

## **Environmental Impact Study**

**3491 Wallace Point Road, Part Lot 17,  
Concession 15  
Township of Otonabee-South  
Monaghan, ON**

**D.M. Wills Project Number 21-85162**



### **D.M. Wills Associates Limited**

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Peterborough

**March 2026**

**Prepared for:  
Life at Wallace Point Inc.**



### Submissions Summary

<b>Submission No.</b>	<b>Submission Title</b>	<b>Date of Release</b>	<b>Submissions Summary</b>
1	Draft Environmental Impact Study	March 15, 2023	Draft Submission to Client
2	Final Environmental Impact Study	May 17, 2023	Final Submission to Client
3	Updated Environmental Impact Study	March 19, 2026	Updated Final Submission to Client

This report has been formatted considering the requirements of the Accessibility for Ontarians with Disabilities Act.

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## Executive Summary

D.M. Wills Associates Limited (Wills) was retained by Life at Wallace Point Inc. to undertake an Environmental Impact Study (EIS) to address potential impacts associated with the development of a subdivision (Project) at Part of Lot 17, Concession 15, known municipally as 3491 Wallace Point Road within the Township of Otonabee-South Monaghan, Peterborough County, Ontario (Subject Property).

Due to the presence of wetlands and Species at Risk (SAR) habitat on, or within 120 m of the Subject Property, an EIS is required under Peterborough County's Official Plan.

Potential impacts of the Project on existing natural heritage features and associated wildlife, including SAR, were evaluated based on a review of publicly available resources, agency consultation (Ministry of the Environment, Conservation and Parks) as well as on-site field investigations.

Background review and field investigations identified the following features:

- Three unevaluated wetlands and two drainage features.
- Habitat for Threatened species (Eastern Meadowlark and Bobolink).
- Detected the presence of multiple Species at Risk (SAR) bats, including Little Brown Myotis, Eastern Red Bat, Hoary Bat, Silver-haired Bat.
- Habitat for Special Concern species (Barn Swallow) within barn structures proposed for removal.

In order to move forward with the Project, a number of mitigation measures are necessary, including:

- A Wetland Compensation Plan to offset the removal of two unevaluated wetland.
- An IGF is recommended to be submitted to the Ministry of the Environment, Conservation and Parks to obtain feedback on the mitigation measures proposed for SAR bat species.
- Any vegetation clearing within non-treed habitats must occur between **September 1<sup>st</sup> to March 31<sup>st</sup>** and any tree clearing or removal of structures must occur between **December 1<sup>st</sup> to March 31<sup>st</sup>**.
- The erection of erosion and sediment control measures including sediment fencing around the exterior of the proposed development.

## 1.0 Introduction

D.M. Wills Associates Limited (Wills) was retained by Life at Wallace Point Inc. (Client) to undertake an Environmental Impact Study (EIS) to address potential impacts associated with the development of a subdivision (Project) at Part of Lot 17, Concession 15 known municipally as 3491 Wallace Point Road within the Township of Otonabee-South Monaghan, Ontario, Peterborough County (Subject Property). See **Appendix A** for Statement of Limitation details.

Under the *Peterborough County Consolidated Official Plan (2025)*, an EIS is required to help guide recommendations for applications for development within, or adjacent to, natural heritage features or areas. The area of the proposed subdivision is adjacent to multiple wetlands, which prompted the need for the EIS.

The EIS must demonstrate that there will be no negative ecological or hydrological impacts on the natural heritage system, connectivity, and linkages associated with the site and surrounding area. It should identify environmental constraints, develop appropriate setbacks, consult with regulatory agencies and identify the activities required to address project compliance with Provincial and Federal statutes and policies including, but not limited to: the *Planning Act* (R.S.O. 1995), the *Conservation Authorities Act* (R.S.O. 1990), *Peterborough County Consolidated Official Plan (2025)*, the *Endangered Species Act* (R.O. 2007), the *Provincial Planning Statement (2024)*, and the *Township of Otonabee-South Monaghan Official Plan (2017)*.

To meet the requirements of the EIS, Wills' biologists undertook multiple site visits to collect information on existing conditions. This document provides an existing conditions background review, a summary of the observations made during the site visits, describes the potential impacts of the Project, and recommends measures to mitigate impacts.

### 1.1 Subject Property and Adjacent Lands

The Subject Property encompasses approximately 24.4 ha of land with access from Wallace Point Road. The majority of the Subject Property is currently being used for agricultural purposes. However, a small portion of land abutting Wallace Point Road serves residential purposes and hosts one dwelling as well as three additional structures, which have been left to fallow. These structures consist of a large main barn, which appears to have historically housed cattle, a smaller barn which appears to have stored farming equipment and a shed. The remainder of the Subject Property consists of wetlands as well as active agricultural areas consisting of soybean and corn crops.

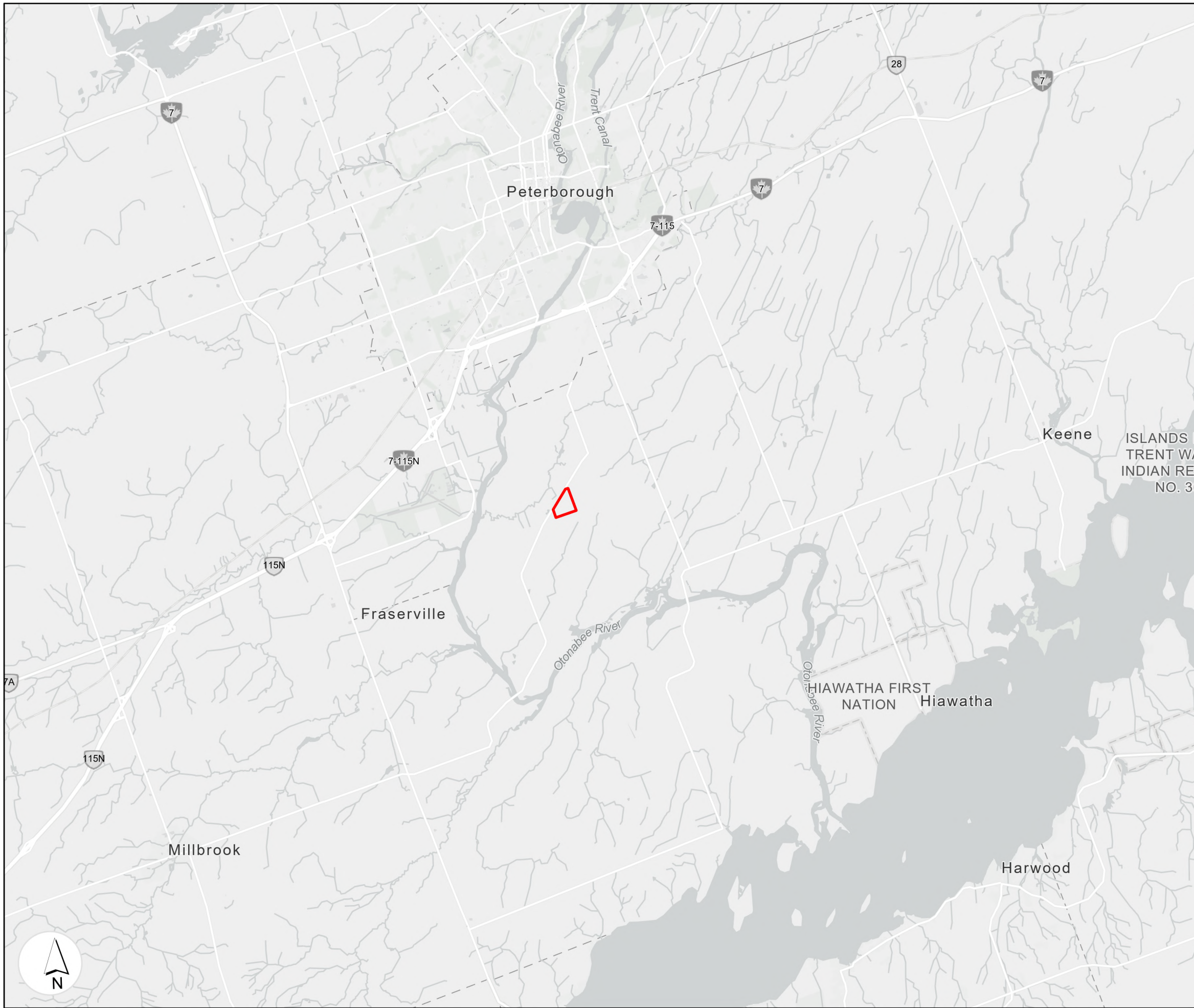
In addition, lands adjacent to the Subject Property have been considered in this EIS. The Adjacent Lands include the Subject Property and the surrounding 120 m.

Wallace Point Road borders the Subject Property to the northwest, while Matchett Line and Base Line border it to the west and south, respectively. Additional agricultural land

borders the Subject Property to the east. See **Figure 1** for the Site Location and **Figure 2** for the Subject Property and Adjacent Lands.

## **1.2 Project Details**

The Client is proposing to develop a residential subdivision consisting of 50 lots including commercial facilities, which will require the development of most of the Subject Property, including the removal of the existing dwelling, barn structures and shed. See **Appendix B** for the proposed Site Plan.



# Figure 1 - Site Location Map

Environmental Impact Study

3491 Wallace Point Road, Township of Otonabee-South Monaghan

## Legend


 Subject Property



NAD 1983 UTM Zone 17N Scale: 1:100,000

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Created In:	ArcGIS Pro
Drawn By:	jgrandmont
Checked By:	sfilteau
Map Date:	2025-06-24
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## Figure 2 - Subject Property Map

Environmental Impact Study

3491 Wallace Point Road, Township of  
Otonabee-South Monaghan

### Legend

- Subject Property
- Adjacent Lands (120m)



NAD 1983 UTM Zone 17N

Scale: 1:4,000

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## **2.0 Existing Conditions**

### **2.1 Background Review**

#### **2.1.1 Land Use Designation/Official Plan Schedules**

The Subject Property is currently designated as a Hamlet. Properties in the Adjacent Lands are primarily designated as agriculture and hamlet but also include Environmental Protection and Rural designations.

#### **2.1.2 Natural Heritage Features and Areas**

Natural heritage features and areas, as defined in the Provincial Planning Statement 2024 (PPS, 2024), are features and areas, including significant wetlands, significant coastal wetlands, other coastal wetlands in Ecoregions 5E, 6E and 7E, fish habitat, significant woodlands and significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River), habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest, which are important for their environmental and social values as a legacy of the natural landscapes of an area. A copy of all provincially mapped natural heritage features is available in **Appendix C**.

Furthermore, Wills sent out a formal information request to the Ministry of Environment, Conservation and Parks (MECP) to obtain additional records with reference to restricted Species at Risk (SAR), Significant Wildlife Habitat (SWH) and other data on file concerning lands within, or adjacent to, the Subject Property; see **Appendix D** for detail. A response was received on January 30, 2023.

A summary of the relevant natural heritage features identified as part of the background review are outlined below.

##### **2.1.2.1 Areas of Natural and Scientific Interest**

No Areas of Natural and Scientific Interest (ANSI) were identified on, or within 120 m of the Subject Property.

##### **2.1.2.2 Conservation Reserves**

No Conservation Reserves are located on, or within 120 m of the Subject Property.

##### **2.1.2.3 Provincial Parks**

No Provincial Parks are located on, or within 120 m of the Subject Property.

##### **2.1.2.4 Fish Habitat**

No fish habitat was identified on, or within 120 m of the Subject Property.

#### **2.1.2.5 Provincially Significant Wetlands**

No Provincially Significant Wetlands (PSW) were identified on, or within 120 m of the Subject Property based on background review.

#### **2.1.2.6 Other Wetlands**

No wetlands were identified on the Subject Property by provincial databases. However, two Non-Provincially Significant Wetlands and three unevaluated wetlands are located within the Adjacent Lands of the Subject Property. A portion of the Stewart Hall Wetland Complex is situated on the north side of Wallace Point Road while a portion of the Crystal Springs Wetland Complex is situated south of Baseline Road.

#### **2.1.2.7 Woodlands**

Natural Heritage Information Centre (NHIC) mapping did not indicate woodlands as being present on the Subject Property. Unevaluated woodlands are located to the northwest, south and east of the Subject Property.

#### **2.1.2.8 Significant Wildlife Habitat**

In accordance with the Provincial Planning Statement (2024) and the Ministry of Natural Resources (MNR) Significant Wildlife Habitat Technical Guide (2000), Significant Wildlife Habitat (SWH) is generally defined as areas where wild mammals, birds, reptiles, amphibians, fishes, invertebrates, plants, fungi, algae, bacteria and/or other wild organisms live, and find adequate amounts of food, water, shelter, and space needed to sustain their populations, and where areas are considered ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System. Specific wildlife habitats of concern may include:

1. Seasonal Concentration Areas of Animals
2. Rare Vegetation Communities or Specialized Habitats
3. Habitat of Species of Conservation Concern
4. Animal Movement Corridors

No SWH was identified through background review.

#### **2.1.3 Soils**

The Subject Property falls within Ecoregion 6E (Lake Simcoe, Rideau), a region underlain by carbonate rich Paleozoic bedrock, and dominated by a wide variety of deep glacial deposits (Ecological Stratification Working Group, 1996).

#### **2.1.4 Hydrology/Topography**

Surface water features are water-related features on the earth's surface, including headwaters, rivers, stream channels, inland lakes, and seepage areas,

recharge/discharge areas, springs, wetlands, and associated riparian lands that can be defined by their soil moisture, soil type, vegetation, or topographic characteristics (PPS, 2024).

It is anticipated that surface water on the Subject Property flows from south to north following the topography of the landscape, which peaks at 204 metres above sea level (masl) at the south end of the property along Base Line. The landscape gently slopes north from the road towards Wallace Point Road, where elevation has been measured at 196 masl, presenting a gradual elevation change of approximately 8 m.

The review of aerial imagery identified one isolated wetland pocket on the Subject Property. Aerial imagery additionally identified the presence of two drainage features near the northern boundary of the Subject Property.

## 2.2 Field Investigations

The scope of work for the field investigations was outlined by ORCA (see **Appendix D** for correspondence records). Field investigations took place on May 10, 18, 25, June 22, and July 10, 2022, as well as October 5, 2023, to evaluate existing ecological conditions within the Subject Property. The field investigations included the following surveys:

- Confirm presence/absence of hydrological features (wetlands, watercourses, seeps, springs) and delineate their boundaries. Initial field investigations took place on May 18 and June 22, 2022, and a subsequent field investigation occurred on October 5, 2023.
- Headwater Drainage Feature Assessment in general accordance with Toronto Region Conservation Authority's Evaluation, Classification and Management of Headwater Drainage Features Guidelines (2014). Field investigations took place on May 10 and June 22, 2022.
- Three Bobolink and Eastern Meadowlark surveys (Surveys), in general accordance with the Survey Protocol for Eastern Meadowlark (*Sturnella magna*) in Ontario (MNR, 2013). Field investigations took place on May 10, 18 and 25, 2022.
- Ecological Land Classification (ELC) mapping was completed on June 22, 2022, and a second field investigation occurred on October 5, 2023, to collect additional soil augers and complete species-level identification of herbaceous species, namely grasses, sedges and asters, present within meadow communities.
- Incidental wildlife and wildlife habitat observations were completed (auditory, visual, tracks, scat, burrows, nests, etc.) throughout the Subject Property, with particular attention to any species of conservation concern noted to be present within the area.
- Species at Risk Assessment and evaluation of potential SWH.
- Complete an assessment of bat habitat on May 10, 2022, and October 5, 2023, to identify any potential SAR bat maternity roosts within the Subject Property.

- Completion of acoustic monitoring for bat species between June 14 to July 10, 2022.

A photographic record to support field investigations is located in **Appendix E**.

### 2.2.1 Ecological Land Classification

The Subject Property occurs within Ecoregion 6E, therefore ELC was completed using the Ecological Land Classification for Southern Ontario (Lee et al., 1998). However, since the emphasis of this manual is the classification of natural communities, anthropogenic communities have not been fully addressed in this manual. As a result, additional ecosite codes have been included to more accurately represent cultural vegetation communities. ELC communities measuring less than 0.5 ha that still represent distinct vegetation communities are identified as inclusions. **Table 1** identifies the ELC units present within the Subject Property and the Adjacent Lands. The extent of each ELC unit is displayed in **Figure 3** and a summary of soil auger data is also found below in **Table 2**. The vegetation list for each vegetation community within the Subject Property, excluding anthropogenic ecosites, is presented in **Appendix F**.

**Table 1 – ELC Community Summary**

Subject Property				
ELC Code	ELC System	Ecosite and Vegetation Type	Size (Ha)	S-Rank <sup>1</sup>
<b>ANT1</b>	Terrestrial	Anthropogenic Ecosite - Residential	0.9	SNR
<b>ANT4</b>	Terrestrial	Anthropogenic Ecosite – Active Agriculture	19.5	SNR
<b>CUM1-1</b>	Terrestrial	Mineral Cultural Meadow: Dry – Moist Old Field Meadow Ecosite	2.4	SNR
<b>MAM2-2</b>	Wetland	Reed-canary Grass Mineral Meadow Marsh Ecosite	1.6	S5
<b>SWT2</b>	Wetland	Mineral Thicket Swamp Inclusion	0.18	SNR
Adjacent Lands				
<b>ANT1</b>	Terrestrial	Anthropogenic Ecosite - Residential	9.4	SNR
<b>ANT4</b>	Terrestrial	Anthropogenic Ecosite – Active Agriculture	7.3	SNR
<b>CUM1-1</b>	Terrestrial	Mineral Cultural Meadow: Dry – Moist Old Field Meadow Ecosite	5.1	SNR

<b>FOD7-4</b>	Terrestrial	Fresh-Moist White Cedar-Hardwood Mixed Forest Inclusion	0.3	S2S3
<b>FOM7-2</b>	Terrestrial	Fresh-Moist White Cedar-Hardwood Mixed Forest Ecosite	1.1	S5
<b>MAM2-2</b>	Wetland	Reed-canary Grass Mineral Meadow Marsh Ecosite	2.3	S5
<b>MAS2-1</b>	Wetland	Cattail Mineral Shallow Marsh Inclusion	0.4	S5
<b>SWD3-1</b>	Wetland	Red Maple Mineral Deciduous Swamp Inclusion	0.2	S5
<b>SWM2-1</b>	Wetland	Red Maple-Conifer Mineral Mixed Swamp	1.2	S3S4

<sup>1</sup>Bakowsky, 1995.

**Table 2 – Soil Auger Sample Summary**

ELC Community	Soil Auger ID	Total Auger Depth <sup>1</sup>	Effective Texture	Depth of Organics	Moisture Regime	Depth to Mottles	Depth to Gleys	Depth to Water
ANT4	S01	25 cm	Silty Clay	0 cm	Fresh (2)	N/A	N/A	N/A
ANT4	S02	60 cm	Clay	0 cm	Fresh (2)	N/A	N/A	N/A
ANT4	S03	40 cm	Silty Clay	0 cm	Fresh (2)	N/A	N/A	N/A
SWT2	S04	50 cm	Clay	30 cm	Very Moist (6)	Distinct: 15 cm	N/A	30 cm
SWT2	S05	40 cm	Clay	10 cm	Very Moist (6)	Distinct: 10 cm	N/A	60
MAM2-2	S06	80 cm	Clay	15 cm	Very Moist (6)	Distinct: 30 cm	N/A	N/A
MAM2-2	S07	116 cm	Silt Clay Loam	4 cm	Moderately Moist (4)	Distinct: 47 cm	76 cm	116 cm
MAM2-2	S08	60 cm	Sandy Clay Loam	5 cm	Moist (5)	Distinct: 35 cm	N/A	N/A
CUM1-1	S09	55 cm	Sandy Clay Loam	5 cm	Moist (5)	Distinct: 40 cm	N/A	N/A
CUM1-1	S10	28 cm	Sandy Clay Loam	5 cm	Fresh (2)	N/A	N/A	N/A

<sup>1</sup>Refusal was encountered at all Soil Auger IDs where depths were less than 120 cm, with a minimum of three hand auger attempts made at each location.

## 2.2.2 Wetland Delineation

Wills' biologists conducted a desktop review of leaf-off aerial imagery and provincial databases to determine the presence of any potential wetland communities within the Subject Property and Adjacent Lands, prior to completing field investigations. The review identified one isolated wetland on the Subject Property. Provincial mapping indicated that wetlands are present to the northwest and south of the Subject Property (**Appendix C**). The review of aerial imagery also indicated the presence of additional unevaluated wetlands within the Adjacent Lands. The approximate boundary of these wetlands was remotely delineated using GIS software based on a combination of hydrological and topographical cues as well as observed variations in vegetation communities. See **Figure 3** for the extent of wetlands remotely delineated within the Adjacent Lands. Following the desktop review, Wills' biologists conducted field investigations on May 18, 2022, June 22, 2022, and October 5, 2023, to determine the presence or absence of wetland communities within the Subject Property.

The field investigations followed the Ontario Wetland Evaluation System, 2022 (OWES) standard methods for identifying wetland communities. The OWES methodology involves identifying vegetation species and determining the relative abundance or "cover" of wetland species versus upland vegetation species. If the vegetation community consists of greater than 50% wetland species, this area is identified as a wetland. This is commonly known as the "50% wetland vegetation rule". If the percent composition of wetland species is equal to that of upland indicator species, that space represents the wetland boundary. Soil augers were taken at various locations to assist in confirming wetland communities/boundaries. When a wetland was identified, the outer boundary was delineated using a handheld Garmin GPS, marking a waypoint approximately every 5 m.

As a result of the field investigations, three wetland communities were identified within the Subject Property (**Figure 3**). The significance of these wetlands is further discussed in **Section 4.3**.

## 2.2.3 Headwater Drainage Feature Assessment

Detailed headwater drainage feature assessments (HDFA) took place during two separate site visits on May 10 and June 22, 2022, following the Ontario Stream Assessment Protocol Section 4: Module 10 (OSAP S4: M10) for Headwater Drainage Features.

HDFA's conducted by Wills followed the Toronto Region Conservation Authority's (TRCA) Evaluations, Classification and Management of Headwater Drainage Features Guidelines (2014), to evaluate any headwater drainage features (HDF) encountered during site investigations.

As a result of the site investigations, two drainage features were identified and assessed during field investigations (**Figure 3**). As part of the HDFA, the representative characteristics of the drainage feature as well as any potential anthropogenic

influences that may impact the features were documented. A brief description of each HDF is provided below.

### **HDF1**

HDF1 is situated along the western boundary of the Subject Property and consists of two distinct feature types within its reach. The first upstream segment (Upstream Segment #1) is representative of a dry swale while the second upstream segment (Upstream Segment #2) is a channel supporting minimal flowing water sourced from a tile drain outlet pipe. Site investigations determined that this feature flowed east to west across Wallace Point Road into a separate channel, which eventually drains into the Stewart Hall Wetlands Complex. While the downstream segment of the feature was identified, it was not characterized during site investigations since it was situated on adjacent private lands and was instead delineated using LIDAR. Based on the presence of the tile drain outlet, surrounding agricultural lands and lack of any upstream sources, it is anticipated that the channel supporting flowing water in HDF1 is manmade and was created to drain excess water away from the agricultural lands.

### **HDF2**

HDF2 is also situated along the western boundary of the Subject Property and consists of a single distinct feature type representative of a dry swale. Site investigations did not identify the presence of a culvert which conveys flow across Wallace Point Road.

The results of HDFA have been outlined in **Table 3** and the significance of each HDF is outlined in **Section 4.2**.

#### **2.2.4 Incidental Wildlife Observations**

The following wildlife species were observed during field investigations:

- Barn Swallows (*Hirundo rustica*)
- Northern Rough-winged Swallow (*Stelgidopteryx serripennis*)

#### **2.2.5 Significant Wildlife Habitat.**

In addition to other surveys conducted, the Subject Property was surveyed for any notable features or evidence that would indicate SWH. An assessment located in **Section 4.1** cross-references identified notable features, relevant evidence, and ELC ecosites to the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E to determine the presence/absence of candidate SWH within the Subject Property and Adjacent Lands.

**Table 3 – Results of Headwater Drainage Feature Assessments**

	HDF1		HDF2	
	Upstream Segment #1	Upstream Segment #2	Upstream Segment #1	
<b>Feature Type</b>	Swale	Tiled	<b>Feature Type</b>	Swale
<b>Length (m)</b>	100	50	<b>Length (m)</b>	75
<b>Feature Width (m)</b>	3	0.2	<b>Feature Width (m)</b>	1
<b>Depth (mm)</b>	100	30	<b>Depth (mm)</b>	1000
<b>Flow Influence</b>	Baseflow	Baseflow	<b>Flow Influence</b>	Baseflow
<b>Flow Conditions</b>	No Surface Water	Surface Flow Minimal	<b>Flow Conditions</b>	No surface water
<b>Sediment Transport</b>			<b>Sediment Transport</b>	
<b>Adjacent:</b>	Sheet Erosion	Outlet Scour	<b>Adjacent:</b>	None
<b>Feature:</b>	Instream Bank Erosion	None	<b>Feature:</b>	None
<b>Sediment Deposition</b>	None	None	<b>Sediment Deposition</b>	None
<b>Riparian Vegetation</b>			<b>Riparian Vegetation</b>	
<b>a) 0 - 1.5 m</b>	Wetland	Wetland	<b>a) 0 - 1.5 m</b>	Wetland
<b>b) 1.5 – 10 m</b>	Wetland	Wetland	<b>b) 1.5 – 10 m</b>	Wetland
<b>c) 10 – 30 m</b>	Meadow/Cropped Land	Meadow/Cropped Land	<b>c) 10 – 30 m</b>	Meadow
<b>Hydraulic Head (mm)</b>	0	1 to 2	<b>Hydraulic Head (mm)</b>	0
<b>Major Nutrient Sources</b>	Pasture		<b>Major Nutrient Sources</b>	None
<b>Potential Contaminant Sources</b>	Tile drains, active agricultural field		<b>Potential Contaminant Sources</b>	None
<b>Channel Hardening</b>	No evidence		<b>Channel Hardening</b>	No evidence
<b>Dredging or Straightening</b>	Upstream appears to have been dredged		<b>Dredging or Straightening</b>	No evidence
<b>Barriers and/or Dams in Proximity</b>	None		<b>Barriers and/or Dams in Proximity</b>	None
<b>Online Ponds Upstream</b>	None		<b>Online Ponds Upstream</b>	None
<b>Springs or Seeps at the Site</b>	None		<b>Springs or Seeps at the Site</b>	None
<b>Evidence of Channel Scouring/Erosion</b>	Active feature bank erosion		<b>Evidence of Channel Scouring/Erosion</b>	No

### **2.2.6 Species at Risk Assessment**

Information from the following sources was reviewed for all species of conservation concern prior to completing the field investigation to assist in assessing the Subject Property for SAR.

1. Land Information Ontario Natural Heritage Areas database
2. Other SAR species identified through other data sources (OBBA, iNaturalist)

A SAR Screening Assessment was completed comparing known occurrences within the area against specific local habitat features identified during the field investigation; see **Table 4** for details.

**Table 4 – Species at Risk Screening Assessment**

Species	Provincial ESA Status	COSEWIC Status	Federal SARA Status	Habitat Requirements	Likelihood of Occurrence	Site Area Suitability/Observations
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	Special Concern	Not at Risk	Not at Risk	Bald Eagles nest in a variety of habitats and forest types, almost always near a major lake or river where they do most of their hunting. While fish are their main source of food, Bald Eagles can easily catch prey up to the size of ducks, and frequently feed on dead animals, including White-tailed Deer. They usually nest in large trees such as pine and poplar. During the winter, Bald Eagles sometimes congregate near open water such as the St. Lawrence River, or in places with a high deer population where carcasses might be found (MNR, 2019).	Negligible	Habitat requirements not present. The Subject Property lacked large trees suitable for nesting. Furthermore, no Bald Eagles were observed during the Surveys.
Bank Swallow ( <i>Riparia riparia</i> )	Threatened	Threatened	Threatened	Bank Swallows nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. Many nests are on banks of rivers and lakes, but they are also found in active sand and gravel pits or former ones where the banks remain suitable. The birds breed in colonies ranging from several to a few thousand pairs.	Negligible	Habitat requirements not present. No vertical silt and sand deposits were observed within the Subject Property. Furthermore, no Bank Swallows were observed during the Surveys.
Barn Swallow ( <i>Hirundo rustica</i> )	Special Concern	Special Concern	Threatened	Terrestrial open and man-made structures. Barn Swallow nesting sites include the use of a variety of artificial structures (e.g., beams, posts, light fixtures, ledges over windows and doors) that provide either a horizontal nesting surface or a vertical face, often with some sort of overhang that provides shelter. Often nesting sites are associated with open barns, sheds, garages, and docks.	Confirmed	Both the main barn and smaller barn structures were investigated for evidence of Barn Swallows. Six individuals were observed exiting the main barn, which upon further investigation revealed eight mud nests situated amongst ledges and wooden beams. Furthermore, one additional nest was observed within one of the smaller barn structures.
Blanding's Turtle ( <i>Emydoidea blandingii</i> )	Threatened	Endangered	Threatened	Blanding's Turtles live in shallow water, usually in large wetlands and shallow lakes with lots of aquatic plants. It is not unusual, though, to find them hundreds of metres from the nearest water body, especially while they are searching for a mate or traveling to a nesting site. Blanding's Turtles hibernate in the mud at the bottom of permanent water bodies from late October until the end of April (MNR, 2018).	Negligible	Habitat requirements not present. The isolated wetland situated within ecosite CUM1 is relatively small (~0.18 ha) and is not hydrologically linked to additional natural heritage features. The hydrological source of this wetland appears to originate from seasonal spring runoff sourced from the surrounding landscape as well rainfall. Furthermore, this wetland does not provide open-water habitat and is populated with trees/shrubs and grasses.

Species	Provincial ESA Status	COSEWIC Status	Federal SARA Status	Habitat Requirements	Likelihood of Occurrence	Site Area Suitability/Observations
Bobolink ( <i>Dolichonyx oryzivorus</i> )	Threatened	Threatened	Threatened	Bobolink prefers tall grass prairies but is also known to nest in forage crops (e.g., hayfields and pastures dominated by a variety of species such as clover, Timothy, Kentucky Bluegrass, and broadleaved plants).	Confirmed	Multiple Bobolink were observed/heard from both listening station BB01 and BB02 on May 10 and 18, 2022. Bobolink were also heard calling from listening station BB01 on May 25, 2022.
Chimney Swift ( <i>Chaetura pelagica</i> )	Threatened	Threatened	Threatened	Before European settlement, Chimney Swifts mainly nested on cave walls and in hollow trees or tree cavities in old growth forests. Today, they are more likely to be found in and around urban settlements where they nest and roost (rest or sleep) in chimneys and other manmade structures. They also tend to stay close to water as this is where the flying insects they eat congregate.	Low	The large barn structure may present suitable habitat for this species. However, no evidence of Chimney Swifts was observed during the investigation of the structures nor the Surveys. Furthermore, there are no open-water habitats found within the limits of the Subject property.
Common Nighthawk ( <i>Chordeiles minor</i> )	Special Concern	Special Concern	Threatened	Traditional Common Nighthawk habitat consists of open areas with little to no ground vegetation, such as logged or burned-over areas, forest clearings, rock barrens, peat bogs, lakeshores, and mine tailings. Although the species also nests in cultivated fields, orchards, urban parks, mine tailings and along gravel roads and railways, they tend to occupy natural sites.	Low	The farmed agricultural lands within ecosite CUM1 does present suitable habitat with little to no ground vegetation. However, since it is not representative of a natural site, it does not provide ideal habitat for this species.
Eastern Meadowlark ( <i>Sturnella magna</i> )	Threatened	Threatened	Threatened	Native grasslands, pastures and savannahs. Eastern meadowlark also uses a wide variety of other anthropogenic grassland habitats, including hayfields, weedy meadows, young orchards, golf courses, restored surface mines, grassy roadside verges, young oak plantations, grain fields, herbaceous fencerows, and grassy airfields. Eastern Meadowlarks occasionally nest in crop fields such as corn and soybean, but these crops are considered low-quality habitat.	Confirmed	Multiple Eastern Meadowlark were observed from both listening station BB01 and BB02 on May 10 and 18 2022. Eastern Meadowlark were also heard calling from listening station BB02 on May 25, 2022.
Eastern Musk Turtle ( <i>Sternotherus odoratus</i> )	Special Concern	Special Concern	Special Concern	Eastern Musk Turtles are found in ponds, lakes, marshes and rivers that are generally slow-moving have abundant emergent vegetation and muddy bottoms that they burrow into for winter hibernation. Nesting habitat is variable, but it must be close to the water and exposed to direct sunlight. Nesting females dig shallow excavations in soil, decaying vegetation and rotting wood or lay eggs in muskrat lodges, on the open ground or in rock crevices (MECP, 2020).	Negligible	Habitat requirements not present. The isolated wetland situated within ecosite CUM1 is relatively small (~0.18 ha) and is not hydrologically linked to additional natural heritage features. The hydrological source of this wetland appears to originate from seasonal spring runoff sourced from the surrounding landscape as well rainfall. Furthermore, this wetland does not provide open-water habitat and is populated with trees/shrubs and grasses.

Species	Provincial ESA Status	COSEWIC Status	Federal SARA Status	Habitat Requirements	Likelihood of Occurrence	Site Area Suitability/Observations
Eastern Ribbonsnake ( <i>Thamnophis sauritus</i> )	Special Concern	Special Concern	Special Concern	The Eastern Ribbonsnake is usually found close to water, especially in marshes, where it hunts for frogs and small fish. A good swimmer, it will dive in shallow water, especially if it is fleeing from a potential predator. At the onset of cold weather, these snakes congregate in underground burrows or rock crevices to hibernate together (MECP, 2020).	Negligible	Habitat requirements not present. The isolated wetland situated within ecosite CUM1 is relatively small (~0.18 ha) and is not hydrologically linked to additional natural heritage features. The hydrological source of this wetland appears to originate from seasonal spring runoff sourced from the surrounding landscape as well rainfall. Furthermore, this wetland does not provide open-water habitat and is populated with trees/shrubs and grasses.
Eastern Red Bat ( <i>Lasiurus borealis</i> )	Endangered	Endangered	Endangered	<p>In general, summer habitat for these bats is characterized as foraging, drinking, and roost sites, with roosts being particularly important. In Canada, these bats use mostly treed habitats for roosting or foraging, with a particularly strong dependence on trees as roosting sites. Eastern Red Bat are considered habitat generalists and occupy a wide diversity of habitats, although they are generally recognized as foliage roosting bats and typically roost among the foliage of trees and occasionally shrubs. Eastern Red Bats roost in both deciduous and coniferous forests of any age class but have been documented to avoid roosting in conifers when suitable deciduous trees are present. Trees used as maternity roosts by Eastern Red Bats tend to possess large diameters and are tall, reaching or exceeding the height of the surrounding canopy. This species also displays solitary roosting behavior and typically roosts alone, or with their pups.</p> <p>Foraging habitats are less well known, but likely include the area above aquatic habitats, low-elevation meadows, grasslands, and fields, as well as open-canopied forest, the area above canopies, and forest edges. Drinking habitat is not well known and assumed to be the same as aquatic foraging habitats. This species is considered a long-distance migrant and undergoes an annual migration in the Fall to its overwintering habitat in the southern United States, returning to its summer breeding habitat in the Spring (COSEWIC, 2023).</p>	Confirmed	Acoustic monitoring completed between June 14 to July 10 confirmed the presence of this species within the Subject Property.
Eastern Small-footed Myotis ( <i>Myotis leibii</i> )	Endangered	Not at Risk	Not at Risk	In the spring and summer, eastern small-footed bats will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. These bats often change their roosting locations every day. At night, they	Negligible	Both barn structures contain suitable roosting habitat for this species. To assess for the potential presence of bat species within the Subject Property, an

Species	Provincial ESA Status	COSEWIC Status	Federal SARA Status	Habitat Requirements	Likelihood of Occurrence	Site Area Suitability/Observations
				hunt for insects to eat, including beetles, mosquitos, moths, and flies. In the winter, these bats hibernate, most often in caves and abandoned mines. They seem to choose colder and drier sites than similar bats and will return to the same spot each year (MNR, 2019).		ultrasonic acoustic recorder unit (SM4BAT) was centrally deployed between both barn structures. Acoustic monitoring completed between June 14 to July 10 confirmed the absence of this species within the Subject Property.
Eastern Whip-poor-will ( <i>Caprimulgus vociferus</i> )	Threatened	Threatened	Threatened	The Eastern Whip-poor-will is usually found in areas with a mix of open and forested areas, such as savannahs, open woodlands or openings in more mature, deciduous, coniferous and mixed forests. It forages in these open areas and uses forested areas for roosting (resting and sleeping) and nesting. It lays its eggs directly on the forest floor, where its coloring means it will easily remain undetected by visual predators (MNR, 2018).	Negligible	Habitat requirements not present. While ecosite CUM1 does provide open habitat, the agricultural fields do not represent the preferred foraging habitat of this species. Furthermore, the Subject Property does not possess any forested communities which could facilitate nesting habitat. No Eastern Whip-poor-will were observed during the Surveys. However, no nighttime surveys were completed.
Eastern Wood-pewee ( <i>Contopus virens</i> )	Special Concern	Special Concern	Special Concern	In Canada, the Eastern Wood-pewee is mostly associated with the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in forest stands of intermediate age and in mature stands with little understory vegetation. During migration, a variety of habitats are used, including forest edges, early successional clearings, and primary and secondary lowland (and submontane) tropical forest, as well as cloud forest. In South America in the winter, the species primarily uses open forest, shrubby habitats, and edges of primary forest. It also occurs in interior forests where tree-fall gaps are present. (COSEWIC, 2012)	Negligible	Habitat requirements not present. The Subject Property does not possess any forested communities. No Eastern Wood-pewee were observed during the Surveys.
Golden-winged Warbler ( <i>Vermivora chrysoptera</i> )	Special Concern	Threatened	Threatened	Golden-winged Warblers prefer to nest in areas with young shrubs surrounded by mature forest – locations that have recently been disturbed, such as field edges, hydro or utility right-of-ways, or logged areas (MNR, 2019).	Negligible	Habitat requirements not present. The Subject Property does not possess any forested communities. No Golden-winged Warblers were observed during the Surveys.
Grasshopper Sparrow ( <i>Ammodramus savannarum</i> )	Special Concern	Special Concern	Special Concern	It lives in open grassland areas with well-drained, sandy soil. It will also nest in hayfields and pasture, as well as alvars, prairies and occasionally grain crops such as barley. It prefers areas that are sparsely vegetated. Its nests are well-hidden in the field and woven from grasses in a small cup-like shape. The Grasshopper Sparrow is a short-distance migrant and leaves Ontario in the fall to migrate to the southeastern United States and Central America for the winter (MNR, 2018).	Negligible	The CUM1 community consisting of naturalized vegetation near the northeastern boundary of the Subject Property does represent suitable habitat for this species. However, no Grasshopper Sparrows were observed during the Eastern Meadowlark Surveys or any other site investigations.

Species	Provincial ESA Status	COSEWIC Status	Federal SARA Status	Habitat Requirements	Likelihood of Occurrence	Site Area Suitability/Observations
Hoary Bat	Endangered	Endangered	Endangered	<p>In general, summer habitat for this species is characterized as foraging, drinking, and roost sites, with roosts being particularly important. In Canada, Hoary Bat use mostly treed habitats for roosting or foraging, with a particularly strong dependence on trees as roosting sites. Hoary Bat are considered habitat generalists and occupy a wide diversity of habitats, although they are generally recognized as foliage roosting bats and typically roost among the foliage of trees and occasionally shrubs. Hoary Bats roost in both deciduous and coniferous forests of any age class but have been documented to avoid roosting in conifers when suitable deciduous trees are present. Trees used as maternity roosts by Hoary Bats tend to possess large diameters and are tall, reaching or exceeding the height of the surrounding canopy. This species also displays solitary roosting behavior and typically roosts alone, or with their pups.</p> <p>Foraging habitats are less well known, but likely include the area above aquatic habitats, low-elevation meadows, grasslands, and fields, as well as open-canopied forest, the area above canopies, and forest edges. Drinking habitat is not well known and assumed to be the same as aquatic foraging habitats. This species is considered a long-distance migrant and undergoes an annual migration in the Fall to its overwintering habitat in the southern United States, returning to its summer breeding habitat in the Spring (COSEWIC, 2023).</p>	Confirmed	Acoustic monitoring completed between June 14 to July 10 confirmed the presence of this species within the Subject Property.
Least Bittern ( <i>Ixobrychus exilis</i> )	Threatened	Threatened	Threatened	In Ontario, the Least Bittern is found in a variety of wetland habitats, but strongly prefers cattail marshes with a mix of open pools and channels. This bird builds its nest above the marsh water in stands of dense vegetation, hidden among the cattails. The nests are almost always built near open water, which is needed for foraging. This species eats mostly frogs, small fish, and aquatic insects (MNR, 2019).	Negligible	Habitat requirements not present. The isolated wetland situated within ecosite CUM1 is relatively small (~0.18 ha), is not hydrologically linked to additional natural heritage features and is not characteristic of an open-water cattail marsh. No Least Bittern were observed during the Surveys.
Lesser Yellow Legs ( <i>Tringa flavipes</i> )	Threatened	Threatened	Not Listed	Lesser Yellowlegs nest on dry ground near peatlands, marshes, ponds, and other wetlands in the boreal forest and taiga. In winter and during migration, the species frequents coastal salt marshes, estuaries and ponds, as well as lakes, other freshwater wetlands, and anthropogenic wetlands such as flooded rice fields and sewage lagoons (COWESIC, 2020).	Negligible	Habitat requirements not present. The isolated wetland situated within ecosite CUM1 is relatively small (~0.18 ha), is not hydrologically linked to additional natural heritage features and is not characteristic of an open-water community. No Lesser Yellow Legs were observed during the Surveys.

Species	Provincial ESA Status	COSEWIC Status	Federal SARA Status	Habitat Requirements	Likelihood of Occurrence	Site Area Suitability/Observations
Little Brown Myotis ( <i>Myotis lucifugus</i> )	Endangered	Endangered	Endangered	During the day Little Brown Myotis roost in trees and buildings. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. Little brown bats hibernate from October or November to March or April, most often in caves or abandoned mines that are humid and remain above freezing (MNR, 2019).	Confirmed	Both barn structures contain suitable roosting habitat for this species. To assess for the potential presence of bat species within the Subject Property, an ultrasonic acoustic recorder unit (SM4BAT) was centrally deployed between both barn structures. Acoustic monitoring completed between June 14 to July 10 confirmed the presence of this species within the Subject Property.
Northern Map Turtle ( <i>Graptemys geographica</i> )	Special Concern	Special Concern	Special Concern	The Northern Map Turtle inhabits rivers and lakeshores where it basks on emergent rocks and fallen trees throughout the spring and summer. In winter, the turtles hibernate on the bottom of deep, slow-moving sections of river. They require high-quality water that supports the female's mollusc prey. Their habitat must contain suitable basking sites, such as rocks and deadheads, with an unobstructed view from which a turtle can drop immediately into the water if startled (MNR, 2019).	Negligible	Habitat requirements not present. The isolated wetland situated within ecosite CUM1 is relatively small (~0.18 ha) and is not hydrologically linked to additional natural heritage features. The hydrological source of this wetland appears to originate from seasonal spring runoff sourced from the surrounding landscape as well rainfall. Furthermore, this wetland does not provide open-water habitat and is populated with trees/shrubs and grasses.
Northern Myotis ( <i>Myotis septentrionalis</i> )	Endangered	Endangered	Endangered	Northern long-eared bats are associated with boreal forests, choosing to roost under loose bark and in the cavities of trees. These bats hibernate from October or November to March or April, most often in caves or abandoned mines. The northern long-eared bat is found throughout forested areas in southern Ontario, to the north shore of Lake Superior and occasionally as far north as Moosonee, and west to Lake Nipigon (MNR, 2019).	Negligible	Habitat requirements not present. The Subject Property does not possess any forested communities.
Olive-sided Flycatcher ( <i>Contopus cooperi</i> )	Special Concern	Special Concern	Threatened	The Olive-sided Flycatcher is most often found along natural forest edges and openings. It will use forests that have been logged or burned, if there are ample tall snags and trees to use for foraging perches. Olive-sided Flycatchers' breeding habitat usually consists of coniferous or mixed forest adjacent to rivers or wetlands. In Ontario, Olive-sided flycatchers commonly nest in conifers such as White and Black Spruce, Jack Pine and Balsam Fir (MNR, 2019).	Negligible	Habitat requirements not present. The Subject Property does not possess any forested communities.
Red-headed Woodpecker	Endangered	Endangered	Threatened	The Red-headed Woodpecker lives in open woodland and woodland edges, and is often found in parks, golf courses and cemeteries. These areas typically have many dead trees, which the bird uses for nesting and perching. The Red-headed Woodpecker is	Negligible	Habitat requirements not present. The Subject Property does not possess any forested communities.

Species	Provincial ESA Status	COSEWIC Status	Federal SARA Status	Habitat Requirements	Likelihood of Occurrence	Site Area Suitability/Observations
<i>(Melanerpes erythrocephalus)</i>				found across southern Ontario, where it is widespread but rare (MNR, 2019).		
Short-eared Owl ( <i>Asio flammeus</i> )	Threatened	Special Concern	Special Concern	The Short-eared Owl lives in open areas such as grasslands, marshes and tundra where it nests on the ground and hunts for small mammals, especially voles (MNR, 2019). Short-eared Owls nest on the ground amid grasses and low plants. They usually choose dry sites – often on small knolls, ridges, or hummocks – with enough vegetation to conceal the incubating female (Cornell University, 2019).	Low	The CUM1 community consisting of naturalized vegetation near the northeastern boundary of the Subject Property does represent suitable habitat for this species. However, no Short-eared Owls were observed during the Surveys.
Silver-haired Bat	Endangered	Endangered	Threatened	<p>In general, summer habitat for these bats is characterized as foraging, drinking, and roost sites, with roosts being particularly important. In Canada, these bats use mostly treed habitats for roosting or foraging, with a particularly strong dependence on trees as roosting sites. Silver-haired Bats are a cavity roosting species, which means they primarily roost in the cavities or exfoliating bark of snag trees. This makes them reliant on habitats where large, decaying trees are available. Silver-haired Bats roost in a variety of large diameter trees. Reproductive females generally roost in small groups within tree cavities or under bark. Foraging habitats are less well known, but likely include the area above aquatic habitats, low-elevation meadows, grasslands, and fields, as well as open-canopied forest, the area above forest canopies, and forest edges. Drinking habitat is not well known and assumed to be the same as aquatic foraging habitats. Winter habitat requirements are not well known for any of these species.</p> <p>Silver-haired Bat is widely distributed throughout North America, occurring from the southern Northwest Territories to the state of Tamaulipas, Mexico. It occurs across most of Canada, from British Columbia to New Brunswick and Nova Scotia, but appears to be uncommon in Atlantic Canada. The species occurs throughout the continental United States. The northern and southern limits of its distribution are poorly delineated (COSEWIC, 2023).</p>	Confirmed	Acoustic monitoring completed between June 14 to July 10 confirmed the presence of this species within the Subject Property.
Snapping Turtle ( <i>Chelydra serpentina</i> )	Special Concern	Special Concern	Special Concern	Snapping Turtles spend most of their lives in water. They prefer shallow waters so they can hide under the soft mud and leaf litter, with only their noses exposed to the surface to breathe. During the nesting season, from early to mid-summer, females travel overland in search of a suitable nesting site, usually gravelly or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits (MNR, 2019).	Negligible	Habitat requirements not present. The isolated wetland situated within ecosite CUM1 is relatively small (~0.18 ha) and is not hydrologically linked to additional natural heritage features. The hydrological source of this wetland appears to originate from seasonal spring runoff sourced from the surrounding landscape as well rainfall.

Species	Provincial ESA Status	COSEWIC Status	Federal SARA Status	Habitat Requirements	Likelihood of Occurrence	Site Area Suitability/Observations
						Furthermore, this wetland does not provide open-water habitat and is populated with trees/shrubs and grasses.
Tri-colored Bat ( <i>Perimyotis subflavus</i> )	Endangered	Endangered	Endangered	During the summer, the Tri-colored Bat is found in a variety of forested habitats. It forms day roosts and maternity colonies in older forest and occasionally in barns or other structures. They forage over water and along streams in the forest. Tri-colored Bats eat flying insects and spiders gleaned from webs. At the end of the summer, they travel to a location where they swarm; it is generally near the cave or underground location where they will overwinter. They overwinter in caves where they typically roost by themselves rather than part of a group (MNR, 2019).	Negligible	Both barn structures contain suitable roosting habitat for this species. To assess for the potential presence of bat species within the Subject Property, an ultrasonic acoustic recorder unit (SM4BAT) was centrally deployed between both barn structures. Acoustic monitoring completed between June 14 to July 10 confirmed the absence of this species within the Subject Property.

### 2.2.7 Eastern Meadowlark and Bobolink Surveys

Eastern Meadowlark and Bobolink Surveys were completed on May 10, 18 and 25, 2022, in general accordance with the Survey Protocol for Eastern Meadowlark (*Sturnella magna*) in Ontario (MNR, 2013). In addition to identifying presence/absence of Eastern Meadowlark and Bobolink, the Surveys were also used to identify other bird species utilizing habitat on site.

Two listening stations were determined prior to arriving at site and were based on site conditions and the MNR protocol. BB01 is located to the north and BB02 is the southernmost point count location shown in **Figure 3**. Surveys on May 10, 18 and 25, 2022 commenced at 8:42 a.m., 9:24 a.m. and 8:35 a.m., respectively. Audio recordings were taken at each listening station.

During the three Surveys, a total of 17 species were observed through auditory or visual cues. One or two individual Eastern Meadowlarks were observed, depending on the date and location of the observations. In addition, anywhere from five to 16 individual Bobolink were observed, depending on the date and location, with most encounters being associated with the CUM1-1 community situated at the northeastern boundary of the Subject Property. **Table 5** provides full details of species found during the Surveys and the number of Bobolink/Eastern Meadowlark at each location.

**Table 5 – Results of Eastern Meadowlark/Bobolink Surveys**

Common Name	Scientific Name	BB01			BB02		
		May 10	May 18	May 25	May 10	May 18	May 25
Blue Jay	<i>Cyanocitta cristata</i>				x	x	
Song Sparrow	<i>Melospiza melodia</i>	x	x	x		x	x
Eastern Meadowlark	<i>Sturnella magna</i>	2	1		1	1	1
American Goldfinch	<i>Spinus tristis</i>	x	x	x	x		x
Brown Thrasher	<i>Toxostoma rufum</i>	x					
American Robin	<i>Turdus migratorius</i>	x		x	x	x	x
Mourning Dove	<i>Zenaida macroura</i>	x					
Eastern Towhee	<i>Pipilo erythrophthalmus</i>			x			
Bobolink	<i>Dolichonyx oryzivorus</i>		~16	6 - 8		5	
Killdeer	<i>Charadrius vociferus</i>	x			x	x	x
Common Grackle	<i>Quiscalus quiscula</i>	x					x
Tree Swallow	<i>Tachycineta bicolor</i>	x			x		
Red-winged Blackbird	<i>Agelaius phoeniceus</i>				x		x
Wilson Snipe	<i>Gallinago delicata</i>				x		
European Starling	<i>Sturnus vulgaris</i>				x		
Savannah Sparrow	<i>Passerculus sandwichensis</i>						x

In addition, numerous Barn Swallows were observed flying in/out of the barns during all three of the Surveys.

### 2.2.8 Bat Habitat Assessment

An assessment of bat habitat was completed on May 10, 2022, and October 5, 2023, to identify any potential SAR bat maternity roosts within the Subject Property. As a result, both existing barn structures were assessed to have the potential to support roosting habitat. The front porch of the residential dwelling was also observed to have some loose boards which could provide bats access inside the roof of the front porch. No evidence of use by bat species (guano, grease stains, insect exoskeletons, deceased bats, etc.) was observed at the access point observed at the dwelling nor at any other structure on the Subject Property. No additional features were identified during site investigations which could support bat roosting habitat or displayed evidence of use by bat species.

## 2.2.9 Bat Acoustic Monitoring

Due to the occurrence of potentially suitable habitat for various SAR bats, a Wildlife Acoustics Song Meter SM4Bat FS Ultrasonic Acoustic Recorder (ARU) was deployed (**Figure 3**). Ultrasonic ARUs are audio recording devices that autonomously capture environmental sounds that exceed the range of human hearing. In the context of bats, the purpose of the ARUs is to monitor echolocation calls emitted by bat species travelling through the sampled area and are used to assist in determining presence/absence as well as assessing activity levels of bat species.

The ARU was deployed approximately 10 m away from both barn structures and 75 m away from the residential dwelling within suitable foraging habitat for bat species in order to assess the level of bat activity near potentially suitable roosting structures. The microphone was pointed to the south towards open habitat to minimize clutter from Wallace Point Road, and to focus the sampling efforts on foraging bats and individuals that may be regularly traveling to/from the barn structures.

The ARU was set to record from 30 minutes before sunset to 30 minutes after sunrise and were deployed for a period of 26 days between June 14 to July 10. Following the deployment of the ARUs, audio files were analysed using the Kaleidoscope Pro software auto classification feature to categorize audio files to the species level.

A total of four SAR bat species were documented by the ARU. **Table 6** outlines the results of the monitoring program and presents the status of each bat species under the Endangered Species Act (ESA). The significance of the data captured during the monitoring program as well as the presence of SAR bats is further discussed in **Section 5.0**.

**Table 6 – Results of Bat Acoustic Recorder**

Bat Species	Scientific Name	Provincial Status under ESA	Total Passes Recorded	Maximum Passes/Night	Average Passes/Night
Little Brown Myotis	<i>Myotis lucifugus</i>	Endangered	5	1	0.19
Big Brown Bat	<i>Eptesicus fuscus</i>	Not Listed	988	157	36.59
Eastern Red Bat	<i>Lasiurus borealis</i>	Endangered	31	7	1.15
Hoary Bat	<i>Lasiurus cinereus</i>	Endangered	353	38	13.07
Silver-haired Bat	<i>Lasionycteris noctivagans</i>	Endangered	110	14	4.07

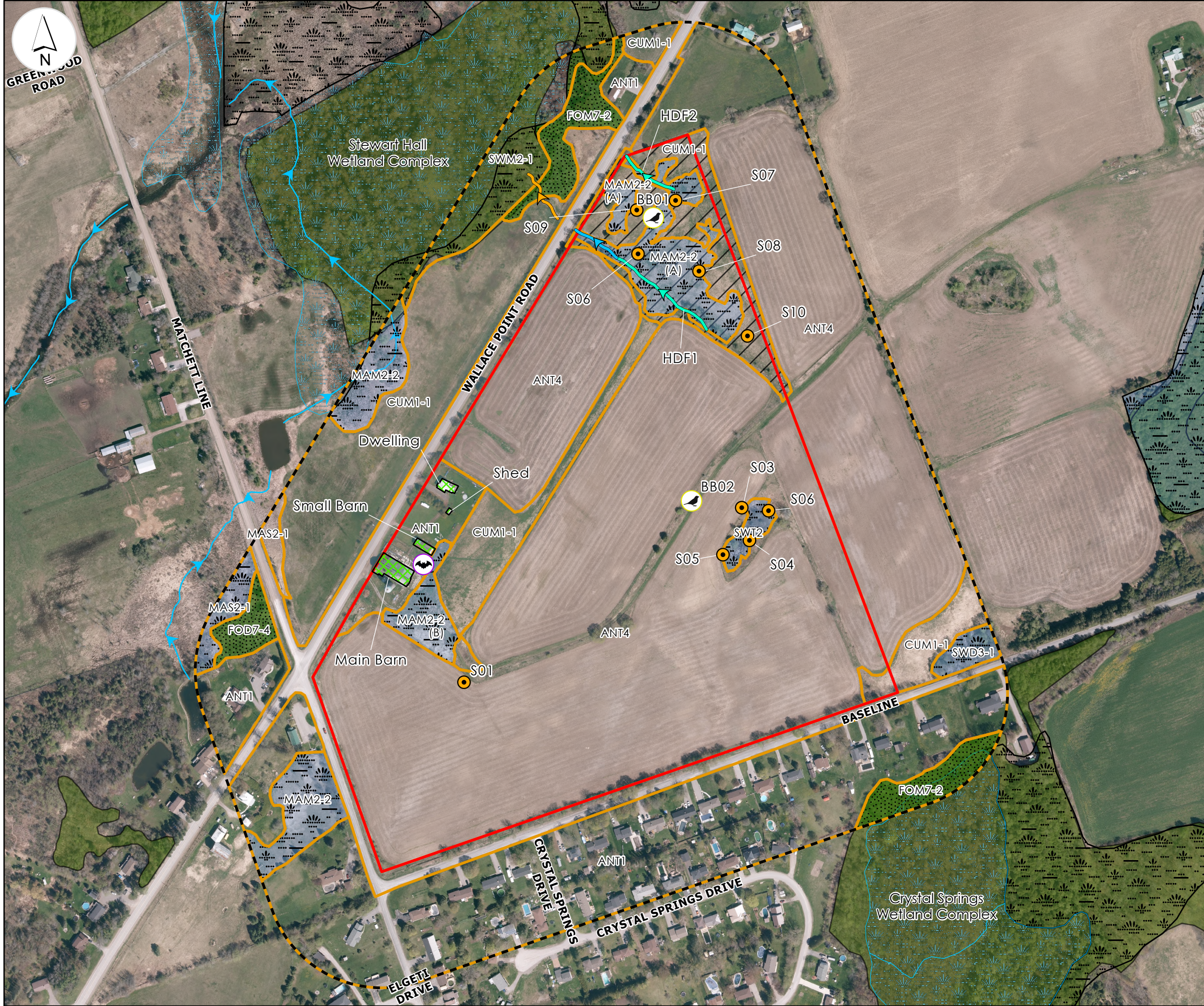
### 2.2.10 Woodlands

The Natural Heritage Reference Manual (MNR, 2010) suggests delineating woodlands using an approach based on the percentage of tree cover and/or the Forestry Act definition for “woodlands”. For the purposes of this assessment, woodlands have been identified based on the following criteria:

1. Treed areas with > 60% tree cover
2. Minimum average patch width of 40 m

A review of aerial imagery and site investigations confirmed the absence of any woodlands on the Subject Property that meet the above-described criteria. Since access to Adjacent Lands was restricted due to privately owned lands, the boundary of provincially mapped woodlands was utilized for the Adjacent Lands. However, any inaccuracies in the provincially mapped woodlands observed within the Adjacent Lands was corrected using the SCOOP 2023 leaf-off imagery.

As a result, three separate woodlands have been identified in the Adjacent Lands (**Figure 3**). The significance of the woodlands are further discussed under **Section 4.4**.



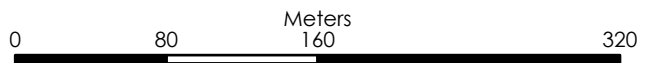
# Figure 3 - Existing Conditions Map

Environmental Impact Study

3491 Wallace Point Road, Township of Otonabee-South Monaghan

## Legend

- Existing Structures
- ELC Boundary
- Adjacent Lands (120m)
- Subject Property
- Survey Locations**
- Soil Auger
- Eastern Meadowlark Survey Station
- ARU Location
- Natural Heritage Features**
- Drainage Feature - Swale
- Drainage Feature - Tiled
- Drainage Feature - Downstream
- Suitable Bobolink/Eastern Meadowlark habitat
- Wetland (Delineated)
- Woodlands
- Provincially Mapped Data**
- Watercourse
- Evaluated - Non-Provincially Significant
- Unevaluated Wetland
- Woodlands



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### 3.0 Regulatory Context

The following policies which are relevant to the Project were considered as part of the Project:

1. *Peterborough County Consolidated Official Plan, 2025*
2. *Township of Otonabee-South Monaghan Official Plan, 2017*
3. *Provincial Planning Statement, 2024*
4. *Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits*
5. *Otonabee Region Conservation Authority Watershed Planning & Regulations, 2025*
6. *Endangered Species Act, 2007*

Where policies overlap, the most restrictive or lowest-tier policy is summarized below.

### 3.1 Municipal Planning Context

#### 3.1.1 Peterborough County Consolidated Official Plan (2025)

The following policies are applicable to the Subject Property based on its designation as a Settlement Area and the site conditions on, and adjacent to the Subject Property.

##### 4.1 Natural Environment

*The County recognizes the important contribution that natural systems, natural heritage features and natural resources make to the social, economic, and environmental health of local municipalities. In this regard, the County has identified the following areas to ensure that the appropriate land use and resource management protection policies are applied to them.*

##### Hazard Lands

- *Floodplains*

##### Natural Heritage Features

- *Wetlands*
- *Flood plains*
- *Endangered and threatened species habitat*
- *Fish habitat*
- *Wildlife habitat*
- *Woodlands*
- *Valleylands*
- *Areas of Natural and Scientific Interest*
- *Oak Ridges Moraine*

##### 4.1.3.1 General

*Development and site alterations within provincially significant wetlands and in significant portions of the habitat of endangered and threatened species is not permitted.*

*However, with the exception of the Oak Ridges Moraine Policy, development or site alteration such as filling, grading and excavating may be permitted within or adjacent to the remaining natural heritage features listed in Section 4.1 of this Plan, provided that it has been demonstrated by an Environmental impact assessment that there will be no negative impacts on the natural features or ecological functions for which the area is identified.*

#### *4.1.3.4 - Natural Heritage Features*

*Local plans may permit development and site alteration in:*

- significant woodlands south and east of the Canadian Shield;*
- significant valleylands south and east of the Canadian Shield;*
- significant wildlife habitat; and;*
- significant areas of natural and scientific interest;*

*Development and site alteration will not be permitted in fish habitat except in accordance with provincial and federal requirements.*

*Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas listed above unless the ecological function of the adjacent lands has been evaluated in accordance with an environmental impact assessment as described in Section 4.1.3.1 and it has been determined that there will be no new negative impacts on the natural features or on their ecological functions.*

### **3.1.2 Township of Otonabee-South Monaghan Official Plan (2017)**

The Subject Property is designated as a Hamlet under the Township of Otonabee-South Monaghan Official Plan (2017). The following policies are applicable:

#### **3.7.3 Protection of Environment/Natural Heritage Features**

*The Municipality recognizes the need to develop policies that will protect and where possible enhance the natural environment and significant natural heritage features within the Township of Otonabee-South Monaghan. As such this Plan recognizes the following environmental/natural heritage features and their functions:*

- Significant Wetlands and Other Wetlands*
- Fish Habitat*
- Significant Wildlife Habitat*
- Significant Woodlands*
- Significant Valleylands*
- Significant Habitat of Endangered Species and Threatened Species*
- Significant Areas of Natural and Scientific Interest (ANSIs)*

Where mapping has been provided, the approximate extent and location of these natural heritage features have been identified on Schedule "B" and/or designated as "Environmental Protection" or "Environmental Protection/PSW" on Schedule "A". Lands designated as Environmental Protection are subject to the policies of Section 5.11 of this Plan.

Not all lands having environmentally sensitive features are designated as "Environmental Protection" on the Land Use Plan – Schedule "A" – due to the size and/or sensitivity of the feature, the degree of hazard it creates, or a lack of information. During the review of development proposals lands with sensitive features may be identified. Depending on their significance and/or hazardous nature, such features shall be protected. An application to develop on or adjacent to such a feature shall be subject to the applicable policies of Section 3.7.3.3 of this Plan.

#### 3.7.3.21 Determination of Adjacent Lands

For the purposes of Section 3.7.3, lands "adjacent" to a natural heritage feature shall be determined as follows:

- (a) Within 120 metres of a Significant Wetland;
- (b) Within 120 metres of an ANSI (Life Science);
- (c) Within 50 metres of an ANSI (Earth Science);
- (d) Within 120 metres of significant woodlands;
- (e) Within 120 metres of significant valleylands;
- (f) Within 120 metres of significant wildlife habitat;
- (g) Within 120 metres of the significant portions of the habitat of endangered and threatened species; and
- (h) Within 120 metres of fish habitat.

#### 3.7.3.11 Fish and Significant Wildlife Habitat

For the purposes of this Plan the following definitions and policies shall apply to fish habitat and significant wildlife habitat within the Township:

(e) Development and site alteration shall not be permitted in significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

(f) Development and site alteration shall not be permitted on adjacent lands to significant wildlife habitat unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

#### 3.7.3.11 Endangered Species and Threatened Species

The following policies shall apply to the significant habitat of endangered species and threatened species within the Township:

*(a) Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.*

*(b) The location of the significant habitat of endangered and threatened species is not specifically identified on the Land Use Schedule of this Plan. The Municipality will review development applications using the best and most up-to-date available information on endangered and threatened species location that is available from the Ministry of Natural Resources.*

### **3.2 Provincial Policy Context**

The *Provincial Planning Statement 2024 (PPS)* is a consolidated statement of the government's policies on land use planning. The PPS was issued under section 3 of the Planning Act and came into effect October 20, 2024. It replaces both the *Provincial Policy Statement, 2020* and *A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2019*.

#### *Section 4.1.4*

*Development and site alteration shall not be permitted in:*

- *significant wetlands in Ecoregions 5E, 6E and 7E*

#### *Section 4.1.5*

*Development and site alteration shall not be permitted in:*

- *significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River) 1;*

*unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.*

#### *Section 4.1.7*

*Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.*

#### *Section 4.1.8*

*Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 4.1.4, 4.1.5, 4.1.6 and 4.1.7, 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 the ecological functions.*

#### *Section 4.2.2*

*Development and site alteration shall be restricted in or near sensitive surface water features and sensitive ground water features such that these features and*

*their related hydrologic functions will be protected, improved or restored, which may require mitigative measures and/or alternative development approaches.*

The Ontario Natural Heritage Reference Manual for the Provincial Planning Statement defines adjacent lands as:

- 120 m from PSW; significant woodlands; significant valley lands; significant wildlife habitat; significant portions of habitat for threatened or endangered species.

### **3.3 Provincial Legislation**

#### **3.3.1 Endangered Species Act, 2007**

The *Endangered Species Act, 2007* (ESA) was implemented to protect SAR in Ontario. An independent body, the Committee on the Status of Species at Risk in Ontario (COSSARO), was developed to classify native plants or animals into one of four categories of at risk status:

1. **Extirpated:** lives somewhere in the world, and at one time lived in the wild in Ontario, but no longer lives in the wild in Ontario.
2. **Endangered:** lives in the wild in Ontario but is facing imminent extinction or extirpation.
3. **Threatened:** lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.
4. **Special Concern:** lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

Species at Risk in Ontario (SARO) are provided by Ministry of the Environment, Conservation and Parks (MECP), who administer the ESA regulations for SAR in Ontario. The ESA applies to native species that have been proven to be in danger of becoming extinct or extirpated from Ontario. The ESA provides protection of both the species and their habitat, as well as provides a recovery strategy and stewardship program for those SAR.

#### **Definitions**

2 (1) In this Act,

“habitat” means, subject to subsection (3),

- (a) in respect of an animal species,
  - i. a dwelling-place, such as a den, nest or other similar place, that is occupied or habitually occupied by one or more members of a species for the purposes of breeding, rearing, staging, wintering or hibernating, and

- ii. the area immediately around a dwelling place described in subclause (i) that is essential for the purposes set out in that subclause.
- (b) in respect of a vascular plant species, the critical root zone surrounding a member of the species, and
- (c) in respect of all other species, an area on which any member of a species directly depends in order to carry on its life processes; ("habitat")

**Prohibition on killing, etc.**

9(1) No person shall,

- (a) kill, harm, harass, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species;

**Prohibition on damage to habitat, etc.**

10 (1) No person shall damage or destroy the habitat of,

- (a) a species that is listed on the Species at Risk in Ontario List as an endangered or threatened species; or
- (b) a species that is listed on the Species at Risk in Ontario List as an extirpated species, if the species is prescribed by the regulations for the purpose of this clause. 2007, c. 6, s. 10 (1)

A permit from MECP is required under Section 17(2)(c) of the ESA for any proposed work to be completed within the habitat of one (1), or more, species listed as threatened or endangered.

**3.3.2 Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits**

*Ontario Regulation 41/24* is a regulation under the Conservation Authorities Act (R.S.O. 1990), which empowers local Conservation Authorities to control development near waterbodies, wetlands, watercourses and other flooding hazards. *Ontario Regulation 41/24* outlines the following:

Development prohibited

2. (1) For the purposes of subparagraph 2 iii of subsection 28 (1) of the Act, river or stream valleys include river or stream valleys that have depressional features associated with a river or stream, whether or not they contain a watercourse, the limits of which are determined as follows:

- 1. Where the river or stream valley is apparent and has stable slopes, the valley extends from the stable top of the bank, plus 15 metres, to a similar point on the opposite side.

2. Where the river or stream valley is apparent and has unstable slopes, the valley extends from the predicted long term stable slope projected from the existing stable slope or, if the toe of the slope is unstable, from the predicted location of the toe of the slope as a result of stream erosion over a projected 100-year period, plus 15 metres, to a similar point on the opposite side.
3. Where the river or stream valley is not apparent, the valley extends,
  - (i) to the furthest of the following distances:
    - (A) the distance from a point outside the edge of the maximum extent of the flood plain under the applicable flood event standard to a similar point on the opposite side, and
    - (B) the distance from the predicted meander belt of a watercourse expanded as required to convey the flood flows under the applicable flood event standard to a similar point on the opposite side, and
  - (ii) an additional 15-metre allowance on each side, except in areas within the jurisdiction of the Niagara Peninsula Conservation Authority.

(3) For the purposes of subparagraph 2 v of subsection 28 (1) of the Act, other areas in which development activities are prohibited are the areas within an authority's area of jurisdiction that are within 30 metres of a wetland.

### **3.3.2.1 Otonabee Region Conservation Authority Watershed Planning & Regulations, 2025**

Under the *Otonabee Region Conservation Authority Watershed Planning & Regulation Policy (2025)*, the following policies are applicable to the Project,

#### *Section 7.1 Development Within Wetlands – Specific Policies*

*7.1(1) New development will not be permitted within a wetland, regardless of previous approvals provided under the Planning Act or other regulatory process (e.g., Building Code Act), except as outlined below.*

*7.1(2) New development on an existing lot(s) within a small portion of a wetland to facilitate the development of the lot OR where a wetland is less than 0.5 hectares may be permitted provided that:*

- *A technical site-specific study demonstrates to the satisfaction of Otonabee Conservation that all hazards/risks associated with flooding and/or unstable soils have been addressed;*
- *It can be demonstrated through technical studies or plans as may be requested by Otonabee Conservation that offsetting will be accommodated on the subject lands resulting in a net gain in wetland function and, where applicable, the maintenance of existing hydrologic linkages.*

- *Inert fill material will be used; and,*
- *The large-scale placement of fill can satisfy the provisions outlined in Appendix F - Large Fill Policy Procedural Guidelines*

#### Section 7.2 Development within Other Areas – Specific Policies

*7.2(10) Stormwater management facilities for water quantity control and/or water quality purposes will be permitted within an area of interference, provided that:*

- *detailed technical studies or plans as may be requested by Otonabee Conservation demonstrate that appropriate remedial measures will mitigate the impact on and/or compensate for the loss of the hydrologic function of the wetland;*
- *erosion and sedimentation during construction and post construction are minimized using best management practices including site and facility design, construction controls, and appropriate remedial measures; and,*
- *Design and maintenance requirements as determined by Otonabee Conservation are met.*

## 4.0 Determination of Significance

Based on the background review, results of the site investigations and policies relevant to the Project, further assessment of significance is necessary to identify protected natural heritage and surface water features on the Subject Property and Adjacent Lands.

### 4.1 Significant Wildlife Habitat

To further investigate the potential occurrence of SWH, ELC communities mapped during desktop review and site investigations were cross-referenced with the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNR, 2015) to determine if any SWH are present within the Subject Property and the Adjacent Lands. A detailed assessment of the Subject Property and Adjacent Lands was conducted to confirm the presence/absence of any notable features or evidence of species affiliated with SWH that would indicate the occurrence of Candidate or Confirmed SWH. Based on the SWH assessment conducted in **Appendix G**, Candidate and Confirmed SWH have been identified within the Subject Property and the Adjacent Lands. These SWH have been outlined below, and their spatial extent is displayed on **Figure 4**. Where Candidate SWH has been identified, it will be treated as Confirmed.

- Candidate Amphibian Breeding Habitat (Woodlands)
- Candidate Amphibian Breeding Habitat (Wetlands)
- Candidate Bat Maternity Colonies
- Candidate Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)
- Candidate Marsh Breeding Bird Habitat

- Candidate Rare Vegetation Communities
- Confirmed Special Concern and Rare Wildlife Species

## 4.2 Headwater Drainage Feature Classification

Using results from the OSAP S4:M10 assessment of HDFs, the TRCA Guidelines were used to classify the features as indicated in **Table 7** below.

**Table 7 – Summary of Functional Classifications and Management of HDFAs**

Drainage Feature Segment	Step 1		Step 2	Step 3	Step 4	Management Recommendation
	Hydrology	Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	
HDF1: Upstream Segment #1	Contributing Functions - Ephemeral	Agricultural lands	Important Functions	None Present	Valued Functions	Conservation
HDF1: Upstream Segment #2	Valued Functions – Intermittent	Agricultural lands, Tile Drainage	Important Functions	None Present	Valued Functions	Conservation
HDF2	Limited Functions - Dry	None	Important Functions	None Present	Contributing Functions	Conservation

Mitigation measures based on the sensitivity of the HDF and the downstream habitat are outlined in **Section 5.2.1**.

## 4.3 Significant Wetlands

### 4.3.1 MAM2-2 (A) - Reed-canary Grass Mineral Meadow Marsh

MAM2-2 (A) is a wetland community measuring 1.2 ha that is situated in the northeast corner of the Subject Property and consists of two separate meadow marsh polygons within 30m of each other. Site investigations determined the wetland community is generally dominated by Reed-canary Grass (*Phalaris arundinacea*) and did not display evidence of seasonal flooding during any field investigations and is surrounded by upland communities dominated by Smooth Brome Grass (*Bromus inermis*) and active agriculture. Eastern Meadowlark and Bobolink were also observed within the MAM2-2 (A) wetland during site investigations.

MAM2-2 (A) overlaps with both the headwater drainage features identified within the Subject Property. Based on the results of the HDFA presented in **Table 3**, it was determined that MAM2-2 (A) contributes inputs to the Stewart Hall Wetland Complex through surface water conveyed by HDF1 due to the presence of a defined channel observed on the west side of Wallace Point Road. Surface water inputs to HDF1 are primarily sourced from the tile drain outlet but are also influenced by spring melt and

rainfall in the upper reach where tile drains are absent. It is anticipated that these inputs are intermittent since very minimal flow was observed in HDF1 during field investigations. No surface water was observed within HDF2 during any of the site investigations and no defined channel is present on the west side of Wallace Point Road. This suggests that MAM2-2 (A) primarily conveys surface water to the Stewart Hall Wetland Complex through HDF1. In addition, an artesian well was found during hydrogeologic field investigations indicating the wetland is influenced by groundwater inputs as well.

#### **4.3.2 MAM2-2 (B) - Reed-canary Grass Mineral Meadow Marsh**

MAM2-2 (B) is a wetland community measuring 0.41 ha that is situated near the southwest corner of the Subject Property and is adjacent to the existing barn structures. Site investigations determined the wetland community is very similar to the MAM2-2 (A) community and is also dominated by Reed-canary Grass (*Phalaris arundinacea*), does not display evidence of seasonal flooding and is surrounded by upland communities dominated by Smooth Brome Grass (*Bromus inermis*) and active agriculture.

The existing conditions documented during site investigations support that MAM2-2 (B) possesses limited value or function since it was determined that the wetland is isolated from other hydrological features and woodlands, does not support standing water and is not representative of a provincially rare vegetation community. The results of the site investigations indicate that the primary function of the wetland is to facilitate surface water infiltration and as a storage area for stormwater.

#### **4.3.3 SWT2 - Mineral Thicket Swamp**

SWT2 is a wetland community measuring 0.18 ha that is situated near the eastern boundary of the Subject Property and is surrounded by active agricultural lands. Site investigations observed the wetland community is dominated by European Buckthorn (*Rhamnus cathartica*) and Riverbank Grape (*Vitis riparia*) but also supports a small shallow marsh component observed to support standing water on May 18, 2022. Since the SWT2 wetland is hydrologically isolated, it is anticipated that SWT2 wetland receives surface water inputs from spring melt and rainfall but only sustains standing water seasonally within the shallow marsh component. However, since no further field investigation was completed, it is possible that this wetland sustains standing water for enough time to support amphibian breeding habitat.

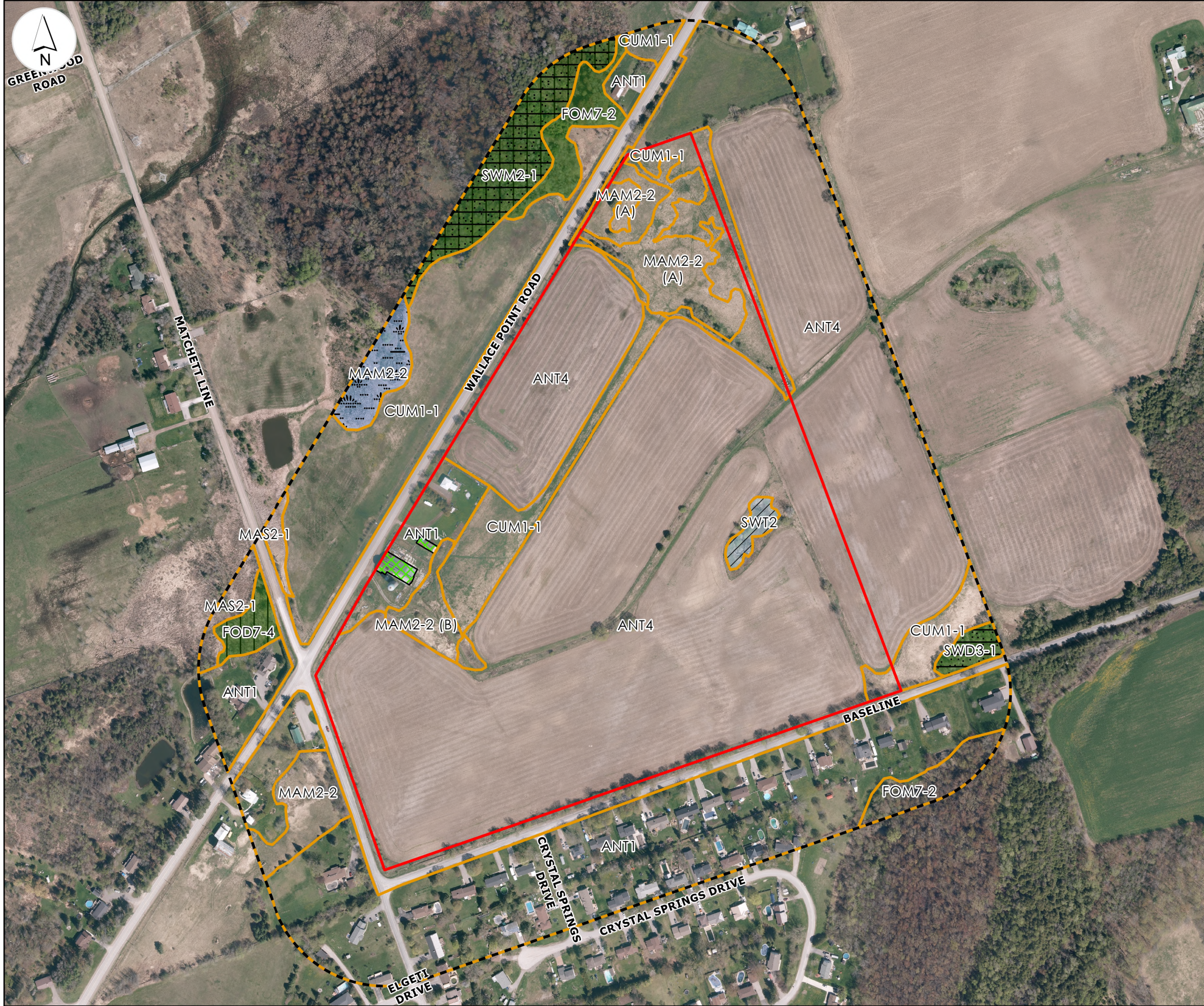
The existing conditions documented during site investigations support that SWT2 wetland possesses limited value or function. This is because the wetland is isolated from other hydrological, natural heritage features and woodlands, is entirely surrounded by active agricultural lands and is not representative of a provincially rare vegetation community but is dominated by invasive species. Considering its isolation from other natural features and potential to only support seasonally standing water, it is likely that any potential amphibians breeding in this wetland would find themselves isolated due to the lack of any suitable vegetated moving corridors. Therefore, while amphibian breeding may be possible within the SWT2 wetland, it is representative of low-quality habitat. The results of the site investigations indicate that the primary function of the wetland is to facilitate surface water infiltration and as a storage area for stormwater.

No formal wetland evaluation was completed in accordance with OWES (2022) for the wetland communities since all measured less than 2 ha in size. Therefore, they cannot be considered for Provincially Significant status. Recommended mitigation measures for these wetlands are further discussed in **Section 5.5**.

#### **4.4 Significant Woodlands**

A review of background information, aerial imagery and site investigations has determined the absence of woodlands on the Subject Property and identified three separate woodlands within the Adjacent Lands (**Figure 3**). For the purpose of this EIS, no formal woodland evaluation has been completed for these woodlands and it has been assumed they are representative of significant woodlands.

Since all three woodlands are isolated from the Subject Property by Wallace Point Road, Matchett Line and Baseline Road, no impacts to these features are anticipated as a result of the Project and they will not be considered in **Section 5.0** of this report.



# Figure 4 - Significant Wildlife Habitat Map

Environmental Impact Study

3491 Wallace Point Road, Township of Otonabee-South Monaghan

## Legend


- ELC Boundary
- Subject Property
- Adjacent Lands (120m)
- Candidate and Confirmed SWH**
- Candidate Amphibian Breeding Habitat (Wetlands)
- Candidate Amphibian Breeding Habitat (Woodland)
- Candidate Bat Maternity Colonies
- Candidate Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs)
- Candidate Marsh Breeding Bird Habitat
- Candidate Rare Vegetation Communities
- Confirmed Barn Swallow Habitat



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## 5.0 Impact Assessment and Mitigation

This impact assessment focuses on potential adverse effects associated with any future site developments which may impact the ecological function of any confirmed or potential natural heritage features within the Subject Property and Adjacent Lands.

The results of the site investigations described and the determination of significance have identified the following natural heritage features and sensitive species within the Subject Property and Adjacent Lands that may be impacted by the Project:

- Endangered/Threatened Species
- Hydrological/Surface Water Features
- Migratory Bird Habitat
- Significant Wildlife Habitat
- Wetlands

A detailed discussion of potential impacts and appropriate mitigation measures for each of these features are outlined herein.

### 5.2 Threatened/Endangered Species

The background review and site investigations determined 17 Threatened or Endangered species had recent or historically confirmed presence in the area surrounding the Subject Property. The SAR Screening Assessment (**Table 4**) identified suitable habitat on the Subject Property for six of those species, including:

- Bobolink
- Eastern Meadowlark
- Eastern Red Bat
- Hoary Bat
- Little Brown Myotis
- Silver-haired Bat

It should be noted that significant changes to Ontario's SAR protection framework are currently underway. On June 5, 2025, the Province of Ontario enacted the *Protecting Ontario by Unleashing the Economy Act* (Bill 5). This legislation makes amendments to the ESA and enacts the *Species Conservation Act, 2025* (SCA), which will come into force at an undetermined date in 2026. While both acts are similarly structured, the SCA will introduce a registration-first system where activities affecting SAR are typically registered through an online registry, where prescribed conditions are outlined and must be met. While most projects will generally be eligible for registration under the SCA framework, some activities may be exempt and others may still require permits. Additional details are expected to be announced later this year once enabling regulations are ready and the SCA is proclaimed into force.

However, the ESA currently remains in force until it is replaced later this year by the SCA. Therefore, recommended mitigation measures for SAR species have been outlined in this section to ensure the project remains in compliance with the ESA.

### 5.1.1 Bobolink/Eastern Meadowlark

Depending on the survey date, anywhere from 6 - 16 Bobolink were observed within the CUM1-1 ecosite near station BB01 at the north end of the Subject Property. This included numerous breeding pairs observed flying in and out of the meadow. One to two Eastern Meadowlark were also observed in this same area.

In addition, on the second survey date only, five Bobolink were observed at the BB02 listening station, which was situated along a tree line between two agricultural fields. Four of these individuals were observed either flying over agricultural fields south of BB02 or perched along the tree line east of the agricultural fields. A single Bobolink was observed briefly landing within the CUM1-1 ecosite behind the existing house before continuing its flight to the CUM1-1 community in the northeast corner of the Subject Property. No Bobolink were heard calling from BB02 during any other survey and only a single Eastern Meadowlark was heard during the third survey calling from a hedgerow to the southwest of BB02.

Based on the results of the Surveys, Wills has determined that suitable nesting/breeding habitat for Bobolink/Eastern Meadowlark is present within the CUM1-1 ecosite at the north end of the Subject Property (**Figure 5**). This is due to the occurrence of numerous breeding pairs and individuals displaying mating behaviours observed during the second and third surveys.

While Eastern Meadowlark and Bobolink were heard and observed from BB02, most occurrences were documented to the south and west of BB02, where habitat is limited to hedgerows and active agriculture consisting of corn crops, which are not suitable to support Eastern Meadowlark or Bobolink habitat as defined under the ESA. Furthermore, the presence of Bobolink within the CUM1-1 ecosite near the existing house was transient in nature and no additional observations of Eastern Meadowlark or Bobolink was documented in this habitat during any other site investigation. The results of the site investigations support that this CUM1-1 community is not habitually occupied by Bobolink or Eastern Meadowlark and is therefore not considered habitat as defined under the ESA. The results of the site investigations also support that the long, narrow CUM1-1 grassland feature on the Subject Property is not considered suitable habitat for Bobolink or Eastern Meadowlark. No individuals of either species were observed utilizing this area during any site investigations. In addition, this feature is approximately 10–20 m in width and is therefore considered insufficient to support breeding habitat, as it lacks interior grassland conditions, is heavily influenced by edge effects and would be unlikely to support nest placement with adequate protection from predators or disturbance.

It is recognized that the ESA is slated to be repealed in 2026 by the Species Conservation Act (SCA). As such, alternative measures may be required should areas outside of the currently identified habitat (**Figure 5**) receive protection under the SCA.

Therefore, the potential implications of the Project will be re-evaluated once the SCA is in full force.

To minimize potential disruptions to the Bobolink/Eastern Meadowlark habitat on the Subject Property, the following mitigation measures shall be applied:

- Any vegetation clearing within non-treed habitats must occur between **September 1<sup>st</sup> to March 31<sup>st</sup>** to avoid the breeding bird activity timing window.
- A vegetated buffer ranging from 27 m to 30 m has been applied to provide enhanced protection to the Eastern Meadowlark and Bobolink habitat identified on **Figure 5**.
- A chain-link fence is recommended to be installed along the boundaries of Lots 23, 24, 54 and 56 as shown in **Figure 5**. This will help limit human disturbance and act as a barrier to prevent predatory pets from entering the Eastern Meadow which could impact local wildlife populations.
  - No gates shall be included in the chain-link fence along Lots 23 and 24.
  - Gates shall be allowed to be included in the chain-link fence along Lots 54 and 56, if necessary, to provide access to Lot 56.

### 5.1.2 SAR Bats

Of the eight bat species documented in Ontario, seven bat species are currently listed as Endangered under the Endangered Species Act, 2007 (ESA). Ontario's bat species can be generally categorized based on their summer roost preferences. Most of Ontario's bats can be categorized as either cavity or foliage roosting bats, with the only exception being Eastern Small-footed Myotis since their roosting habitat is primarily associated with rock features. As a result of the acoustic surveys described in **Section 2.2.9**, the presence of Eastern Red Bat, Hoary Bat, Little Brown Myotis, and Silver-haired Bat were confirmed within the Subject Property. The results of the acoustic monitoring program is outlined in **Table 6**.

While these species were documented within the Subject Property, it is important to consider the ecology of all four bat species along with the habitat conditions present on the Subject Property to appropriately contextualize the results of the acoustic surveys.

#### 5.1.2.1 Eastern Red Bat, Hoary Bat, and Silver-haired Bat

According to Committee on the Status of Endangered Wildlife in Canada COSEWIC (2023), Eastern Red Bat, Hoary Bat and Silver-haired Bat rarely occupy human structures, and all three species have a particularly strong dependence on trees as roosting sites. Eastern Red Bat and Hoary Bat are considered solitary, foliage roosting bats that rely on the leaves of trees and shrubs to rest, shelter and raise their young (COSEWIC, 2023). Trees used as maternity roosts by Hoary Bats and Eastern Red Bats tend to be tall, large in diameter as well as sheltered from wind and temperature extremes (COSEWIC, 2023). Based on above description, it is unlikely that trees present on the Subject Property facilitate suitable maternity roost for either of these species considering any trees

present are limited to hedgerows. It is also acknowledged that reproductive female Silver-haired Bats generally roost in small groups within tree cavities or under bark (COSEWIC, 2023). However, based on the lack of suitable trees present on the Subject Property and the relatively low level of Silver-haired Bat activity (~4 passes/per night) documented during the 26-day deployment, it is very unlikely that a maternity roost for this species occurs on the Subject Property.

Based on the above assessment, the following mitigation measures are recommended to ensure the Project remains in compliance with the ESA:

- Any tree clearing or removal of structures must occur between **December 1st to March 31st** to avoid the combined breeding bird and bat activity timing window.

### 5.1.2.2 Little Brown Myotis

According to COSEWIC (2013), Little Brown Myotis is one of the few bat species that uses buildings and other anthropogenic structures (e.g., bat boxes, bridges, and barns) as maternity roosts. Little Brown Myotis also differ in roosting strategy in that they establish communal maternity colonies which are known to consist of tens to hundreds of females with pups (COSEWIC, 2013, Kunz & Reichard, 2010). There is also evidence that supports females select a preferred maternity roost at the expense of travelling longer distances to forage (COSEWIC, 2013), meaning that females generally prefer to forage near their chosen maternity roost.

During the span of the 26-day acoustic monitoring program, Little Brown Myotis was recorded on 5 separate nights, with each of those occurrences capturing a maximum of 1 pass/night. If a maternity roost was present or Little Brown Myotis regularly inhabited the structures on the Subject Property, it is expected that multiple Little Brown Myotis passes would be recorded daily and capture individual bats regularly exiting and returning to their roosting structures. The level of activity recorded during the 26-day deployment also supports a lack of regular Little Brown Myotis foraging behavior occurring within the adjacent open habitats.

It should be clarified that the ARU was deployed approximately 10 m away from both barn structures and 75 m away from the residential dwelling. Therefore, the ARU was in an ideal position to detect any exit/entry patterns and foraging behavior of Little Brown Myotis that may be roosting in the surrounding structures.

Observations made during site investigations in combination with the data collected during the acoustic survey suggest that no Little Brown Myotis are roosting within any of the structures on the Subject Property. Based on the above assessment, the following mitigation measures are recommended to ensure the Project remains in compliance with the ESA:

- Any tree clearing or removal of structures must occur between **December 1st to March 31st** to avoid the combined breeding bird and bat activity timing window.

- An IGF is recommended to be submitted to MECP to confirm they agree with the proposed mitigation measures.
  - Since the ESA is slated to be repealed in 2026 by the Species Conservation Act (SCA), 2025, it may be necessary that the project instead pursue registration or a permit, if necessary, through the SCA once it is proclaimed in force.

## 5.2 Hydrological/Surface Water Features

### 5.2.1 Headwater Drainage Features

Based on the proposed Site Plan (**Appendix B**), the Project will avoid direct impacts to both drainage features identified on the Subject Property.

## 5.3 Migratory Birds

Habitat for various migratory birds was confirmed within the Subject Property. In order to ensure that the Project complies with the MBCA and MBR, the following mitigation measures are required:

- Any vegetation clearing within non-treed habitats must occur between **September 1<sup>st</sup> to March 31<sup>st</sup>** to avoid the breeding bird activity timing window.
- Any tree clearing or removal of structures must occur between **December 1<sup>st</sup> to March 31<sup>st</sup>** to avoid the combined breeding bird and bat activity timing window.
- The MECP must be contacted in the case that any SAR species are identified during pre-construction or throughout the construction phases.

## 5.4 Significant Wildlife Habitat

The SWH assessment conducted in **Appendix G** identified the presence of seven Candidate or Confirmed SWH within the Subject Property and Adjacent Lands.

- Candidate Bat Maternity Colonies
- Candidate Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)
- Candidate Amphibian Breeding Habitat (Woodlands)
- Candidate Amphibian Breeding Habitat (Wetlands)
- Confirmed Special Concern and Rare Wildlife Species
- Confirmed Rare Vegetation Communities
- Candidate Marsh Breeding Bird Habitat

It should be acknowledged that the majority of the SWH identified are situated within the Adjacent Lands and are isolated from the Subject Property by the presence of various roads, are adjacent to existing residential dwellings, or are situated at least 30 m away from the Subject Property. Therefore, it is not anticipated that the proposed

development will negatively impact the function of most of the above-listed SWH. However, the Candidate Amphibian Breeding Habitat (Wetlands) and Confirmed Special Concern and Rare Wildlife Species have been identified on the Subject Property and will be impacted by the Project. Potential impacts and recommended mitigation measures for these two SWH types are further discussed below.

#### 5.4.1 Amphibian Breeding Habitat (Wetlands)

Since no amphibian call surveys were completed within the scope of the EIS, it is possible that amphibian breeding occurs within the SWT2 wetland since this was the only community on the Subject Property observed to support standing water which could support breeding habitat for amphibians.

However, it must be considered that this wetland represents low quality amphibian breeding habitat due to the wetland being isolated from other hydrological or natural heritage features, is relatively small (0.18 ha) with only a fraction of the wetland supporting standing water, is entirely surrounded by active agricultural lands and is likely only seasonally flooded. Considering the above description, any potential amphibians breeding in this wetland would find themselves isolated due to the lack of any suitable vegetated movement corridors. Any seasonal migrations to/from the wetland SWT2 wetland community would represent a serious predation risk and dehydration to amphibians due to lack of vegetated cover and the distance required to reach the nearest wetland (~200 m).

The SWT2 ecosite is one of two wetlands proposed for removal as part of the Project. A wetland compensation plan, described in **Section 5.5.2**, is proposed to offset the loss of these wetlands. The function of amphibian breeding will be considered in the development of the wetland compensation plan as a mitigation measure to offset the loss of the SWT2 wetland and ensure no negative impacts to any potential amphibian species.

#### 5.4.2 Special Concern and Rare Wildlife Species – Barn Swallow

Site investigations observed at least six Barn Swallows exiting the main barn and confirmed the presence of a total of nine cup nests within both barn structures. The majority of the cup nests were situated within the larger barn structure while only a single cup nest was observed within the smaller structure. Both barn structures are proposed for removal as part of the Project and would represent a negative impact to Barn Swallow due to the loss of suitable nesting habitat. In order to ensure that the Project complies with the PPS, the following mitigation measures are required:

- One replacement structure outfitted with artificial cup nests will be constructed to provide new nesting habitat for Barn Swallow. Example designs successfully used to construct Barn Swallow Nesting Structures are provided in **Appendix H**.
- The replacement structure shall incorporate the following design specifications:
  - Nine artificial nesting cups shall be included in the replacement structure.

- Artificial nesting cups should be constructed from wooden materials and follow the approximate dimensions provided in **Appendix H**.
- Artificial nesting cups shall be 60 cm apart, with visual barriers separating each nest.
- Artificial nesting cups shall be constructed 3 m above the ground and shall have gap of 6 cm between the top of the cup nest and the top of the structure ceiling.
- Predator guards (baffles, shields or sheet metal cylinders) shall be included on the supporting corner posts or poles of the replacement structure.
- The proposed nesting structure is recommended to be situated within the Stormwater Management (SWM) Block (**Figure 5**) to ensure the new nesting habitat is close to suitable foraging habitat but sufficiently distanced from any future residential dwellings and Wallace Point Road.
- The replacement structure should be constructed prior to the removal of the two barns and should consider the following timing periods:
  - The removal of structures must occur between **December 1st to March 31st** to avoid the combined breeding bird and bat activity timing window.
  - The replacement structure must be constructed between **September 1st to March 31st** to avoid the breeding bird activity timing window.

## 5.5 Wetlands

Based on the assessment conducted in **Section 4.3**, three unevaluated wetlands are situated on the Subject Property. Both the SWT2 and MAM2-2 (B) wetlands are proposed for removal as part of the Project. A discussion regarding hazards/risks associated with the removal of wetlands on the Subject Property is outlined in **Section 5.5.1**. While no development is proposed within the MAM2-2 (A) wetland, the footprint of the proposed SWM pond and associated outlet system are proposed within 30m (~27 m) of this feature (**Figure 5**). As a result, the following mitigation measures should be implemented to avoid impacts on the hydrologic and ecologic function of the MAM2-2 (A) wetland:

- Topsoil and native seed mix shall be applied to the actively farmed agricultural lands within/adjacent to Lot 54 and adjacent to Lot 23. See **Figure 5** for the recommended extent of seed and topsoil application.
  - Topsoil and seed should be applied following the development of the Subject Property.
  - The establishment of native vegetation will provide a functional 30 m natural heritage buffer to the MAM2-2 (A), with the exception of the SWM pond wetland and outlet system footprint. This will minimize the risk of invasive species establishment, improve the quality of habitat surrounding the MAM2-2 (A) wetland and contribute to maintaining the hydrological function of the wetland.

- The boundary of the MAM2-2 wetland should be staked in the field prior to any site development.
- See **Section 5.6** for sediment and erosion control measures recommended to minimize development impacts of future site development on wetlands.
- A Wetland Compensation Plan outlined in **Section 5.5.2** shall be implemented to offset the loss of the SWT2 and MAM2-2 (B) wetlands on the Subject Property.

### 5.5.1 Water Balance

To ensure that the proposed development will not negatively impact the surface water and groundwater contributions to the MAM2-2 (A) community, HDF1 and other wetlands in the Adjacent Lands, a Water Balance analysis was completed in the Preliminary Stormwater Management Report (Wills, January 2026), which included a pre-development, post development and post development with low impact development (LID) features based on the proposed stormwater management design. The results of the water balance analysis for these three scenarios are summarized in **Table 8**.

A review of **Table 8** indicates that infiltration rates will increase by 14.9% from existing conditions and the total runoff leaving the site will be increased by 6.3%, on an average annual basis. The quality of surface runoff will be controlled by the proposed low impact development features and SWM pond, which will provide 'Enhanced' Level 1 protection by achieving a minimum long-term removal of 80% of Total Suspended Solids (TSS). The addition of a flow spreader at the SWM Pond outlet will also contribute to improving stormwater quality by ensuring discharged water is evenly dissipated to minimize the risk of scouring and the entrainment of soil particles before draining into HDF1. As such, adequate surface and groundwater flow will be maintained to the MAM2-2 (A) community, the HDFs and other wetlands in the Adjacent Lands.

**Table 8 – Water Balance Summary**

Catchment Parameters	Existing	Proposed		Percent Change
		Without LID	With LID	
Precipitation (mm/year)	852.9			0%
Precipitation (m <sup>3</sup> /year)	211,350			
Evapotranspiration (mm/year)	356.9	307.4	307.4	-13.9%
Evapotranspiration (m <sup>3</sup> /year)	88,441	76,138	76,138	
Infiltration (mm/year)	319.2	282.6	366.7	14.9%
Infiltration (m <sup>3</sup> /year)	79,100	70,030	90,681	
Runoff (mm/year)	172.5	257.5	183.3	6.3%
Runoff (m <sup>3</sup> /year)	42,756	66,261	45,429	

- Notes:
1. No infiltration has been calculated for LID features during months with a negative average temperature.
  2. Water Balance Summary taken from Preliminary Stormwater Management Report (Wills, January 2026)

### 5.5.2 Wetland Compensation Plan

A Wetland Compensation Plan (Compensation Plan) is proposed to be developed to offset the loss of two wetlands habitat and at a rate of 2:1 (1.2 ha). The ecological and hydrological functions of each wetland as well as their respective size is discussed in **Section 4.3**.

The proposed Compensation Plan involves the expansion of an existing wetland situated approximately 450 m east of the Subject Property on a neighboring property (**Figure 6**). It will be created following approval of the Project and will address the following:

- Compensation wetland design including anticipated ELC community and planting plan.
- Mitigation measures associated with the creation of the wetland.
- Re-planting and on-going monitoring requirements.
- Consider the creation of amphibian breeding habitat in the wetland design.

While offsetting measures are not proposed on the Subject Property, the removal of the two wetland communities are not anticipated to create or aggravate a flooding hazard. The water balance in **Section 5.5.1** demonstrates that infiltration rates are anticipated to increase despite the removal of the wetlands through the application of LID features. The proposed Compensation Plan will not negatively impact hydrological

linkages since both wetlands proposed for removal were determined to be hydrologically isolated.

## 5.6 Erosion and Sediment Control

It is recommended that an Erosion and Sediment Control Plan (ESCP) be developed and implemented to minimize the risk of sedimentation into the drainage features and the adjacent wetland to the west during all phases of development.

The ESCP should include:

- Installation of sediment fence (as per OPSD 219.110) around the proposed development, as seen on **Figure 5**, before construction activities commence to prevent soil deposition into adjacent natural heritage features.
- Inspection and maintenance of erosion and sediment control measures and structures should take place during the course of construction.
- Waste materials, such as excess soils, should be contained by using site isolation measures (i.e. any exposed soils should be covered with a tarp or have sediment fencing around them). Alternatively, waste materials should be removed off-site.
  - Waste material should be contained and stabilized outside of Lot 56 and the proposed topsoil/seeding area shown in **Figure 5** to provide a protective buffer between the waste material and natural heritage features.
- Non-biodegradable erosion and sediment control materials are to be removed after all disturbed ground has been permanently stabilized.
- An emergency spill response kit, including the appropriate absorbency materials, will be on site at all times. Proper containment, clean up and reporting, in accordance with provincial requirements, is required.
- All construction materials, including all non-biodegradable erosion and sediment control measures such as sediment fencing, must be removed off-site upon project completion.



# Figure 5 - Impact Assessment Map

## Environmental Impact Study

3491 Wallace Point Road, Township of Otonabee-South Monaghan

### Legend

- Subject Property
- Adjacent Lands (120m)
- Project Elements**
- Proposed Barn Swallow Nesting Structure
- ⦿ Proposed Flow Spreader
- Permanent Chain-link Fencing
- Temporary Sediment Fencing
- Proposed Topsoil/Seeding Areas
- Proposed SWM Pond
- Existing Structures - Proposed Removal
- Proposed Lot Lines
- Project Constraints**
- Drainage Features
- Wetland
- Wetland - Proposed Removal
- Bobolink/Eastern Meadowlark Habitat
- Candidate Amphibian Breeding Habitat (Wetlands)
- LOI



NAD 1983 UTM Zone 17N Scale: 1:4,000

Data Sources:  
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 Created in ArcGIS Pro 3.4

Created In:	ArcGIS Pro
Drawn By:	jgrandmont
Checked By:	sfilteau
Map Date:	2026-02-12
Project Number:	85162

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


## Figure 6 - Wetland Compensation Map

Environmental Impact Study

3491 Wallace Point Road, Township of Otonabee-South Monaghan

### Legend

-  Subject Property
-  Adjacent Lands (120m)
-  Adjacent Property
-  Existing Wetland
-  Proposed Wetland Compensation




NAD 1983 UTM Zone 17N

Scale: 1:4,000

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 Created in ArcGIS Pro 3.4

Created In:	ArcGIS Pro
Drawn By:	jgrandmont
Checked By:	sfilteau
Map Date:	2026-02-10
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## 6.0 Conclusions

Given the results of background review and on-site investigations, long-term adverse impacts to natural heritage features, associated habitat, and local wildlife populations are not anticipated to be resultant from the development, provided that the environmental protection/mitigation measures outlined herein are implemented. Appropriate implementation of the mitigation measures outlined herein will ensure that proposed activities do not conflict with the natural heritage policies set out by the Peterborough County, Township of Otonabee-South Monaghan, the Province of Ontario or other relevant environmental legislation.

If you have any further questions, please do not hesitate to contact the undersigned.

Prepared by:   
Joel Grandmont, B.Sc.  
Project Biologist

Reviewed by:   
Shawn Filteau, B.Sc.  
Natural Sciences Lead

JG/SF/jh

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# Appendix A

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## Statement of Limitations



## Statement of Limitations

This report is provided solely for the benefit of Nirvana Homes and not for the benefit of any other party. No other party shall be entitled to rely on this report or any information, documents, records, data, interpretations, advice or opinions or other materials given to Nirvana Homes by D.M. Wills Associates Limited (Wills). The report relates solely to the specific project for which Wills has been retained and shall not be used or relied upon by any third party for any variation or extension of this project or any other purpose. Any unpermitted use by any third party shall be at such party's own risk.

The conclusions and recommendations outlined in the Environmental Impact Study are based on the results and findings associated with the scope of field investigations as outlined in **Section 2.2** of this report, as they relate to The Project, as described in **Section 1.0**.

# Appendix B

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Site Plan



**SUMMARY CHART  
SECTION 51(17) PLANNING ACT**

(a) THE BOUNDARIES OF THE LAND PROPOSED TO BE SUBDIVIDED, CERTIFIED BY AN ONTARIO LAND SURVEYOR;	AS REFERENCED ON DRAFT PLAN
(b) THE LOCATIONS, WIDTHS AND NAMES OF THE PROPOSED HIGHWAYS WITHIN THE PROPOSED SUBDIVISION AND OF EXISTING HIGHWAYS ON WHICH THE PROPOSED SUBDIVISION ADJUTS;	AS REFERENCED ON DRAFT PLAN
(c) ON A SMALL KEY PLAN, ON A SCALE OF NOT LESS THAN ONE CENTIMETRE TO 100 METRES, ALL OF THE LAND ADJACENT TO THE PROPOSED SUBDIVISION THAT IS OWNED BY THE APPLICANT OR IN WHICH THE APPLICANT HAS AN INTEREST, EVERY SUBDIVISION ADJACENT TO THE PROPOSED SUBDIVISION AND THE RELATIONSHIP OF THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED TO THE BOUNDARIES OF THE TOWNSHIP LOT OR OTHER ORIGINAL GRANT OF WHICH THE LAND FORMS THE WHOLE PART;	AS REFERENCED ON DRAFT PLAN
(d) THE PURPOSE FOR WHICH THE PROPOSED LOTS ARE TO BE USED;	AS REFERENCED ON DRAFT PLAN
(e) THE EXISTING USES OF ALL ADJOINING LANDS;	AS REFERENCED ON DRAFT PLAN
(f) THE APPROXIMATE DIMENSIONS AND LAYOUT OF THE PROPOSED LOTS;	AS REFERENCED ON DRAFT PLAN
(h) IF ANY AFFORDABLE HOUSING UNITS ARE BEING PROPOSED, THE SHAPE AND DIMENSIONS OF EACH PROPOSED AFFORDABLE HOUSING UNIT AND THE APPROXIMATE LOCATION OF EACH PROPOSED AFFORDABLE HOUSING UNIT IN RELATION TO OTHER PROPOSED RESIDENTIAL UNITS;	REFER TO PLANNING JUSTIFICATION REPORT
(g) NATURAL AND ARTIFICIAL FEATURES SUCH AS BUILDINGS OR OTHER STRUCTURES OR INSTALLATIONS, RAILWAYS, HIGHWAYS, WATERCOURSES, DRAINAGE DITCHES, WETLANDS AND WOODED AREAS WITHIN OR ADJACENT TO THE LAND PROPOSED TO BE SUBDIVIDED;	AS REFERENCED ON DRAFT PLAN
(h) THE AVAILABILITY AND NATURE OF DOMESTIC WATER SUPPLIES;	REFER TO FUNCTIONAL SERVICING REPORT
(i) THE NATURE AND POROSITY OF THE SOIL;	REFER TO SUBSURFACE SOIL AND INFILTRATION INVESTIGATION REPORT
(j) EXISTING CONTOURS OR ELEVATIONS AS MAY BE REQUIRED TO DETERMINE THE GRADE OF THE HIGHWAYS AND THE DRAINAGE OF THE LAND PROPOSED TO BE SUBDIVIDED;	AS REFERENCED ON DRAFT PLAN
(k) THE MUNICIPAL SERVICES AVAILABLE OR TO BE AVAILABLE TO THE LAND PROPOSED TO BE SUBDIVIDED; AND	REFER TO FUNCTIONAL SERVICING REPORT
(l) THE NATURE AND EXTENT OF ANY RESTRICTIONS AFFECTING THE LAND PROPOSED TO BE SUBDIVIDED, INCLUDING RESTRICTIVE COVENANTS OR EASEMENTS. 1994, c. 23, s. 30; 1996, c. 4, s. 28 (3); 2016, c. 25, Sched. 4, s. 8 (1).	NO RESTRICTIONS ON SITE

**LEGAL DESCRIPTION**

LOT 17 & 18  
CONCESSION 15  
GEOGRAPHIC TOWNSHIP OF OTONABEE  
TOWNSHIP OF OTONABEE-SOUTH MONAGHAN

**OWNER'S CERTIFICATE**

I AUTHORIZE D.M. WILLS ASSOCIATES LIMITED TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE COUNTY OF PETERBOROUGH FOR APPROVAL CERTIFY THAT:

DATED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 2023

**SURVEYOR'S CERTIFICATE**

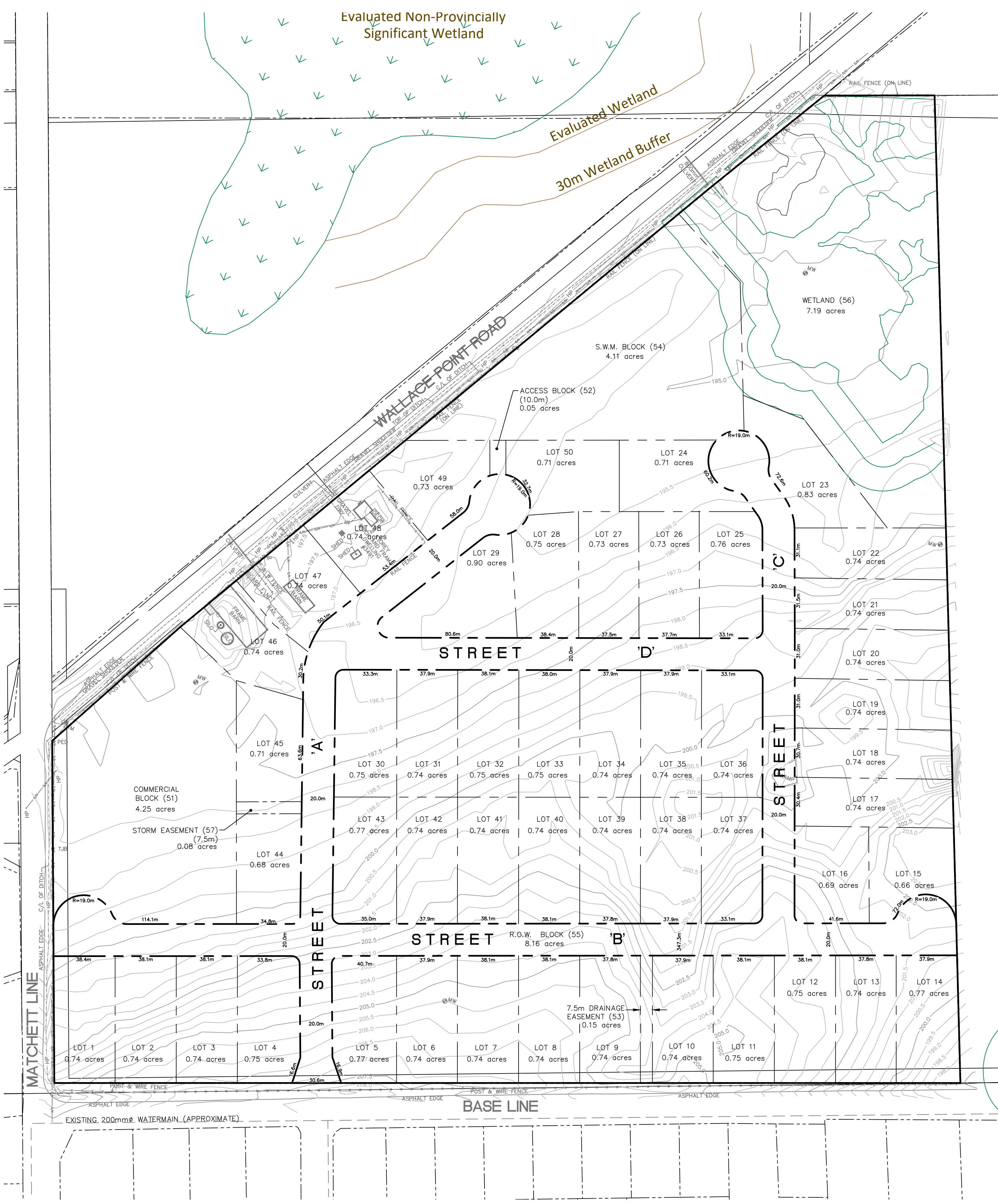
I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED AS SHOWN ON THIS PLAN, AND THEIR RELATIONSHIP TO THE ADJACENT LAND ARE ACCURATELY AND CORRECTLY SHOWN.

DATE \_\_\_\_\_ SHAWN M. O'CONNOR  
ONTARIO LAND SURVEYOR

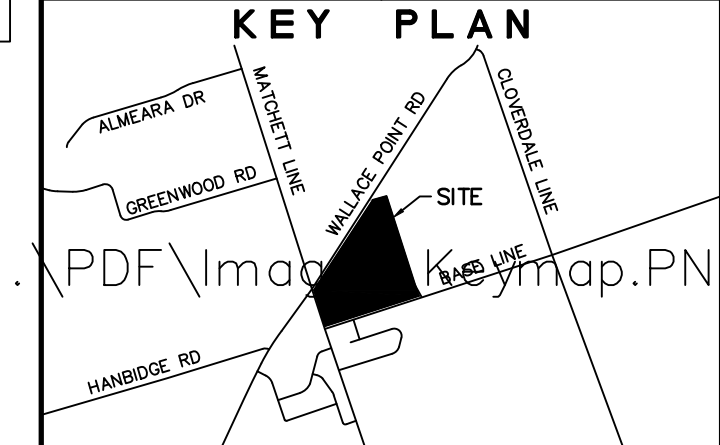
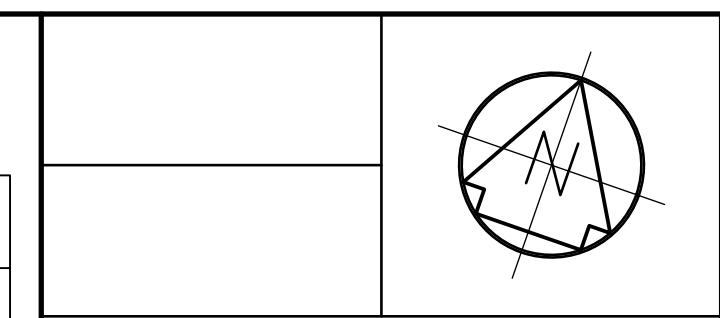
**BUILDING SETBACKS**

FRONT YARD	TBD
SIDE YARD	TBD
REAR YARD	TBD

SUMMARY TABLE	
85162 - WALLACE POINT ROAD, OTONABEE-SOUTH MONAGHAN	
REGULATIONS	PROPOSED
NUMBER OF LOTS	50 RESIDENTIAL LOTS 1 COMMERCIAL BLOCK 1 SWM BLOCK 1 WETLAND BLOCK 3 ACCESS BLOCKS 1 RIGHT-OF-WAY BLOCK
LOT AREA (AVG.)	0.74 ACRE (3000m <sup>2</sup> )
LOT AREA (MIN.)	0.66 ACRE (2660m <sup>2</sup> )
LOT FRONTAGE (MIN.)	30.2m
AVERAGE LOT DEPTH	79-95m
ROAD AREA	3.30ha
TOTAL SITE AREA	24.79ha

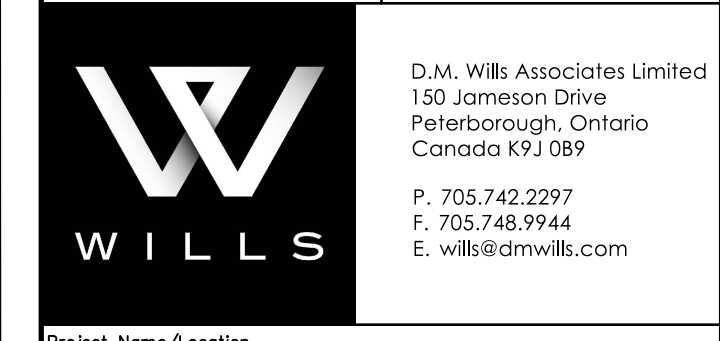


Parcel Area Table			
LOT #	Area (ha/acres)	Frontage (m)	Intended Use
1	0.30/0.74	38.4	SINGLE DETACHED DWELLING
2	0.30/0.74	38.1	SINGLE DETACHED DWELLING
3	0.30/0.74	38.1	SINGLE DETACHED DWELLING
4	0.30/0.75	33.8	SINGLE DETACHED DWELLING
5	0.31/0.77	35.4	SINGLE DETACHED DWELLING
6	0.30/0.74	37.9	SINGLE DETACHED DWELLING
7	0.30/0.74	38.1	SINGLE DETACHED DWELLING
8	0.30/0.74	38.1	SINGLE DETACHED DWELLING
9	0.30/0.74	37.8	SINGLE DETACHED DWELLING
10	0.30/0.74	37.9	SINGLE DETACHED DWELLING
11	0.30/0.75	38.1	SINGLE DETACHED DWELLING
12	0.30/0.75	38.1	SINGLE DETACHED DWELLING
13	0.30/0.74	37.8	SINGLE DETACHED DWELLING
14	0.31/0.77	37.9	SINGLE DETACHED DWELLING
15	0.26/0.66	72.0	SINGLE DETACHED DWELLING
16	0.28/0.69	41.6	SINGLE DETACHED DWELLING
17	0.30/0.74	30.4	SINGLE DETACHED DWELLING
18	0.30/0.74	30.7	SINGLE DETACHED DWELLING
19	0.30/0.74	31.0	SINGLE DETACHED DWELLING
20	0.30/0.74	31.0	SINGLE DETACHED DWELLING
21	0.30/0.74	31.5	SINGLE DETACHED DWELLING
22	0.30/0.74	31.1	SINGLE DETACHED DWELLING
23	0.33/0.83	72.6	SINGLE DETACHED DWELLING
24	0.28/0.71	60.2	SINGLE DETACHED DWELLING
25	0.31/0.76	33.1	SINGLE DETACHED DWELLING
26	0.30/0.73	37.7	SINGLE DETACHED DWELLING
27	0.30/0.73	37.5	SINGLE DETACHED DWELLING
28	0.30/0.75	38.4	SINGLE DETACHED DWELLING
29	0.36/0.90	80.6	SINGLE DETACHED DWELLING
30	0.30/0.75	33.3	SINGLE DETACHED DWELLING
31	0.30/0.74	37.9	SINGLE DETACHED DWELLING
32	0.30/0.75	38.0	SINGLE DETACHED DWELLING
33	0.30/0.75	37.9	SINGLE DETACHED DWELLING
34	0.30/0.74	37.9	SINGLE DETACHED DWELLING
35	0.30/0.74	33.1	SINGLE DETACHED DWELLING
36	0.30/0.74	33.1	SINGLE DETACHED DWELLING
37	0.30/0.74	37.9	SINGLE DETACHED DWELLING
38	0.30/0.74	37.8	SINGLE DETACHED DWELLING
39	0.30/0.74	38.1	SINGLE DETACHED DWELLING
40	0.30/0.74	37.9	SINGLE DETACHED DWELLING
41	0.30/0.74	37.9	SINGLE DETACHED DWELLING
42	0.30/0.74	35.0	SINGLE DETACHED DWELLING
43	0.31/0.77	34.8	SINGLE DETACHED DWELLING
44	0.28/0.68	63.6	SINGLE DETACHED DWELLING
45	0.28/0.71	30.2	SINGLE DETACHED DWELLING
46	0.30/0.74	50.1	SINGLE DETACHED DWELLING
47	0.30/0.74	53.4	SINGLE DETACHED DWELLING
48	0.30/0.74	58.0	SINGLE DETACHED DWELLING
49	0.30/0.73	32.7	SINGLE DETACHED DWELLING
50	0.29/0.71	-	SINGLE DETACHED DWELLING
51	1.72/4.25	-	COMMERCIAL BLOCK
52	0.02/0.05	-	SWM POND ACCESS BLOCK
53	0.06/0.15	-	7.5m DRAINAGE EASEMENT
54	1.66/4.11	-	SWM POND BLOCK
55	3.31/8.18	-	RIGHT-OF-WAY BLOCK
56	2.91/7.19	-	WETLAND
57	0.03/0.08	-	7.5m DRAINAGE EASEMENT



REVISIONS		
No.	Description	Date
2	SECOND SUBMISSION	29/01/26
1	FIRST SUBMISSION	04/21/23

**METRIC** Dimensions are in METRES and/or MILLIMETRES unless otherwise shown  
**LEGEND** TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES



D.M. Wills Associates Limited  
150 Jameson Drive  
Peterborough, Ontario  
Canada K9J 0B9  
P. 705.742.2297  
F. 705.748.9944  
E. wills@dmwills.com

Project Name/Location  
**PROPOSED RESIDENTIAL DEVELOPMENT**  
3491 WALLACE POINT ROAD, PETERBOROUGH

Drawing Title  
**DRAFT PLAN**

Drawn By: M.B./M.B.J. SCALE: Horiz. 1:1500 Vert. -  
Designed By: M.B. Issue Date: JANUARY 22, 2026.  
Checked By: M.S. Project No.: 21-85162 Sht. No.:  
Engineer: --- Dwg File No.: 85162 - DP 100

**NOT FOR CONSTRUCTION**

Plotted By: mblj@wills.com; Plotted On: January 22, 2026  
 c:\b5000 - private\85100-85199\85162 - 3491 wallace point rd\02\_drawing\02\_current\_drawing\cadd\85162 - dp.dwg

# Appendix C

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## Background Information Map





# Appendix C - Background Information Map

Environmental Impact Study

3491 Wallace Point Road, Township of Otonabee-South Monaghan

## Legend

- Subject Property
- Adjacent Lands
- Provincially Mapped Data
- Watercourse
- Evaluated - Non-Provincially Significant
- Unevaluated Wetland
- Woodlands



NAD 1983 UTM Zone 17N Scale: 1:4,000

Data Sources:  
 Map Contains information licensed under the Open Government License – Ontario.  
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 Created in ArcGIS Pro 3.4

Created In:	ArcGIS Pro
Drawn By:	jgrandmont
Checked By:	sfilteau
Map Date:	2026-02-06
Project Number:	85162

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## Appendix D

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Records of Correspondence



## Tyler Jones

---

**From:** Jasmine Gibson <jgibson@otonabeeconservation.com>  
**Sent:** March 11, 2022 2:33 PM  
**To:** Tyler Jones  
**Cc:** Matt Wilkinson  
**Subject:** RE: Wills Project #85162 - EIS

Hi Tyler,

While I think your ToR approach appears appropriate, I want to offer the following comments re: the final EIS submission with respect to ELC and the regulated area:

1. Please include soil sampling as per the ELC protocol. Without soil sampling presence/absence of hydric soils and the accuracy of the ELC codes cannot be verified by technical staff during the review process (I'm looking at the areas that have been left untouched by farming equipment). The regulation, as you know, applies to features on the ground not mapped features.
2. Please provide veg lists and soil descriptions per ELC ecosite for review, i.e., field sheets.
3. If your team comes across wetlands/hydric soils, please let us know and we can always review site conditions with you in the field re: regulation requirements that may alter the scope of the EIS.
4. For hydrologic/regulated features, we recommend at a minimum 3-season visits to document functionality (see TRCA/CVC Headwater Drainage Feature Guidance document as reference for timing).
5. EIS ToR may change based on site conditions and project objectives – I'd reach out to the County re: preliminary consultation and keep us in the loop of any changes.

FYI: Large scale projects like this one may require ESA project registration if species & habitat present. Given the ESA is a development-driven legislation, additional field work may be required in future prior to commencement of work (clearing, grading, etc.). Therefore, I would make sure to follow MECP guidelines or consult with them directly in support of finalizing your EIS terms of reference/data collection with respect to species at risk/PPS 2.1.7 and the ESA regulations.

Let me know if you need to chat, thanks.

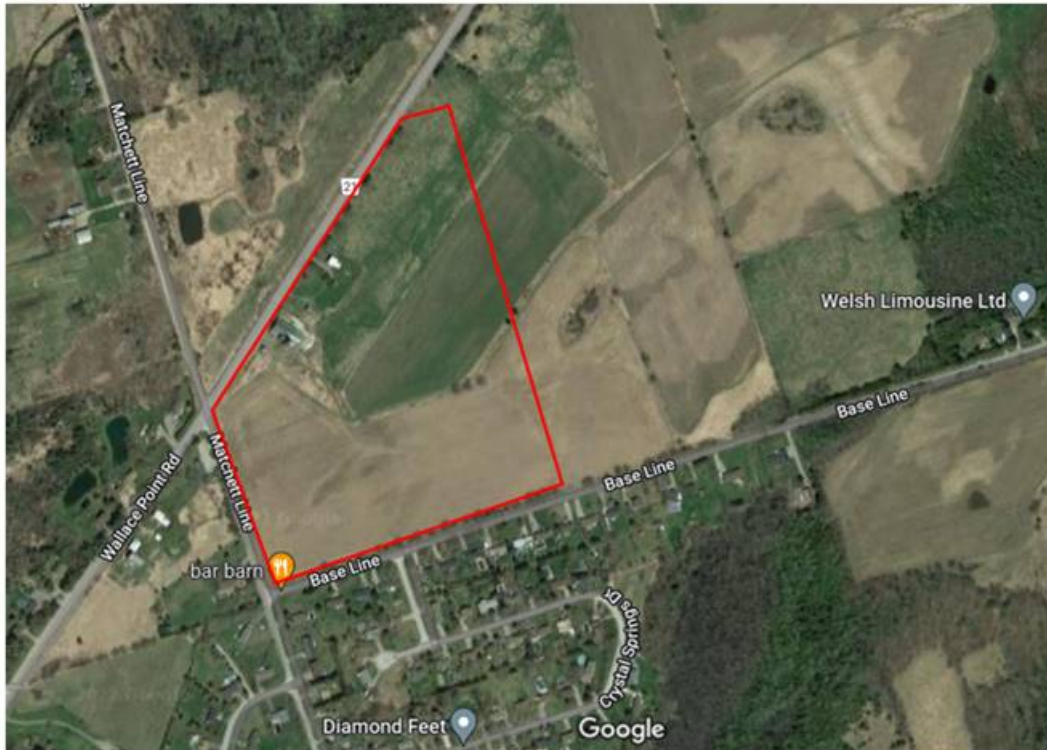
Regards,  
Jasmine

---

**From:** Tyler Jones <TJones@dmwills.com>  
**Sent:** Thursday, February 24, 2022 12:53 PM  
**To:** Jasmine Gibson <jgibson@otonabeeconservation.com>  
**Subject:** RE: Wills Project #85162 - EIS

Sorry Jasmine,

I thought I had included the concept plan. I attached it to this email and here is an approximate screen shot below:



Thanks Again,

-Tyler

---

**From:** Jasmine Gibson <[jgibson@otonabeeconservation.com](mailto:jgibson@otonabeeconservation.com)>

**Sent:** February 24, 2022 12:41 PM

**To:** Tyler Jones <[TJones@dmwills.com](mailto:TJones@dmwills.com)>

**Subject:** RE: Wills Project #85162 - EIS

Hi Tyler,

Can you send me an aerial image/map of the property? 3191 isn't showing up in our system, so I just want to make sure we are looking at the same piece of land, thanks.

Has your client conducted a preconsultation meeting with the County re: Subdivision Application requirements?

Thanks,  
Jasmine

---

**From:** Tyler Jones <[TJones@dmwills.com](mailto:TJones@dmwills.com)>

**Sent:** Tuesday, February 22, 2022 3:45 PM

**To:** Jasmine Gibson <[jgibson@otonabeeconservation.com](mailto:jgibson@otonabeeconservation.com)>

**Subject:** Wills Project #85162 - EIS

Hi Jasmine,

Our team has been contracted to complete an Environmental Impact Study for a proposed subdivision in the Township of Otonabee-South Monaghan. The Subject Property is located at 3191 Wallace Point Road, Part Lot 17, Concession 13. Wills understands that the client wishes to obtain approval to develop a 62 lot residential plan of subdivision to be developed with single detached dwellings.

Based on our experience with similar projects and our interpretation of the features on the Subject Property, we have identified the following scope:

- Three (3) Bobolink/Eastern Meadowlark Surveys to be completed in the spring/summer in general accordance with the Survey Protocol for Eastern Meadowlark (*Sturnella magna*) in Ontario (MNRF, 2013).
- Watercourse/drainage feature assessment and delineation.
- Ecological Land Classification (ELC) mapping of the Subject Property.
- Species at Risk Screening Assessment.
- Identification of any Significant Wildlife Habitat.
- Constraint map identifying the exact location of any Natural Heritage features and their associated setback boundaries.

If you have an additional recommendations please let me know.

Regards,  
-Tyler



**Tyler Jones BSc. Dipl. FWT** · Senior Biologist

**D.M. Wills Associates Limited**

150 Jameson Drive · Peterborough, ON · K9J 0B9

Tel: (705) 742-2297 ext. 236 · Cell: (705) 930-9528

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**From:** [Cornacchia, Krystelle \(MECP\)](#)  
**To:** [Ben Radford](#)  
**Subject:** RE: 3191 Wallace Point Road, Township of Otonabee-South Monaghan - SAR Information Request  
**Date:** January 30, 2023 3:49:14 PM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.jpg](#)

---

Hello Ben,

In addition to the species already provided in your list, there are known occurrences of the following SAR in the general area with potential to also occur at the project location:

- Lesser Yellow Legs (*Tringa flavipes*) – Threatened
- Northern Myotis (*Myotis septentrionalis*) – Endangered
- Eastern Small-Footed Myotis (*Myotis leibii*) – Endangered

The ESA is proponent led and it remains the clients responsibility to:

- Carry out preliminary screening for their project,
- Obtain the best available information for all applicable information sources,
- Conduct necessary field studies or inventories to identify and confirm the presence of absence of species at risk or their habitat,
- Consider any potential impacts to species at risk that a proposed activity might cause, and
- Comply with the Endangered Species Act (ESA).

Because of this, we are unable to provide any specific information regarding SAR locations, observations, etc. This information will need to be obtained through proponent led research and SAR surveys carried out by a qualified professional. In order to gain access to more restricted SAR information, you may reach out to the Natural Heritage Information Centre (NHIC) to complete Data Sensitivity Training and get a Sensitive Data Use Licence, as NHIC is responsible for managing and distributing SAR data and information. Once completed you can gain further access to SAR data related to your site. Further details are located on the following website: <https://www.ontario.ca/page/get-natural-heritage-information>

The active season windows for SAR birds in southern Ontario, established by Environment and Climate Change Canada, spans from March 31 to August 31 and for turtles in southern Ontario, the active season window would last from April 1 to October 31.

Additionally, while this data represents MECP's best current available information, it is important to note that a lack of information for a site does not mean that species at risk or their habitat are not present. There are many areas where the Government of Ontario does

not currently have information, especially in more remote parts of the province. On-site assessments can better verify site conditions, identify and confirm presence of species at risk and/or their habitats. It is the responsibility of the proponent to ensure that species at risk are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the activities carried out on the site. It is also the responsibility of the proponent to ensure that they meet the requirements of the exemption and operate within the specified conditions.

Please note that from the list of SAR you provided, the status of the following species has been changed as of January 25, 2023:

- Barn Swallow (*Hirundo rustica*): re-classified from threatened to special concern

You may refer to ERO posting #019-6107 for more information on amendments to the Species at Risk in Ontario List: <https://ero.ontario.ca/notice/019-6107>

The ministry's position is based on the information that has been provided by you on behalf of the proponent. Should information not have been made available and considered in our review, or new information comes to light, or if on-site conditions and circumstances change, please contact Species at Risk Branch as soon as possible ([SAROntario@ontario.ca](mailto:SAROntario@ontario.ca)) to discuss next steps.

Kind regards,

**Krystelle Cornacchia**

**Management Biologist**

Permissions Section | Species at Risk Branch

Ontario Ministry of the Environment, Conservation and Parks (MECP)

**Email:** [krystelle.cornacchia@ontario.ca](mailto:krystelle.cornacchia@ontario.ca)



If you have any accommodation needs or require communication supports or alternate formats, please let me know. Si vous avez des besoins en matière d'adaptation, ou si vous nécessitez des aides à la communication ou des médias substitués, veuillez me le faire sa

---

**From:** Ben Radford <BRadford@dmwills.com>

**Sent:** May 10, 2022 2:55 PM

**To:** Species at Risk (MECP) <SAROntario@ontario.ca>

**Subject:** 3191 Wallace Point Road, Township of Otonabee-South Monaghan - SAR Information Request

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Good afternoon,

My name is Ben Radford from D.M. Wills Associates Limited in Peterborough. We have been contracted to complete an EIS on a parcel of land located at 3191 Wallace Point Road, Township of Otonabee-South Monaghan, Ontario; see the attached map for details. The client is proposing to develop a subdivision on their parcel of land. Through background research, we have identified the following Species at Risk (SAR) as having the potential to be present on the Subject Property:

- Bald Eagle (Special Concern)
- Bank Swallow (Threatened)
- Barn Swallow (Threatened)
- Blanding's Turtle (Threatened)
- Bobolink (Threatened)
- Common Nighthawk (Special Concern)
- Chimney Swift (Threatened)
- Eastern Meadowlark (Threatened)
- Eastern Musk Turtle (Special Concern)
- Eastern Ribbonsnake (Special Concern)
- Eastern Whip-poor-will (Threatened)
- Eastern Wood-pewee (Special Concern)
- Golden-winged Warbler (Special Concern)
- Grasshopper Sparrow (Special Concern)
- Least Bittern (Threatened)
- Little Brown Myotis (Endangered)
- Northern Map Turtle (Special Concern)
- Olive-sided Flycatcher (Special Concern)
- Red-headed Woodpecker (Endangered)
- Short-eared Owl (Special Concern)
- Snapping Turtle (Special Concern)
- Tri-coloured Bat (Endangered)
- Wood Thrush (Special Concern)

If you could please confirm and/or add/remove SAR from this list, that would be greatly appreciated.

In addition, could you please provide the Active Turtle Season and the Breeding Bird Season for the Subject Property.

Thanks,  
Ben



**Ben Radford, B.Sc.** · Project Biologist

**D.M. Wills Associates Limited**

150 Jameson Drive · Peterborough, ON · K9J 0B9  
Cell: 705-768-4296 · Fax: (705) 748-9944

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# Appendix E

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Site Photographs



<b>Client Name:</b> Nirvana Homes	<b>Site Location:</b> 3491 Wallace Point Road, Township of Otonabee-South Monaghan
-----------------------------------	---

Photo Number: 1
Date: May 10, 2022
Direction Photo Taken: West
Description: Larger barn structure to the south that will be removed.



Photo Number: 2
Date: May 10, 2022
Direction Photo Taken: Northwest
Description: Smaller barn structure to the north.



<b>Client Name:</b> Nirvana Homes	<b>Site Location:</b> 3491 Wallace Point Road, Township of Otonabee-South Monaghan
-----------------------------------	---

Photo Number: 3
Date: May 10, 2022
Direction Photo Taken: Southeast
Description: Upstream segment #1 of HDF1. Grassed swale feature type.



Photo Number: 4
Date: May 10, 2022
Direction Photo Taken: Southeast
Description: Upstream segment #2 of HDF1. Influenced by tile drain outlet.



<p><b>Client Name:</b> Nirvana Homes</p>	<p><b>Site Location:</b> 3491 Wallace Point Road, Township of Otonabee-South Monaghan</p>
--	---

<p>Photo Number: 5</p>
<p>Date: May 10, 2022</p>
<p>Direction Photo Taken: Northeast</p>
<p>Description: Representative photo of HDF2 grassed swale feature type.</p>



<p>Photo Number: 6</p>
<p>Date: October 05, 2023</p>
<p>Direction Photo Taken: Southwest</p>
<p>Description: Pasture land along Wallace Point Road converted to actively farmed soybean crop.</p>



<b>Client Name:</b> Nirvana Homes	<b>Site Location:</b> 3491 Wallace Point Road, Township of Otonabee-South Monaghan
-----------------------------------	---

Photo Number: 7
Date: May 18, 2022
Direction Photo Taken: Northwest
Description: Representative photograph of MAM2-2 (Reed-canary Grass Mineral Meadow Marsh Ecosite).



Photo Number: 8
Date: May 18, 2022
Direction Photo Taken: Southeast
Description: Representative photograph of active agricultural lands on the Subject Property.



<b>Client Name:</b> Nirvana Homes	<b>Site Location:</b> 3491 Wallace Point Road, Township of Otonabee-South Monaghan
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Photo Number: 9
Date: May 18, 2022
Direction Photo Taken: Northeast
Description: SWT2 (Mineral Thicket Swamp Inclusion) wetland community.



Photo Number: 10
Date: May 18, 2022
Direction Photo Taken: Northeast
Description: Standing water within SWT2 wetland community.



<p><b>Client Name:</b> Nirvana Homes</p>	<p><b>Site Location:</b> 3491 Wallace Point Road, Township of Otonabee-South Monaghan</p>
--	---

<p>Photo Number: 11</p>
<p>Date: October 05, 2023</p>
<p>Direction Photo Taken: Northeast</p>
<p>Description: Existing dwelling on Subject Property.</p>



<p>Photo Number: 12</p>
<p>Date: October 05, 2023</p>
<p>Direction Photo Taken: Northeast</p>
<p>Description: Loose boards observed under front porch of existing dwelling.</p>



## Appendix F

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### ELC Vegetation Species List



# ELC Vegetation List - Dry-Moist Old Field Meadow

Project Number: 85162

UTM Coordinates: 17T 714227E 4901208N

ELC Ecosite: CUM1-1

Common Name	Scientific Name	SARA	SARO	S-Rank	CoW	CoC	Comments
Canopy Species							
Trembling Aspen	Populus tremuloides	-	-	S5	0	2	-
Subcanopy Species							
-	-	-	-	-	-	-	-
Understorey Species							
European Buckthorn	Rhamnus cathartica	-	-	SNA	-	-	-
Hawthorn sp.	Crataegus sp.	-	-	-	-	-	-
Ground Cover Species							
Smooth Brome	Bromus inermis	-	-	SNA	5		-
Wild Carrot	Daucus carota	-	-	SNA	5		-
Oxeye Daisy	Leucanthemum vulgare	-	-	SNA	5		-
New England Aster	Symphyotrichum novae-angliae	-	-	S5	-3	2	-
Common Dandelion	Taraxacum officinale	-	-	SNA	3		-
White Clover	Trifolium repens	-	-	SNA	3		-
Common Mullein	Verbascum thapsus	-	-	SNA	5		-
Cow Vetch	Vicia cracca	-	-	SNA	5		-
Common Yarrow	Achillea millefolium	-	-	SNA	3	0	-
Common Timothy	Phleum pratense	-	-	SNA	3	0	-
Canada Goldenrod	Solidago canadensis	-	-	S5	3	1	-
Garden Bird's-foot Trefoil	Lotus corniculatus	-	-	SNA	3	0	-
Wild Carrot	Daucus carota	-	-	SNA	5	0	-

# ELC Vegetation List - Dry-Moist Old Field Meadow

Project Number: 85162

UTM Coordinates: 17T 714227E 4901208N

ELC Ecosite: CUM1-1

Canada Horseweed	<i>Erigeron canadensis</i>	-	-	S5	3	0	-
Red Fescue	<i>Festuca rubra</i>	-	-	S5	3	0	-
Canada Thistle	<i>Cirsium arvense</i>	-	-	SNA	3	0	-
Bull Thistle	<i>Cirsium vulgare</i>	-	-	SNA	3	0	-
Reed Canarygrass	<i>Phalaris arundinacea</i>	-	-	S5	-3	0	-
Elecampane	<i>Inula helenium</i>	-	-	SNA	3	0	-
Fox Sedge	<i>Carex vulpinoidea</i>	-	-	S5	-5	3	-
Curled Dock	<i>Rumex crispus</i>	-	-	SNA	0	0	-
Calico Aster	<i>Symphyotrichum lateriflorum</i>	-	-	S5	0	3	-
Panicled Aster	<i>Symphyotrichum lanceolatum</i>	-	-	S5	-3	3	-

# ELC Vegetation List - Reed-canary Grass Mineral Meadow Marsh

Project Number: 85162

UTM Coordinates: 17T 714315E 4901154N

ELC Ecosite: MAM2-2

Common Name	Scientific Name	SARA	SARO	S-Rank	CoW	CoC	Comments
Canopy Species							
Eastern White Cedar	<i>Thuja occidentalis</i>	-	-	S5	-3	3	-
Subcanopy Species							
-	-	-	-	-	-	-	-
Understorey Species							
European Buckthorn	<i>Rhamnus cathartica</i>	-	-	SNA	-	-	-
Willow sp.	<i>Salix sp.</i>	-	-	-	-	-	-
Ground Cover Species							
New England Aster	<i>Symphyotrichum novae-angliae</i>	-	-	S5	-3	2	-
Common Timothy	<i>Phleum pratense</i>	-	-	SNA	3	0	-
Garden Bird's-foot Trefoil	<i>Lotus corniculatus</i>	-	-	SNA	3	0	-
Red Fescue	<i>Festuca rubra</i>	-	-	S5	3	0	-
Reed Canarygrass	<i>Phalaris arundinacea</i>	-	-	S5	-3	0	-
Elecampane	<i>Inula helenium</i>	-	-	SNA	3	0	-
Fox Sedge	<i>Carex vulpinoidea</i>	-	-	S5	-5	3	-
Calico Aster	<i>Symphyotrichum lateriflorum</i>	-	-	S5	0	3	-
Panicled Aster	<i>Symphyotrichum lanceolatum</i>	-	-	S5	-3	3	-
Purple Loosestrife	<i>Lythrum salicaria</i>	-	-	SNA	-5	-	-
Bluejoint Reedgrass	<i>Calamagrostis canadensis</i>	-	-	S5	-5	4	-
Black Medick	<i>Medicago lupulina</i>	-	-	SNA	3	-	-

# ELC Vegetation List - Reed-canary Grass Mineral Meadow Marsh

Project Number: 85162

UTM Coordinates: 17T 714392E 4900888N

ELC Ecosite: SWT2

Common Name	Scientific Name	SARA	SARO	S-Rank	CoW	CoC	Comments
Canopy Species							
Trembling Aspen	Populus tremuloides	-	-	S5	0	2	-
Subcanopy Species							
-	-	-	-	-	-	-	-
Understorey Species							
European Buckthorn	Rhamnus cathartica	-	-	SNA	-	-	-
Willow sp.	Salix sp.	-	-	-	-	-	-
Riverbank Grape	Vitis riparia	-	-	S5	0	0	-
Red-osier Dogwood	Cornus sericea	-	-	S5	-3	2	-
Ground Cover Species							
Reed Canarygrass	Phalaris arundinacea	-	-	S5	-3	0	-
Canada Anemone	Anemonastrum canadense	-	-	S5	-3	3	-
Field Horsetail	Equisetum arvense	-	-	S5	0	0	-
Broad-leaved Cattail	Typha latifolia	-	-	S5	-5	1	-

## Appendix G

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### Significant Wildlife Habitat Assessment



SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
<b>Seasonal Concentration Areas of Animals</b>							
<b>Waterfowl Stopover and Staging Areas (Terrestrial)</b>	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	CUM1 CUT1 - Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	Fields with sheet water during Spring (mid-March to May).  •Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. •Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available.	No	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •Any mixed species aggregations of 100 or more individuals required. •The flooded field ecosite habitat plus a 100-300m radius area, dependant on local site conditions and adjacent land use is the significant wildlife habitat. •Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). •SWHMIST Index #7 provides development effects and mitigation measures.	N/A	No evidence of seasonal flooding was observed within any of the associated ecosites during field investigations. A review of aerial imagery did not demonstrate any evidence of seasonal flooding of associated ecosites within Adjacent Lands.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Waterfowl Stopover and Staging Areas (Aquatic)	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback Ruddy Duck	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	<ul style="list-style-type: none"> <li>•Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify.</li> <li>•These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water)</li> </ul>	No	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 SWHTG 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>•SWHMiST Index #7 provides development effects and mitigation measures.</li> </ul>	N/A	None of the associated ecosites are present within the Subject Property. MAS2-1 ecosites are present within the Adjacent Lands near Matchett Line. However, these communities are relatively small (0.4 ha within the Adjacent Lands) and appear to support limited standing water. They are additionally situated on the North side of Wallace Point Road and are not anticipated to be impacted by the Project.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Shorebird Migratory Stopover Area	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	<ul style="list-style-type: none"> <li>• Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats.</li> <li>• Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely 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>	No	Studies confirming: <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>• SWHMiST Index #8 provides development effects and mitigation measures.</li> </ul>	N/A	While associated MAM2-2 ecosite are present within the Subject Property and Adjacent Lands, these communities do not reflect the habitat criteria described in this SWH type and lack any association to shoreline habitats.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Raptor Wintering Area	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl  <u>Special Concern:</u> Short-eared Owl Bald Eagle	Hawks/Owls: Combination of ELC Community Series; need to have present one Community Series from each land class;  Forest: FOD, FOM, FOC.  Upland: CUM; CUT; CUS; CUW.  Bald Eagle: Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).	<ul style="list-style-type: none"> <li>•The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors.</li> <li>•Raptor wintering sites (hawk/owl) need to be &gt; 20 ha with a combination of forest and upland.</li> <li>•Least disturbed sites, idle/fallow or lightly grazed field/meadow (&gt;15ha) with adjacent woodlands</li> <li>•Field area of the habitat is to be wind swept with limited snow depth or accumulation.</li> <li>•Eagle sites have open water, large trees and snags available for roosting.</li> </ul>	No	Studies confirm the use of these habitats by: <ul style="list-style-type: none"> <li>•One or more Short-eared Owls or; One or more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species.</li> <li>•To be significant a site must be used regularly (3 in 5 years) cxlix 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>•SWHMiST Index #10 and #11 provides development effects and mitigation measures.</li> </ul>	N/A	While a combination of forested and upland communities are present within the Subject Property and Adjacent Lands, these communities do not represent >20 ha since the majority of the upland habitat within the Subject Property and Adjacent Lands are representative of actively farmed lands. Therefore, the presence of least disturbed sites with adjacent woodlands does not exceed > 15 ha.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Bat Hibernacula	Big Brown Bat Tri-coloured Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	<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>	No	<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>SWHMIST Index #1 provides development effects and mitigation measures.</li> </ul>	N/A	None of the associated ecosites are present within the Subject Property or the Adjacent Lands.
Bat Maternity Colonies	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	<ul style="list-style-type: none"> <li>Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).</li> <li>Maternity roosts are not found in caves and mines in Ontario.</li> <li>Maternity colonies located in Mature deciduous or mixed forest stands with &gt;10/ha large diameter (&gt;25cm dbh) wildlife trees.</li> <li>Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2.</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>	Unknown	<ul style="list-style-type: none"> <li>Maternity Colonies with confirmed use by;</li> <li>&gt;10 Big Brown Bats</li> <li>&gt;5 Adult Female Silver-haired Bats</li> <li>The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies.</li> <li>Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects".</li> <li>SWHMIST Index #12 provides development effects and mitigation measures.</li> </ul>	Unknown	While no forested vegetation communities are present within the Subject Property, associated forested ecosites are present within the Adjacent Lands. Therefore, it is assumed that the forested communities present within the Adjacent Lands facilitate Candidate Bat Maternity Colonies. A discussion regarding the significance of this SWH Type is outlined in <b>Section 5.0</b> .

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Turtle Wintering Areas	Midland Painted Turtle  <u>Special Concern:</u> Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO  Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	<ul style="list-style-type: none"> <li>For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates.</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>	No	<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>SWHMiST Index #28 provides development effects and mitigation measures for turtle wintering habitat.</li> </ul>	N/A	Associated wetland ecosites are present within the Subject Property and Adjacent Lands. However, based on observations made during field investigations and a review of leaf-off imagery, these communities do not reflect the habitat criteria described in this SWH type and lack any association to sufficient open water habitats required to support this SWH type.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Reptile Hibernaculum	<p><b>Snakes</b></p> <p>Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake</p> <p><b>Special Concern:</b> Milksnake Eastern Ribbonsnake</p> <p><b>Lizard</b></p> <p><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>	<p>•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.</p> <p>•Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line.</p> <p>•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.</p> <p>•Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures.</p>	No	<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>•SWHMiST Index #13 provides development effects and mitigation measures for snake hibernacula.</li> <li>•Presence of any active hibernaculum for skink is significant.</li> <li>•SWHMiST Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat.</li> </ul>	N/A	<p>No evidence of features which may provide access to subterranean sites below the frost line were observed during field investigations. Furthermore, the MAM2-2 ecosites within the Subject Property were determined not to be conducive for reptile hibernaculum due to the lack of features, such as sphagnum moss or sedge hummock, which would typically support overwintering habitat. Furthermore, no evidence of any reptile congregation behaviour was observed during any field investigations.</p> <p>While it is unconfirmed if this SWH type is present within vegetation communities in the Adjacent Lands, it is unlikely that the Project would to impact this SWH Type should it be present within these habitats since the Subject Property is bordered by Baseline Road, Matchett Road and Wallace Point Road.</p>
Colonially -Nesting Bird Breeding Habitat (Bank and Cliff)	<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>	<p>•Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area.</p> <p>•Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.</p> <p>•Does not include a licensed/permitted Mineral Aggregate Operation.</p>	No	<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>•SWHMiST Index #4 provides development effects and mitigation measures</li> </ul>	N/A	<p>None of the associated habitat criteria were observed during field investigation.</p>

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
<b>Colonially -Nesting Bird Breeding Habitat (Tree/Shrubs)</b>	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	<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>	Unknown	Studies confirming: <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>SWHMIST ndex #5 provides development effects and mitigation measures.</li> </ul>	Unknown	None of the associated ecosites are present within the Subject Property. The SWM2-1 and SWD3-1 ecosites are situated to the Northwest and Southeast of the Subject Property, respectively. Since field investigations were limited to the Subject Property, it is unknown if the SWM2-1 and SWD3-1 ecosites support this SWH type. Therefore, it is assumed that the SWM2-1 and SWD3-1 ecosites present within the Adjacent Lands facilitate Candidate Colonially Nesting Bird Breeding Habitat. A discussion regarding the significance of this SWH Type is outlined in <b>Section 5.0</b> .
<b>Colonially -Nesting Bird Breeding Habitat (Ground)</b>	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map).  Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird)  MAM1 – 6; MAS1 – 3; CUM CUT CUS	<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>	No	Studies confirming: <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>SWHMIST Index #6 provides development effects and mitigation measures.</li> </ul>	N/A	None of the bird species associated with this SWH type were observed during the Eastern Meadowlark Surveys and all other field investigations. Furthermore, the Subject Property and Adjacent Lands are not situated within or close proximity to a lake or large river.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
<b>Migratory Butterfly Stopover Areas</b>	Painted Lady Red Admiral  <u>Special Concern:</u> Monarch	Combination of ELC Community Series; need to have present one Series from each land class:  Field: CUM CUT CUS  Forest: FOC FOD FOM CUP  Anecdotal, a candidate site for butterfly stopover will have a history of butterflies being observed.	A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario. •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. •The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. •Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes.	No	Studies confirm: •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. •Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. •MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. •SWHMiST Index #16 provides development effects and mitigation measures.	N/A	The Subject Property is situated approximately 31 km north of the shoreline of Lake Ontario. No mitigation measures are required for this SWH type.
<b>Landbird Migratory Stopover Areas</b>	All migratory songbirds.  All migrant raptors species:  Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Woodlots need to be >10 ha in size and within 5 km of Lake Ontario. •If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant •Sites have a variety of habitats; forest, grassland and wetland complexes. •The largest sites are more significant •Woodlots and forest fragments are important habitats to migrating birds ccxviii, these features located along the shore and located within 5km of Lake Ontario are Candidate SWH.	No	Studies confirm: •Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. •Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". •SWHMiST Index #9 provides development effects and mitigation measures.	N/A	The Subject Property is situated approximately 31 km north of the shoreline of Lake Ontario. No mitigation measures are required for this SWH type.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Deer Yarding Areas	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>	<p>Deer yarding areas are 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. In mild winters, deer may remain in the Stratum II area the entire winter.</p> <ul style="list-style-type: none"> <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>	No	<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 in Table 1.4.1 of this Schedule.</li> <li>•SWHMiST Index #2 provides development effects and mitigation measures.</li> </ul>	N/A	Background review determined that no deer yarding areas have been documented by the MNR within the Subject Property or Adjacent Lands.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Deer Winter Congregation Areas	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 within Table 1.1 of this Schedule.</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>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 in Table 1.4.1 of this Schedule.</li> <li>•SWHMIST Index #2 provides development effects and mitigation measures.</li> </ul>		<p>This SWH type is not applicable to this Project since the Subject property is not situated in Ecoregion 7 or the southern area of 6E. No mitigation measures are recommended for this SWH.</p>
<b>Rare Vegetation Communities</b>							
Cliffs and Talus Slopes	N/A	<p>Any ELC Ecosite within Community Series: TAO TAS TAT CLO CLS CLT</p> <p>Most cliff and talus slopes occur along the Niagara Escarpment.</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 coarse rocky debris.</p>	No	<ul style="list-style-type: none"> <li>•Confirm any ELC Vegetation Type for Cliffs or Talus Slopes.</li> <li>•SWHMIST Index #21 provides development effects and mitigation measures.</li> </ul>	N/A	<p>None of the associated ecosites are present within the Subject Property or the Adjacent Lands.</p>

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Sand Barren	N/A	<p>ELC Ecosites: 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 &lt; 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>	No	<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>• SWHMIST Index #20 provides development effects and mitigation measures.</li> </ul>	N/A	None of the associated ecosites are present within the Subject Property or the Adjacent Lands.
Alvar	<p>Wild Chives Cooper's Milk-vetch Side Oats Grama Crawe's Sedge Juniper Sedge Richardson's Sedge Bulrush Sedge Hill's Thistle Coreopsis Tufted Hair Grass Flattened Spike-rush Tinted Spurge Carolina Cranesbill Prairie Smoke Lakeside Daisy Mousetail Vernal Forget-me-not Panic-grass Alaskan Orchid Alpine Bluegrass Seneca-snakeroot Early Buttercup Small Skullcap Houghtoun's Goldenrod Upland Goldenrod Northern Dropseed False Pennyroyal Simple Vervain</p>	<p>ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2</p> <p><b>Five Alvar Indicator Species:</b>  <b>1) <i>Carex crawei</i></b>  <b>2) <i>Panicum philadelphicum</i></b>  <b>3) <i>Eleocharis compressa</i></b>  <b>4) <i>Scutellaria parvula</i></b>  <b>5) <i>Trichostema brachiatum</i></b></p> <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 animals 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>	No	<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>• SWHMIST Index #17 provides development effects and mitigation measures.</li> </ul>	N/A	None of the associated ecosites are present within the Subject Property or the Adjacent Lands.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Old Growth Forest	N/A	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.  Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest.	No	Field Studies will determine: • If dominant trees species of the area are >140 years old, then the area containing these trees is Significant Wildlife Habitat. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present). • The area of forest ecosites combined or an ecosystem within an ecosite that contains the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest area containing the old growth characteristics. • SWHMiST Index #23 provides development effects and mitigation measures.	N/A	None of the associated ecosites are present within the Subject Property. Furthermore, based on the extensive presence of historical and current agricultural practices surround the Subject Property, it is unlikely that any of the forested vegetation communities present with the Adjacent Lands are representative of Old Growth Forests.
Savannah	Side-oats Gramma Dwarf Hackberry Illinois Tick-trefoil Smooth Small-leaved Tick-trefoil White Prairie Gentian Hairy Panic Grass Ridged Panic Grass	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.  No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.	No	Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. <b>Note:</b> Savannah plant spp. list from Ecoregion 6E should be used. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWHMiST Index #18 provides development effects and mitigation measures.	N/A	None of the associated ecosites are present within the Subject Property or the Adjacent Lands.
Tallgrass Prairie	Side-oats Gramma Dwarf Hackberry Illinois Tick-trefoil Smooth Small-leaved Tick-trefoil White Prairie Gentian Hairy Panic Grass Ridged Panic Grass	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.  No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.	No	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. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWHMiST Index #19 provides development effects and mitigation measures.	N/A	None of the associated ecosites are present within the Subject Property or the Adjacent Lands.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Other Rare Vegetation Communities	N/A	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.  ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M.  The OMNRF/NHIC will have up to date listing for rare vegetation communities.	Yes	Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. • Area of the ELC Vegetation Type polygon is the SWH. • SWHMIST Index #37 provides development effects and mitigation measures.	Unknown	No rare vegetation communities were identified within the Subject Property. However, the FOD7-4 (S2S3) and SWM2-1 (S3S4) were identified in the Adjacent Lands. These vegetation communities were determined based on a review of leaf-off imagery, Google Earth Street view and observations made by field staff from road edges to provide a best estimate of the vegetation communities present. Therefore, both of these ecosites facilitate Candidate Rare Vegetation Communities. A discussion regarding the significance of this SWH Type is outlined in Section 5.0.
<b>Specialized Habitat for Wildlife</b>							
Waterfowl Nesting Area	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4  <b>Note:</b> includes adjacency to Provincially Significant	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. • Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. • Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites.	No	Studies confirmed: • Presence of 3 or more nesting pairs for listed species excluding Mallards, or; • Presence of 10 or more nesting pairs for listed species including Mallards. • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m cxlviii from the wetland and will provide enough habitat for waterfowl to successfully nest. • SWHMIST Index #25 provides development effects and mitigation measures.	N/A	None of the bird species associated with this SWH type were observed during the Eastern Meadowlark Surveys and all other field investigations.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Osprey <u>Special Concern:</u> Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. •Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree’s canopy. •Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms).	No	Studies confirm the use of these nests by: •One or more active Osprey or Bald Eagle nests in an area. •Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. •For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. •For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependant on site lines from the nest to the development and inclusion of perching and foraging habitat. •To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. •Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August. •Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. •SWHMIST Index #26 provides development effects and mitigation measures	N/A	None of the associated ecosites are present within the Subject Property. Furthermore, no evidence of sticknests were observed during any of the field investigations.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Woodland Raptor Nesting Habitat	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites.  May also be found in SWC, SWM, SWD and CUP3	All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer •Stick nests found in a variety of intermediate-aged to mature conifer,deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. •In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest.	No	Studies confirm: •Presence of 1 or more active nests from species list is considered significant. •Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH. (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest) •Barred Owl – A 200m radius around the nest is the SWH. •Broad-winged Hawk and Coopers Hawk,– A 100m radius around the nest is the SWH. •Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. •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. •SWHMIST Index #27 provides development effects and mitigation measures.	N/A	None of the associated ecosites are present within the Subject Property. Furthermore, no forested ecosites with >10 ha of interior habitat is present within the Adjacent Lands.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Turtle Nesting Areas	Midland Painted Turtle <u>Special Concern</u> Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	<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>	No	<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> <li>• SWHMIST Index #28 provides development effects and mitigation measures for turtle nesting habitat.</li> </ul>	N/A	None of the associated ecosites are present within the Subject Property. Furthermore, while MAS2-1 ecosites are present within the Adjacent Lands, these communities do not reflect the habitat criteria described in this SWH type and lack any association to sufficient open water habitats required to support this SWH type.
Seeps and Springs	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	<p>Any forested area (with &lt;25% meadow/field/pasture) within the headwaters of a stream or river system.</p> <ul style="list-style-type: none"> <li>• Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species.</li> </ul>	No	<p>Field Studies confirm:</p> <ul style="list-style-type: none"> <li>• Presence of a site with 2 or more seeps/springs should be considered SWH.</li> <li>• The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat.</li> <li>• SWHMIST Index #30 provides development effects and mitigation measures.</li> </ul>	N/A	No forested ecosites are present within the Subject Property. Based on provincial data, the SWM2-1 ecosite north of Wallace Point Road contains 1 watercourse flowing through the Adjacent Lands.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
<b>Amphibian Breeding Habitat (Woodland)</b>	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>	Unknown	<p>Studies confirm;</p> <ul style="list-style-type: none"> <li>• Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3.</li> <li>• A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands.</li> <li>• The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat.</li> <li>• SWHMIST Index #14 provides development effects and mitigation measures.</li> </ul>	Unknown	No forested ecosites are present within the Subject Property. However, since no amphibian call surveys were completed within the scope of the EIS, it is possible that amphibian breeding occurs within forested wetland communities situated in the Adjacent Lands. Therefore, it is assumed that the forested wetlands present within the Adjacent Lands facilitate Candidate Amphibian Breeding Habitat. A discussion regarding the significance of this SWH Type is outlined in <b>Section 5.0</b> .
<b>Amphibian Breeding Habitat (Wetlands)</b>	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 MNR 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>	Unknown	<p>Studies confirm:</p> <ul style="list-style-type: none"> <li>• Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. or; 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 in Table 1.4.1 of this Schedule.</li> <li>• SWHMIST Index #15 provides development effects and mitigation measures.</li> </ul>	Unknown	Since no amphibian call surveys were completed within the scope of the EIS, it is possible that amphibian breeding occurs within wetland communities situated in the Subject Property and Adjacent Lands. However, it is not anticipated that amphibian breeding would occur within any of the MAM2-2 ecosites present within the Subject Property since this community was not observed to support standing water which would support breeding habitat. Therefore, amphibian breeding is anticipated to be limited to the SWT2 ecosite within the Subject Property. None of the wetlands situated in the Adjacent Lands are situated >120m away from a wooded ecosite. As a result, only the SWT2 ecosite within the Subject Property has the potential to facilitate Candidate Amphibian Breeding Habitat. A discussion regarding the significance of this SWH Type is outlined in <b>Section 5.0</b> .

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
<b>Woodland Area-Sensitive Bird Breeding Habitat</b>	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  <u>Special Concern:</u> Cerulean Warbler Canada Warbler	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	<ul style="list-style-type: none"> <li>Habitats where interior forest breeding birds are breeding, typically large mature (&gt;60 yrs old) forest stands or woodlots &gt;30 ha.</li> <li>Interior forest habitat is at least 200 m from forest edge habitat.</li> </ul>	No	Studies confirm: <ul style="list-style-type: none"> <li>Presence of nesting or breeding pairs of 3 or more of the listed wildlife species.</li> <li><b>Note:</b> any site with breeding Cerulean Warblers or 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>SWHMIST cxlix Index #34 provides development effects and mitigation measures.</li> </ul>	N/A	None of the associated ecosites are present within the Subject Property. Furthermore, no forested ecosites with >30 ha of interior habitat is present within the Adjacent Lands.
<b>Habitat for Species of Conservation Concern</b>							
<b>Marsh Breeding Bird Habitat</b>	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan  <u>Special Concern:</u> Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1  For Green Heron: All SW, MA and CUM1 sites.	<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>	Yes	Studies confirm: <ul style="list-style-type: none"> <li>Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 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>SWHMIST Index #35 provides development effects and mitigation measures.</li> </ul>	Unknown	None of the bird species associated with this SWH type were observed during the Eastern Meadowlark Surveys and all other field investigations. The wetland communities in the Adjacent Lands are also unlikely to support suitable habitat for the majority of the associated species based on their size. However, it may be possible for the MAM2-2 community in the Adjacent Land to provide habitat for Green Heron since it overlaps with a mapped watercourse. As a result, it is assumed that the MAM2-2 wetland within the Adjacent Lands facilitates Candidate Marsh Breeding Bird Habitat for Green Heron. A discussion regarding the significance of this SWH Type is outlined in <b>Section 5.0</b> .

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
<b>Open Country Bird Breeding Habitat</b>	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow Special Concern Short-eared Owl	CUM1 CUM2	<ul style="list-style-type: none"> <li>•Large grassland areas (includes natural and cultural fields and meadows) &gt;30 ha</li> <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>	No	Field Studies confirm: <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 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>•SWHMiST Index #32 provides development effects and mitigation measures</li> </ul>	N/A	The Subject Property covers approximately 24.4 ha, most of which consists of active agricultural fields currently used to cultivate soybean crops. Furthermore, active agricultural lands and residential properties are the dominant land use in the Adjacent Lands. Therefore, the occurrence of cultural or natural grasslands are also limited in the Adjacent Lands.
<b>Shrub/Early Successional Bird Breeding Habitat</b>	<b>Indicator Spp:</b> Brown Thrasher Clay-coloured Sparrow  <b>Common Spp.:</b> Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher Special Concern: Yellow-breasted Chat Golden-winged Warbler	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosite can be complexed into a larger habitat for some bird species	Large field areas succeeding to shrub and thicket habitats >10ha in size. <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 livestock 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>	No	Field Studies confirm: <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 Yellow-breasted Chat or 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>•SWHMiST Index #33 provides development effects and mitigation measures.</li> </ul>	N/A	None of the associated ecosites are present within the Subject Property or the Adjacent Lands.

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
Terrestrial Crayfish	Chimney or Digger Crayfish; (Fallicambarus fodiens)  Devil Crayfish or Meadow Crayfish; (Cambarus Diogenes)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM  CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish.  •Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water.  •Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed.	No	Studies Confirm: •Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. •Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. •Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult. •SWHMIST Index #36 provides development effects and mitigation measures.	N/A	The Area of Assessment is situated within the County of Peterborough, and therefore occurs outside the documented range of both crayfish species.
Special Concern and Rare Wildlife Species	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10km grid.  Older element occurrences were recorded prior to GPS being available, therefore relocation information may lack accuracy	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites.	Yes	Studies Confirm: •Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. •The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. •SWHMIST Index #37 provides development effects and mitigation measures.	Yes	The presence of Barn Swallows was confirmed within both existing barn structures present within the Subject Property. See <b>Table 4</b> of the EIS report for a more detailed description of the species observation.
<b>Animal Movement Corridors</b>							

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
<b>Amphibian Movement Corridors</b>	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	Corridors may be found in all ecosites associated with water. •Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1	Movement corridors between breeding habitat and summer habitat.  Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat –Wetland) of this Schedule.	No	<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. 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>•SWHMIST Index #40 provides development effects and mitigation measures.</li> </ul>	N/A	Since no amphibian call surveys were completed within the scope of the EIS, it is assumed that the SWT2 ecosite present within the Subject Property and wetland communities in the Adjacent Lands facilitate Candidate Amphibian Breeding habitat. However, the SWT2 ecosite is surrounded by active agricultural fields and is therefore isolated from any other ecosite associated with water. Furthermore, while movement to wetlands situated in the Adjacent Lands is possible, the Subject Property is surrounded by Baseline Road, Matchett Road and Wallace Point Road, which presents a potential source of road mortalities to migrating amphibians. Therefore, while it is possible that amphibians are moving overland between SWT2, other wetlands and other summer habitats, no distinct or significant amphibian movement corridors are present between the Subject Property and the Adjacent Lands.
<b>Deer Movement Corridors</b>	White-tailed Deer	Corridors may be found in all forested ecosites.  A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH from Table 1.1 of this schedule. •A deer wintering habitat identified by the OMNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion. •Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges).	No	<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 Shorter corridors are more significant than longer corridors.</li> <li>•SWHMIST Index #39 provides development effects and mitigation measures</li> </ul>	N/A	Background review determined that no deer yarding areas have been documented by the MNR within the Subject Property or Adjacent Lands.

**Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 6E**

SWH Type	Associated Species	Candidate SWH			Confirmed SWH		Additional Notes
		Associated ELC Ecosites	Habitat Criteria	Criteria Satisfied	Defining Criteria	Criteria Satisfied	
6E-14	Mast Producing Areas Black Bear	All Forested habitat represented by ELC Community Series: FOM FOD	<ul style="list-style-type: none"> <li>Black bears require forested habitat that provides cover, winter hibernation sites, and mast-producing tree species.</li> <li>Forested habitats need to be large enough to provide cover and protection for black bears.</li> </ul> <p>Woodland ecosites &gt;30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech).</p>	No	<ul style="list-style-type: none"> <li>All woodlands &gt; 30ha with a 50% composition of these ELC Vegetation Types are considered significant: 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</li> <li>SWHMIST Index #3 provides development effects and mitigation measures.</li> </ul>	N/A	The Area of Assessment is situated within Ecodistrict 6E-8 therefore this SWH is not applicable.
6E-17	Lek Sharp-tailed Grouse	CUM CUS CUT	<ul style="list-style-type: none"> <li>The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography.</li> <li>Leks are typically a grassy field/meadow &gt;15ha with adjacent shrublands and &gt;30ha with adjacent deciduous woodland. Conifer trees within 500m are not tolerated.</li> </ul> <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>	No	<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>SWHMIST Index #32 provides development effects and mitigation measures</li> </ul>	N/A	The Area of Assessment is situated within Ecodistrict 6E-8 therefore this SWH is not applicable.

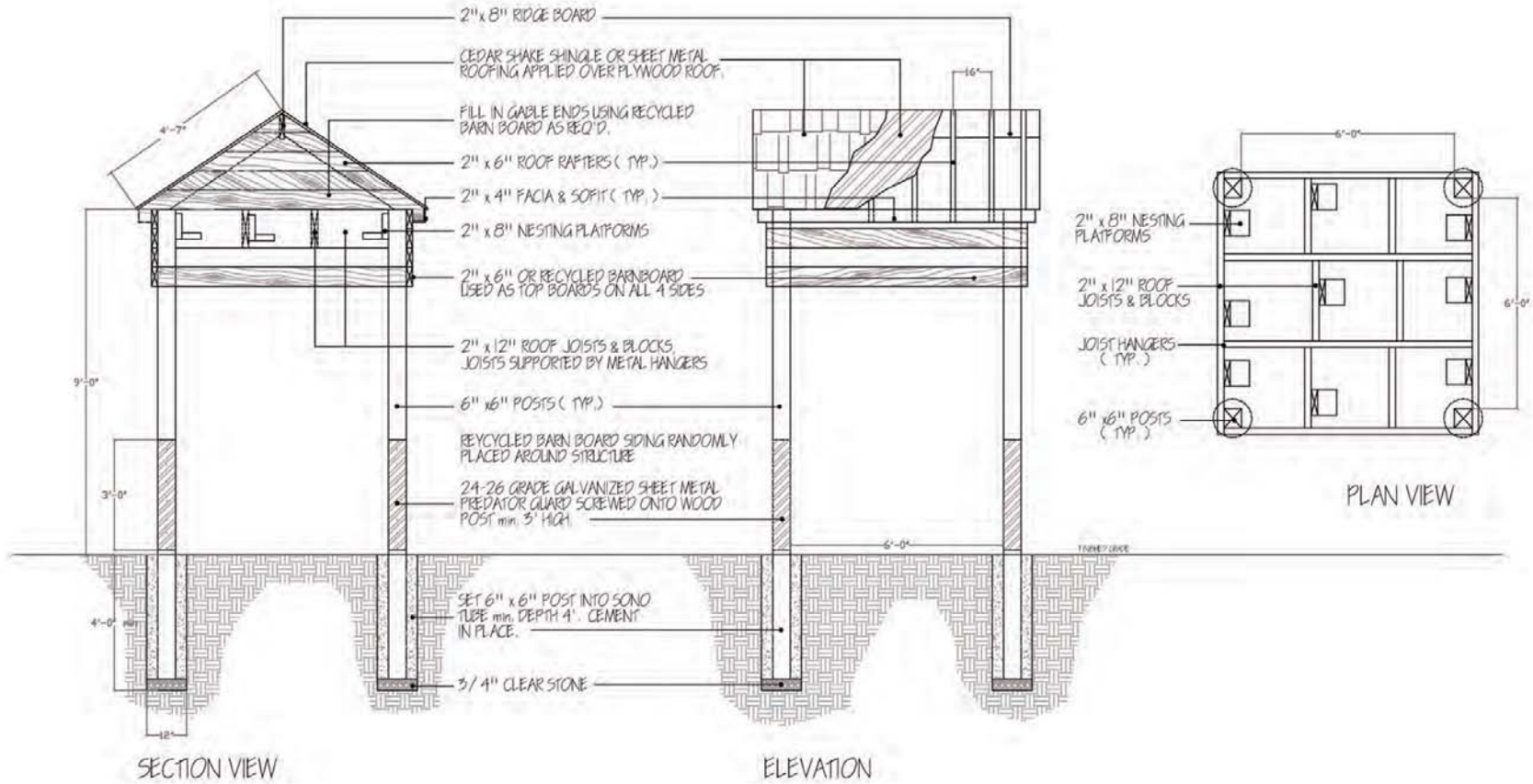
## Appendix H

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### Barn Swallow Structure Design



Appendix A: Nesting Structure Design by Toronto Region Conservation Authority



PROJECT

NOTES

1. ALL WOOD TO BE ROUGH CUT HEMLOCK EXCEPT AS NOTED
2. ALL FASTENERS TO BE GALVANIZED

DATE APRIL 2015

CHECKED

DESIGNED M.P.L.

SCALE NOT TO SCALE

DRAWN A.C.M.

DWG. NO.

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DRAWING

BARN SWALLOW NESTING  
 STRUCTURE

## Timing of Habitat Creation

Under O. Reg. 242/08 s. 23.5, habitat that is being created or modified for Barn Swallow under paragraph 3 (nest cups) or 4 (nesting habitat) of subsection (5) must be completed within one of the following time frames:

- if the activity will begin outside of the Barn Swallow active season, before the beginning of the next Barn Swallow active season, or
- if the activity will begin during the Barn Swallow active season, before the beginning of that Barn Swallow active season.

The Barn Swallow active season is defined in O. Reg. 242/08 as “the period of each year when Barn Swallow carry out life processes relating to breeding, nesting and rearing, and that begins around the beginning of May and ends around the end of August, the exact dates varying according to the area of the Province in which the Barn Swallow are located and the climate conditions of each year”.

If an eligible activity will occur during the Barn Swallow active season, the steps outlined in paragraphs 1 and 2 of s. 23.5(5) must be followed.

## Nest Cups

A nest cup is defined as “a container, receptacle or vessel that may be used as a nest by barn swallow” (O. Reg. 242/08 s. 23.5 (1)). Brown and Brown (1999) report that Barn Swallow will nest in artificial nest cups as well as previously constructed natural nests or newly constructed ones. To date, wood is the most common material that has been used to construct nest cups but some individuals are experimenting with the use of other materials.

## Nest Cup Specifications

Nest cups mimic the size and shape of a natural mud nest and allow the swallow to establish a nest faster than constructing a new one out of mud. Nest cups are available for purchase from some commercial manufacturers (Grand 2013, Van Vleck 2013) or may be created based on Barn Swallow nest dimensions in the literature (Baird et al. 1875, Brown and Brown 1999, Peck and James 1987).

Nest cups with the following approximate dimensions have been used successfully in Ontario.

