snowy Owl<br><br><b>Special Concern:</b><br>Short-eared Owl<br>Bald Eagle | <b>Hawks/Owls:</b><br>Combination of ELC Community Series; need to have present one Community Series from each land class;<br>Forest:<br>FOD, FOM, FOC.<br><br>Upland:<br>CUM; CUT; CUS; CUW.<br><br><b>Bald Eagle:</b><br>Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area). | <ul style="list-style-type: none"> <li>The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors.</li> <li>Raptor wintering sites (hawk/owl) need to be &gt; 20 ha with a combination of forest and upland.</li> <li>Least disturbed sites, idle/fallow or lightly grazed field/meadow (&gt;15ha) with adjacent woodlands</li> <li>Field area of the habitat is to be wind swept with limited snow depth or accumulation.</li> <li>Eagle sites have open water, large trees and snags available for roosting</li> </ul> <b>Information Sources:</b> <ul style="list-style-type: none"> <li>OMNRF Ecologist or Biologist Field Naturalist Clubs</li> <li>Natural Heritage Information Center (NHIC) Raptor Winter Concentration Area</li> <li>Data from Bird Studies Canada</li> <li>Results of Christmas Bird Counts Reports and other information available from Conservation Authorities.</li> </ul> | Studies confirm the use of these habitats by: <ul style="list-style-type: none"> <li>One or more Short-eared Owls or; One or more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species.</li> <li>To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds.</li> <li>The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area</li> <li>Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #10 and #11 provides development effects and mitigation measures.</li> </ul> | Listed species were not documented during breeding bird surveys.<br><br>NHIC does not list any element occurrence of Raptor Winter Concentration Area in the area.<br><br>Bald Eagle habitat is not present in the Study Area; no lake or river shoreline areas within the Study Area.<br><br>The Study Area contains woodlands with open uplands, however the open area on the property is small (less than 0.5 ha) and the open field adjacent to the property to the east is a disturbed agricultural field which would not be appropriate for this function.<br><br>Suitable habitat for raptor wintering area SWH is therefore not present in the Study Area. |
| <b>Bat Hibernacula</b><br><br><b>Rationale:</b> Bat hibernacula are rare habitats in all   | Big Brown Bat<br>Tri-coloured Bat   | Bat Hibernacula may be found in these ecosites:<br>CCR1<br>CCR2<br>CCA1<br>CCA2   | <ul style="list-style-type: none"> <li>Hibernacula may be found in caves, mine shafts, underground foundations and Karsts.</li> <li>Active mine sites should not be considered as SWH</li> <li>The locations of bat hibernacula are relatively poorly known.</li> </ul>  | <ul style="list-style-type: none"> <li>All sites with confirmed hibernating bats are SWH.</li> <li>The habitat area includes a 200m radius around the entrance of the hibernaculum,</li> </ul>   | No caves, mine shafts, karst or underground foundations have been identified within the Study Area.  |





| Wildlife Habitat  | Wildlife Species                   | Candidate SWH  |  | Confirmed SWH   | Assessment   |
|---|------------------------------------|--|--|---|--|
|   |                                    | ELC Ecosite Codes  | Habitat Criteria and Information Sources   | Defining Criteria   |  |
| Ontario landscapes.   |                                    | (Note: buildings are not considered to be SWH)   | <u>Information Sources</u> <ul style="list-style-type: none"> <li>• OMNRF for possible locations and contact for local experts</li> <li>• Natural Heritage Information Center (NHIC) Bat Hibernaculum Ministry of Northern</li> <li>• Development and Mines for location of mine shafts.</li> <li>• Clubs that explore caves (e.g. Sierra Club)</li> <li>• University Biology Departments with bat experts.</li> </ul>   | for most development types and 1000m for wind farms <ul style="list-style-type: none"> <li>• Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects.</li> <li>• Significant Wildlife Habitat Mitigation Support Tool Index #1 provides development effects and mitigation measures.</li> </ul>  | Suitable habitat for bat hibernacula is therefore not present.   |
| <b>Bat Maternity Colonies</b><br><br><u>Rationale:</u> Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes. | Big Brown Bat<br>Silver-haired Bat | Maternity colonies considered SWH are found in forested Ecosites.<br><br>All ELC Ecosites in ELC Community Series:<br>FOD<br>FOM<br>SWD<br>SWM | <ul style="list-style-type: none"> <li>• Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).</li> <li>• Maternity roosts are not found in caves and mines in Ontario.</li> <li>• Maternity colonies located in Mature deciduous or mixed forest stands with &gt;10/ha large diameter (&gt;25cm dbh) wildlife trees</li> <li>• Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3.</li> <li>• Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred</li> </ul> <u>Information Sources</u> <ul style="list-style-type: none"> <li>• OMNRF for possible locations and contact for local experts</li> <li>• University Biology Departments with bat experts.</li> </ul> | <ul style="list-style-type: none"> <li>• Maternity Colonies with confirmed use by;</li> <li>• &gt;10 Big Brown Bats</li> <li>• &gt;5 Adult Female Silver-haired Bats</li> <li>• The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies.</li> <li>• Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”.</li> <li>• Significant Wildlife Habitat Mitigation Support Tool Index #12 provides development effects and mitigation measures.</li> </ul> | The proposed development area does not contain candidate SWH ELC ecosites.<br><br>Vegetation communities present adjacent to the development area, within the Study Area, are predominantly coniferous and therefore are not expected to provide this function of SWH habitat for Bat Maternity Colonies.<br><br><b>Mixed woodlands to the east of County Road 14, outside of the property, may provide this function.</b> |



| Wildlife Habitat   | Wildlife Species   | Candidate SWH   |  | Confirmed SWH  | Assessment  |
|--|--|---|--|--|---|
|  |  | ELC Ecosite Codes   | Habitat Criteria and Information Sources   | Defining Criteria  |   |
| <p><b>Turtle Wintering Areas</b></p> <p><b>Rationale:</b><br/>Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.</p> | <p>Midland Painted Turtle</p> <p><b>Special Concern:</b><br/>Northern Map Turtle<br/>Snapping Turtle</p> | <p>Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO</p> <p>Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.</p> | <ul style="list-style-type: none"> <li>For most turtles, wintering areas are in the same general area as their core habitat. Water must be deep enough not to freeze and have soft mud substrates.</li> <li>Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen</li> <li>Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>NHE studies carried out by Conservation Authorities.</li> <li>Local field naturalists and experts, as well as university herpetologists may also know where to find some of these sites.</li> <li>OMNRF Ecologist or Biologist</li> <li>Field Naturalist clubs</li> <li>Natural Heritage Information Center (NHIC)</li> </ul> | <ul style="list-style-type: none"> <li>Presence of 5 over-wintering Midland Painted Turtles is significant.</li> <li>One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant.</li> <li>The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH.</li> <li>Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May)</li> <li>Congregation of turtles is more common where wintering areas are limited and therefore significant</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #28 provides development effects and mitigation measures for turtle wintering habitat.</li> </ul> | <p>The proposed development area does not contain habitat for turtles during the active season or for overwintering.</p> <p>Adjacent lands contain swamp, marsh, and a drainage feature. Therefore, Candidate SWH ecosites are present in the Study Area for turtle wintering. Those features however did not contain habitat criteria for overwintering, (<i>i.e.</i>, water of sufficient depth for turtle overwintering) and therefore were not considered Candidate SWH for Turtle Wintering.</p> |



| Wildlife Habitat   | Wildlife Species  | Candidate SWH  |   | Confirmed SWH  | Assessment  |
|--|---|--|---|--|---|
|  |   | ELC Ecosite Codes  | Habitat Criteria and Information Sources  | Defining Criteria  |   |
| <p><b>Reptile Hibernaculum</b></p> <p><b>Rationale;</b><br/>Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.</p> | <p><b>Snakes:</b><br/>Eastern Gartersnake<br/>Northern Watersnake<br/>Northern Red-bellied Snake<br/>Northern Brownsnake<br/>Smooth Green Snake<br/>Northern Ring-necked Snake<br/>Milksnake</p> <p><b>Special Concern:</b><br/>Eastern Ribbonsnake</p> <p><b>Lizard:</b><br/><b>Special Concern</b><br/>(Southern Shield population): Five-lined Skink</p> | <p>For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats.</p> <p>Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.</p> <p>For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3</p> | <ul style="list-style-type: none"> <li>For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH.</li> <li>Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line</li> <li>Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.</li> <li>Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures .</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells).</li> <li>Reports and other information available from Conservation Authorities.</li> <li>Field Naturalists clubs</li> <li>University herpetologists</li> <li>Natural Heritage Information Center (NHIC)</li> <li>OMNRF ecologist or biologist may be aware of locations of wintering skinks</li> </ul> | <p>Studies confirming:</p> <ul style="list-style-type: none"> <li>Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp.</li> <li>Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct)</li> <li><b>Note:</b> If there are Special Concern Species present, then site is SWH</li> <li><b>Note:</b> Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #13 provides development effects and mitigation measures for snake hibernacula.</li> <li>Presence of any active hibernaculum for skink is significant.</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat.</li> </ul> | <p>While potential overwintering habitat features are generally common within the landscape, this function is generally intended to protect congregations of individuals overwintering.</p> <p>There are no talus, rock barren, crevice, cave, or alvar sites in the area. Within the Study Area reptiles may gain access to below the frost line for hibernation through rodent burrows and tree root systems. Notwithstanding, there was no reptile activity documented on the property through the course of the field studies and limited expectation that features which would meet the criteria to be considered Significant Wildlife Habitat are present given the abundance of wet habitats (Swamp, marsh).</p> |





| Wildlife Habitat  | Wildlife Species   | Candidate SWH   |  | Confirmed SWH  | Assessment   |
|---|--|---|--|--|--|
|   |  | ELC Ecosite Codes   | Habitat Criteria and Information Sources   | Defining Criteria  |  |
| <p><b>Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)</b></p> <p><b>Rationale:</b><br/>Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow populations are declining in Ontario.</p> | <p>Cliff Swallow<br/>Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)</p> | <p>Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns.</p> <p>Habitat found in the following ecosites:<br/>CUM1<br/>CUT1<br/>CUS1<br/>BLO1<br/>BLS1<br/>BLT1<br/>CLO1<br/>CLS1<br/>CLT1</p> | <ul style="list-style-type: none"> <li>Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area.</li> <li>Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.</li> <li>Does not include a licensed/permitted Mineral Aggregate Operation.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Reports and other information available from Conservation Authorities.</li> <li>Ontario Breeding Bird Atlas</li> <li>Bird Studies Canada; <i>NatureCounts</i> <a href="http://www.birdscanada.org/birdmon/">http://www.birdscanada.org/birdmon/</a></li> <li>Field Naturalist Clubs.</li> </ul> | <p>Studies confirming:</p> <ul style="list-style-type: none"> <li>Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season.</li> <li>A colony identified as SWH will include a 50m radius habitat area from the peripheral nests</li> <li>Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #4 provides development effects and mitigation measures</li> </ul>         | <p>No eroding banks, sandy hills, borrow pits, sand piles, cliff faces, bridge abutments suitable for colonially-nesting bird breeding habitat (bank and cliff) were observed.</p> <p>None of the listed species were recorded during site surveys.</p> <p>Suitable habitat for Colonially - Nesting Bird Breeding Habitat (Bank and Cliff) SWH is therefore not present in the Study Area.</p>  |
| <p><b>Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)</b></p> <p><b>Rationale:</b> Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p>   | <p>Great Blue Heron<br/>Black-crowned Night-Heron<br/>Great Egret<br/>Green Heron</p>  | <p>SWM2<br/>SWM3<br/>SWM5<br/>SWM6<br/>SWD1<br/>SWD2<br/>SWD3<br/>SWD4<br/>SWD5<br/>SWD6<br/>SWD7<br/>FET1</p>  | <ul style="list-style-type: none"> <li>Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.</li> <li>Most nests in trees are 11 to 15 m from ground, near the top of the tree.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Ontario Breeding Bird Atlas, colonial nest records.</li> <li>Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF).</li> <li>Natural Heritage Information Center (NHIC) Mixed Wader Nesting Colony</li> <li>Aerial photographs can help identify large heronries.</li> <li>Reports and other information available from CAs.</li> <li>MNRF District Offices.</li> <li>Local naturalist clubs.</li> </ul>             | <p>Studies confirming:</p> <ul style="list-style-type: none"> <li>Presence of 5 or more active nests of Great Blue Heron or other listed species.</li> <li>The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island &lt;15.0ha with a colony is the SWH</li> <li>Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #5 provides</li> </ul> | <p>NHIC does not list an occurrence of Mixed Wader Nesting Colony in the area.</p> <p>No Important Bird Areas (<a href="http://www.ibacanada.com">www.ibacanada.com</a>) mapped in the area and no nesting sites in the area identified on Ontario GeoHub (formerly LIO) (<a href="https://geohub.lio.gov.on.ca/">https://geohub.lio.gov.on.ca/</a>)</p> <p>No lakes, islands or peninsulas present in the Study Area and candidate SWH ecosites are not present in the proposed development area.</p> |





| Wildlife Habitat   | Wildlife Species   | Candidate SWH   |  | Confirmed SWH  | Assessment   |
|--|--|---|--|--|--|
|  |  | ELC Ecosite Codes   | Habitat Criteria and Information Sources   | Defining Criteria  |  |
|  |  |   |  | development effects and mitigation measures.   | <p>One Green Heron observed during second breeding bird survey. No probable or confirmed breeding evidence was noted. It is assumed the Green Heron was present due to potential habitat such as the steam and marshes to the west outside of the Study Area.</p> <p>No Candidate Colonially -Nesting Bird Breeding Habitat (Tree/Shrubs) SWH is considered present in the Study Area.</p> |
| <p><b>Colonially - Nesting Bird Breeding Habitat (Ground)</b></p> <p><b>Rationale:</b><br/>Colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p> | <p>Herring Gull<br/>Great Black-backed Gull<br/>Little Gull<br/>Ring-billed Gull<br/>Common Tern<br/>Caspian Tern<br/>Brewer's Blackbird</p> | <p>Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map).</p> <p>Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird)</p> <p>MAM1 – 6;<br/>MAS1 – 3;<br/>CUM<br/>CUT<br/>CUS</p> | <ul style="list-style-type: none"> <li>Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas.</li> <li>Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Ontario Breeding Bird Atlas , rare/colonial species records.</li> <li>Canadian Wildlife Service</li> <li>Reports and other information available from CAs.</li> <li>Natural Heritage Information Center (NHIC) Colonial Waterbird Nesting Area</li> <li>MNRF District Offices.</li> <li>Field Naturalist clubs.</li> </ul> | <p>Studies confirming:</p> <ul style="list-style-type: none"> <li>Presence of &gt; 25 active nests for Herring Gulls or Ring-billed Gulls, &gt;5 active nests for Common Tern or &gt;2 active nests for Caspian Tern.</li> <li>Presence of 5 or more pairs for Brewer's Blackbird.</li> <li>Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant.</li> <li>The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island &lt;3.0ha with a colony is the SWH</li> <li>Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #6 provides</li> </ul> | <p>Habitat in the Study Area does not meet key criteria – no lake, river, rocky islands or peninsulas within the area.</p> <p>None of the listed species were observed during breeding bird surveys.</p> <p>Suitable colonially-nesting bird breeding habitat (ground) is therefore not present in the Study Area.</p>   |



| Wildlife Habitat  | Wildlife Species  | Candidate SWH   |  | Confirmed SWH   | Assessment  |
|---|---|---|--|---|---|
|   |   | ELC Ecosite Codes   | Habitat Criteria and Information Sources   | Defining Criteria   |   |
|   |   |   |  | development effects and mitigation measures.  |   |
| <b>Migratory Butterfly Stopover Areas</b><br><br><b>Rationale:</b> Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter. | Painted Lady<br>Red Admiral<br><br><u>Special Concern</u><br>Monarch  | Combination of ELC Community Series; need to have present one Community Series from each land class:<br><u>Field:</u><br>CUM<br>CUT<br>CUS<br><u>Forest:</u><br>FOC<br>FOD<br>FOM<br>CUP<br><br>Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed. | A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present and will be located within 5 km of Lake Ontario. <ul style="list-style-type: none"> <li>The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south</li> <li>The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat.</li> <li>Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes</li> </ul> <u>Information Sources</u> <ul style="list-style-type: none"> <li>OMNRF (NHIC)</li> <li>Agriculture Canada in Ottawa may have list of butterfly experts.</li> <li>Field Naturalist Clubs</li> <li>Toronto Entomologists Association</li> <li>Conservation Authorities</li> </ul> | Studies confirm: <ul style="list-style-type: none"> <li>The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur.</li> <li>Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD.</li> <li>MUD of &gt;5000 or &gt;3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant.</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #16 provides development effects and mitigation measures.</li> </ul> | Study Area is not located within 5 km of Lake Ontario and thus this habitat function is not applicable. |
| <b>Landbird Migratory Stopover Areas</b><br><br><b>Rationale:</b> Sites with a high diversity of species as well as high numbers are most significant.  | All migratory songbirds.: Canadian Wildlife Service Ontario website.<br><br>All migrant raptor species:<br><br>Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: | All Ecosites associated with these ELC Community Series;<br>FOC<br>FOM<br>FOD<br>SWC<br>SWM<br>SWD  | Woodlots need to be >10 ha in size and within 5 km of Lake Ontario. <ul style="list-style-type: none"> <li>If multiple woodlands are located along the shoreline those Woodlands &lt;2km from Lake Ontario are more significant</li> <li>Sites have a variety of habitats; forest, grassland and wetland complexes.</li> <li>The largest sites are more significant</li> <li>Woodlots and forest fragments are important habitats to migrating birds, these features located</li> </ul>  | Studies confirm: <ul style="list-style-type: none"> <li>Use of the habitat by &gt;200 birds/day and with &gt;35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant.</li> <li>Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow</li> </ul>  | Study Area is not located within 5 km of Lake Ontario and thus this habitat function is not applicable. |





| Wildlife Habitat  | Wildlife Species                    | Candidate SWH   |   | Confirmed SWH   | Assessment  |
|---|-------------------------------------|---|---|---|---|
|   |                                     | ELC Ecosite Codes   | Habitat Criteria and Information Sources  | Defining Criteria   |   |
|   | Specially Protected Birds (Raptors) |   | <p>along the shore and located within 5km of Lake Ontario are Candidate SWH .</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>• Bird Studies Canada</li> <li>• Ontario Nature</li> <li>• Local birders and naturalist club</li> <li>• Ontario Important Bird Areas (IBA) Program</li> </ul>  | <p>“Bird and Bird Habitats: Guidelines for Wind Power Projects”</p> <ul style="list-style-type: none"> <li>• Significant Wildlife Habitat Mitigation Support Tool Index #9 provides development effects</li> </ul>  |   |
| <p><b>Deer Yarding Areas</b></p> <p><b>Rationale:</b> Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in “yards” to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.</p> | White-tailed Deer                   | <p>Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC.</p> <p>Or these ELC Ecosites;<br/>CUP2<br/>CUP3<br/>FOD3<br/>CUT</p> | <ul style="list-style-type: none"> <li>• Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter.</li> <li>• The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%.</li> <li>• OMNRF determines deer yards following methods outlined in “Selected Wildlife and Habitat Features: Inventory Manual”</li> <li>• Woodlots with high densities of deer due to artificial feeding are not significant.</li> </ul> | <p>No Studies Required:</p> <ul style="list-style-type: none"> <li>• Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths &gt; 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH.</li> <li>• Deer Yards are mapped by OMNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by OMNRF will be available at local MNRF offices or via Land Information Ontario (LIO).</li> <li>• Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an “average” winter. MNRF will complete these field investigations.</li> <li>• If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined within this Schedule.</li> </ul> | No deer wintering SWH is mapped by MNR in the Study Area. |



| Wildlife Habitat   | Wildlife Species  | Candidate SWH  |  | Confirmed SWH   | Assessment  |
|--|-------------------|--|--|---|---|
|  |                   | ELC Ecosite Codes  | Habitat Criteria and Information Sources   | Defining Criteria   |   |
|  |                   |  |  | <ul style="list-style-type: none"> <li>Significant Wildlife Habitat Mitigation Support Tool Index #2 provides development effects and mitigation measures.</li> </ul>   |   |
| <p><b>Deer Winter Congregation Areas</b></p> <p><b>Rationale:</b> Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.</p> | White-tailed Deer | <p>All Forested Ecosites with these ELC Community Series;<br/>FOC<br/>FOM<br/>FOD<br/>SWC<br/>SWM<br/>SWD</p> <p>Conifer plantations much smaller than 50 ha may also be used.</p> | <ul style="list-style-type: none"> <li>Woodlots will typically be &gt;100 ha in size. Woodlots &lt;100ha may be considered as significant based on MNRF studies or assessment.</li> <li>Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands.</li> <li>If deer are constrained by snow depth refer to the Deer Yarding Area habitat.</li> <li>Large woodlots &gt; 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha .</li> <li>Woodlots with high densities of deer due to artificial feeding are not significant.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>MNRF District Offices</li> <li>LIO/NRVIS</li> </ul> | <p>Studies confirm:</p> <ul style="list-style-type: none"> <li>Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF</li> <li>Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF</li> <li>Studies should be completed during winter (Jan/Feb) when &gt;20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey.</li> <li>If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined below.</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #2 provides development effects and mitigation measures.</li> </ul> | No deer wintering SWH is mapped by MNR in the Study Area. |





**Rare Vegetation Communities**

| Rare Vegetation Community  | Candidate SWH   |   |  | Confirmed SWH  | Assessment   |
|--|---|---|--|--|--|
|  | ELC Ecosite Code  | Habitat Description   | Detailed Information and Sources   | Defining Criteria  |  |
| <p><b>Cliffs and Talus Slopes</b></p> <p><b>Rationale:</b> Cliffs and Talus Slopes are extremely rare habitats in Ontario.</p>   | <p>Any ELC Ecosite within Community Series:</p> <p>TAO<br/>TAS<br/>TAT<br/>CLO<br/>CLS<br/>CLT</p>  | <p>A Cliff is vertical to near vertical bedrock &gt;3m in height.</p> <p>A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris</p>   | <p>Most cliff and talus slopes occur along the Niagara Escarpment.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>The Niagara Escarpment Commission has detailed information on location of these habitats.</li> <li>OMNRF District</li> <li>Natural Heritage Information Center (NHIC) has location information available on their website</li> <li>Field Naturalist clubs</li> <li>Conservation Authorities</li> </ul> | <ul style="list-style-type: none"> <li>Confirm any ELC Vegetation Type for Cliffs or Talus Slopes</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #21 provides development effects and mitigation measures.</li> </ul>   | <p>Habitat in the Study Area does not meet key criteria to be considered significant. No cliff and talus slopes are present in the area.</p> |
| <p><b>Sand Barren</b></p> <p><b>Rationale:</b> Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry</p> | <p>ELC Ecosites:</p> <p>SBO1<br/>SBS1<br/>SBT1</p> <p>Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%</p> | <p>Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.</p> | <p>A sand barren area &gt;0.5ha in size.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>OMNRF Districts.</li> <li>Natural Heritage Information Center (NHIC) has location information available on their website.</li> <li>Field Naturalist clubs</li> <li>Conservation Authorities</li> </ul>   | <ul style="list-style-type: none"> <li>Confirm any ELC Vegetation Type for Sand Barrens</li> <li>Site must not be dominated by exotic or introduced species (&lt;50% vegetative cover are exotic sp.)</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #20 provides development effects and mitigation measures.</li> </ul>   | <p>Habitat in the Study Area does not meet key criteria to be considered significant. No sand barren sites are present in the area.</p>      |
| <p><b>Alvar</b></p> <p><b>Rationale:</b> Alvars are extremely rare habitats in Ecosregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in</p>                        | <p>ALO1<br/>ALS1<br/>ALT1<br/>FOC1<br/>FOC2<br/>CUM2<br/>CUS2<br/>CUT2-1<br/>CUW2</p>   | <p>An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and</p>   | <p>An Alvar site &gt; 0.5 ha in size.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Alvars of Ontario (2000), Federation of Ontario Naturalists.</li> <li>Ontario Nature – Conserving Great Lakes Alvars.</li> <li>Natural Heritage Information Center (NHIC) has location information available on their website</li> <li>OMNRF Districts</li> <li>Field Naturalist clubs.</li> </ul>                                  | <ul style="list-style-type: none"> <li>Field studies that identify four of the five Alvar Indicator Species at a Candidate Alvar site is Significant.</li> <li>Site must not be dominated by exotic or introduced species (&lt;50% vegetative cover are exotic sp.).</li> <li>The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses</li> </ul> | <p>Habitat in the Study Area does not meet key criteria to be considered significant. No alvar sites are present in the area.</p>            |



| Rare Vegetation Community   | Candidate SWH  |   |  | Confirmed SWH   | Assessment  |
|---|--|---|--|---|---|
|   | ELC Ecosite Code   | Habitat Description   | Detailed Information and Sources   | Defining Criteria   |   |
| 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.   | <p><b>Five Alvar Species:</b></p> <ol style="list-style-type: none"> <li>1) <i>Carex crawei</i></li> <li>2) <i>Panicum philadelphicum</i></li> <li>3) <i>Eleocharis compressa</i></li> <li>4) <i>Scutellaria parvula</i></li> <li>5) <i>Trichostema brachiatum</i></li> </ol> <p>These indicator species are very specific to Alvars within Ecoregion 6E</p> | <p>drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover</p> | <ul style="list-style-type: none"> <li>• Conservation Authorities.</li> </ul>  | <ul style="list-style-type: none"> <li>• Significant Wildlife Habitat Mitigation Support Tool Index #17 provides development effects and mitigation measures.</li> </ul>  |   |
| <p><b>Old Growth Forest</b></p> <p><b>Rationale:</b> Due to historic logging practices, extensive old growth forest is rare in the Ecoregion. Interior habitat provided by old growth forests is required by many wildlife species.</p> | <p>Forest Community Series:</p> <p>FOD<br/>FOC<br/>FOM<br/>SWD<br/>SWC<br/>SWM</p>   | <p>Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.</p>   | <p>Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>• OMNRF Forest Resource Inventory mapping</li> <li>• OMNRF Districts.</li> <li>• Field Naturalist clubs</li> <li>• Conservation Authorities</li> <li>• Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations.</li> <li>• Municipal forestry departments</li> </ul> | <p>Field Studies will determine:</p> <ul style="list-style-type: none"> <li>• If dominant trees species of the are &gt;140 years old, then the area containing these trees is SWH</li> <li>• The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present)</li> <li>• The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH.</li> <li>• Determine ELC vegetation types for the forest area containing the old growth characteristics</li> <li>• Significant Wildlife Habitat Mitigation Support Tool Index #23 provides development effects and mitigation measures.</li> </ul> | <p>Woodland feature within the Study Area and adjacent lands has been measured to be greater than 30 ha in size and contains over 10 ha of interior forest assuming a 100 m buffer at the edge of the forest.</p> <p>However, the woodland habitat is not considered to be old growth forest as the dominant trees within the Study Area are less than 140 years old and the woodland lacks the characteristics required to be considered old growth.</p> |





| Rare Vegetation Community  | Candidate SWH  |  |   | Confirmed SWH   | Assessment   |
|--|--|--|---|---|--|
|  | ELC Ecosite Code   | Habitat Description  | Detailed Information and Sources  | Defining Criteria   |  |
| <p><b>Savannah</b></p> <p><b>Rationale:</b><br/>Savannahs are extremely rare habitats in Ontario.</p>                                      | TPS1<br>TPS2<br>TPW1<br>TPW2<br>CUS2   | A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.  | No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.<br><br><u>Information Sources</u> <ul style="list-style-type: none"> <li>Natural Heritage Information Center (NHIC) has location information available on their website</li> <li>OMNRF Districts</li> <li>Field Naturalist clubs.</li> <li>Conservation Authorities.</li> </ul> | Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used. <ul style="list-style-type: none"> <li>Area of the ELC Ecosite is the SWH.</li> <li>Site must not be dominated by exotic or introduced species (&lt;50% vegetative cover are exotic sp.).</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #18 provides development effects and mitigation measures.</li> </ul> | Habitat in the Study Area does not meet key criteria to be considered significant. No savannah sites are present in the area.            |
| <p><b>Tallgrass Prairie</b></p> <p><b>Rationale:</b><br/>Tallgrass Prairies are extremely rare habitats in Ontario.</p>                    | TPO1<br>TPO2   | A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover. | No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.<br><br><u>Information Sources</u> <ul style="list-style-type: none"> <li>Natural Heritage Information Center (NHIC) has location information available on their website</li> <li>OMNRF Districts</li> <li>Field Naturalist clubs.</li> <li>Conservation Authorities.</li> </ul> | Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 6E should be used <ul style="list-style-type: none"> <li>Area of the ELC Ecosite is the SWH.</li> <li>Site must not be dominated by exotic or introduced species (&lt;50% vegetative cover are exotic sp.).</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #19 provides development effects and mitigation measures.</li> </ul>    | Habitat in the Study Area does not meet key criteria to be considered significant. There are no tallgrass prairie sites within the area. |
| <p><b>Other Rare Vegetation Communities</b></p> <p><b>Rationale:</b> Plant communities that often contain rare species which depend on</p> | Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the Significant Wildlife Habitat Technical Guide. Any ELC Ecosite Code that has a possible ELC Vegetation | Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.                           | ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M<br><br>The OMNRF/NHIC will have up to date listing for rare vegetation communities.<br><br><u>Information Sources</u> <ul style="list-style-type: none"> <li>Natural Heritage Information Center (NHIC) has location information available on their website</li> <li>OMNRF Districts</li> </ul>                        | Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of Significant Wildlife Habitat Technical Guide. <ul style="list-style-type: none"> <li>Area of the ELC Vegetation Type polygon is the SWH.</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #37 provides</li> </ul>  | No rare vegetation communities have been documented within the Study Area.   |



| Rare Vegetation Community | Candidate SWH                                    |                     |  | Confirmed SWH                                | Assessment |
|---------------------------|--|---------------------|--|--|------------|
|                           | ELC Ecosite Code                                 | Habitat Description | Detailed Information and Sources   | Defining Criteria                            |            |
| the habitat for survival. | Type that is Provincially Rare is Candidate SWH. |                     | <ul style="list-style-type: none"> <li>Field Naturalist clubs.</li> <li>Conservation Authorities.</li> </ul> | development effects and mitigation measures. |            |

**Specialized Habitat for Wildlife**

| Wildlife Habitat   | Wildlife Species   | Candidate SHW  |  | Confirmed SWH   | Assessment   |
|--|--|--|--|---|--|
|  |  | ELC Ecosite Codes  | Habitat Criteria and Information Sources   | Defining Criteria   |  |
| <b>Waterfowl Nesting Area</b><br><br><b>Rationale:</b><br>Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant. | American Black Duck<br>Northern Pintail<br>Northern Shoveler<br>Gadwall<br>Blue-winged Teal<br>Green-winged Teal<br>Wood Duck<br>Hooded Merganser<br>Mallard | All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH:<br>MAS1<br>MAS2<br>MAS3<br>SAS1<br>SAM1<br>SAF1<br>MAM1<br>MAM2<br>MAM3<br>MAM4<br>MAM5<br>MAM6<br>SWT1<br>SWT2<br>SWD1<br>SWD2<br>SWD3<br>SWD4<br><br>Note: includes adjacency to Provincially Significant Wetlands | A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. <ul style="list-style-type: none"> <li>Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests.</li> <li>Wood Ducks and Hooded Mergansers utilize large diameter trees (&gt;40cm dbh) in woodlands for cavity nest sites.</li> </ul> <u>Information Sources</u> <ul style="list-style-type: none"> <li>Ducks Unlimited staff may know the locations of particularly productive nesting sites.</li> <li>OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat.</li> <li>Reports and other information available from Conservation Authorities.</li> </ul> | Studies confirmed: <ul style="list-style-type: none"> <li>Presence of 3 or more nesting pairs for listed species excluding Mallards, or;</li> <li>Presence of 10 or more nesting pairs for listed species including Mallards.</li> <li>Any active nesting site of an American Black Duck is considered significant.</li> <li>Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"</li> <li>A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest.</li> <li>Significant Wildlife Habitat Technical Guide Index #25 provides development effects and mitigation measures.</li> </ul> | Swamp and marsh wetland habitats are present in the Study area.<br><br>Upland habitats of sufficient width (120 m) are not present in the Study Area adjacent to the candidate SWH ecosites.<br><br>None of the listed species were documented during site breeding bird surveys.<br><br>Suitable waterfowl nesting area habitat is therefore not present in the Study Area. |





| Wildlife Habitat   | Wildlife Species   | Candidate SHW   |   | Confirmed SWH  | Assessment  |
|--|--|---|---|--|---|
|  |  | ELC Ecosite Codes   | Habitat Criteria and Information Sources  | Defining Criteria  |   |
| <p><b>Bald Eagle and Osprey Nesting, Foraging and Perching Habitat</b></p> <p><u>Rationale:</u><br/>Nest sites are fairly uncommon in Eco-region 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.</p> | <p>Osprey</p> <p><b>Special Concern</b><br/>Bald Eagle</p>       | <p>ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands</p> | <p>Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water.</p> <ul style="list-style-type: none"> <li>Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree’s canopy.</li> <li>Nests located on man-made objects are not to be included as SWH (e.g., telephone poles and constructed nesting platforms).</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Natural Heritage Information Center (NHIC) compiles all known nesting sites for Bald Eagles in Ontario.</li> <li>MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat.</li> <li>Nature Counts, Ontario Nest Records Scheme data.</li> <li>OMNRF Districts.</li> <li>Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented</li> <li>Reports and other information available from Conservation Authorities.</li> <li>Field Naturalists clubs</li> </ul> | <p>Studies confirm the use of these nests by:</p> <ul style="list-style-type: none"> <li>One or more active Osprey or Bald Eagle nests in an area.</li> <li>Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH.</li> <li>For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important.</li> <li>For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependent on-site lines from the nest to the development and inclusion of perching and foraging habitat</li> <li>To be significant a site must be used annually. When found inactive, the site must be known to be inactive for &gt; 3 years or suspected of not being used for &gt;5 years before being considered not significant.</li> <li>Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August.</li> <li>Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”</li> <li>Significant Wildlife Habitat Technical Guide Index #26 provides development effects and mitigation measures</li> </ul> | <p>Ontario GeoHub (formerly LIO) mapping does not show any known nesting locations in the area.</p> <p>Forested habitat is present within the Study Area. No lakes, ponds or rivers in the Study Area.</p> <p>No Osprey or Bald Eagles were observed during site surveys.</p> <p>Ontario Breeding Bird Atlas has no evidence of Osprey or Bald Eagle breeding in the area (Square 17TNJ38).</p> <p>Bald Eagle and Osprey Nesting, Foraging and Perching SWH is therefore considered to be absent from the Study Area.</p> |
| <p><b>Woodland Raptor Nesting Habitat</b></p>  | <p>Northern Goshawk<br/>Cooper’s Hawk<br/>Sharp-shinned Hawk</p> | <p>May be found in all forested ELC Ecosites.</p>   | <p>All natural or conifer plantation woodland/forest stands &gt;30ha with &gt;10ha of interior habitat. Interior habitat determined with a 200m buffer</p>  | <p>Studies confirm:</p> <ul style="list-style-type: none"> <li>Presence of 1 or more active nests from species list is considered significant.</li> </ul>  | <p>None of the listed species were documented during site surveys.</p>  |



| Wildlife Habitat   | Wildlife Species   | Candidate SHW  |  | Confirmed SWH  | Assessment   |
|--|--|--|--|--|--|
|  |  | ELC Ecosite Codes  | Habitat Criteria and Information Sources   | Defining Criteria  |  |
| <p><b>Rationale:</b><br/>Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.</p>                      | <p>Red-shouldered Hawk<br/>Barred Owl<br/>Broad-winged Hawk</p>  | <p>May also be found in SWC, SWM, SWD and CUP3</p>   | <ul style="list-style-type: none"> <li>Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands.</li> <li>In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>OMNRF Districts.</li> <li>Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented.</li> <li>Check data from Bird Studies Canada.</li> <li>Reports and other information available from Conservation Authorities.</li> </ul> | <ul style="list-style-type: none"> <li>Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH (the 28ha habitat area would be applied where optimal habitat is irregularly shaped around the nest)</li> <li>Barred Owl – A 200m radius around the nest is the SWH.</li> <li>Broad-winged Hawk and Coopers Hawk – A 100m radius around the nest is the SWH.</li> <li>Sharp-Shinned Hawk – A 50m radius around the nest is the SWH.</li> <li>Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area.</li> <li>Significant Wildlife Habitat Technical Guide Index #27 provides development effects and mitigation measures.</li> </ul> | <p>The woodland feature has been measured to be greater than 30 ha in size with less than 10 ha of interior forest assuming a 200 m buffer at the edge of the forest (approximately 0.6 ha of interior with a 200 m buffer).</p> <p>Therefore, Candidate Woodland Raptor Nesting Habitat SWH is not considered to be in the Study Area.</p>        |
| <p><b>Turtle Nesting Areas</b></p> <p><b>Rationale:</b><br/>These habitats are rare and when identified will often be the only breeding site for local populations of turtles.</p> | <p>Midland Painted Turtle<br/><u>Special Concern Species</u><br/>Northern Map Turtle<br/>Snapping Turtle</p> | <p>Exposed mineral soil (sand or gravel) areas adjacent (&lt;100m) or within the following ELC Ecosites:<br/>MAS1<br/>MAS2<br/>MAS3<br/>SAS1<br/>SAM1<br/>SAF1<br/>BOO1<br/>FEO1</p> | <ul style="list-style-type: none"> <li>Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals.</li> <li>For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.</li> <li>Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.</li> </ul> <p><u>Information Sources</u></p>  | <p>Studies confirm:</p> <ul style="list-style-type: none"> <li>Presence of 5 or more nesting Midland Painted Turtles</li> <li>One or more Northern Map Turtle or Snapping Turtle nesting is a SWH.</li> <li>The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH.</li> <li>Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat.</li> </ul>  | <p>Shallow marsh and shallow aquatic habitats are present in the Study Area. No exposed mineral soil observed in the Study Area for turtle nesting.</p> <p>Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.</p> <p>Suitable turtle nesting areas SWH therefore not present in the Study Area.</p> |





| Wildlife Habitat  | Wildlife Species   | Candidate SHW   |  | Confirmed SWH   | Assessment  |
|---|--|---|--|---|---|
|   |  | ELC Ecosite Codes   | Habitat Criteria and Information Sources   | Defining Criteria   |   |
|   |  |   | <ul style="list-style-type: none"> <li>Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels).</li> <li>Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them.</li> <li>Natural Heritage Information Center (NHIC)</li> <li>Field Naturalist clubs</li> </ul>  | <ul style="list-style-type: none"> <li>Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method.</li> </ul> <p>Significant Wildlife Habitat Technical Guide Index #28 provides development effects and mitigation measures for turtle nesting habitat.</p>   |   |
| <p><b>Seeps and Springs</b></p> <p><u>Rationale:</u><br/>Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.</p> | <p>Wild Turkey<br/>Ruffed Grouse<br/>Spruce Grouse<br/>White-tailed Deer<br/>Salamander spp.</p> | <p>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.</p> | <p>Any forested area (with &lt;25% meadow/field/pasture) within the headwaters of a stream or river system.</p> <ul style="list-style-type: none"> <li>Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Topographical Map.</li> <li>Thermography.</li> <li>Hydrological surveys conducted by Conservation Authorities and Ministry of the Environment, Conservation and Parks.</li> <li>Field Naturalists clubs and landowners.</li> <li>Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.</li> </ul> | <p>Field Studies confirm:</p> <ul style="list-style-type: none"> <li>Presence of a site with 2 or more seeps/springs should be considered SWH.</li> <li>The area of an ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat.</li> <li>Significant Wildlife Habitat Technical Guide Index #30 provides development effects and mitigation measures</li> </ul> | <p>No evidence of groundwater seepage was observed.</p> |



| Wildlife Habitat  | Wildlife Species  | Candidate SHW   |  | Confirmed SWH  | Assessment   |
|---|---|---|--|--|--|
|   |   | ELC Ecosite Codes   | Habitat Criteria and Information Sources   | Defining Criteria  |  |
| <p><b>Amphibian Breeding Habitat (Woodland).</b></p> <p><b>Rationale:</b><br/>These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations</p> | <p>Eastern Newt<br/>Blue-spotted Salamander<br/>Spotted Salamander<br/>Gray Treefrog<br/>Spring Peeper<br/>Western Chorus Frog<br/>Wood Frog</p>  | <p>All Ecosites associated with these ELC Community Series;<br/>FOC<br/>FOM<br/>FOD<br/>SWC<br/>SWM<br/>SWD</p> <p>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</p> | <ul style="list-style-type: none"> <li>• Presence of a wetland, pond or woodland pool (including vernal pools) &gt;500m<sup>2</sup> (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians.</li> <li>• Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>• Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records</li> <li>• Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property.</li> <li>• OMNRF District.</li> <li>• OMNRF wetland evaluations</li> <li>• Field Naturalist clubs</li> <li>• Canadian Wildlife Service</li> <li>• Amphibian Road Call Survey</li> <li>• Ontario Vernal Pool Association:<br/><a href="http://www.ontariovernalpools.org">http://www.ontariovernalpools.org</a></li> </ul> | <p>Studies confirm;</p> <ul style="list-style-type: none"> <li>• Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3.</li> <li>• A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands.</li> <li>• The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat.</li> <li>• Significant Wildlife Habitat Technical Guide Index #14 provides development effects and mitigation measures.</li> </ul> | <p>No amphibian breeding habitat noted within the proposed development area.</p> <p><b>Wetlands present in Study Area; swamp and marsh.</b></p> <p><b>Further consideration of amphibian breeding habitat is provided in the EIS.</b></p>                                |
| <p><b>Amphibian Breeding Habitat (Wetlands)</b></p> <p><b>Rationale;</b><br/>Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within</p>  | <p>Eastern Newt<br/>American Toad<br/>Spotted Salamander<br/>Four-toed Salamander<br/>Blue-spotted Salamander<br/>Gray Treefrog<br/>Western Chorus Frog<br/>Northern Leopard Frog<br/>Pickerel Frog<br/>Green Frog<br/>Mink Frog<br/>Bullfrog</p> | <p>ELC Community Classes SW, MA, FE, BO, OA and SA.</p> <p>Typically these wetland ecosites will be isolated (&gt;120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands.</p>   | <ul style="list-style-type: none"> <li>• Wetlands &gt;500m<sup>2</sup> (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats.</li> <li>• Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators.</li> <li>• Bullfrogs require permanent water bodies with abundant emergent vegetation.</li> </ul>  | <p>Studies confirm:</p> <ul style="list-style-type: none"> <li>• Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. <b>or;</b> Wetland with confirmed breeding Bullfrogs are significant.</li> <li>• The ELC ecosite wetland area and the shoreline are the SWH.</li> </ul>   | <p>No amphibian breeding habitat noted within the proposed development area.</p> <p><b>Wetlands present in Study Area; swamp and marsh, as well as a drainage feature.</b></p> <p><b>Further consideration of amphibian breeding habitat is provided in the EIS.</b></p> |





| Wildlife Habitat   | Wildlife Species   | Candidate SHW  |  | Confirmed SWH  | Assessment  |
|--|--|--|--|--|---|
|  |  | ELC Ecosite Codes  | Habitat Criteria and Information Sources   | Defining Criteria  |   |
| Central Ontario landscapes.  |  |  | <u>Information Sources</u> <ul style="list-style-type: none"> <li>Ontario Herpetofaunal Summary Atlas (or other similar atlases)</li> <li>Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count.</li> <li>OMNRF Districts and wetland evaluations</li> <li>Reports and other information available from Conservation Authorities.</li> </ul>  | <ul style="list-style-type: none"> <li>A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands.</li> <li>If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined below.</li> <li>Significant Wildlife Habitat Technical Guide Index #15 provides development effects and mitigation measures.</li> </ul>   |   |
| <b>Woodland Area-Sensitive Bird Breeding Habitat</b><br><br><u>Rationale:</u><br>Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds. | Yellow-bellied Sapsucker<br>Red-breasted Nuthatch<br>Veery<br>Blue-headed Vireo<br>Northern Parula<br>Black-throated Green Warbler<br>Blackburnian Warbler<br>Black-throated Blue Warbler<br>Ovenbird<br>Scarlet Tanager<br>Winter Wren<br><br><b>Special Concern:</b><br>Canada Warbler | All Ecosites associated with these ELC Community Series;<br>FOC<br>FOM<br>FOD<br>SWC<br>SWM<br>SWD | Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha,<br><ul style="list-style-type: none"> <li>Interior forest habitat is at least 200 m from forest edge habitat.</li> </ul> <u>Information Sources</u> <ul style="list-style-type: none"> <li>Local bird clubs.</li> <li>Canadian Wildlife Service (CWS) for the location of forest bird monitoring.</li> <li>Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species</li> <li>Reports and other information available from Conservation Authorities.</li> </ul> | Studies confirm: <ul style="list-style-type: none"> <li>Presence of nesting or breeding pairs of 3 or more of the listed wildlife species.</li> <li>Note: any site with breeding Canada Warblers is to be considered SWH.</li> <li>Conduct field investigations in spring and early summer when birds are singing and defending their territories.</li> <li>Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”</li> <li>Significant Wildlife Habitat Technical Guide Index #34 provides development effects and mitigation measures.</li> </ul> | <b>Forested habitat is present within the Study Area; the woodland feature has been measured to be greater than 30 ha in size, with approximately 0.6 ha of interior forest habitat 200 m from forest edge.</b><br><br><b>Winter Wren, Black-throated Green Warbler were recorded during breeding bird surveys.</b><br><br><b>Further consideration provided in EIS report.</b> |



**Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)**

| Wildlife Habitat  | Wildlife Species  | Candidate SHW  |  | Confirmed SWH   | Assessment   |
|---|---|--|--|---|--|
|   |   | ELC Ecosite Codes  | Habitat Criteria and Information Sources   | Defining Criteria   |  |
| <p><b>Marsh Breeding Bird Habitat</b></p> <p><b>Rationale;</b><br/>Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.</p>   | <p>American Bittern<br/>Virginia Rail<br/>Sora<br/>Common Moorhen<br/>American Coot<br/>Pied-billed Grebe<br/>Marsh Wren<br/>Sedge Wren<br/>Common Loon<br/>Sandhill Crane<br/>Green Heron<br/>Trumpeter Swan</p> <p><b>Special Concern:</b><br/>Black Tern<br/>Yellow Rail</p> | <p>MAM1<br/>MAM2<br/>MAM3<br/>MAM4<br/>MAM5<br/>MAM6<br/>SAS1<br/>SAM1<br/>SAF1<br/>FEO1<br/>BOO1</p> <p>For Green Heron:<br/>All SW, MA and CUM1 sites.</p> | <ul style="list-style-type: none"> <li>Nesting occurs in wetlands.</li> <li>All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present.</li> <li>For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>OMNRF District and wetland evaluations.</li> <li>Field Naturalist clubs</li> <li>Natural Heritage Information Center (NHIC) Records.</li> <li>Reports and other information available from Conservation Authorities.</li> <li>Ontario Breeding Bird Atlas.</li> </ul>   | <p>Studies confirm:</p> <ul style="list-style-type: none"> <li>Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes; or breeding by any combination of 5 or more of the listed species.</li> <li>Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH.</li> <li>Area of the ELC ecosite is the SWH.</li> <li>Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats.</li> <li>Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”</li> <li>Significant Wildlife Habitat Technical Guide Index #35 provides development effects and mitigation measures</li> </ul> | <p>NHIC does not list occurrence of marsh breeding bird nesting in the area.</p> <p>The meadow marsh community at the base of the slope and the larger swamp community in the Study Area did not contain habitat required for this SWH (<i>i.e.</i> shallow water with emergent vegetation).</p> <p>Green Heron was observed at the edge of the Study Area. It is assumed likely due to potential habitat such as the steam and marshes to the west outside of the Study Area. No breeding evidence was noted.</p> |
| <p><b>Open Country Bird Breeding Habitat</b></p> <p><b>Rationale;</b><br/>This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years</p> | <p>Upland Sandpiper<br/>Vesper Sparrow<br/>Northern Harrier<br/>Savannah Sparrow</p> <p><b>Special Concern</b><br/>Short-eared Owl<br/>Grasshopper Sparrow</p>  | <p>CUM1<br/>CUM2</p>   | <p>Large grassland areas (includes natural and cultural fields and meadows) &gt;30 ha</p> <ul style="list-style-type: none"> <li>Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (<i>i.e.</i> no row cropping or intensive hay or livestock pasturing in the last 5 years).</li> <li>Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older.</li> <li>The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Agricultural land classification maps, Ministry of Agriculture.</li> </ul> | <p>Field Studies confirm:</p> <ul style="list-style-type: none"> <li>Presence of nesting or breeding of 2 or more of the listed species.</li> <li>A field with 1 or more breeding Short-eared Owls or Grasshopper Sparrow is to be considered SWH.</li> <li>The area of SWH is the contiguous ELC ecosite field areas.</li> <li>Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories.</li> <li>Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”</li> </ul>  | <p>The Study Area contains open uplands within the Study Area, however on the property it is a small area and adjacent on opposite side of County Road 14 are agricultural lands which would not be appropriate for this function.</p> <p>None of the listed species were documented during site surveys.</p> <p>Suitable open country bird breeding habitat therefore is not present in the Study Area.</p>   |





| Wildlife Habitat   | Wildlife Species  | Candidate SHW  |   | Confirmed SWH  | Assessment  |
|--|---|--|---|--|---|
|  |   | ELC Ecosite Codes  | Habitat Criteria and Information Sources  | Defining Criteria  |   |
| based on CWS (2004) trend records.   |   |  | <ul style="list-style-type: none"> <li>Local bird clubs.</li> <li>Ontario Breeding Bird Atlas</li> <li>Reports and other information available from Conservation Authorities.</li> </ul>  | <ul style="list-style-type: none"> <li>Significant Wildlife Habitat Technical Guide Index #32 provides development effects and mitigation measures</li> </ul>  |   |
| <p><b>Shrub/Early Successional Bird Breeding Habitat</b></p> <p><b>Rationale:</b><br/>This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.</p> | <p><u>Indicator Spp:</u><br/>Brown Thrasher<br/>Clay-coloured Sparrow</p> <p><u>Common Spp.</u><br/>Field Sparrow<br/>Black-billed Cuckoo<br/>Eastern Towhee<br/>Willow Flycatcher</p> <p><b>Special Concern:</b><br/>Golden-winged Warbler</p> | <p>CUT1<br/>CUT2<br/>CUS1<br/>CUS2<br/>CUW1<br/>CUW2</p> <p>Patches of shrub ecosites can be complexed into a larger habitat for some bird species</p> | <p>Large field areas succeeding to shrub and thicket habitats &gt;10ha in size.</p> <ul style="list-style-type: none"> <li>Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years).</li> <li>Shrub thicket habitats (&gt;10 ha) are most likely to support and sustain a diversity of these species.</li> <li>Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Agricultural land classification maps, Ministry of Agriculture.</li> <li>Local bird clubs.</li> <li>Ontario Breeding Bird Atlas</li> <li>Reports and other information available from Conservation Authorities.</li> </ul> | <p>Field Studies confirm:</p> <ul style="list-style-type: none"> <li>Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species.</li> <li>A habitat with breeding Golden-winged Warbler is to be considered as Significant Wildlife Habitat.</li> <li>The area of the SWH is the contiguous ELC ecosite field/thicket area.</li> <li>Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories</li> <li>Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"</li> <li>Significant Wildlife Habitat Technical Guide Index #33 provides development effects and mitigation measures.</li> </ul> | <p>No large shrub or thicket habitats are present in the Study Area.</p> <p>None of the listed species were documented on site.</p> <p>Shrub/early successional bird breeding habitat SWH therefore is not present in the Study Area.</p> |
| <p><b>Terrestrial Crayfish</b></p> <p><b>Rationale:</b><br/>Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.</p>  | <p>Chimney or Digger Crayfish;<br/>(<i>Fallicambarus fodiens</i>)</p> <p>Devil Crayfish or Meadow Crayfish;<br/>(<i>Cambarus Diogenes</i>)</p>  | <p>MAM1<br/>MAM2<br/>MAM3<br/>MAM4<br/>MAM5<br/>MAM6<br/>MAS1<br/>MAS2<br/>MAS3<br/>SWD<br/>SWT<br/>SWM</p>  | <p>Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish.</p> <ul style="list-style-type: none"> <li>Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water.</li> <li>Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed.</li> </ul> <p><u>Information Sources</u></p>   | <p>Studies Confirm:</p> <ul style="list-style-type: none"> <li>Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites</li> <li>Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH.</li> <li>Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence,</li> </ul>  | <p>No evidence of terrestrial crayfish observed.</p>  |



| Wildlife Habitat  | Wildlife Species   | Candidate SHW  |   | Confirmed SWH   | Assessment   |
|---|--|--|---|---|--|
|   |  | ELC Ecosite Codes  | Habitat Criteria and Information Sources  | Defining Criteria   |  |
|   |  | CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.  | <ul style="list-style-type: none"> <li>Information sources from “Conservation Status of Freshwater Crayfishes” by Dr. Premek Hamr for the WWF and CNF March 1998</li> </ul>   | observance or collection of individuals is very difficult <ul style="list-style-type: none"> <li>Significant Wildlife Habitat Technical Guide Index #36 provides development effects and mitigation measures.</li> </ul>  |  |
| <b>Special Concern and Rare Wildlife Species</b><br><br><b>Rationale:</b><br>These species are quite rare or have experienced significant population declines in Ontario. | 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.<br><br>Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy | When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites<br><br><u>Information Sources</u> <ul style="list-style-type: none"> <li>Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data.</li> <li>NHIC Website “Get Information” : <a href="http://nhic.mnr.gov.on.ca">http://nhic.mnr.gov.on.ca</a></li> <li>Ontario Breeding Bird Atlas</li> <li>Expert advice should be sought as many of the rare spp. have little information available about their requirements.</li> </ul> | Studies Confirm: <ul style="list-style-type: none"> <li>Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable.</li> <li>The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat.</li> <li>Significant Wildlife Habitat Technical Guide Index #37 provides development effects and mitigation measures.</li> </ul> | <b>Further consideration provided in EIS report.</b> |





**Animal Movement Corridors**

| Wildlife Habitat  | Wildlife Species  | Candidate SHW   |  | Confirmed SWH   | Assessment   |
|---|---|---|--|---|--|
|   |   | ELC Ecosite   | Habitat Criteria and Information Sources   | Defining Criteria   |  |
| <p><b>Amphibian Movement Corridors</b></p> <p><b>Rationale:</b><br/>Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.</p>       | <p>Eastern Newt<br/>American Toad<br/>Spotted Salamander<br/>Four-toed Salamander<br/>Blue-spotted Salamander<br/>Gray Treefrog<br/>Western Chorus Frog<br/>Northern Leopard Frog<br/>Pickerel Frog<br/>Green Frog<br/>Mink Frog<br/>Bullfrog</p> | <p>Corridors may be found in all ecosites associated with water.</p> <ul style="list-style-type: none"> <li>Corridors will be determined based on identifying the significant breeding habitat for these species</li> </ul> | <p>Movement corridors between breeding habitat and summer habitat.</p> <ul style="list-style-type: none"> <li>Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH (Amphibian Breeding Habitat –Wetland)</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>MNR District Office.</li> <li>Natural Heritage Information Center (NHIC).</li> <li>Reports and other information available from Conservation Authorities.</li> <li>Field Naturalist Clubs.</li> </ul>  | <ul style="list-style-type: none"> <li>Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites.</li> <li>Corridors should consist of native vegetation, with several layers of vegetation.</li> <li>Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant</li> <li>Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps &lt;20m.</li> <li>Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat.</li> <li>Significant Wildlife Habitat Technical Guide Index #40 provides development effects and mitigation measures</li> </ul> | <p><b>Consideration of amphibian breeding habitat is provided in the EIS.</b></p>  |
| <p><b>Deer Movement Corridors</b></p> <p><b>Rationale:</b><br/>Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by</p> | <p>White-tailed Deer</p>  | <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>   | <p>Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH</p> <ul style="list-style-type: none"> <li>A deer wintering habitat identified by the OMNR as will have corridors that the deer use during fall migration and spring dispersion.</li> <li>Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges).</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>MNR District Office.</li> <li>Natural Heritage Information Center (NHIC).</li> <li>Reports and other information available from Conservation Authorities.</li> <li>Field Naturalist Clubs.</li> </ul> | <ul style="list-style-type: none"> <li>Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas.</li> <li>Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas.</li> <li>Corridors should be at least 200m wide with gaps &lt;20m and if following riparian area with at least 15m of vegetation on both sides of waterway.</li> <li>Shorter corridors are more significant than longer corridors.</li> <li>Significant Wildlife Habitat Technical Guide Index #39 provides development effects and mitigation measures</li> </ul>   | <p>Deer wintering SWH is not present in the Study Area therefore deer movement corridors are not expected to be present.</p> |



| Wildlife Habitat                                 | Wildlife Species | Candidate SHW |  | Confirmed SWH     | Assessment |
|--|------------------|---------------|--|-------------------|------------|
|  |                  | ELC Ecosite   | Habitat Criteria and Information Sources | Defining Criteria |            |
| minimizing their vulnerability while travelling. |                  |               |  |                   |            |

**Exceptions for Ecoregion 6E**

| EcoDistrict  | Wildlife Habitat and Species                  | Candidate   |   |   | Confirmed SWH   | Assessment  |
|--|---|---|---|---|---|---|
|  |   | Ecosites  | Habitat Description   | Habitat Criteria and Information  | Defining Criteria   |   |
| <b>6E-14</b><br><br><b>Rationale:</b><br>The Bruce Peninsula has an isolated and distinct population of black bears. Maintenance of large woodland tracts with mast-producing tree species is important for bears. | <b>Mast Producing Areas</b><br><br>Black Bear | All Forested habitat represented by ELC Community Series:<br><br>FOM<br>FOD | <ul style="list-style-type: none"> <li>Black bears require forested habitat that provides cover, winter hibernation sites, and mast-producing tree species.</li> <li>Forested habitats need to be large enough to provide cover and protection for black bears</li> </ul> | Woodland ecosites >30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech),<br><br><u>Information Sources</u><br>Important forest habitat for black bears may be identified by OMNRF. | All woodlands > 30ha with a 50%composition of these ELC Vegetation Types are considered significant:<br>FOM1-1<br>FOM2-1<br>FOM3-1<br>FOD1-1<br>FOD1-2<br>FOD2-1<br>FOD2-2<br>FOD2-3<br>FOD2-4<br>FOD4-1<br>FOD5-2<br>FOD5-3<br>FOD5-7<br>FOD6-5<br><br>Significant Wildlife Habitat Technical Guide Index #3 provides development effects and mitigation measures. | Not applicable, study area is not located on the Bruce Peninsula. |





| EcoDistrict  | Wildlife Habitat and Species                 | Candidate         |  |   | Confirmed SWH   | Assessment  |
|--|--|-------------------|--|---|---|---|
|  |  | Ecosites          | Habitat Description  | Habitat Criteria and Information  | Defining Criteria   |   |
| <b>6E- 17</b><br><br><b>Rationale:</b><br>Sharp-tailed grouse only occur on Manitoulin Island in Eco-region 6E, Leks are an important habitat to maintain their population | <b>Lek</b><br><br><b>Sharp-tailed Grouse</b> | CUM<br>CUS<br>CUT | <ul style="list-style-type: none"> <li>The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography.</li> <li>Leks are typically a grassy field/meadow &gt;15ha with adjacent shrublands and &gt;30ha with adjacent deciduous woodland. Conifer trees within 500m are not tolerated.</li> </ul> | Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland. <ul style="list-style-type: none"> <li>Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying)</li> <li>Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting</li> </ul> <u>Information Sources</u> <ul style="list-style-type: none"> <li>OMNRF district office</li> <li>Bird watching clubs</li> <li>Local landowners</li> <li>Ontario Breeding Bird Atlas</li> </ul> | Studies confirming lek habitat are to be completed from late March to June. <ul style="list-style-type: none"> <li>Any site confirmed with sharp-tailed grouse courtship activities is considered significant</li> <li>The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitat</li> <li>Significant Wildlife Habitat Technical Guide Index #32 provides development effects and mitigation measures</li> </ul> | Not applicable, study area is not located on Manitoulin Island. |