

Prepared By:



# 5916 Trafalgar Road North

Town of Erin, Ontario  
Hillsburgh Heights Inc.  
Environmental Impact Study

Project No. 02-016-2021

November 15, 2021

23 HERRELL AVENUE, BARRIE ON L4N 6T5  
[WWW.BIRKSNHC.CA](http://WWW.BIRKSNHC.CA)



23 Herrell Avenue  
Barrie, Ontario  
L4N 6T5

November 15, 2021

Briarwood Development Group  
636 Edward Street, Suite 14  
Richmond Hill, Ontario  
L4C 0V4

Attention: Mr. Fausto Saponara

**RE: Environmental Impact Study for proposed Briarwood Hillsburgh Development  
5916 Trafalgar Road North, Hillsburgh, Town of Erin, County of Wellington**

Dear Mr. Saponara:

Thank you for retaining Birks Natural Heritage Consultants, Inc. (Birks NHC) to prepare an Environmental Impact Study for the property located 5916 Trafalgar Road North in the Town of Erin. We understand that this assessment is required as part of a development application for the property which would allow for the proposed creation of a new residential subdivision within the Hillsburgh Urban Area.

Site specific data was collected by Birks NHC staff during the 2021 field season following a site meeting with the project team and reviewers from the Credit Valley Conservation Authority on July 16, 2021. This report outlines the process by which features are considered for their natural heritage function and value and an assessment of potential impacts associated with the proposed activity. Where potential impacts are identified, mitigation measures are proposed to reduce the potential impacts that could result to those identified. Assuming the mitigation measures recommended in this report are implemented, there is no expectation that natural heritage features or functions associated with the study area defined herein would be negatively impacted.



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

Birks Natural Heritage Consultants Inc.

Brad Baker, H.B.Sc.

Ecologist



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## 1 INTRODUCTION

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Birks Natural Heritage Consultants, Inc. (Birks NHC) was retained by the Briarwood Development Group (the client) to undertake an Environmental Impact Study (EIS) for the lands located at 5916 Trafalgar Road North (property) in the Town of Erin, County of Wellington.

### 1.1 PURPOSE

The property is located within the Hillsburgh Urban Area in the Town of Erin. The majority of the property is dominated by farmland and a rural residential farmstead (Figure 1). We understand that this assessment is required as part of a development application for the property which would allow for the proposed creation of a new subdivision within the Hillsburgh Urban Area. This EIS will be required to demonstrate that the proposed development will not result in any adverse effects to important Natural Heritage Features or their functions. Following a preliminary scoping site visit to review the property on July 16, 2021, the Credit Valley Conservation Authority (CVC) noted that they will be acting as a review agency for the Town of Erin. A proposed Terms or Reference for an EIS was provided to the CVC for consideration (Appendix A). Based upon available background mapping, Natural Heritage Features associated with the property are focused mostly on adjacent lands to the south of the property and some potential habitat for Species at Risk in anthropogenic structures associated with the old farmstead on the property.

The purpose of this EIS is to identify and characterize the Significant Natural Heritage Features and functions associated with the property and to determine if potential impacts to those features and functions could arise from the proposed works.

### 1.2 STUDY AREA

For the purpose of this EIS, the study area is focused on an area approximately 120 metres (m) surrounding the property boundary. The Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNR) published the Natural Heritage Reference Manual (MNR, 2010) to provide technical guidance for the implementation of the natural heritage policies of the *Provincial Policy Statement, 2020* (PPS) which outlines a distance of 120 metres for use in consideration of impacts to adjacent features. To allow for the consideration of any other natural heritage features in the area a landscape level screening was also undertaken through a review of air photos within approximately one kilometer surrounding the study area. While we recognize that Trafalgar Road runs northwest/southeast, for ease of reference directions referred to in this report will assume that Trafalgar Road runs north/south in the vicinity of the subdivision.

### 1.3 SITE DESCRIPTION

The property is a rural residential farmstead measuring approximately 47 hectares (ha) (Figure 1). The majority of the property (approximately 85%) is dominated by active agricultural use with small



# Hillsburgh EIS

Town of Erin

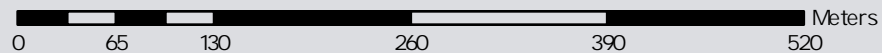
— Property Limit  
- - - 120m Study Area

— Mapped Watercourse (LIO)  
- - - West Credit River Provincially Significant Wetland Complex (LIO)

Figure 1:  
Study Area



MAP DRAWING INFORMATION:  
 DATA PROVIDED BY: ESRI CANADA  
 MAP CREATED BY: SB  
 MAP CHECKED BY: BB  
 MAP PROJECTION: NAD 1983 UTMZONE 17N



FILE LOCATION:

Path: C:\Users\S\_Brady\Birks\NHC\Birks NHC Team for all - Documents\Project Folders\SBrady Projects\ArcGIS - Projects here\Projects - here\HillsburghEIS

PROJECT: 02-016-2021

STATUS: DRAFT

DATE: 29/10/2021





fencerows. The rural residence and associated outbuildings are present on the east side of the property with road access to Wellington Road 24 (Trafalgar Road). The land is gently rolling with a drop at the west end of the property where a mapped watercourse would be associated with the west property boundary. Upon site review, there was no watercourse present in the mapped location and the actual watercourse appears to start at roughly the same location as the mapped wetland. A naturalized meadow community is present within the southeast corner of the property. While a large garden dominated the center of this feature, the remainder of the community appears to have been left to grow naturally over the course of several years. Scotch Pine and several other conifer species mixed with Staghorn Sumac has begun to form small thicket areas.

#### 1.4 ADJACENT LAND USE

The property is bound by Wellington Road 24 on the east and the built-out portions of the Hillsburgh Urban Area to the east and south. Further to the south and to the west the lands are dominated by a matrix of natural forested lands and remnant natural vegetation communities including forest and swamp intermixed with rural residential dwellings. To the north the land is predominantly rural agricultural use. Natural heritage features of note in the area include units of the West Credit River Provincially Significant Wetland (PSW) Complex which are mapped along a watercourse to the southwest approximately 120m beyond the property boundary.

## 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 POLICY STATEMENT, 2020

Ontario's *Planning Act* requires that planning decisions shall be consistent with the Provincial Policy Statement (PPS, 2020). Section 2.1 of the PPS specifies policy relates to protection of natural heritage features and functions.

According to section 2.1.4 of the PPS stipulates policy for the protection of natural heritage features and functions as follows:

Development and site alteration shall not be permitted in:

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

Section 2.1.5 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 woodlands in Ecoregions 6E; and 7E;
- b) Significant valleylands in Ecoregions 6E; and 7E;
- c) Significant wildlife habitat;
- d) Significant areas of natural and scientific interest; and
- e) Coastal wetlands in Ecoregions 5E, 6E; and 7E that are not subject to policy 2.1.4(b)

Sections 2.1.6 and 2.1.7 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 2.1.8 extends protection of those features defined above in policies 2.1.4, 2.1.5 and 2.1.6 to adjacent lands, typically those within 120 m of the potential impact. Section 2.1.8 states that development and site alteration shall not be permitted on adjacent lands to natural heritage features identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological function.

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 2.1.4 and 2.1.5 of the PPS as significant. The Natural Heritage Reference Manual (MNR, 2010) and Ecoregion 6E Significant Wildlife Habitat Criterion Schedule (MNRF, 2015) were used within this report to identify candidate features and functions not currently identified by the province and/or municipality.

## 2.2 ENDANGERED SPECIES ACT, 2007

Ontario's *Endangered Species Act, 2007* (ESA) provides regulatory protection for Endangered and Threatened species. The ESA prohibits harassment, harm and/or killing of individuals and destruction of their habitats. Habitat is broadly characterized within the ESA as the area prescribed by a regulation as the habitat of the species, or an area on which the species depends, directly or indirectly, to carry on its life processes including reproduction, rearing of young, hibernation, migration or feeding.

Ontario Regulation (O. Reg.) 230/08 of the ESA identifies Species at Risk in Ontario. These includes species listed as Extirpated, Endangered, Threatened, and Special Concern. 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 Significant Wildlife Habitat provisions of the PPS. The ESA is regulated by the Ministry of Environment Conservation and Parks (MECP).



### 2.3 COUNTY OF WELLINGTON OFFICIAL PLAN

The County of Wellington Official Plan Schedule A2 (Erin) and Schedule A2-1 [Erin (Greenbelt)] identify the majority of the study area as Urban Centre (Appendix B). The remainder of the property which is outside of the settlement area is designated secondary agricultural.

Urban Centres are intended to provide a full range of land use opportunities including Residential. Policy 7.5.1. of the County's Official Plan states that 'Residential uses of various types and densities, commercial, industrial and institutional uses as well as parks and open space uses will be permitted where compatible and where services are available. Policy 7.5.13 state that Greenlands Systems policies of the County Official Plan are intended to apply within Urban Centres where the urban development is adjacent to Greenland System areas.

Greenlands System Policies are intended to focus on protecting features and functions in a similar manner to that laid out within the PPS. Relevant Policies in the following:

Development and site alteration shall not be allowed in significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the habitat or its ecological functions. (Section 5.5.1)

Development and site alteration shall not be allowed in fish habitat except in accordance with provincial and federal requirements (Section 5.5.1).

Streams and valleylands are included in the Greenlands system. All streams and valleylands will be protected from development or site alterations which would negatively impact on the stream or valleyland or their ecological functions (Section 5.5.3).

In the Urban System, woodlands over 1 hectare are considered to be significant by the County and are included in the Greenlands System. Woodlands of this size are important due to their economic, visual and environmental contributions to the urban landscape (Section 5.5.4).

A special policy identified as Section 3.5.1 of the County of Wellington Official Plan states that new development within the Hillsburgh and Erin Urban Centres shall be serviced in a manner that conforms to the requirements of the Growth Plan and is consistent with the PPS 2014, including Section 1.6.6.

Based on the review of these policies, while consideration will be required for features identified on adjacent lands, there appear to be no designations for features on the property which would inhibit development. Notwithstanding, appropriate consideration will be required for important natural heritage features and functions in the same design as the PPS.



## 2.4 TOWN OF ERIN OFFICIAL PLAN

The majority of the property is located within a mapped settlement area named the Hillsburgh Urban Area as outlined within Schedule A-1 (Appendix C) of the Town of Erin Official Plan. A small section of the property in the west is outside of the mapped settlement area and is designated as secondary agricultural. This area is not included in the draft plan for proposed development.

Within the Town of Erin Official Plan Schedule A-3 (Appendix C) the property is designated as Residential and Future Development. While Residential is intended for growth of the Urban Area and specifically residential development, the designation of Future Development is similar but less clear, Section 4.13.3 of the Official Plan states:

‘The permitted uses within areas designated Future Development as illustrated on Schedule A to the Plan shall be limited to existing uses and non-intensive agricultural operations.’

‘Consideration may be given to the creation of new residential lots by consent provided such development is in accordance with the policies of Section 5.15 of this Plan.’

Notwithstanding, the Town of Erin Official Plan appears to implement no natural heritage designations for the portion of the property that lies within the Hillsburgh Urban Area that would inhibit development.

## 3 STUDY APPROACH

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The following activities and assessments were undertaken to fulfill the objectives of this study. As previously noted, a Terms of Reference was established with the CVC outlining survey requirements. The Terms of Reference is included as Appendix A.

### 3.1 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:

- Aerial images (Google)
- Atlas of the Breeding Birds of Ontario (Bird Studies Canada, 2006)
- Land Information Ontario (LIO; MNDMNRF, 2021)
- Natural Heritage Information Centre (NHIC; MNDMNRF, 2021)
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2021)
- Species at Risk in Ontario List (MECP, 2018)
- Town of Erin Official Plan (2004 with 2021 Consolidations)
- Wellington County Official Plan (1999 with July 2021 revisions)



### 3.2 FIELD SURVEYS

Natural heritage features and functions within the study area were characterized through completion of field surveys. The following sections outline the methods used for each of the surveys, including specific provincial protocols utilized. 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 property. A summary of the surveys completed including the dates for the completion of the surveys are outlined in Table 1.

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

Dates	Start/End Time	Type of Survey	Biologists
July 16, 2021	12:00 – 14:00	Preliminary Site Review	Brad Baker
August 12, 2021	20:00 – 23:00	Nesting Habitat Evaluation for Barn Swallow	Brad Baker / Stephanie Brady
August 12, 2021	20:00 – 23:00	Bat Exit Surveys	Brad Baker / Stephanie Brady
August 27, 2021 October 9, 2021	10:30 - 16:00 11:00 – 15:00	Ecological Land Classification and Vegetation surveys	Brad Baker

#### 3.2.1 Vegetation Community Mapping and Surveys

As a first step in identifying and assessing for natural heritage features on the property, the vegetation communities were assessed using Ecological Land Classification (ELC). The ecological community boundaries were determined through a review of aerial photography and then further refined during the site visits throughout the 2021 field season. The ELC system for Southern Ontario (Lee *et al.*, 1998) was used with modifications. In early 2007, the MDMNRF refined their original vegetation type codes to more fully encompass the vast range of natural and cultural communities across Southern Ontario. Through this process, new codes have been added while some have changed slightly. These updated ELC codes have also been used for reporting purposes in this study where they are more representative of the vegetation communities within the property. The resulting ELC Mapping is illustrated in Figure 1.

#### 3.2.2 Wildlife Surveys

A wildlife assessment for the property was completed through incidental observations while on site. Any incidental observations of wildlife were noted including other wildlife evidence such as dens, tracks, and scat. For each observation notes and, when possible, photos were taken. These observations also used in the consideration of the wildlife habitat function associated with the study area.

Wildlife habitat functions were evaluated according to provincial criteria outlined in the Ecoregion 6E Criterion Schedules (MNRF, 2015).



### 3.3 SPECIES AT RISK

The Species at Risk assessment included an analysis of the habitat requirements of Species at Risk known to occur in the region to identify those having potential to occur within the study area.

Birks NHC reviewed data obtained through desktop review and the site visit, 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. Where it is determined that the species have potential habitat within the study area, survey results were considered to determine the function of the potential habitat and whether the proposed works are in compliance with the regulations of the ESA.

Based on the habitat review for the study area, additional species specific habitat assessment was undertaken to evaluate potential Species at Risk Habitat for Barn Swallow and Endangered Bats. To this end a visual review of the existing structures was undertaken on August 12, 2021. During this assessment all visible areas external to the buildings and internal, where accessible, were reviewed for evidence of use. During this assessment minor evidence of bat use was identified on the outside of the home and no evidence was identified in the three farm buildings on the property. Barn Swallow nesting was identified in the old barn and storage shed on the property.

In addition, following the Technical Note Species at Risk (SAR) Bats (MNRF 2015), a visual and acoustic bat exit survey was completed for the existing barn and silo structures by Birks NHC ecologists on the evening of August 12, 2021. The survey was conducted for a total of 90 minutes, beginning at 30 minutes before dusk and continuing until 60 minutes after dusk. Both passive (SM4 Acoustic Recorder) and active (EchoMeter Touch 2 Pro) recorders were employed in conjunction with visual observations to identify to species level any bats exiting or entering the buildings. Any recordings were analyzed using the Wildlife Acoustic Kaleidoscope software and manually checked for accuracy.

## 4 NATURAL HERITAGE FEATURES AND FUNCTIONS

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The following sections present an examination of our findings as they relate to natural heritage features and functions in the study area.

### 4.1 GENERAL SITE OVERVIEW

As previously discussed, the property is a rural residential farmstead measuring approximately 47 hectares (ha) (Figure 1). The majority of the property (Approximately 85%) is dominated by active agricultural use with small fencerows. The rural residence and associated outbuildings are present on the north/northeast side of the property with road access to Wellington Road 24. The land is gently rolling with a drop at the west end of the property where the mapped watercourse was not found to be present along the west property boundary. A naturalized meadow community is present to the southeast corner of the property. While a large garden dominated the center of this feature, the remainder of the community appears to have been left to grow naturally for a number of years. Scotch



Pine and several other conifer species mixed with Staghorn Sumac has begun to form small thicket areas. In general, the property has a low potential to maintain important natural heritage features and functions. The proximity to the urban centre in combination with the lack of natural features resulting from long term farming of the area mean that those features and functions which are present are generally tolerant to, or subsidized by, human activity.

#### 4.1.1 Vegetation Communities

Vegetation communities and their respective locations are illustrated on Figure 2. A total of six distinct ecosites were identified within the property limits and adjacent lands to the southwest. The vegetation communities that occur on the property include:

##### 1. Annual Row Crops

- At least 75% of the property was dominated by annual row crops. At the time of the 2021 field assessments, these fields consisted of a mix of recently harvested soybeans and grains. Other growth within the fields included common species such as mullein, dandelions, clovers, ragweed and other species which are commonly associated with roadsides and recently disturbed spaces.

##### 2. CUM - Cultural Meadow

- The majority of this vegetation community is dominated by a combination of Kalm's Brome and Canada Goldenrod. Common field species were prevalent throughout the community and included Timothy, Wild Carrot, Fleabane *sp.* and Bladder Champion. The community, as mapped, incorporates small inclusions of Scotch Pine and Staghorn Sumac similar to the WOCM1 vegetation community.

##### 3. WOCM1 – Dry Coniferous Woodland

- The woodland, dominated by a mix of Scotch Pine, White Pine, Spruce *sp.* and Box Elder appears to have emerged naturally within the Cultural Meadow vegetation community. This vegetation community included a large component of Buckthorn *sp.* with occasional Red Pine and Staghorn Sumac.

##### 4. Maintained Lawn

- This unit accounts for areas which are a standard maintained lawn typical of most residential and rural residential properties. Mowed grasses dominated the residential and farm area as well as a wide swath down the centre of the property.

##### 5. FOCM6 – Naturalized Coniferous Plantation (Adjacent lands)

- Planted Conifer Species included White Pine, Red Pine, White Spruce, Tamarack and Balsam Fir as their dominant components. Beyond this vegetation community the forest appears to transition to a naturalized deciduous forest.



### Hillsburgh EIS

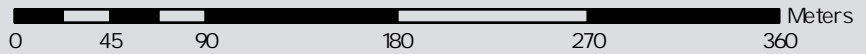
Town of Erin

Figure 2:  
Existing Conditions

- Property Limit
  - Mapped Watercourse (LIO)
  - ⬢⬢⬢⬢ West Credit River Provincially Significant Wetland Complex (LIO)
  - Storage Barn/Shed
- Vegetation Communities**
- 1) OAGM1 - Annual Row Crops
  - 2) CUM - Cultural Meadow
  - 3) WOCM1 - Dry Coniferous Woodland
  - 4) Maintained Area
  - 5) FOCM6 - Naturalized Coniferous Plantation
  - 6) TAGM5 - Medium Mineral Fencerow



MAP DRAWING INFORMATION:  
DATA PROVIDED BY: ESRI CANADA  
MAP CREATED BY: SB  
MAP CHECKED BY: BB  
MAP PROJECTION: NAD 1983 UTMZONE 17N



FILE LOCATION:  
Path: C:\Users\S\_Brady\Birks\NHC\Birks NHC Team for all - Documents\Project Folders\SBrady Projects\ArcGIS - Projects here\Projects - here\HillsburghEIS  
PROJECT: 02-016-2021      STATUS: DRAFT      DATE: 29/10/2021





#### 6. TAGM5 – Medium Mineral Fencerow

- A common vegetation community within old farmsteads these vegetation units consist of a mix of retained or planted mature tree rows dominated by basswoods, ash and maples, mixed with smaller tree including Manitoba Maple, apple or hawthorn and shrubs that have grown up around fence lines and forbs common to fields.

#### 4.1.2 Vascular Plants

Plants were considered over the course of a growing season. Vegetation surveys were undertaken by Birks NHC staff through the 2021 field season as outlined in Table 1. No Species at Risk, provincially, or CVC watershed rare plant species were documented within the study area. Generally, a list of species would be included within the EIS report which identifies species presence linked to vegetation communities. Given the disturbed nature of the property, lack of proper natural vegetation communities within the property boundary and the composition of the vegetation communities a formal list was not compiled for inclusion within this report. If technical reviewers require this information, it can be provided upon request.

#### 4.2 PROVINCIALY SIGNIFICANT WETLAND

Mapped units of the West Credit River PSW Complex are present within adjacent lands southwest of the property limits. The portion of the wetland that intersects with the study area boundary appears to be directly associated with wetland shrubs at the beginnings of a watercourse that flows through mixed conifer and deciduous swamp before it empties into a larger open water area retained by a dam structure at Station Street.

#### 4.3 WOODLAND

With the exception of the small woodland community on the property (WOCM1 – Figure 2) no forested habitat is present within the property boundary. We understand that the woodland to the west of the property which maintains direct connection to the West Credit River PSW is mapped by the Town of Erin and the County of Wellington within the Greenbelt Natural Heritage System. The contiguous woodland feature within adjacent lands measures approximately 75 ha in size. The significance of the contiguous woodland was assessed according to criteria defined by the Natural Heritage Reference Manual (MNR, 2010). Woodland assessment requires that the forest cover in the larger planning area be considered to assist in determining the significance of the woodland in question. For the purpose of the assessment, the Erin Servicing and Settlement Master Plan (SSMP) published by the CVC in May 2011 was considered. The plan reports that there is approximately 27.3% forest cover within the SSMP area (CVC, 2011) which means that a Significant Woodland should be at least 20 ha in size. Size criteria is not the only value that significance is based on. As outlined in the full assessment, included in Appendix D, the woodland could be considered as a candidate significant woodland based on the following criteria for significance:



- Woodland Size Criteria
  - Provincial criterion suggests that the woodland should be considered significant if it is greater than 20 ha based on a 15 – 30% estimate of woodland land cover
- Considered potentially significant on the basis of proximity to other woodland or other habitats
  - Includes wetland habitat and bounds an area of surface drainage
- Considered potentially significant on the basis of Linkages
  - The forest area as a whole could be considered a linkage between other forested areas and is mapped within the Greenbelt Natural Heritage System

#### 4.4 SIGNIFICANT WILDLIFE HABITAT

As a part of this assessment, Birks NHC staff reviewed the MDMNRF's Significant Wildlife Habitat Technical Guide (2000) and the accompanying Ecoregion 6E Criteria Schedules (MNR, 2015) to assess the potential for Significant Wildlife Habitat to be present in the study area. The full assessment table is included as Appendix E. Based on that assessment, it was determined that the following candidate significant wildlife habitat functions may be associated with the property and adjacent lands:

##### Specialized Habitats of Wildlife

- Seeps and Springs (Assumed) – Assumed to be present within the forested wetland edges to the southwest of the property.

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

- Open Country Bird Breeding Habitat (Potential) – CUM1 habitat within the property boundary.
- Shrub/Early Successional Bird Breeding Habitat (Potential) – The planted vegetation communities present on the west border of the property could be considered Cultural Woodland which would require further consideration for function as Shrub and Early Successional Bird Breeding Habitat.

All functions noted are linked to the associated habitats on the property and adjacent lands as summarized above.

##### 4.4.1 Specialized Habitat for Wildlife

Specialized Habitat for Wildlife is a category which is intended to reflect the need of many wildlife species for substantial areas of suitable habitat for successful breeding. The populations of species included under this category are expected to decline when habitat becomes fragmented and reduced in size.

##### Seeps and Springs (Potential)

Although this function was not visually assessed, it is assumed to be present and substantiated by the presence of increasing water levels within the swamp habitat associated with the West Credit River PSW



Complex as it continues east. If present on adjacent lands, this function would be dependent on maintained groundwater infiltration from nearby areas.

#### 4.4.2 Habitat for Species of Conservation Concern (Not End or Thr)

Habitat of all Special Concern and provincially Rare (S1-S3, SH) plant and animal species, not including Endangered or Threatened species, is considered Significant Wildlife Habitat. When a Natural Heritage Information Center element occurrence is identified within a survey grid square for a Special Concern or provincially rare species, consideration for candidate habitat associated with the property is required.

##### Open Country Bird Breeding Habitat (Potential)

While CUM habitat is identified within the property, the area measures approximately 4 ha which falls well below the habitat criteria of >30 ha. While the Cultural Meadow vegetation community present on the property may provide limited habitat function for Savannah Sparrow, Vesper Sparrow or potentially Grasshopper Sparrow it is not recommended as a candidate to be considered as Significant Wildlife Habitat.

##### Shrub/Early Successional Bird Breeding Habitat (Potential)

The planted vegetation communities present on the west border of the property could be considered Cultural Woodland which would require further consideration for this function. The area of these communities' measures below the habitat criteria of >10 ha. Notwithstanding, Clay-coloured Sparrow was noted calling within these communities. Given the presence of Clay-coloured Sparrow in appropriate habitat, albeit late in the season, combined with the lack of formal bird surveys, this feature is considered candidate Significant Wildlife Habitat.

#### 4.5 AREAS OF NATURAL AND SCIENTIFIC INTEREST

No Areas of Natural and Scientific Interest are located in the study area.

#### 4.6 HABITAT OF THREATENED AND ENDANGERED SPECIES

The habitat requirements of those species listed as Threatened and Endangered under the ESA were considered in relation to the habitat features noted within the property limits and the adjacent lands.



**Table 2: Species at Risk Assessment**

Common Name	Scientific Name	Designation		Habitat Affinities Present Within Study Area
		ESA	SARA	
<i>Mammals</i>				
<sup>1</sup> Little Brown Myotis	<i>Myotis lucifugus</i>	END	END	Marginal – Potential Habitat is associated with the old barn and home on the property. Species not noted during exit surveys.
<sup>1</sup> Northern Myotis	<i>Myotis septentrionalis</i>	END	END	Marginal – Low potential for Northern Myotis to roost in the old barn and home on the property. Species not noted during exit surveys.
<i>Birds</i>				
<sup>1</sup> Barn Swallow	<i>Hirundo rustica</i>	THR	THR	Yes – Suitable structures present within the study area on adjacent properties. Confirmed Nesting in two structures on the property.
<sup>1</sup> Bobolink	<i>Dolichonyx oryzivorus</i>	THR	THR	No – The presence of Cultural Meadow within the study area means that this species should be considered. Given the size of the meadow and vegetation composition there is a low likelihood that the cultural meadow comprises functional Bobolink habitat.
<sup>1</sup> Chimney Swift	<i>Chaetura pelagica</i>	THR	THR	No – Given the presence of old buildings on the property this species should be considered. All chimneys with potential to provide habitat were capped which effectively rules out habitat potential for Chimney Swift.
<sup>1</sup> Eastern Meadowlark	<i>Sturnella magna</i>	THR	THR	No – Similar to Bobolink, the presence of Cultural Meadow within the study area means that this species should be considered. Given the size of the meadow and vegetation composition there is a low likelihood that the cultural meadow comprises functional Meadowlark habitat.
<i>Vegetation</i>				
<sup>1</sup> Butternut	<i>Juglans cinerea</i>	END	END	No - Naturalized portions of the property could support individuals of this species. No Butternut trees were identified during surveys in 2021.

Source: (1) MECP SARO List, Birks NHC expertise; (2) NHIC (2021)

Designation Status

Provincial Status – Species at Risk in Ontario list as outlined in O. Reg. 230/08 of the *Endangered Species Act, 2007*

Federal Status – The *Species at Risk Act, 2002* establishes Schedule 1 as the official list of Species at Risk.

Based on habitat use, site knowledge and data available from online resources (*i.e.*, the Ontario Breeding Bird Atlas, the Ontario Reptile and Amphibian Atlas) it was determined that the following species have candidate habitat associated with the study area and have the potential to occur in the region:

- Mammals: Little Brown Myotis (Endangered), Northern Myotis (Endangered),
- Barn Swallow – Nesting Habitat (Confirmed)



#### 4.6.1 Endangered Bats

For the purpose of the building assessment for bat habitat on the property, the external and visible internal areas of the buildings were evaluated during the day to look for signs of bat habitat use. The internal areas of the farm residence were not evaluated. During this assessment minor evidence of bat use was identified on the outside of the home and no evidence was identified in the three farm buildings on the property. Bat exit survey was carried out later that evening and confirmed that no roosts appear to be present within the structures on the property. Big Brown Bat was identified in the area surrounding the residence, but Little Brown Bat was not identified until much later in the evening. Following the assessment on the property a nearby known roost was checked for activity where Little Brown Bat activity was confirmed.

#### 4.6.2 Barn Swallow

Barn Swallow nesting was identified in the old barn and storage shed on the property. These structures contained a large number of recent and historical nests for Barn Swallow which would be considered habitat under the ESA.

### 4.7 FISH HABITAT

No fish habitat was identified within the study area. A drainage feature or watercourse is mapped to the west which appears in most mapping for the area. Notwithstanding, no evidence of the feature was found through most of the mapped reach. The feature appears to form at approximately the same place it meets with the mapped wetland feature southwest of the property. No drainage features in the form of permanent or ephemeral watercourses were identified on the property.

The potential presence of a Headwater Drainage Feature in the south portion of the property was discussed during our site meeting on August 18, 2021. A point of low topography which appears to act as surface drainage in the approximate location of proposed SWM Pond 2 (Figure 3) was discussed for consideration. This location is expected to convey diffuse surface flow from agricultural lands surrounding it and would be characterized as having a lack of defined flow, evidence of cultivation, presence of a seasonal crop, and lack of natural vegetation. Based on those observations, this topographic feature would be expected to be characterized as 'No Management' within the Toronto Region Conservation Authority (TRCA) Headwater Drainage Feature (HDF) Guideline.

### 4.8 NATURAL HERITAGE FEATURES SUMMARY

The results of field surveys, review of background information and analysis indicate that candidate significant natural heritage features and functions are associated with the study area. Our impact assessment will consider potential impacts only to features and functions summarized in Table 3 on the following page.



**Table 3: Natural Heritage Features and Functions Summary**

Natural Heritage Feature and Function	Within the Property	Within 120 m of the Property	Actions Required
<b>Provincially Significant Wetland</b>	None	West Credit River PSW Complex (Adjacent Lands to the southwest)	Evaluation for potential indirect impacts required.
<b>Other Wetland</b>	None	None	No actions required.
<b>Significant Woodlands</b>	None	Candidate Woodland present to the west	Evaluation for potential indirect impacts required.
<b>Significant Valleylands</b>	None	None	No actions required.
<b>Significant Wildlife Habitat</b>	<u>Limited Potential:</u> <ul style="list-style-type: none"> <li>Open Country Bird Breeding Habitat</li> </ul>	<u>Potential:</u> <ul style="list-style-type: none"> <li>Shrub/Early Successional Bird Breeding Habitat</li> <li>Seeps and Springs</li> </ul>	Evaluation for potential impacts required.
<b>Provincial Areas of Natural and Scientific Interest</b>	None	None	No actions required.
<b>Fish Habitat</b>	None	None	No actions required.
<b>Habitat of Threatened or Endangered Species</b>	<u>Confirmed:</u> <ul style="list-style-type: none"> <li>Barn Swallow Nesting Habitat</li> </ul> <u>Potential:</u> <ul style="list-style-type: none"> <li>Day Roost Habitat for Endangered Bats</li> </ul>	None Confirmed in proximity where potential contraventions of the ESA would be expected as a result of the proposed activity.	Evaluation for potential impacts to species with potential habitat onsite.  Incorporate recommendations to avoid contraventions of ESA.



## 5 IMPACT ASSESSMENT

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The intent of this study is to identify natural heritage features and functions associated with the study area and determine if potential impacts could arise from the proposed development. Because functions are generally grouped into features, impacts will be considered as they relate to the following four key features and their associated functions:

- Habitat for Threatened or Endangered Species (Onsite) – Specifically Barn Swallow Nesting Habitat associated with old farmstead buildings and potential day roost habitat for endangered bats.
- Candidate Significant Wildlife Habitat associated with meadow habitat (Onsite).
- Candidate Significant Woodland (Adjacent Lands to the west)
- West Credit River PSW Complex (Adjacent Lands to the southwest)

### 5.1 PROPOSED DEVELOPMENT

The proposed development plan includes residential and institutional land uses and is focused primarily within the agricultural lands of the property (Figure 3). The portion of the property located outside of the settlement area will remain in agricultural use.

The development will be accessed via Wellington Road 24. Two Stormwater Management (SWM) Ponds are proposed with SWM Pond 1 in the southeast and SWM Pond 2 in the southwest corner of the property; both are expected to include a wet pond, lined with a geosynthetic clay liner. We understand that infiltration trenches are proposed as a form of Low Impact Development in order to maintain predevelopment water balance (HLV2K, 2021). Stormwater quality will be provided to meet minimum MECP requirements including 80% total suspended solids and 80% phosphorous removals.

Vegetation removals will be required within the following communities:

1. CUM: Cultural Meadow
2. WOCM1: Dry Coniferous Woodland



Hillsburgh EIS

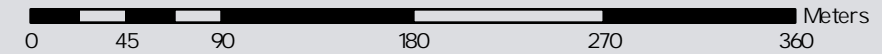
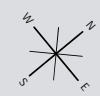
Town of Erin

Figure 3:  
Proposed Site Plan

— Property Limit — Mapped Watercourse (LIO) [Pink Dashed Box] West Credit River Provincially Significant Wetland Complex (LIO)



MAP DRAWING INFORMATION:  
DATA PROVIDED BY: ESRI CANADA  
MAP CREATED BY: SB  
MAP CHECKED BY: BB  
MAP PROJECTION: NAD 1983 UTMZONE 17N



FILE LOCATION:  
Path: C:\Users\S\_Brady\Birks\NHC\Birks NHC Team for all - Documents\Project Folders\SBrdy Projects\ArcGIS - Projects here\Projects - here\HillsburghEIS  
PROJECT: 02-016-2021 STATUS: DRAFT DATE: 29/10/2021





## 5.2 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. Direct removals of Significant Woodland and PSW or their buffer areas is not being considered in the development plan, therefore, no direct and/or indirect impacts to those features are expected to occur and further consideration is not required. Loss of connectivity associated with removal of connecting elements is also not being considered through this plan. Based on our review, potential impacts of the proposed development include the following:

- Erosion and sedimentation into adjacent natural heritage features;
- Changes to the hydrology/water quality entering natural heritage features;
- Loss of and disturbance to wildlife and wildlife habitat

### 5.2.1 Erosion and Sedimentation into Natural Heritage Features

Construction activities, especially operations involving the handling of earthen material, increases the availability of sediment for erosion and transport by surface drainage. Any potential direct impacts to habitats which could result from sedimentation can be mitigated through the application of erosion and sediment control plans around the perimeter of the proposed soil disturbance. In order to mitigate the potential for adverse environmental impacts caused by the release of sediment-laden runoff into any potential receiving woodland or wetland communities, measures for erosion and sediment control will be required for this development. An erosion and sediment control plan is recommended for implementation prior to and during the development to be maintained until the site is stabilized. Post construction, where necessary, disturbed lands will be stabilized with an appropriate surface treatment to ensure no offsite sediment transfer into natural heritage features on adjacent lands. Assuming sedimentation is controlled during construction, there should be no potential for later introduction of soils or sediment into the retained natural heritage features.

### 5.2.2 Changes to the Hydrology/Water Quality Entering Sensitive Features

Significant woodland is present to the south and west of the property and PSW is present approximately 120 m from the property boundary in adjacent lands. Stormwater runoff from the property is expected to contribute to these adjacent natural heritage features. We understand that infiltration trenches are proposed as a form of Low Impact Development in order to measure and maintain the pre-development water balance. Peak flows and volumes of water leaving the site would remain at or near the existing values (Candevcon, 2021). Further, we understand that stormwater quality will be required to meet minimum MECP requirements including 80% total suspended solids and 80% phosphorous removals. As discussed in Section 4.7 of this report a current draw in the topography results in overland flow through the wooded areas to the west of the property and ultimately to the wetland and watercourse to the southwest. This pattern would be maintained through the placement of the proposed SWM Pond 2. Provided that existing drainage and flow conditions are maintained post development and mitigation measures are applied accordingly, there is no expectation that the development will directly alter the wetland and drainage feature.



### 5.2.3 Loss and Disturbance to Wildlife and Wildlife Habitat

Based on the review of site conditions and natural heritage policy direction within the province of Ontario important habitat functions have potential to be associated with the study area. While it is generally expected that the wildlife present in the study area will be tolerant to human activity, consideration is warranted for the protection of those noted candidate significant wildlife habitat functions. Improper development in proximity to these features could cause habitat loss for important wildlife or disturbance which could reduce range or fecundity of these species.

Further, direct impact resulting in impairment of function for Species at Risk could result in contraventions of Ontario's ESA. Day roost habitat for endangered bats and nesting habitat for Barn Swallow are habitat functions present on the property which require consideration to avoid accidental contravention of the ESA.

#### Endangered Bats

Male bats and non-reproductive females roost individually or in small groups as they move across the landscape. Potential day roosts are also often located within tree cavities, leaf clusters and protected areas within older buildings depending on the species being considered. Accidental mortality resulting from trees cut during the active season would be considered a contravention of the ESA. Mitigation is included which is intended to ensure that no accidental contraventions of the ESA occur as a result of this development. Assuming that mitigation for day roosting bats is followed, there is limited potential for accidental contraventions of the ESA with respect to Endangered bat habitat.

#### Barn Swallow

Barn Swallow nesting habitat is a common function associated with farmsteads in rural Ontario. Because it is prevalent, an exemption exists within O. Reg. 242/08 which sets out rules for removal of Barn Swallow nests in a manner that is not considered a contravention of the ESA. Registration prior to the removal of the Barns which provide habitat is recommended as outlined in Section 6.2.2 of this report. While this would result in temporary habitat loss the exemption requires creation of new habitat and would allow the development to proceed in accordance with provincial requirements. Confirmation of Registration is provided once the activity is registered with the MECP. This document can be provided to the Town of Erin upon receipt to demonstrate compliance with the ESA.

#### Significant Wildlife Habitat

Additionally, Significant Wildlife Habitat categories were assessed as occurring or potentially occurring within the Study Area. Seeps/springs and Shrub/Early Successional Bird Breeding Habitat have potential to be present on adjacent lands within the study area to the west. While no direct removals of these functions are proposed, there is some potential for development to negatively impact them. As previously discussed in Section 5.2.2 of this report, based on a review of the hydrogeological report there is no expectation that overland flow or groundwater contribution should change to the forest and



wetland to the southwest. As a result, the potential for impacts to any seeps that may be present along the edge of the wetland should be minimal.

There remains limited potential for Shrub/Early Successional Bird Breeding Habitat function on adjacent lands and Open Country Bird Breeding Habitat on the property. The environmental policy framework for the study area requires demonstration that no negative impact will occur to a natural feature or associated function. No Negative Impact means degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development activities or site alteration activities. No direct removals are proposed for the candidate shrub/early successional bird breeding habitat and mitigation is proposed for potential indirect impacts as discussed in Section 5.3. When considering Open Country Bird Breeding Habitat, the feature is generally too small and poor quality to provide significant wildlife habitat function. The removal of the Cultural Meadow on the property is not expected to reduce the long-term health and survival of bird species that depend on this function in the Town. If species including Savannah Sparrow, Vesper Sparrow or Grasshopper Sparrow are present in the area they will continue to use habitat in the lands surrounding the Hillsburgh Urban area. Further, it could be considered beneficial to remove poor quality habitat in proximity to the urban area. Small broken habitat features with abundant human subsidized predators including racoons and cats act as a population sink where young inexperienced birds are known to attempt to breed.

Based on this review it is anticipated that the habitat functions within the study area would remain intact and wildlife would continue to access and utilize adjacent habitats. Mitigation is included to ensure that potential seeps and Shrub/Early Successional Bird Breeding habitat continue to function in the area. Open Country Bird Breeding habitat does not meet criteria to be considered Significant Wildlife Habitat and thus no impact is expected for that function as a result of the proposed development.

### 5.3 INDIRECT IMPACTS

Indirect impacts are those that do not always manifest in the core development area but in the lands adjacent to the development. Indirect impacts have potential to result following the completion of the proposed activity. Usually this comes as a result of the project or human use of the project site following completion of the project. Indirect impacts often have a wider potential area of impact.

Indirect impacts of the proposed development include:

- Anthropogenic disturbance;

#### 5.3.1 Anthropogenic Disturbance

Anthropogenic disturbance post development can take many forms. A residential development could be expected to bring increased human presence and associated anthropogenic disturbances in the form of increased noise and light, predation by pets, waste deposition, and supplemental feeding (i.e., people depositing food for deer in the winter). These impacts would be more prominent when a new



development is proposed in un-developed areas but can still present important impacts long term to neighbouring natural heritage features. The property is within a rural community bound by natural areas to the west and southwest. While the proposed development will result in an increase of human residence it is not expected to result in significant intensification of indirect human impacts. Notwithstanding, in proximity to the natural areas to the west and southwest, mitigation measures including fencing (Section 6.4) and Lighting (Section 6.5) are recommended to reduce potential impacts and discourage encroachment into the retained natural areas.

## 6 RECOMMENDATIONS AND MITIGATION MEASURES

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Mitigation refers to the avoidance or reduction of impacts associated with the proposed activity through best management practices or other activities. As previously discussed, potential impacts were identified which could result to the natural heritage features and functions associated with the study area. 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 the development can proceed in conformity with the relevant planning documents and in compliance with environmental law. The following mitigation measures should be incorporated into the plan.

### 6.1 OPERATIONS

#### 6.1.1 Materials and Equipment

Development activities should be contained within the proposed development area. This area should be appropriately delineated prior to beginning grading and construction to ensure that no accidental deviation from the intended removals will occur.

Equipment maintenance during and post construction should be undertaken in an appropriate area. Tool and vehicle maintenance and cleaning should be done 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 neighboring forested 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 forested areas, wetland or watercourse.

#### 6.1.2 Sediment and Erosion Control

In advance of any vegetation clearing or earth works (*i.e.*, clearing or grubbing) it is recommended that the development limit be established to prevent accidental encroachment onto natural areas on adjacent lands. We suggest that sediment and erosion controls be installed prior to all construction activities. Sediment and erosion controls must be maintained throughout construction and until vegetation is re-established post-construction.



## 6.2 SPECIES AT RISK

### 6.2.1 General

This report was produced based on the most up-to-date policy information, however, 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 any of the species listed as Threatened or Endangered be encountered on the property it is recommended that a natural heritage ecologist or the MECP be consulted to determine the appropriate actions to avoid accidental contravention of the ESA. Given the dynamic character of the natural environment, as well as changes to policy (*i.e.*, new species listing), consideration is recommended in the interpretation of potential presence of Threatened or Endangered species as protected under the ESA. A review of the assessment provided within this report for the proponent prior to construction undertaken by a qualified Ecologist should be sufficient to ensure compliance with the ESA at that time.

All current Threatened or Endangered species listed under O. Reg. 230/08 with a currency date of August 1, 2018 (the most recent as of November 1, 2021) made under the ESA have been considered within this report.

### 6.2.2 Barn Swallow Registration

An exemption exists under O. Reg. 242/08 Section 23.5 whereby Clause 9 (1) (a) and subsection 10 (1) of the ESA do not apply to a person who harms or harasses a barn swallow, or who damages or destroys its habitat, while carrying out the maintenance, repair, modification, replacement or demolition of a building or structure that provides barn swallow habitat, if the person satisfies the conditions set out in section 23.5, subsections (3) to (12) of that regulation. This registration of activity will be required prior to the removal of the two Barn Structures on the property to allow for development to proceed. Assuming the notice of activity is given to the MECP as outlined within Section 23.5 there is no expectation that at contravention of the ESA would occur as a result of the proposed development as we understand it.

### 6.2.3 Timing Windows

Site alteration involving the removal of large trees with potential to function as bat day roost habitat should occur outside of the active season (April 1 – October 31). If the work schedule requires that site alteration be completed during the active season, screening by an ecologist with knowledge of species present in the area should be undertaken to ensure that the risk of impacting Species at Risk has been evaluated and assumed to be low to non-existent.

## 6.3 MIGRATORY 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 30th of any given year. If vegetation clearing is required between these dates, screening by an ecologist with knowledge of bird species present in the area could be undertaken to ensure that the vegetation has been confirmed to be free of nests prior to clearing.

#### 6.4 BARRIERS

Barrier fencing should be considered along the southern interface between the proposed community and the retained natural areas to the west and southwest. Where possible the fence should be designed in a way that will discourage active trespass into the adjacent lands through waste disposal and direct movement except where trails exist for such purpose.

#### 6.5 LIGHTING

Light can reduce natural heritage function in retained natural areas in proximity to large light sources such as residential or commercial developments. In order to minimize the effects of light on the retained adjacent lands we recommend that features such as street lights should be shielded and downward facing. In addition, blue light emissions should be minimized with a preference for warm light. The use of bright unshielded floodlamps and streetlights should be avoided in the community design.

## 7 CONCLUSIONS

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This EIS was prepared for the proposed development of the property identified as 5916 Trafalgar Road North in the Town of Erin. We understand that this assessment is required as part of a development application for the property which would allow for the proposed creation of a new subdivision within the Hillsburgh Urban Area. The objective of the EIS is to identify the functions associated with natural heritage features present on the property and determine if potential impacts to those functions could arise from the proposed activity. The assessment is focused on potential ecological impacts which could result from the proposed development as outlined in Section 5.1 of this report.

The results of this EIS demonstrate that where potential to Significant Natural Heritage Features and the associated ecological functions are identified, there is either no potential or limited potential for negative impacts. Where potential was identified mitigation, measures recommended in this report have been developed to mitigate potential negative ecological impacts. This includes the requirement to submit a notice of activity under O. Reg. 242/08 Section 23.5, an exemption under the ESA allowing for the legal removal of Barn Swallow habitat with conditions. Provided the mitigation measures recommended in this report are followed, the proposed development will not impact any identified



features negatively. Thus, the proposed development would conform with the Town and County Official Plans and the Provincial Policy Statement and comply with the *Endangered Species Act*.



## 8 REFERENCES

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- Candevcon Limited, November 12, 2021, Functional Servicing Report and Preliminary Stormwater Study Project no.W21081
- County of Wellington. 2021. County of Wellington Official Plan. Approved as of April 13, 1999 and last updated July 20, 2021.
- Credit Valley Conservation (CVC). 2011. Erin Servicing and Settlement Master Plan
- Endangered Species Act, Ontario (ESA)*. 2007. An Act to protect species at risk and to make related changes to other Acts. Bill 184 Chapter 6, Statutes of Ontario 2007.
- HLV2K Engineering Limited, 2021. Hydrogeological Study – Proposed Briarwood Hillsburgh Development.
- Lee. H., *et al.* 1998. Ecological Land Classification for Southern Ontario. Ontario Ministry of Natural Resources and Forestry. SCSS Field Guide.
- Ministry of Natural Resources (MNR). 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2010.
- Ministry of Natural Resources and Forestry (MNRF). 2015. Significant Wildlife Habitat criterion schedules for Ecoregion 6E. MNRF Regional Operations Division & Northeast Region Resources Section. 39pp.
- Natural Heritage Information Centre (NHIC) internet web page, 2020. Government of Ontario, Ministry of Natural Resources.  
(<https://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/mainSubmit.do>).
- Ontario Breeding Bird Atlas (OBBA). 2001. Ontario Breeding Bird Atlas Guide for Participants. 45p.  
Available: [http://www.birdsontario.org/download/atlas\\_feb03.pdf](http://www.birdsontario.org/download/atlas_feb03.pdf)
- Town of Erin. 2021. The Official Plan of the Town of Erin. Approved December 14, 2004 with consolidations as of July 21, 2021.



**APPENDIX A**  
Terms of Reference





23 Herrell Ave  
Barrie, Ontario  
L4N 6T5

July 23, 2021

Briarwood Development Group  
636 Edward Street, Suite 14  
Richmond Hill, Ontario  
L4C 0V4

Attn: Mr. Fausto Saponara

**Re: File No. 02-016-2021**  
**Draft Terms of Reference for an Environmental Impact Study –**  
**5916 Trafalgar Road North, Hillsburgh, Town of Erin**

Dear Mr. Saponara:

As requested, Birks Natural Heritage Consultants, Inc. (Birks NHC) has prepared the following Draft Terms of Reference for the Briarwood Development Group (Briarwood) to undertake the preparation of an Environmental Impact Study (EIS) for the property identified as:

5916 Trafalgar Road North  
Part 1 of Plan 61R-9590  
Part of Lot 26, Concession 7  
Town of Erin  
Regional Municipality of Halton

It is our understanding that following the site visit to review the property on July 16, 2021, the Credit Valley Conservation Authority (CVC) noted that they will be acting as a review agency for the Town of Erin. The recommended Terms or Reference for an EIS was provided by the CVC (attached). Based upon available background mapping, Natural Heritage Features associated with the property are focused mostly on neighboring areas to the west of the property and some potential habitat for Species at Risk in anthropogenic structures associated with the old farmstead on the property.



This letter outlines the Draft Terms of Reference for consultation with the CVC to ensure that all parties are in agreement at the outset of the project.

## SITE ASSESSMENT

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### Work Requirement

We will work with the CVC to confirm that the proposed work program outlined below will be appropriate to address their concerns. The site assessment portion of the EIS will involve the following tasks:

- Review available background information for the property and surrounding lands (*i.e.*, within 120 metres) as well as available mapping from the Natural Heritage Information Centre (NHIC);
- Review policies related to the natural heritage components of the proposed development, including municipal and provincial policies;
- Conduct field surveys to document existing natural heritage features, functions, and species. Surveys include:
  - Classification of vegetation communities using protocols of the Ecological Land Classification (ELC) for Southern Ontario (Lee et al. 1998. Ecological land classification for southern Ontario: first approximation and its applications. SCSS Field Guide FG-02); and,
  - Vascular plant surveys in the Summer (2021), and Fall (2021) to identify the potential for SAR or rare plants;
- Conduct a Species at Risk habitat assessment for the property to determine if appropriate habitat is present to allow Species at Risk to potentially be present. Based on the preliminary site review which took place on July 16, 2021, the following species-specific surveys are proposed:
  - Based on the presence of the structures and the preliminary review of the suitability for those structures to provide habitat for Endangered Bats an exit survey will be completed in early August to determine if the structures are currently being used by protected bat species. This work will be undertaken following survey protocols set out within Technical Note for Species at Risk Bats created by the Ministry of Natural Resources and Forestry and dated June 2015.
  - During the bat assessment, the interior of the old barn and shed on the property will be investigated to ensure that any Barn Swallow nesting is appropriately considered.
- Map any key natural heritage feature within the property including characterization of vegetation communities utilizing the Ecological Land Classification system;



## REPORT PREPARATION

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### Work Requirement

The following scope of work is expected to be appropriate in order to complete the EIS to the satisfaction of the CVC and the Town of Erin:

- Review the existing development plan upon which the EIS will be based;
- Review the Hydrogeology report provided for the property to ensure that there will be consideration for any changes to the hydrogeology which has potential to alter forest and wetland features to the west of the property.
- Prepare one EIS report which will include the following:
  - a. The scope of development;
  - b. An outline of any significant natural heritage features or functions on the property or adjacent lands within 120 meters, as defined by the Natural Heritage Reference Manual (2010);
  - c. Mapping outlining:
    - i. The approximate boundary of the property or study area
    - ii. Ecological Land Classification communities
    - iii. The locations of any identified natural heritage features or functions on the property
  - d. An outline of any potential impacts to those features or functions associated with the proposed residential development
  - e. Proposed mitigation to reduce the potential for any impacts to those features or functions
  - f. Conclusion, recommendations and mitigations that align with the overarching policy framework of the property or study area
- A final (signed) electronic copy of the EIS report will be submitted for the file.



## CLOSURE

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We look forward to working with the project team and reviewers as this project proceeds. At this time, Birks NHC requests that the CVC review the above Draft Terms of Reference and provide any feedback where deemed required. This correspondence will be included as an appendix within the Final EIS Report.

If you have any questions or concerns, please do not hesitate to contact me directly.  
Thank you for your assistance in this matter.

Yours truly,  
BIRKS Natural Heritage Consultants, Inc.

Brad Baker, H.B.Sc.  
Ecologist

## **EIS Guidance:**

An EIS is to be conducted by a qualified ecologist; CVC's EIS Terms of Reference (2008) Guidance Document should be used as a reference. Please note that an EIS is a mechanism for assessing impacts to determine the suitability of a development proposal, and submission of an EIS does not guarantee approval of a development. CVC encourages pre-consultation in order to scope the EIS TOR based on the significance and sensitivity of the natural heritage features, hazards and associated functions of the subject site and adjacent lands, and the scale of the proposal.

1. Notably, the EIS is to identify all features within/adjacent to the subject property including, valleylands, habitat for fish, wetlands, woodlands, significant wildlife habitat, ground water recharge and discharge areas, habitat of species at risk and conservation concern, ANSI, ESA, etc.
2. Specifically, please ensure that the TOR for the EIS includes consideration of the following:
  - a. At the time of the site visit, a number of surface hydrological features, including CVC-Regulated watercourses, headwater drainage features, etc. were identified. All surface hydrological features are to be correctly documented, mapped, and described.
  - b. A headwater drainage feature assessment is to be conducted following CVC's Evaluation, Classification and Management of Headwater Drainage Features Guidelines (2014). Please note that three assessments are to be conducted; the first assessment in the study design being scheduled to occur with the first freshet (i.e. late March – mid April).
  - c. A SAR screening is to be conducted with the appropriate MNR District Office.
  - d. ELC mapping to vegetation type is to be conducted; this is to note any rarities and incidental wildlife as well as a general habitat assessment (including for SAR and SWH).
  - e. An understanding of the hydrogeology is necessary; recharge / discharge areas are to be identified and described.
  - f. All findings are to be incorporated into the site design that is to demonstrate no negative impact.
  - g. Ensure that all recommended CVC buffers are applied (e.g. 30m to watercourses, 10m to driplines, 10-30m from wetlands, etc.). These buffers will help to inform the design of the site plan and thus form the Limit of Development.
  - h. The preservation / establishment of a natural heritage system that also connects off-site should be the result of this Study, once all features have been identified and appropriate buffers applied. The study is to demonstrate a net ecological benefit.

## Brad Baker

---

**From:** Hosale, Lisa <Lisa.Hosale@cvc.ca>  
**Sent:** Monday, August 23, 2021 6:13 PM  
**To:** Paudel, Elizabeth; Meagan Ferris; Angela Sciberras; Maria Jones; fausto saponara; Tanjot Bal; Labrie, Sarah; Diarmuid Horgan; Brad Baker; kourosh.mohammadi@hlv2k.com  
**Subject:** CVC review EIS TOR, 5916 Trafalgar, Hillsburgh Heights/Briarwood, Erin (PD 21/155)

Hi Fausto and Maria,  
Good afternoon- thank you and your team for meeting with us on August 12, 2021 to discuss the EIS and Hydrology TORs for your proposal at 5916 Trafalgar, Erin (PD 21/155). We do understand that you have already commenced fieldwork/studies given seasonal constraints and based on our discussions from August 12.

To follow up from our meeting, please find CVC's formal review of the EIS TOR below. I do believe that we covered and addressed all points related to the Hydrology TOR at the meeting (so I have not included anything for that study below) but please do let me know if you or Kourosh would like to discuss anything with Kerry and I can arrange that.

### **CVC Comments- EIS TOR**

1. The EIS TOR and the Hydrology TOR include different scopes of ecological field work. As per the meeting held on August 12, 2021, the EIS TOR will be reviewed to ensure ecological matters are satisfactorily addressed. It is recommended that the hydrogeology TOR be updated to match the EIS TOR to avoid confusion.
2. The subject property is within the adjacent lands (i.e. 120m) to natural heritage features including a provincially significant wetland and significant woodland. Although offsite, the PSW may still be impacted by the proposed development and therefore the impacts to the catchment area should be assessed, and the development plan should demonstrate no negative impact to the hydrologic and ecological function of the downstream wetland. It is understood that a review and integration of the findings of the hydrogeology studies will be included in the EIS. The EIS should include a discussion on the use of the TRCA Wetland Risk Evaluation to assess the need for a feature-based water balance, as well as determine appropriate mitigation measures to help achieve similar pre to post construction hydrologic conditions.
  - a. As noted in the meeting on August 12, 2021 inventories of features offsite is not feasible. In the absence of field verification, CVC will assume the wetland exists as per MNRFC mapping (i.e., coniferous swamp). A field visit to verify this feature is recommended, however.
  - b. In order to utilize the TRCA Wetland Risk Matrix, the sensitivity of the wetland is to be determined; this is typically via field inventories. In the absence of field verification, CVC will assume the following:
    - i. Vegetation community sensitivity is medium.
    - ii. Fauna species is (medium for amphibians, low for birds, medium for fish, low for mammals).
    - iii. Flora sensitivity is medium.
3. It is understood that the EIS will include a screening and/or assessment of Significant Wildlife Habitat as per MNRFC Criteria Schedules. If field assessments are completed, protocols and detailed data sheets are to be submitted.
4. In addition to identifying regionally rare and provincially tracked species, please GPS the location and describe the distribution of all locally rare or uncommon species based upon "Vascular Plant Flora of the Region of Peel and the Credit River Watershed (Kaiser, 2001 and amendments). Please provide a map in the EIS showing the location of all rare or uncommon species.

5. Mapping is to include constraints mapping that clearly shows a LOD that is outside the natural heritage feature(s) and their appropriate buffers. This is to include an proposed trail network.

6. As discussed on site and during the August 12, 2021 meeting there is potential for offsite impacts to natural heritage features (key woodlands, possible HDF) as a result of the overall SWM plan. The EIS and SWM reports are to demonstrate that that hydrological changes do not cause adverse effects on the form and/or function of the key features. The EIS and SWM reports should integrate findings and result in mitigations that appropriately protect the feature(s) and associated buffer(s).

7. The Hydrology TOR provides provision for an HDF assessments as per TRCA and CVC Guideline, however this study is not included in the EIS TOR. Based on mapping, there is potential for an HDF to be present. As such, the features should be addressed, and conservation/mitigation options determined.

8. Please include a concept plan in the EIS for any restoration proposed on the property, including goals and objectives. Refer to CVC's Plant Selection Guideline for a list of acceptable species. <https://cvc.ca/wp-content/uploads/2018/04/Plant-Selection-Guideline-FINAL-APRIL-24th-2018.pdf>

- a. If the municipality has canopy coverage targets these should be discussed in the EIS and achieved through on site restoration.

9. Given that habitat exists on site for Species at Risk protected under the Endangered Species Act it is recommended that the proponent contact the Ministry of Environment Conservation and Parks ([sarontario@ontario.ca](mailto:sarontario@ontario.ca)) to discuss potential permitting requirements under the Act.

I cc'd colleagues at the Town/County on this email - please do take CVC's comments on the EIS TOR, above, in context of any forthcoming Town/County review as I understand that they will arrange for review from their perspective as well. We are happy to have any meetings as necessary to integrate in that regard.

Thanks again, and we look forward to working with you on this file.

Best wishes,  
Lisa

I'm working remotely. The best way to reach me is by email, mobile phone or Microsoft Teams.

**Lisa Hosale** | M.A., M.Sc., AICP | she/her/hers  
Planner, Planning and Development Services | Credit Valley Conservation  
905-670-1615 ext 268 | M: 437-881-1737  
[lisa.hosale@cvc.ca](mailto:lisa.hosale@cvc.ca) | [cvc.ca](http://cvc.ca)



[View our privacy statement](#)



**APPENDIX B**

County of Wellington Official Plan Mapping



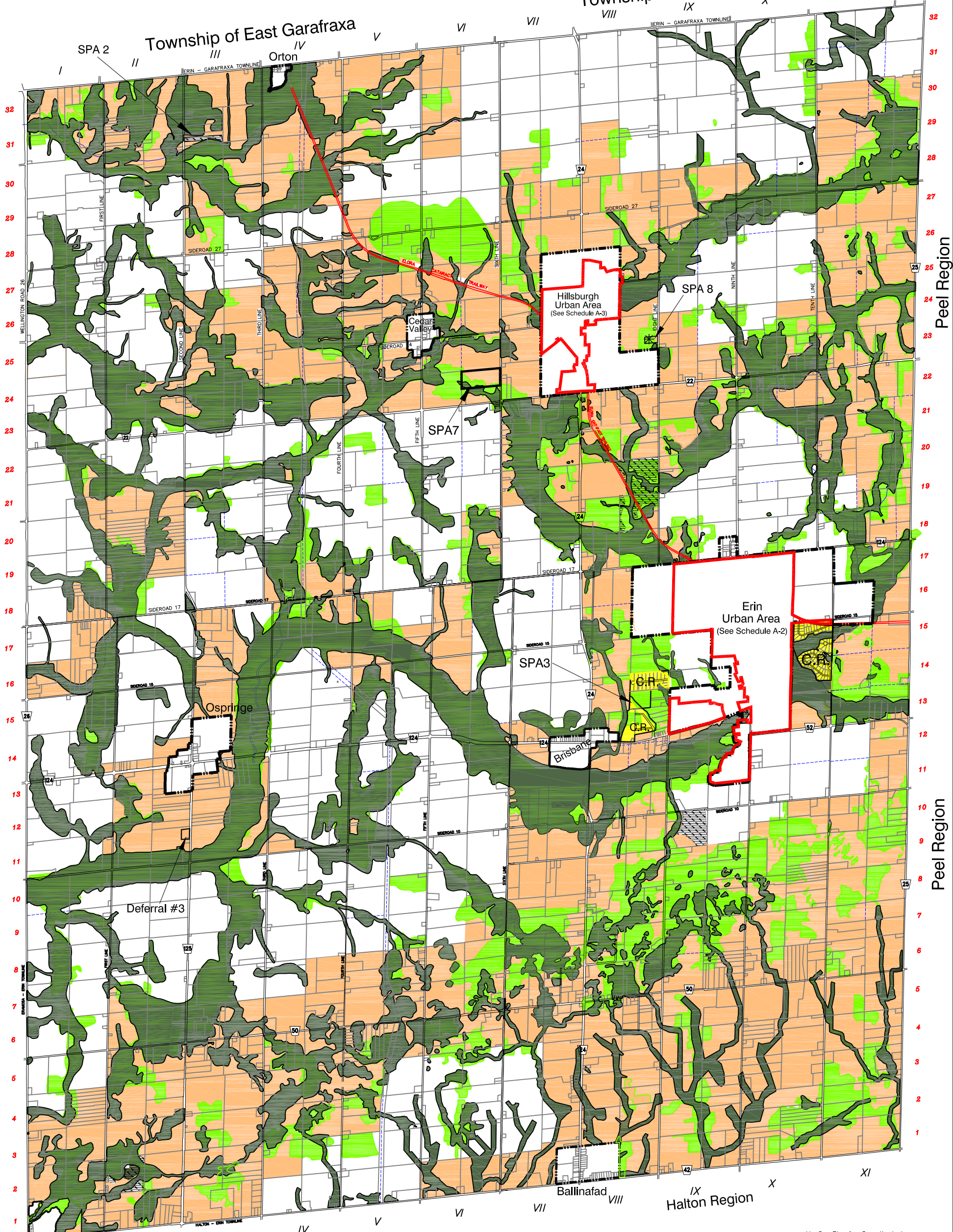
# Town of Erin Official Plan

MODIFIED SCHEDULE A-1

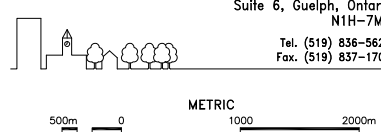


Township of Guelph-Eramosa

Township of East Garafraxa



J.L. Cox Planning Consultants Inc.  
 Urban And Rural Planning Services  
 350 Speedvale Avenue West  
 Suite 6, Guelph, Ontario  
 N1H-7M7  
 Tel. (519) 836-5622  
 Fax. (519) 837-1701



- |                        |                      |
|------------------------|----------------------|
| Prime Agricultural     | Former Landfill Site |
| Secondary Agricultural | Country Residential  |
| Core Greenlands        | Built Boundary       |
| Greenlands             |                      |
| Recreational           |                      |

SOURCE : J.L. Cox Planning Consultants Inc.  
 : Erin Township Assessment Mapping  
 : County of Wellington Planning Dept.  
 : Produced using information provided  
 by the Ministry of Natural Resources  
 Copyright © Queen's Printer, 1997.  
 : Grand River Conservation Authority and  
 Credit Valley Conservation Authority

NOTE:  
 The rural portion of the Town of Erin is also subject to the following  
 designations in the County of Wellington Official Plan: Earth Science  
 Provincial ANSI, Mineral Aggregate Area, Everton Water Management  
 Protection Area.

MODIFIED: February 27, 2012.  
 Schedule A-1 - Amended Town of Erin OP.dwg

# Hillsburgh Urban Area

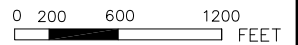
## Town of Erlin Schedule A-3

### Legend:

- Residential
- Central Business District
- Highway Commercial
- Residential Transition Area
- Industrial
- Core Greenlands
- Greenlands
- Recreational
- Community Improvement Area
- Regulatory Floodline
- Proposed Minor Collector
- Final Alignment to be determined
- Future Development
- Proposed New Firehall Location
- Built Boundary



Scale:



Updated: October 12, 2010..



## APPENDIX C

Town of Erin Official Plan Mapping



SCHEDULE A2

ERIN



**Legend**

The Greenlands System

- Core Greenlands
- Greenlands
- Earth Science ANSI

The Rural System

- Prime Agricultural
- Secondary Agricultural
- Mineral Aggregate Area
- Recreational
- C.R. Country Residential
- PA Policy Area

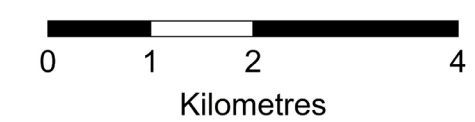
The Urban System

- H. Hamlet Area
- U.C. Urban Centre

Other

- Trail
- Landfill Site
- Everton Water Management Protection Area
- Built Boundary
- County Roads

Mineral Aggregate Resources are identified on Schedule C of the Official Plan. Licensed Aggregate Operations are identified on Appendix 2 of the Official Plan.



May 6, 1999

Updated: July 20, 2021.  
Date Printed: January 8, 2021.

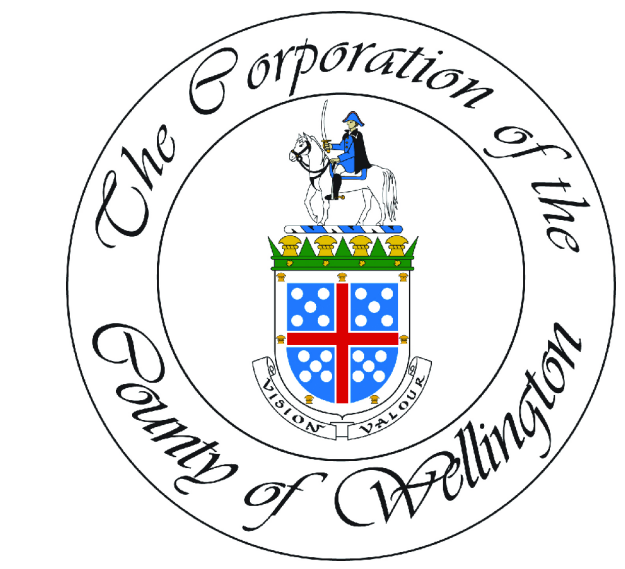


This is not survey data. All rights reserved. May not be reproduced without permission.

Sources:  
County of Wellington, Planning and Development Department, Ministry of Natural Resources, Grand River Conservation Authority, Credit Valley Conservation Authority, and Upper Grand District School Board.

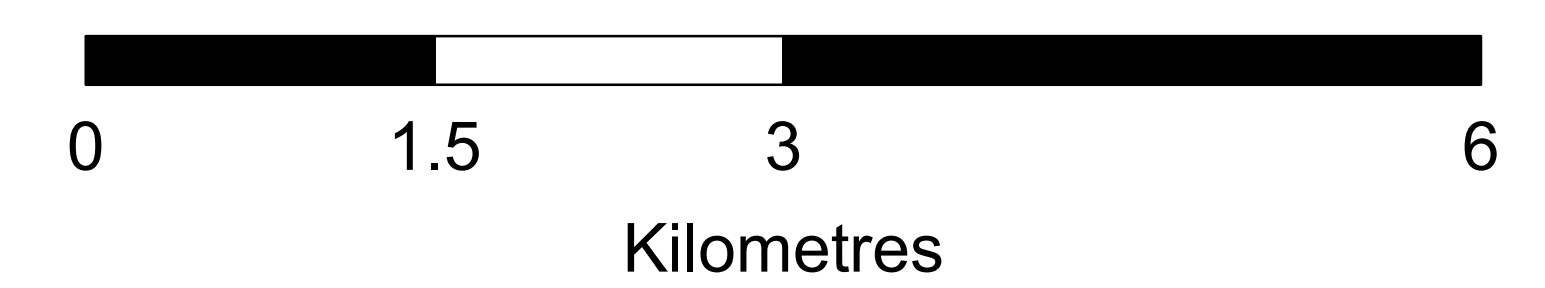
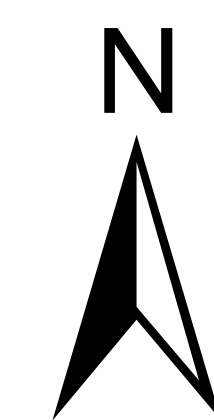
Produced using natural resource information provided by local Conservation Authorities and the Ministry of Natural Resources (Copyright Queen's Printer, 1997).

# Schedule A2-1 Town of Erin Greenbelt Plan



## Legend

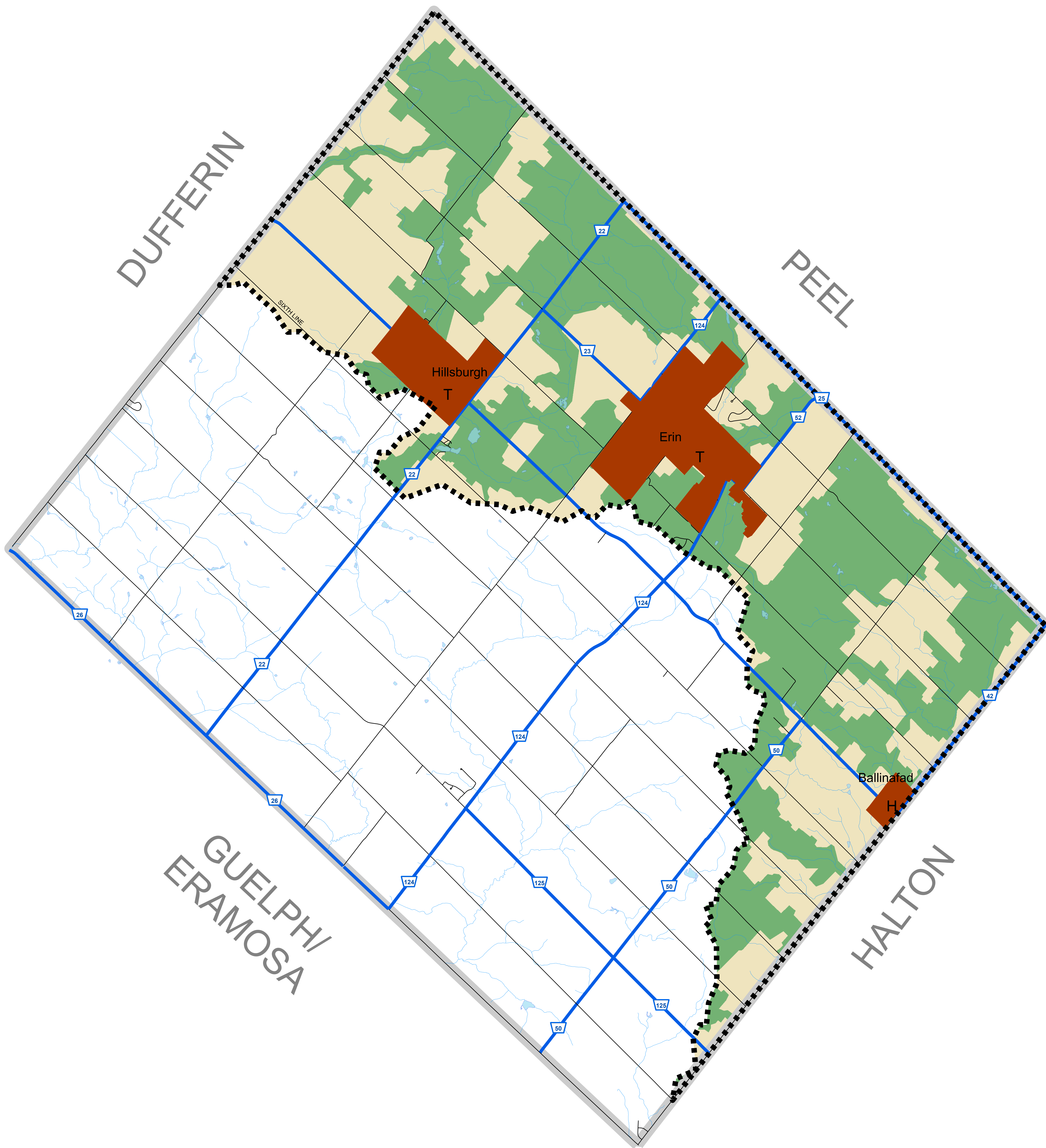
- Greenbelt Boundary
- Greenbelt Protected Countryside
- Greenbelt Natural Heritage System
- Settlement Areas
- T Towns and Villages
- H Hamlet



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May not be reproduced without permission.

Sources:

County of Wellington Planning and Development  
Department 2015.  
Ministry of Natural Resources 2015.  
Updated: March 9, 2015.



**APPENDIX D**  
Significant Woodland Assessment



## Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
<b>Woodland Size Criteria</b>		
<ul style="list-style-type: none"> <li>Size refers to the aerial (spatial) extent of the woodland (irrespective of ownership)</li> <li>Woodland areas are considered to be generally continuous even if intersected by narrow gaps 20m or less in width between crown edges.</li> <li>Size value is related to the scarcity of woodland in the landscape derived on a municipal basis with consideration of the differences in woodland coverage among physical sub-units (e.g., watersheds, biophysical regions).</li> <li>Size criteria should also account for differences in landscape-level physiography (e.g., moraines, clay planes) and community vegetation types.</li> </ul>	<p>Where woodlands cover:</p> <ul style="list-style-type: none"> <li>Is less than about 5% of land cover, woodlands 2ha in size or larger should be considered significant</li> <li>Is about 5-15% of land cover, woodlands 4ha in size or larger should be considered significant</li> <li><b>Is about 15-30% of land cover, woodlands 20ha in size or larger should be considered significant.</b></li> <li>Is about 30-60% of land cover, woodlands 50ha in size or larger should be considered significant</li> <li>Occupies more than 60% of the land, a minimum size is not suggested, and other factors should be considered</li> </ul>	<ul style="list-style-type: none"> <li>Erin Servicing and Settlement Master Plan (SSMP) published by the CVC in May 2011 estimates Forest Cover at 27.3% of the watershed.</li> <li>Therefore, a woodland must be 20 ha in size or larger to be considered significant.</li> <li>The woodland on the property is part of a continuous woodland that extends beyond the property. The total area of the woodland is approximately 75 ha.</li> <li><b><i>Therefore, based on Woodland Size Criteria, the woodland unit within the study area appears to be considered Significant in the context of the PPS.</i></b></li> </ul>
<b>Ecological Function Criteria</b>		
<p><b>Woodland Interior</b></p> <ul style="list-style-type: none"> <li>Interior Habitat more than 100m from the edge (as measured from the limits of a continuous woodland as defined above) is important for some species.</li> <li>For purposes of this criterion, a maintained public road would create an edge even if the opening was not wider than 20m and did not create a separate woodland.</li> </ul>	<p>Woodlands should be considered significant if they have:</p> <ul style="list-style-type: none"> <li>Any interior habitat where woodlands cover less than about 15% of the land cover</li> <li><b>2 ha or more of interior habitat where woodlands cover about 15-30% of the land cover</b></li> <li>8 ha or more of interior habitat where woodlands cover about 30-60% of the land cover</li> <li>20 ha or more of interior habitat where woodlands cover about 60% of the land cover</li> </ul>	<ul style="list-style-type: none"> <li>The contiguous woodland feature appears to contain woodland interior habitat, measured at less than 2 ha.</li> <li><b><i>Therefore, the woodland unit within the study area does not appear to be significant by the Woodland Interior Criteria in the context of the PPS.</i></b></li> </ul>



### Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
<p><b>Proximity to Other Woodlands or Other Habitats</b></p> <ul style="list-style-type: none"> <li>Woodlands that overlap, abut or are close to other significant natural heritage features or areas could be considered more valuable or significant than those that are not.</li> <li>Patches close to each other are of greater mutual benefit and value to wildlife.</li> </ul>	<p>Woodlands should be considered significant if:</p> <ul style="list-style-type: none"> <li>A portion of the woodland is located within a specific distance (e.g., 30m) of a significant natural feature or fish habitat likely receiving ecological benefit from the woodland and the entire woodland meets the minimum area threshold (e.g., 0.5-20ha, depending on circumstance)</li> </ul>	<ul style="list-style-type: none"> <li>The contiguous woodland feature contains a watercourse that supports and/or provide contributing habitat to fish as well as wetland habitat which could be receiving ecological benefit from the woodland unit.</li> <li><b>Therefore, based on Proximity to Other Woodlands or Other Habitats Criteria, the woodland unit within the study area <u>appears to be considered Significant in the context of the PPS.</u></b></li> </ul>
<p><b>Linkages</b></p> <ul style="list-style-type: none"> <li>Linkages are important connections providing for movement between habitats.</li> <li>Woodlands that are located between other significant features or areas can be considered to perform an important linkage function as “stepping stones” for movement between habitats.</li> </ul>	<p>Woodlands should be considered significant if they:</p> <ul style="list-style-type: none"> <li>Are located within a defined natural heritage system or provide a connecting link between two other significant features, each of which is within a specified distance (e.g., 120m) and meets minimum area thresholds (e.g., 1-20ha, depending on circumstance)</li> </ul>	<ul style="list-style-type: none"> <li>Woodland associated with the adjacent lands could be considered a potential linkage between other forested lands on the larger landscape area.</li> <li>The woodland is also mapped within the Greenbelt Natural Heritage System</li> <li><b>Therefore, based on Linkages Criteria, the woodland unit within the study area <u>appears to be considered Significant in the context of the PPS.</u></b></li> </ul>

### Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
<p><b>Water Protection</b></p> <ul style="list-style-type: none"> <li>• Source water protection is important.</li> <li>• Natural hydrological processes should be maintained.</li> </ul>	<p>Woodlands should be considered significant if they:</p> <ul style="list-style-type: none"> <li>• Are located within a sensitive or threatened watershed or a specific distance (e.g., 50m or top of valley bank if greater) or a sensitive groundwater discharge, sensitive recharge, sensitive headwater area, watercourse or fish habitat and meet minimum area thresholds (e.g., 0.5-10ha, depending on circumstance)</li> </ul>	<ul style="list-style-type: none"> <li>• According to the County of Wellington Source Water Protection Mapping, the study area is not mapped within a significant recharge areas.</li> <li>• <b>Therefore, based on Water Protection Criteria, the woodland unit within the study area <u>does not</u> appear to be considered Significant in the context of the PPS.</b></li> </ul>
<p><b>Woodland Diversity</b></p> <ul style="list-style-type: none"> <li>• Certain woodland species have had major reductions in representation on the landscape and may need special consideration.</li> <li>• More native diversity is more valuable than less diversity.</li> </ul>	<p>Woodlands should be considered significant if they have:</p> <ul style="list-style-type: none"> <li>• A naturally occurring composition of native forest species that have declined significantly south and east of the Canadian Shield and meet minimum area thresholds (e.g., 1-20ha, depending on circumstance)</li> <li>• A high native diversity through a combination of composition and terrain (e.g., a woodland extending from a hilltop to a valley bottom or to opposite slopes) and meet minimum area thresholds (e.g., 2-20ha, depending on circumstance)</li> </ul>	<ul style="list-style-type: none"> <li>• Given that site assessment was limited offsite it is unclear whether the woodland meets this criterion.</li> </ul>

### Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
<b>Uncommon Characteristics Criteria</b>		
<ul style="list-style-type: none"> <li>Woodlands that are uncommon in terms of species composition, cover type, age or structure should be protected.</li> <li>Older woodlands (i.e., woodlands greater than 100 years old) are particularly valuable for several reasons, including their contributions to genetic, species and ecosystem diversity.</li> </ul>	<p>Woodlands should be considered significant if they have:</p> <ul style="list-style-type: none"> <li>A unique species composition or the site is represented by less than 5% overall in woodland area and meets minimum area thresholds (e.g., 0.5ha, depending on circumstance)</li> <li>A vegetation community with a provincial ranking of S1, S2 or S3 (as ranked by the NHIC and meet minimum area thresholds (e.g., 0.5ha, depending on circumstance)</li> <li>Habitat (e.g., with 10 individual stems or 100m<sup>2</sup> of leaf coverage) of a rare, uncommon or restricted woodland plant species and meet minimum area thresholds (e.g., 0.5ha, depending on circumstance): vascular plant species for which the NHIC's Southern Ontario Coefficient of Conservatism is 8, 9 or 10; tree species of restricted distribution such as sassafras or rock elm; species existing only in a limited number of sites within the planning area</li> <li>Characteristics of older woodlands or woodlands with larger tree size structure in native species meet minimum area thresholds (e.g., 1-10ha, depending on circumstance): older woodlands could be defined as having 10 or more trees/ha greater than 100 years old; larger tree size structure could be defined as 10 or more trees/ha at least 50cm in diameter, or a basal area of 8 or more m<sup>2</sup>/ha in trees that are at least 40cm in diameter</li> </ul>	<ul style="list-style-type: none"> <li>Given that site assessment was limited offsite it is unclear whether the woodland meets this criterion.</li> </ul>

### Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
<b>Economic and Social Function Values Criteria</b>		
<ul style="list-style-type: none"> <li>Woodlands that have high economic or social values through particular site characteristics or deliberate management should be protected.</li> </ul>	<p>Woodlands should be considered significant if they have:</p> <ul style="list-style-type: none"> <li>High productivity in terms of economically viable products together with continuous native natural attributes and meet minimum area thresholds (e.g., 2-20ha, depending on circumstance)</li> <li>A high value in special services such as air-quality improvement or recreation at a sustainable level that is compatible with long-term retention and meet minimum area thresholds (e.g., 0.2-10ha, depending on circumstance)</li> <li>Important identified appreciation, education, cultural or historical value and meet minimum area thresholds (e.g., 0.2-10ha, depending on circumstance)</li> </ul>	<ul style="list-style-type: none"> <li>The contiguous woodland feature is not understood to generate economically viable forest products.</li> <li>No formal recreational use of property.</li> <li>The woodland feature is not identified as providing education, cultural or historical value.</li> <li><b><i>Therefore, the woodland unit within the study area does not appear Significant by the Economic and Social Function Values Criteria in the context of the PPS.</i></b></li> </ul>

**APPENDIX E**  
Significant Wildlife Habitat Assessment



## Appendix E. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

### 1.1 - Seasonal Concentrations of Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<b>Waterfowl Stopover and Staging Areas (Terrestrial)</b>  <b>Rationale:</b> Habitat important to migrating waterfowl.	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	CUM1 CUT1 Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	Fields with sheet water during Spring (mid-March to May). <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> <u>Information Sources</u> <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>	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" <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>	Habitat in study area does not meet criteria related to ELC Ecosite Codes. While CUM habitat is present within the study area there is no evidence of annual spring flooding from melt water which is required to facilitate this function.
<b>Waterfowl Stopover and Staging Areas (Aquatic)</b>  <b>Rationale:</b> Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback Ruddy Duck	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. <ul style="list-style-type: none"> <li>These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water)</li> </ul> <u>Information Sources</u> <ul style="list-style-type: none"> <li>Environment Canada.</li> <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>	Studies carried out and verified presence of: <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 Wildlife Habitat Technical Guide Appendix K are significant wildlife habitat.</li> <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>	Habitat in study area does not meet criteria related to ELC Ecosite Codes. Wetland habitat with open water is not present within the study area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<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>	<p>Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin</p>	<p>BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5</p>	<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> <li>Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area</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> <li>Significant Wildlife Habitat Mitigation Support Tool Index #8 provides development effects and mitigation measures.</li> </ul>	<p>Habitat in study area does not meet criteria related to ELC Ecosite Codes.</p>
<p><b>Raptor Wintering Area</b></p> <p><b>Rationale:</b> Sites used by multiple species, a high number of individuals and used annually are most significant</p>	<p>Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl</p> <p><b>Special Concern:</b> Short-eared Owl Bald Eagle</p>	<p><u>Hawks/Owls:</u> Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC.</p> <p>Upland: CUM; CUT; CUS; CUW.</p> <p><u>Bald Eagle:</u> 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).</p>	<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> <p><u>Information Sources:</u></p> <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>	<p>Studies confirm the use of these habitats by:</p> <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>	<p>This habitat function is expected to exist to the south and west of the study area within the matrix of forested lands and open areas. The study area does not contain a combination of field and woodlands of suitable size.</p>

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Bat Hibernacula</b></p> <p><b>Rationale:</b> Bat hibernacula are rare habitats in all Ontario landscapes.</p>	<p>Big Brown Bat Tri-coloured Bat</p>	<p>Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)</p>	<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> <p><u>Information Sources</u></p> <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>	<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, for most development types and 1000m for wind farms</li> <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>	<p>No caves, mine shafts, karst or underground foundations have been identified within the study area.</p>
<p><b>Bat Maternity Colonies</b></p> <p><b>Rationale:</b> Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.</p>	<p>Big Brown Bat Silver-haired Bat</p>	<p>Maternity colonies considered SWH are found in forested Ecosites.</p> <p>All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM</p>	<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> <p><u>Information Sources</u></p> <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<sup>®</sup></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>	<p>Habitat in study area does not meet criteria related to ELC Ecosite Codes.</p>
<p><b>Turtle Wintering Areas</b></p> <p><b>Rationale:</b> 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> Northern Map Turtle 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>EIS 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>Habitat in study area does not meet criteria related to ELC Ecosite Codes.</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> 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> Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake Milksnake</p> <p><b>Special Concern:</b> Eastern Ribbonsnake</p> <p><b>Lizard:</b> <b>Special Concern</b> (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><b>Information Sources</b></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>Features associated with this function appear to be common in the general landscape, however no evidence of these features which could support a congregation of snakes was identified within the study area.</p>
<p><b>Colonially -Nesting Bird Breeding Habitat (Bank and Cliff)</b></p> <p><b>Rationale:</b> 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 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: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 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><b>Information Sources</b></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>Habitat in the study area does not meet key criteria to be considered significant – cliffs or banks were not observed within the study area.</p> <p>Cliff Swallow nests were identified within the old barns on the property, but man-made structures are not considered as Significant Wildlife Habitat as outlined in the Criterion Column.</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 (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 Black-crowned Night-Heron Great Egret Green Heron</p>	<p>SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 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 development effects and mitigation measures.</li> </ul>	<p>Habitat in study area does not meet criteria related to ELC Ecosite Codes.</p>
<p><b>Colonially -Nesting Bird Breeding Habitat (Ground)</b></p> <p><b>Rationale:</b> Colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p>	<p>Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern 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; MAS1 – 3; CUM CUT 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 development effects and mitigation measures.</li> </ul>	<p>Habitat does not meet key criteria to be considered significant – no rocky islands or peninsulas would be expected in the study area.</p>

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Migratory Butterfly Stopover Areas</b></p> <p><b>Rationale:</b> Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.</p>	<p>Painted Lady Red Admiral</p> <p><u>Special Concern</u> Monarch</p>	<p>Combination of ELC Community Series; need to have present one Community Series from each land class:</p> <p><u>Field:</u> CUM CUT CUS</p> <p><u>Forest:</u> FOC FOD FOM CUP</p> <p>Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.</p>	<p>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.</p> <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> <p><u>Information Sources</u></p> <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>	<p>Studies confirm:</p> <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>	<p>Study area is not located within 5km of Lake Ontario and thus this habitat function is not applicable.</p>
<p><b>Landbird Migratory Stopover Areas</b></p> <p><b>Rationale:</b> Sites with a high diversity of species as well as high numbers are most significant.</p>	<p>All migratory songbirds.: Canadian Wildlife Service Ontario website.</p> <p>All migrant raptor species:</p> <p>Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)</p>	<p>All Ecosites associated with these ELC Community Series;</p> <p>FOC FOM FOD SWC SWM SWD</p>	<p>Woodlots need to be &gt;10 ha in size and within 5 km of Lake Ontario.</p> <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 along the shore and located within 5km of Lake Ontario are Candidate SWH .</li> </ul> <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>Studies confirm:</p> <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 "Bird and Bird Habitats: Guidelines for Wind Power Projects"</li> <li>Significant Wildlife Habitat Mitigation Support Tool Index #9 provides development effects</li> </ul>	<p>Study area is not located within 5km of Lake Ontario and thus this habitat function is not applicable.</p>

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<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.</p> <p>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; CUP2 CUP3 FOD3 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> <li>Significant Wildlife Habitat Mitigation Support Tool Index #2 provides development effects and mitigation measures.</li> </ul>	<p>Habitat in study area does not meet criteria related to ELC Ecosite Codes.</p> <p>No portions of the study area are mapped as Stratum II by the MNRF.</p>
<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; FOC FOM FOD SWC SWM 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>	<p>Habitat in study area does not meet criteria related to ELC Ecosite Codes.</p>

1.2 - 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 TAS TAT CLO CLS 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.</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 SBS1 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.</p>
<p><b>Alvar</b></p> <p><b>Rationale:</b> Alvars are extremely rare habitats in Ecoregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.</p>	<p>ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2</p> <p><b>Five Alvar Species:</b></p> <ol style="list-style-type: none"> <li><i>Carex crawei</i></li> <li><i>Panicum philadelphicum</i></li> <li><i>Eleocharis compressa</i></li> <li><i>Scutellaria parvula</i></li> <li><i>Trichostema brachiatum</i></li> </ol> <p>These indicator species are very specific to Alvars within Ecoregion 6E</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 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>	<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> <li>Conservation Authorities.</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> <li>Significant Wildlife Habitat Mitigation Support Tool Index #17 provides development effects and mitigation measures.</li> </ul>	<p>Habitat in the study area does not meet key criteria to be considered significant.</p>

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
<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: FOD FOC FOM SWD SWC 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>Habitat in study area does not meet criteria related to ELC Ecosite Codes.</p> <p>Forest communities on adjacent lands within the study area were dominated by plantation and are not considered to be old growth forest.</p>
<p><b>Savannah</b></p> <p><b>Rationale:</b> Savannahs are extremely rare habitats in Ontario.</p>	<p>TPS1 TPS2 TPW1 TPW2 CUS2</p>	<p>A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.</p>	<p>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.</p> <p><u>Information Sources</u></p> <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>	<p>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.</p> <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>	<p>Habitat in the study area does not meet key criteria to be considered significant.</p>
<p><b>Tallgrass Prairie</b></p> <p><b>Rationale:</b> Tallgrass Prairies are extremely rare habitats in Ontario.</p>	<p>TPO1 TPO2</p>	<p>A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has &lt; 25% tree cover.</p>	<p>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.</p> <p><u>Information Sources</u></p> <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>	<p>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</p> <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>	<p>Habitat in the study area does not meet key criteria to be considered significant.</p>
<p><b>Other Rare Vegetation Communities</b></p> <p><b>Rationale:</b> Plant communities that often contain rare species which depend on the habitat for survival.</p>	<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 Type that is Provincially Rare is Candidate SWH.</p>	<p>Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.</p>	<p>ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M</p> <p>The OMNRF/NHIC will have up to date listing for rare vegetation communities.</p> <p><u>Information Sources</u></p> <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>	<p>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.</p> <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 development effects and mitigation measures.</li> </ul>	<p>No rare vegetation communities have been documented within the study area.</p>

1.3 - Specialized Habitat for Wildlife

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Waterfowl Nesting Area</b></p> <p><b>Rationale:</b> Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.</p>	<p>American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard</p>	<p>All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1, MAS2 MAS3, SAS1 SAM1, SAF1 MAM1, MAM2, MAM3, MAM4 MAM5, MAM6, SWT1, SWT2 SWD1, SWD2, SWD3, SWD4</p> <p><b>Note: includes adjacency to Provincially Significant Wetlands</b></p>	<p>A waterfowl nesting area extends 120 m from a wetland (&gt; 0.5 ha) or a wetland (&gt;0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (&lt;0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur.</p> <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> <p><u>Information Sources</u></p> <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>	<p>Studies confirmed:</p> <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>	<p>Habitat in study area does not meet criteria related to ELC Ecosite Codes.</p> <p>The small portion of the West Credit River Provincially Significant Wetland associated with the south corner of the study area appears to be directly associated with riparian growth. While this function is expected to be associated with the West Credit River Provincially Significant Wetland, there is no expectation that forested habitat on adjacent lands within the study area would maintain this function.</p>
<p><b>Bald Eagle and Osprey Nesting, Foraging and Perching Habitat</b></p> <p><b>Rationale:</b> 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 <b>Special Concern</b> 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>No suitable water bodies are present within the study area nor were nests of the listed species documented during the 2021 field investigations.</p>

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Woodland Raptor Nesting Habitat</b></p> <p><b>Rationale:</b> Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.</p>	<p>Northern Goshawk Cooper’s Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk</p>	<p>May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3</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> <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>	<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> <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>Suitable ELC ecosites were not documented within the study area. Suitable conditions were not documented within the study area.</p>
<p><b>Turtle Nesting Areas</b></p> <p><b>Rationale:</b> These habitats are rare and when identified will often be the only breeding site for local populations of turtles.</p>	<p>Midland Painted Turtle <u>Special Concern Species</u> Northern Map Turtle Snapping Turtle</p>	<p>Exposed mineral soil (sand or gravel) areas adjacent (&lt;100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 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> <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>	<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> <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>Suitable ELC ecosites were not documented within the study area nor were suitable conditions for this Wildlife Habitat Function documented within the study area.</p>



Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<b>Seeps and Springs</b>  <b>Rationale:</b> Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system. <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> <b>Information Sources</b> <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>	Field Studies confirm: <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>	Although this function was not identified, groundwater seepage was expected to be associated with the mapped drainage feature along the southwest property boundary, but no seeps were observed and the adjacent lands within the study area were not readily accessible.
<b>Amphibian Breeding Habitat (Woodland).</b>  <b>Rationale:</b> These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD  Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians	<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> <b>Information Sources</b> <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: <a href="http://www.ontariovernalpools.org">http://www.ontariovernalpools.org</a></li> </ul>	Studies confirm; <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>	Suitable ELC ecosites were not documented within the study area nor were suitable conditions for this Wildlife Habitat Function documented within the study area.
<b>Amphibian Breeding Habitat (Wetlands)</b>  <b>Rationale:</b> Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA.  Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands.	<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> <b>Information Sources</b> <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>	Studies confirm: <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> <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>	Suitable ELC ecosites were not documented within the study area nor were suitable conditions for this Wildlife Habitat Function documented within the study area.



Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Woodland Area-Sensitive Bird Breeding Habitat</b></p> <p><b>Rationale:</b> Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.</p>	<p>Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren</p> <p><b>Special Concern:</b> Canada Warbler</p>	<p>All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p>	<p>Habitats where interior forest breeding birds are breeding, typically large mature (&gt;60 yrs old) forest stands or woodlots &gt;30 ha,</p> <ul style="list-style-type: none"> <li>Interior forest habitat is at least 200 m from forest edge habitat.</li> </ul> <p><u>Information Sources</u></p> <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>	<p>Studies confirm:</p> <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>	<p>Suitable ELC ecosites were not documented within the study area nor were suitable conditions for this Wildlife Habitat Function documented within the study area.</p>

1.4 - 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> Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.</p>	<p>American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan</p> <p><b>Special Concern:</b> Black Tern Yellow Rail</p>	<p>MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1</p> <p>For Green Heron: 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>Suitable ELC ecosites were not documented within the study area nor were suitable conditions for this Wildlife Habitat Function documented within the study area.</p>
<p><b>Open Country Bird Breeding Habitat</b></p> <p><b>Rationale:</b> This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.</p>	<p>Upland Sandpiper Vesper Sparrow Northern Harrier Savannah Sparrow</p> <p><b>Special Concern</b> Short-eared Owl Grasshopper Sparrow</p>	<p>CUM1 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.e. 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> <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 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> <li>Significant Wildlife Habitat Technical Guide Index #32 provides development effects and mitigation measures</li> </ul>	<p>While CUM1 habitat is identified within the property, the area measures approximately 4 ha. This area has a history of disturbance and use by the owners. While this feature may provide limited habitat function for Savannah Sparrow or potentially Grasshopper Sparrow, it is not expected to function in the capacity of Significant Wildlife Habitat due to the size and proximity to urban development. <b>This will be considered in more detail within the EIS report.</b></p>
<p><b>Shrub/Early Successional Bird Breeding Habitat</b></p> <p><b>Rationale:</b> 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> Brown Thrasher Clay-coloured Sparrow</p> <p><u>Common Spp.</u> Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher</p> <p><b>Special Concern:</b> Golden-winged Warbler</p>	<p>CUT1 CUT2 CUS1 CUS2 CUW1 CUW2</p> <p>Patches of shrub ecosites can be complexed into a larger habitat for some bird species</p>	<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>While CUW1 habitat is identified within the property, the area is very small. It is noted that Clay-coloured Sparrow was heard calling in the lands to the south of the property late in the season. While these adjacent lands may provide limited habitat function it is not expected to function in the capacity of Significant Wildlife Habitat due to the size and proximity to urban development. <b>This will be considered in more detail within the EIS report.</b></p>

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Terrestrial Crayfish</b></p> <p><b>Rationale:</b> Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.</p>	<p>Chimney or Digger Crayfish; (<i>Fallicambarus fodiens</i>)</p> <p>Devil Crayfish or Meadow Crayfish; (<i>Cambarus Diogenes</i>)</p>	<p>MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM</p> <p>CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.</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> <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>	<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, observance or collection of individuals is very difficult</li> <li>Significant Wildlife Habitat Technical Guide Index #36 provides development effects and mitigation measures.</li> </ul>	<p>Chimneys were not documented within the study area.</p>
<p><b>Special Concern and Rare Wildlife Species</b></p> <p><b>Rationale:</b> These species are quite rare or have experienced significant population declines in Ontario.</p>	<p>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.</p>	<p>All plant and animal element occurrences (EO) within a 1 or 10km grid.</p> <p>Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy</p>	<p>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</p> <p><u>Information Sources</u></p> <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>	<p>Studies Confirm:</p> <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 to 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>	<p>No special concern or rare wildlife species were documented within the study area.</p>

1.5 - 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> Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.</p>	<p>Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog</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 (<b>Amphibian Breeding Habitat –Wetland</b>)</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>MNRF 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>Amphibian breeding habitat is not present, therefore amphibian movement corridors is not expected to be present within the study area.</p>
<p><b>Deer Movement Corridors</b></p> <p><b>Rationale:</b> Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.</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 <b>Deer Wintering Habitat</b> is confirmed as SWH</p> <ul style="list-style-type: none"> <li>A deer wintering habitat identified by the OMNRF 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>MNRF 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>No deer wintering habitat present.</p>

1.6 - Exceptions for Ecoregion 6E

EcoDistrict	Wildlife Habitat and Species	Candidate			Confirmed SWH	Assessment
		Ecosites	Habitat Description	Habitat Criteria and Information	Defining Criteria	
<p><b>6E-14</b></p> <p><b>Rationale:</b> 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.</p>	<p><b>Mast Producing Areas</b></p> <p>Black Bear</p>	<p>All Forested habitat represented by ELC Community Series:</p> <p>FOM FOD</p>	<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>	<p>Woodland ecosites &gt;30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech),</p> <p><u>Information Sources</u> Important forest habitat for black bears may be identified by OMNRF.</p>	<p>All woodlands &gt; 30ha with a 50% composition of these ELC Vegetation Types are considered significant:</p> <p>FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5</p> <p>Significant Wildlife Habitat Technical Guide Index #3 provides development effects and mitigation measures.</p>	<p>Not applicable, study area is not located on the Bruce Peninsula.</p>
<p><b>6E-17</b></p> <p><b>Rationale:</b> Sharp-tailed grouse only occur on Manitoulin Island in Eco-region 6E, Leks are an important habitat to maintain their population</p>	<p><b>Lek</b></p> <p><b>Sharp-tailed Grouse</b></p>	<p>CUM CUS CUT</p>	<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>	<p>Grasslands (field/meadow) are to be &gt;15ha when adjacent to shrubland and &gt;30ha when adjacent to deciduous woodland.</p> <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> <p><u>Information Sources</u></p> <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>	<p>Studies confirming lek habitat are to be completed from late March to June.</p> <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>	<p>Not applicable, study area is not located on Manitoulin Island.</p>