Environmental Impact Study

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

D.M. Wills Project Number 85162

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Peterborough

May 2023

Prepared for:
Nirvana Homes

WILLS

Submissions Summary

Submission No.	Submission Title	Date of Release	Submissions Summary
1	Draft Environmental Impact Study	March 15, 2023	Draft Submission to Client
2	Final Environmental Impact Study	May 17, 2023	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 Nirvana Homes 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, County of Peterborough, 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 the municipality'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:

- An unevaluated wetland.
- Two drainage features.
- Habitat for Threatened species (Eastern Meadowlark and Bobolink).
- Habitat for Special Concern species (Barn Swallow) and bats within barn structures on site.

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 the unevaluated wetland.
- An Eastern Meadowlark and Bobolink Habitat Management Plan to compensate for the loss of habitat.
- Any vegetation removal must take place outside of **April 15 to August 31**.
- The erection of erosion and sediment control measures including sediment fencing around the exterior of the Subject Property.
- The removal of the barn structures must take place outside of **April 15 to September 30**.
- Inputs into the downstream wetland are maintained with the removal of drainage features.

In summary, Wills does not anticipate any significant negative environmental impacts associated with the Project provided the environmental mitigation measures described in this report are implemented effectively throughout the construction period.

1.0 Introduction

D.M. Wills Associates Limited (Wills) was retained by Nirvana Homes (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, County of Peterborough (Subject Property). See **Appendix A** for Statement of Limitation details.

Under the *County of Peterborough Official Plan* (1994), 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), the *County of Peterborough Official Plan* (1994), the *Endangered Species Act* (R.O. 2007), the *Provincial Policy Statement* (2020), 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.

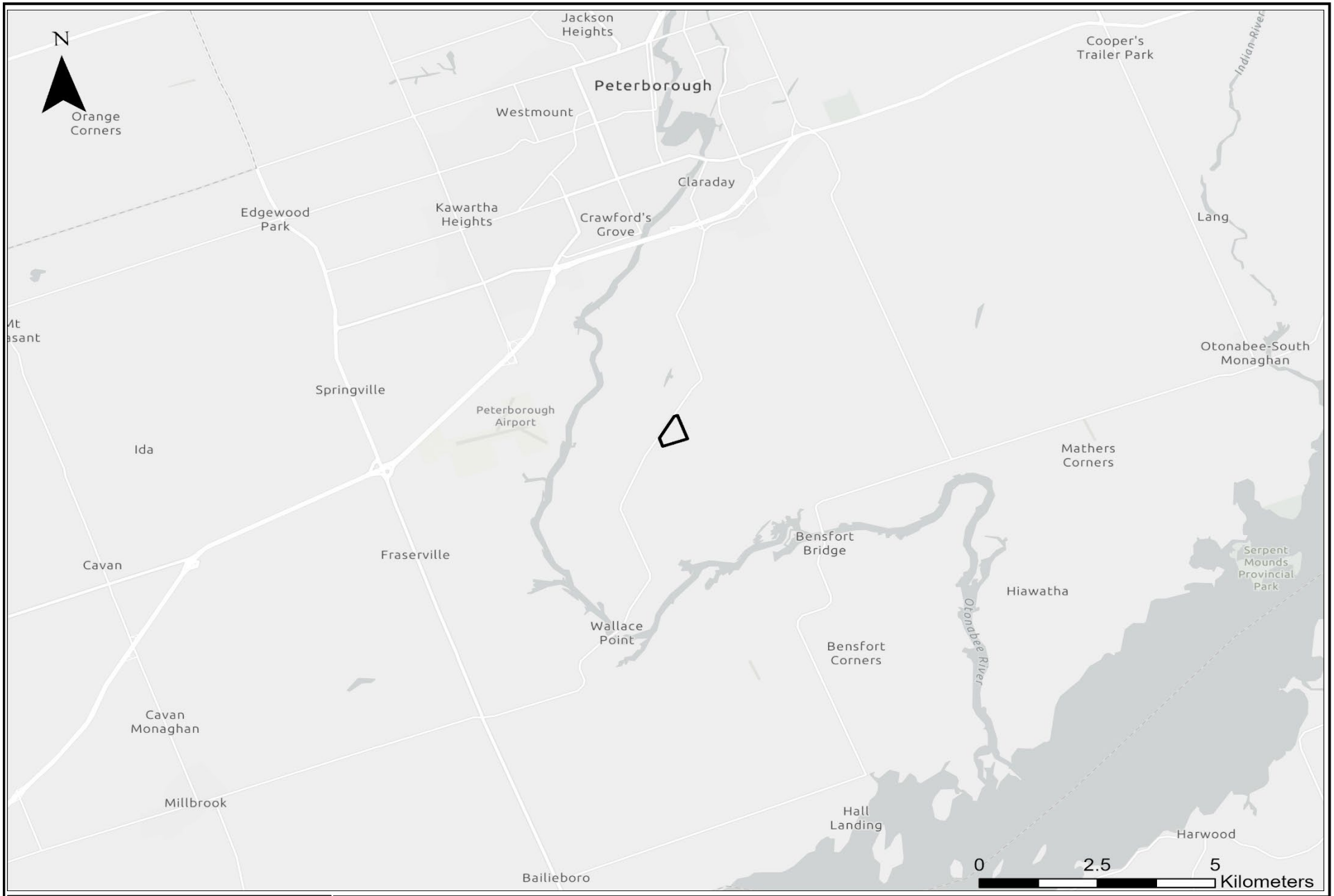
1.1 Subject Property

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 two additional structures, which have been left to fallow. These structures consist of a large main barn, which appears to have historically housed cattle, and a smaller barn which appears to have stored farming equipment. There are additionally non-active agricultural areas which suggest historic use as a grazing pasture for cattle but have since transitioned to grassland communities.

Undeveloped grasslands, a wetland and agricultural areas are present throughout the Subject Property. 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.

1.2 Project Details

The Client is proposing to develop a residential subdivision consisting of 50 lots including commercial facilities. See **Appendix B** for Site Plan.



Legend

Subject Property

Figure 1 – Site Location

Environmental Impact Study

3491 Wallace Point Road,
Township of Otonabee-South

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Project No.: 85162	Drawing File No.: Figure 1

Legend

Subject Property

Figure 2 – Subject Property

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2.0 Existing Conditions

2.1 Background Review

2.1.1 Surrounding Land Use

Properties adjacent to the Subject Property are currently being utilized for agricultural and residential purposes. While agriculture is the dominant land-use surrounding the Subject Property, there are concentrated pockets of woodlands and wetlands situated to the north, east and south of the Subject Property.

2.1.2 Designated Areas

A review of the Ministry of Natural Resources and Forestry (MNRF) natural heritage/resources data obtained through the Natural Heritage Information Centre (NHIC) database was completed to identify the presence or absence of any Valued Ecosystem Components (VECs) such as local, provincial, and federally Designated Areas (DAs). DAs include lands covered under the Provincial Policy Statement (2020), as well as, other natural heritage features of local or federal interest including Federal Parks, Environmental Sensitive Landscapes or Areas, such as significant woodlands, locally significant wetlands or otherwise natural heritage features identified for conservation. A copy of the NHIC data map is located in **Appendix C**.

Furthermore, Wills sent out a formal information request to the Ministry of the Environment, Conservation and Parks (MECP) to obtain additional records with reference to restricted 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 results of the database searches is outlined below with reference to DAs.

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.

Significant Wildlife Habitat

No SWH records were identified through background review.

Conservation Reserves

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

Provincial Parks

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

Provincially Significant Wetlands

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

Woodlands

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.

Other Wetlands

No wetlands were identified on the Subject Property by NHIC mapping. Non-Provincially Significant Wetlands are located to the south and northwest. An unevaluated wetland is also present to the east.

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

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.

2.1.5 Fish Habitat

No fish habitat was identified within the Subject Property.

2.1.6 Significant Wildlife Habitat (SWH)

In accordance with the Provincial Policy Statement (2020) and the MNRF's Significant Wildlife Habitat Technical Guide (2000), 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; and,
4) Animal Movement Corridors.

No SWH was identified through background review or field investigations.

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 and June 22, 2022, 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. Field investigations took place on May 18, 2022.
- 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 species-specific Bobolink and Eastern Meadowlark surveys (Surveys), in general accordance with the Survey Protocol for Eastern Meadowlark (*Sturnella magna*) in Ontario (MNRF, 2013). Field investigations took place on May 10, 18 and 25, 2022.
- Ecological Land Classification (ELC) mapping was completed on June 22, 2022.
- 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.
- Evaluation of potential SWH within the Subject Property.

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

2.2.1 Ecological Land Classification

ELC mapping of the Subject Property was completed using the *Ecological Land Classification for Southern Ontario* (Lee, 1998). From this, **Figure 3** was created.

One ELC unit was identified within the Subject Property:

1. Mineral Cultural Meadow (CUM1)

   This ecosite encompassed the entirety of the Subject Property. However, multiple variations of this ecosite were present within the landscape. The majority of this ecosite (~17 ha) consisted of active agricultural lands populated with a soybean monoculture as well as encompassed a small, anthropogenically influenced wetland near the eastern boundary of the Subject Property. This community covers most of the lands within the Subject Property, bordering the entire southern boundary as well as spanning to the eastern and western limits.

   A second variation (~4.2 ha) situated along the northwestern boundary of the Subject Property consisted of a pasture characterised by short grasses (*Poaceae spp*.) The presence of an electric fence surrounding this community suggests that this habitat was historically grazed by cattle.

   A third variation (~2.2 ha) situated in the northeastern corner of the Subject Property consisted of naturalised vegetation and was characteristic of an early successional meadow. Canopy and sub canopy species were limited to old tree lines bordering the agricultural lands to the southwest and included Trembling Aspen (*Populus tremuloides*) and European Buckthorn (*Rhamnus catharitica*). Ground cover species included Cow Vetch (*Vicia cracca*), Buttercups (*Ranunculaceae spp*.), White Clover (*Trifolium repens*), Oxeye Daisy (*Leucanthemum vulgare*), Asters (*Asteraceae spp*.) and Grasses (*Poaceae spp*.)

   The Subject Property also contains an existing residential dwelling and two old barn structures, which represented approximately 1.0 ha.

   <u>Soil Auger 1 (Agricultural Land):</u>

   0 – 15 cm – Silty clay – Dry
   15 – 25 cm – Silty clay trace sand – Dry
   25 cm – Rock Refusal

   <u>Soil Auger 2 (Cultural Meadow):</u>

   0 – 15 cm – Organic – Dry
   15 – 80 cm – Clay – Fresh
   80 cm – Rock Refusal

2.2.2 Wetland Delineation

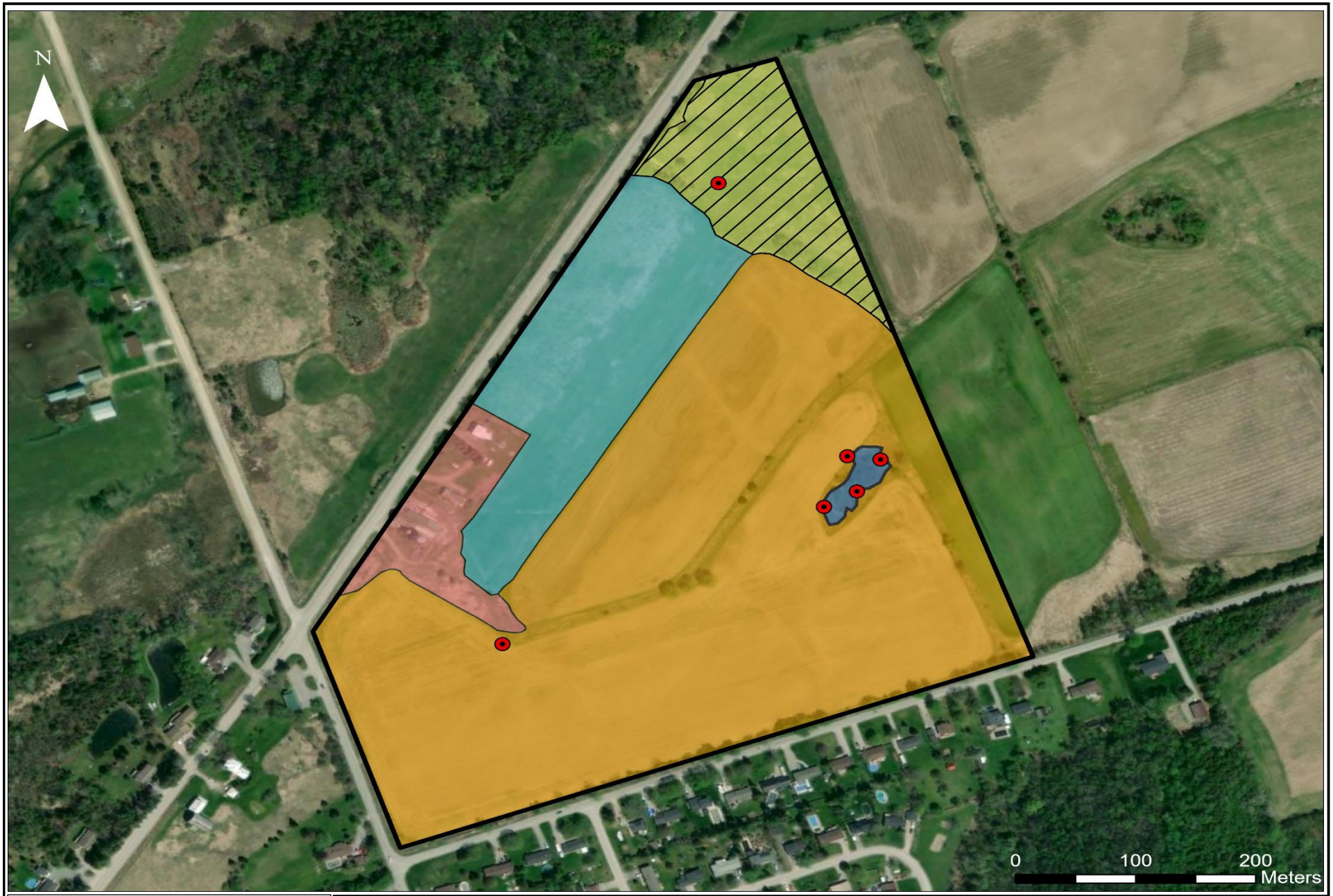
Wills' biologists conducted a desktop review of aerial imagery within the Subject Property for wetlands using the Natural Heritage Information Centre mapping, prior to completing field investigations. No wetlands were identified on the Subject Property.

However, as part of the ELC mapping completed on June 22, 2022, Wills' biologists identified a small wetland in a low-lying area on the east side of the Subject Property (**Figure 3**). Because the wetland is only 0.18 ha, it was not assigned an ELC classification due to it not meeting the minimum size requirement for an ELC community of 0.5 ha. Field investigations observed that this wetland displayed evidence of anthropogenic influences as a raised, vegetated berm was present along the contour of the wetland. Furthermore, it appeared that this wetland was hydrologically isolated from drainage

features as well as other wetland communities and likely received inputs from surface runoff originating from the surrounding agricultural fields.

Following the Ontario Wetland Evaluation System, 2014 (OWES) standard methods for identifying wetland communities, Wills' biologists delineated the wetland boundary using a handheld Garmin GPS, marking a waypoint approximately every 5 m.

The OWES methodology for delineating wetlands involves identifying vegetation species and determining the relative abundance or "cover" of wetland indicator species versus upland vegetation species. If the vegetation community consists of greater than 50% wetland indicator species, this area is identified as a wetland. This is commonly known as the "50% wetland vegetation rule". If the percent composition of wetland indicator 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.



Legend

ELC (CUM1 Variations)
- Active Agricultural Lands
- Early Successional Meadow
- Pasture
- Residential Area

- Auger Locations
- Subject Property
- Wetland
- Bobolink/Meadowlark Habitat

Figure 3 – ELC Map

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2.2.3 Headwater Drainage Feature

Detailed Headwater Drainage Feature (HDF) investigations took place during two separate site visits: May 10 and June 22, 2022, following the Ontario Stream Assessment Protocol Section 4: Module 10 (OSAP S4: M10) for Headwater Drainage Features. Wills followed the Toronto Region Conservation Authority's (TRCA) Evaluations, Classification and Management of Headwater Drainage Features Guidelines (2014), to evaluate the drainage feature during field investigations.

Two drainage features were identified and assessed during field investigations: HDF1 is the southernmost feature, and HDF2 is the northernmost feature. See **Figure 4** for the location of the HDFs.

Two field investigations were conducted instead of three, since both HDFs were dry at the time of the second field investigation on June 22, 2022. Upstream and downstream assessments were not completed for HDF2 since it contained no differentiating features throughout its length.

During the two field investigations the Feature Type, Feature Flow, Sediment Transport, Riparian Vegetation, Feature Width, Bankfull Depth, Wetted Width, Depth, and Hydraulic Head, were categorized and assessed. In addition, Site Features were also assessed which included Major Nutrient Sources Upstream, Potential Contaminant Sources Upstream, Channel Hardening, Dredging or Straightening, Barriers and/or Dams in Proximity, Online Ponds Upstream, Seeps or Springs at the Site, Evidence of Channel Scouring/Erosion, and BMPs or Restoration Activities. General observations are provided in **Table 1**.

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)*

Table 1 – Results of Headwater Drainage Feature Assessments

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

Legend

- Breeding Bird Survey Stations
- Headwater Drainage Feature
- Subject Property

Figure 4 – BBS & HDF Locations

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2.2.5 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; and,
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 2** for details.

Table 2 – 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 (*Haliaeetus leucocephalus*)	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 (MNRF, 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 (*Riparia riparia*)	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 (*Hirundo rustica*)	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 and small 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 the smaller abandoned barn.
Blanding's Turtle (*Emydoidea blandingii*)	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 (MNRF, 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.
Bobolink (*Dolichonyx oryzivorus*)	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	Confirmed	Multiple Bobolink were observed/heard from both listening station BB01 and BB02 on May 10 and 18, 2022. Bobolink

Species	Provincial ESA Status	COSEWIC Status	Federal SARA Status	Habitat Requirements	Likelihood of Occurrence	Site Area Suitability/Observations
				species such as clover, Timothy, Kentucky Bluegrass, and broadleaved plants).		were also heard calling from listening station BB01 on May 25, 2022.
Chimney Swift (*Chaetura pelagica*)	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 (*Chordeiles minor*)	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 (*Sturnella magna*)	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 Milksnake (*Lampropeltis triangulum*)	Not at Risk	Special Concern	Special Concern	Eastern Milksnake are habitat generalists but prefer open habitats, including rock outcrops and meadows. They require suitable microhabitats for egg laying, hibernation and thermoregulation. Eastern Milksnake are well known for occupying barns, sheds and houses in rural landscapes. At the landscape scale, the abundance of Eastern Milksnake appears to correlate with regions where forest cover is relatively high. Eastern Milksnake habitat in portions of southwestern Ontario and parts of southwestern Quebec (e.g., urban regions and areas subject to intensive agriculture) is fragmented and consists of relatively small, natural areas.	Moderate	The barn structures situated within the Subject Property may present suitable habitat for this species. Furthermore, the nearby CUM1 community which supports the early successional meadow could facilitate foraging habitat for this species. However, forested landscapes are absent on the Subject Property, with the nearest forests occurring north of Wallace Point Road and 200m east of the Subject Property.
Eastern Musk Turtle (*Sternotherus odoratus*)	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	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

Species	Provincial ESA Status	COSEWIC Status	Federal SARA Status	Habitat Requirements	Likelihood of Occurrence	Site Area Suitability/Observations
				eggs in muskrat lodges, on the open ground or in rock crevices (MECP, 2020).		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 Ribbonsnake (*Thamnophis sauritus*)	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 Small-footed Myotis (*Myotis leibii*)	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 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 (MNRF, 2019).	Low	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. No Eastern Small-footed Myotis were recorded. Results of the data collected is provided in **Section 2.2.5.2**.
Eastern Whip-poor-will (*Caprimulgus vociferus*)	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 (MNRF, 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.

Species	Provincial ESA Status	COSEWIC Status	Federal SARA Status	Habitat Requirements	Likelihood of Occurrence	Site Area Suitability/Observations
Eastern Wood-pewee (*Contopus virens*)	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 (*Vermivora chrysoptera*)	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 (MNRF, 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 (*Ammodramus savannarum*)	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 (MNRF, 2018).	Moderate	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 Surveys,
Least Bittern (*Ixobrychus exilis*)	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 (MNRF, 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 (*Tringa flavipes*)	Threatened	Threatened	Not Listed	Lesser Yellowlegs nests 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 (*Myotis lucifugus*)	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 (MNRF, 2019).	Low	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. A single Little Brown Myotis was recorded on five separate nights. Results of the data collected is provided in **Section 2.2.5.2**.
Northern Map Turtle (*Graptemys geographica*)	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 (MNRF, 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 (*Myotis septentrionalis*)	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 (MNRF, 2019).	Negligible	Habitat requirements not present. The Subject Property does not possess any forested communities.
Olive-sided Flycatcher (*Contopus cooperi*)	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 (MNRF, 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
(*Melanerpes erythrocephalus*)				found across southern Ontario, where it is widespread but rare (MNRF, 2019).		
Short-eared Owl (*Asio flammeus*)	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 (MNRF, 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.
Snapping Turtle (*Chelydra serpentina*)	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 (MNRF, 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.
Tri-colored Bat (*Perimyotis subflavus*)	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 (MNRF, 2019).	Low	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. No Eastern Tri-colored Bats were recorded. Results of the data collected is provided in **Section 2.2.5.2**.

2.2.5.1 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 (MNRF, 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 MNRF protocol. BB01 is located to the north and BB02 is the southernmost point count location shown in **Figure 4**. 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 cultural meadow community situated at the northeastern boundary of the Subject Property. **Table 3** provides full details of species found during the Surveys and the number of Bobolink/Eastern Meadowlark at each location.

Table 3 – 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	*Cyanocitta cristata*				x	x	
Song Sparrow	*Melospiza melodia*	x	x	x		x	x
Eastern Meadowlark	*Sturnella magna*	2	1		1	1	1
American Goldfinch	*Spinus tristis*	x	x	x	x		x
Brown Thrasher	*Toxostoma rufum*	x					
American Robin	*Turdus migratorius*	x		x	x	x	x
Mourning Dove	*Zenaida macroura*	x					
Eastern Towhee	*Pipilo erythrophthalmus*			x			
Bobolink	*Dolichonyx oryzivorus*		~16	6 - 8		5	
Killdeer	*Charadrius vociferus*	x			x	x	x
Common Grackle	*Quiscalus quiscula*	x					x
Tree Swallow	*Tachycineta bicolor*	x			x		

Common Name	Scientific Name	BB01			BB02		
		May 10	May 18	May 25	May 10	May 18	May 25
Red-winged Blackbird	*Agelaius phoeniceus*				x		x
Wilson Snipe	*Gallinago delicata*				x		
European Starling	*Sturnus vulgaris*				x		
Savannah Sparrow	*Passerculus sandwichensis*						x

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

2.2.5.2 Bat Acoustic Monitoring

Due to the presence of habitat for various SAR bats including Little Brown Myotis, Tri-colored Bats and Eastern Small-footed Myotis, a Wildlife Acoustics Song Meter SM4Bat FS Ultrasonic Acoustic Recorder (Acoustic Recorder) was deployed.

The Acoustic Recorder monitors ultrasonic echolocation calls of bat species in the area and is used to assist in determining presence/absence of various bat species. The Acoustic Recorder was deployed for a period of 26 days between June 14 to July 10, to capture any potential passes from foraging bats that might be utilizing the barn structures.

Following deployment of the Acoustic Recorder, the Kaleidoscope Pro Analysis Software was used to analyze the recordings and determine bat species present based on species specific frequencies.

Results included five passes on five separate nights of a Little Brown Bat (Endangered) were captured. This was the only SAR identified throughout the length of the recording session. Numerous passes would need to be observed in order for the barn structures to be considered maternity roost habitat for Little Brown Bats. Therefore, the single passes are likely the result of a fly over or a potential error in the software used to analyze the data.

There were a high number of passes of non-SAR bats including Big Brown Bat, Eastern Red, Hoary Bat and Silver-haired Bat that were captured. **Table 4** shows the results of the Acoustic Recorder.

Table 4 – 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	*Myotis lucifugus*	Endangered	5	1	0.19
Big Brown Bat	*Eptesicus fuscus*	Not Listed	988	157	36.59
Eastern Red Bat	*Lasiurus borealis*	Not Listed	31	7	1.15
Hoary Bat	*Lasiurus cinereus*	Not Listed	353	38	13.07
Silver-haired Bat	*Lasionycteris noctivagans*	Not Listed	110	14	4.07

3.0 Regulatory Context

3.1 County of Peterborough Official Plan (1994)

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 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.

The Subject Property contains habitat of Threatened species (Eastern Meadowlark and Bobolink), an unevaluated wetland, and is also adjacent to wetlands and woodlands located off of the Subject Property. Mitigation/offsetting measures to ensure no impacts to these features are provided in Section 5.0.

3.2 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 polices of Section 3.7.3.3 of this Plan.

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.

The Subject Property contains habitat of Threatened species (Eastern Meadowlark and Bobolink), an unevaluated wetland, and is also adjacent to wetlands and woodlands located off of the Subject Property. Mitigation/offsetting measures to ensure no impacts to these features are provided in Section 5.0.

3.3 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 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.

Section 9(1) of the ESA prohibits a person from killing, harming, harassing, capturing, or taking a member of a species listed as endangered, threatened or extirpated on the SARO list. In addition, Section 10(1) of the ESA prohibits the damage or destruction of habitat of a species listed as threatened, endangered or extirpated on the SARO list.

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, or more, species listed as threatened or endangered.

The Subject Property contains habitat of Threatened species (Eastern Meadowlark and Bobolink). Mitigation/offsetting measures to ensure no impacts to these features are provided in Section 5.0.

3.4 Otonabee Region Conservation Authority

Under the *Otonabee Region Conservation Authority Watershed Planning & Regulation Policy (*2015), the following policies are applicable to the Project,

Section 7.1

New Development

7.1(1) New development (2) will not be permitted within a wetland (2), 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 (2) on an existing lot(s) within a small portion of a wetland (2) to facilitate the development (2) of the lot OR where a wetland is less than 0.5 hectares may be permitted provided that:

- *the wetland (2) is not a bog or fen, or part of a Provincially Significant Wetland;*

- *a technical site-specific study demonstrates to the satisfaction of ORCA that all hazards/risks associated with flooding and/or unstable soils have been addressed;*
- *it can be demonstrated through an Environmental Impact Study that offsetting will be accommodated on the subject lands resulting in a net gain in wetland (1) function and, where applicable, the maintenance of existing hydrologic and ecological linkages.*
- *inert fill material will be used. The proponent may be required to provide proof of the origin and quality of the fill material to ensure the control of pollution and the conservation of land are not adversely affected; and,*
- *the large-scale placement of fill can satisfy the provisions outlined in Appendix H - Large Fill Policy Procedural Guidelines*

The wetland on the Subject Property is 0.18 ha in size, is not a bog or fen, or part of a PSW. A Wetland Compensation Plan has been proposed to offset losses resulting in a net gain of wetland habitat.

4.0 Determination of Significance

Valued Ecosystem Components (VECs) are broadly defined as any part of the environment that is considered important by the proponent, public, scientists, and government involved in the assessment process. Importance may be determined on the basis of cultural values or scientific concern. For the purposes of the EIS, VECs will be limited to define any part of the biophysical environment that is considered important by the proponent, public, scientists and government involved in the assessment process.

4.1 Significant Wildlife Habitat

To further investigate the potential occurrence of SWH, mapped ELC communities were cross-referenced with a database SWHs to determine potential for any seasonal concentration areas (SCA), rare vegetation communities and specialized habitats for wildlife (SHW), habitat for species of conservation concern (HSCC), and animal movement corridors to be present within the Subject Property. The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (OMNRF, 2015) were used to identify potential significant wildlife habitat. See **Table 5** below for details on Candidate SWH that may be applicable to the Subject Property.

Table 5 – Significant Wildlife Habitat Screening

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Candidate SWH	Confirmed SWH	Additional Notes
Seasonal Concentration Areas of Animals						
Waterfowl Stopover and Staging Areas (Terrestrial)	Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	CUM1 Evidence of annual flooding.	Fields with standing/pooling water in the spring from melt water.	No	N/A	The agricultural field did not contain pooling water nor were any waterfowl observed during any of the site visits.
Colonially – Nesting Bird Breeding Habitat (Ground)	Herring Gull Great Black-backed Gull Littler Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	MAM 1-6 MAS1-3 CUM CUT CUS	Any rocky island or peninsula within a large lake or river. Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird).	No	N/A	No watercourses are in close proximity to the CUM1 ecosite. Furthermore, none of the bird species listed were observed during any of the site visits.
Migratory Butterfly Stopover Areas	Painted Lady Red Admiral Monarch	One Community Series from each landclass: Field: CUM CUT CUS Forest: FOC FOD FOM CUP	Minimum 10 ha in size with a combination of forest and field habitats and is located within 5 km of Lake Ontario.	No	N/A	The Subject Property is located >5 km from Lake Ontario.
Rare Vegetation Communities or Specialized Habitat for Wildlife						
Specialized Habitat for Wildlife						
Open Country Bird Breeding Habitat	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30 ha	Yes	No	Only a single Savannah Sparrow was observed during one of the Surveys. A minimum of two species needs to be observed in order to confirm this as SWH.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Candidate SWH	Confirmed SWH	Additional Notes
	Savannah Sparrow **Special Concern** Short-eared Owl		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.			

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 6** below.

Table 6 – Summary of Functional Classifications and Management of HDFAs

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

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

5.0 Impact Assessment and Mitigation

Any future site development works including building erection, grading, and pavement have the potential to incur adverse impacts on the surrounding environment including natural heritage features, sensitive species (e.g., SAR), and/or Significant Wildlife Habitat (often described under the umbrella of VECs), particularly concerning works in undeveloped natural landscapes. Locally specific mitigation measures are implemented to prevent or mitigate impacts to the VECs identified.

To address any potential impacts to the existing natural features or any potential wildlife species of conservation concern which may reside in the area, as shown in **Table 2,** the following mitigation measures should be implemented.

5.1 General Recommendations

The following general recommendations should be applied to any future development:

- All necessary precautions must be taken to prevent the accumulation of litter and construction debris within any natural areas outside of the construction limits. Daily inspections and clean-up must take place.
- Upon project completion, all construction materials must be removed off-site.

5.2 Natural Heritage Features

5.2.1 Headwater Drainage Features

Based on the Classification of the HDFAs, the Management option for the HDFs are provided below along with their associated mitigation measures required for each.

The management option following the HDFA for the upstream section of HDF1 and HDF2 is **Mitigation – Contributing Functions** while the downstream section of HDF1 is **Conservation**. As such, the following mitigation measures are applicable:

- Relocate drainage feature and its riparian zone corridor;
- If catchment drainage has been previously removed or will be removed due to diversion of stormwater flows, restore lost functions through enhanced lot level controls (i.e., restore original catchment using clean roof drainage), as feasible;
- Maintain or replace on-site flows;
- Maintain or replace external flows;
- Drainage feature must connect to downstream habitat.
- Replicate or enhance functions through enhanced lot level conveyance measures, such as well-vegetated swales (herbaceous, shrub and tree material) to mimic online wet vegetation pockets;
- Replicate on-site flow and outlet flows at the top end of system to maintain feature functions with vegetated swales, bioswales, etc. If catchment drainage has been previously removed due to diversion of stormwater flows, restore lost functions through enhanced lot level controls (i.e. restore original catchment using clean roof drainage);
- Replicate functions by lot level conveyance measures (e.g. vegetated swales) connected to the natural heritage system, as feasible and/or Low Impact Development (LID) stormwater options (refer to Conservation Authority Water Management Guidelines for details);

5.2.2 Wetland Compensation Plan

A small (0.18 ha) unevaluated wetland was delineated on the Subject Property. As part of the Project, the wetland will be removed, and a Wetland Compensation Plan (Compensation Plan) will be developed to offset the loss of the wetland. The wetland

will be compensated on the adjacent property to the east at a rate of 2:1 (0.36 ha) and will attach to an existing wetland (**Figure 5).** Prior to the completion of the Compensation Plan, the boundary of the existing wetland will be delineated so no infilling of the wetland occurs during the construction of the compensation wetland. The Compensation Plan will be created following approval of the Project and will include the following:

- ELC mapping/classification of adjacent wetland.
- 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.

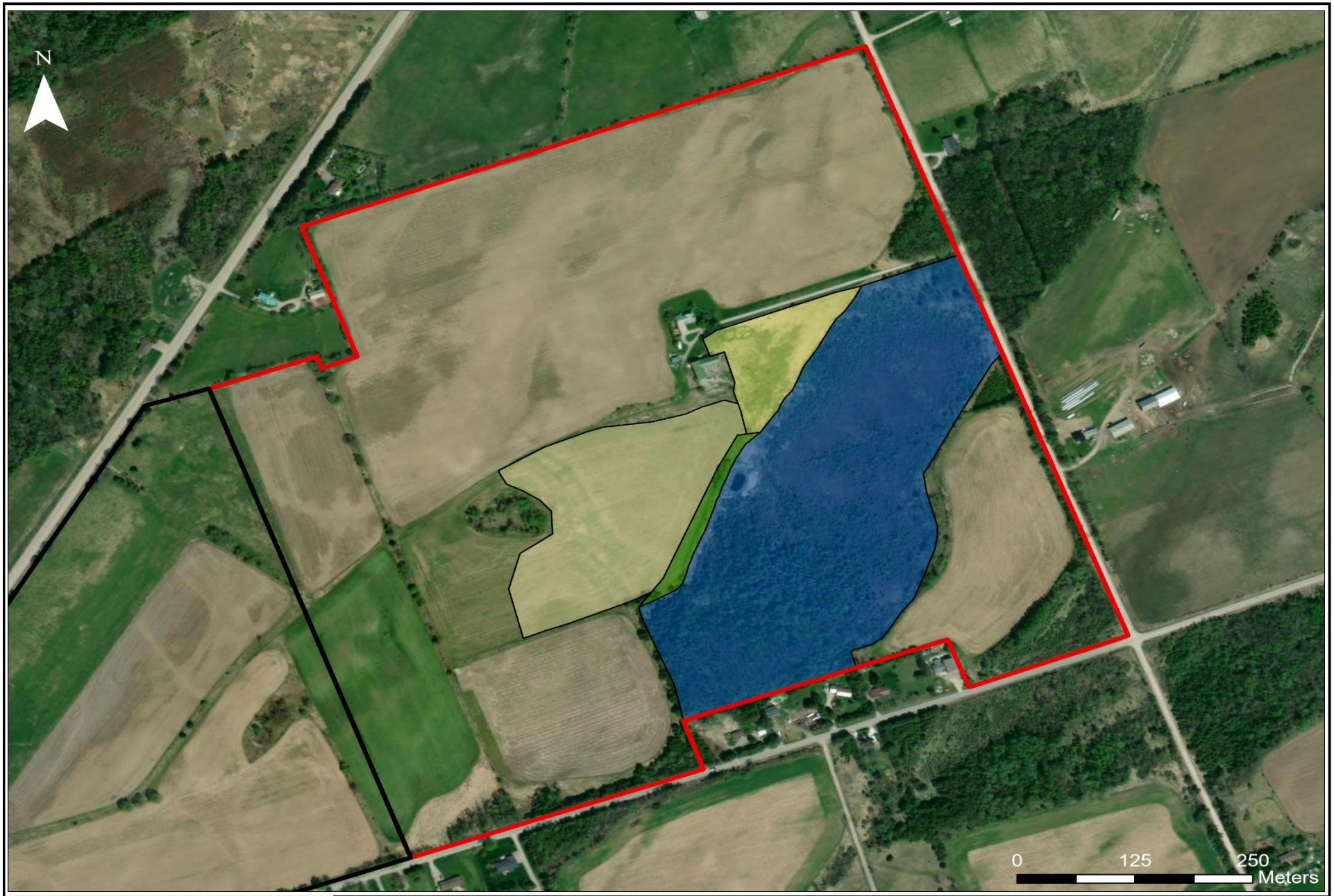
No specific mitigation measures, other than those related to vegetation removal, are recommended when the infilling of the existing wetland takes place.

5.3 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 around the entire site before construction activities commence to prevent soil deposition into the drainage features and downstream wetland.
- Inspection and maintenance of erosion and sediment control measures and structures should take place during the course of construction.
- Non-biodegradable erosion and sediment control materials are to be removed after all disturbed ground has been permanently stabilized.
- Site isolation measures for containing stockpiled material should be implemented.
- A response plan should be developed that will be implemented immediately in the event of a sediment release or spill of a deleterious substance.
- 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.



Legend

- Subject Property
- Adjacent Property
- Compensation Wetland Habitat
- Existing Wetland
- Existing Bobolink/ Meadowlark Habitat
- Bobolink/Meadowlark Compensation Habitat

Figure 5 – Compensation Habitat Areas

Environmental Impact Study
3491 Wallace Point Road, Township of Otonabee-South Monaghan

WILLS

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150 Jameson Drive
Peterborough, Ontario
Canada K9J 0B9

P. 705.742.2297
F. 705.741.3568
E. wills@dmwills.com

Drawn By	JG	Scale	See Scale Bar
Checked	SF	Date	March 2023
Project No.	85162	Drawing File No.	Figure 5

5.4 Species at Risk/Wildlife

The background review and field investigations determined 25 species of conservation concern had recent or historically confirmed presence in the area surrounding the Subject Property. The SAR Screening Assessment (**Table 2**) identified suitable habitat on the Subject Property for eleven of those species.

The presence of SAR was confirmed in the barn structures and the early successional meadow within the CUM1 ecosite at the north end of the property.

5.4.1 Birds and Bats

Habitat for various SAR birds and non-SAR bat species was confirmed within the cultural meadow habitat, as well as the barn structures. As such, the following mitigation measures are required:

- Any vegetation clearing must occur outside of the breeding bird season of **April 15 to July 31**. If this time period is unavoidable, alternatively, a nest sweep for birds must be conducted by a qualified biologist, prior to any clearing of vegetation on-site. Following a bird nest sweep, vegetation removal must be completed within 72 hours. If it is not completed within this time period, an additional sweep is required.

  Note: This is not applicable to the Eastern Meadowlark/Bobolink habitat at the north end of the property. The timing window must be adhered to for this area.
- If, during a nest sweep, any bird nests are encountered, all construction activities should cease, and a buffer should be placed around the location until after **July 31**. The size of the buffer will be dependent on the species and should be consulted with the MNRF and/or MECP.
- The MECP must be contacted in the case that any rare or SAR species are identified during pre-construction or throughout the construction phases.
- The barn structures should not be removed during the combined breeding bird or bat maternity roosting season of **April 15 to September 30**.

5.4.2 Bobolink/Eastern Meadowlark

Depending on the survey date, anywhere from 6-16 Bobolink were observed within the early successional meadow habitat (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 BB02, which was situated along a tree line between two agricultural fields. These birds were heard either flying over, along the tree line east of the agricultural fields or in the grass area in the vicinity of the house. No Bobolink were heard during any other survey and only a single Eastern Meadowlark was heard at BB02 during the third survey.

Due to the results of the Surveys, Wills has determined that Category 1 habitat for Bobolink/Eastern Meadowlark is present on the Subject Property within the Early Successional Meadow in the CUM1 ecosite as identified in **Figure 4**. Numerous breeding pairs and individuals displaying mating behaviours were observed during the second and third surveys. While Eastern Meadowlark and Bobolink were heard at BB02, most occurrences were during the second Survey and not within any area that contained Bobolink/Eastern Meadowlark habitat. Aside from the treelines, which did not consistently contain any birds utilizing the area, no habitat exists within the vicinity of BB02.

5.4.2.1 Eastern Meadowlark and Bobolink Habitat Management Plan

Section 23.6 of the *ESA* states that a Habitat Management Plan may be developed to offset losses of Bobolink/Eastern Meadowlark habitat as a result of the development of land, provided that the size of the area that is impacted is equal to, or less than, 30 hectares. The Bobolink/Eastern Meadowlark habitat on the Subject Lands is approximately 2.2 ha., therefore the habitat can be compensated with a Habitat Management Plan.

The compensation area is being proposed on the adjacent property to the east, west of the wetland compensation area and attached to existing Bobolink/Eastern Meadowlark habitat to the northeast. The new habitat will be approximately 4.1 ha and will also act as a buffer to the newly created wetland where one previously did not exist (**Figure 5**).

In order to move forward with the removal of the Bobolink/Eastern Meadowlark habitat, the project must be registered with the MECP through a Notification of Activity form prior to development and a Habitat Management Plan must be created.

The Habitat Management Plan will address the following:

- The habitat that is created/enhanced (compensation habitat) must be larger than the area that is destroyed, must be a minimum of 4 ha in size, and must be at least 200 m wide.
- The compensation habitat is to be managed/monitored for five years after it is created/enhanced;
    - Monitoring includes at least three breeding bird surveys per year between April 21 and July 3.
    - An annual report summarizing surveys, current state of the habitat, and address any mitigation that may be required.
- Impacted habitat cannot be damaged/destroyed between May 1 and July 31 of any year;
- Must be within the same or adjacent ecoregion;
- Compensation habitat must be created within 12 months of damaged/destroyed habitat.

- A Habitat Management Plan Report is to be developed and kept for a minimum of five years;
- The habitat cannot be harvested, mowed or cut between April 1 and July 31 of any year;
- If the habitat is used for pasture, grazing farm animals must be excluded from at least 50% of the habitat from April 1 to July 31 of any year.

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 County of Peterborough, 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: 

Shawn Filteau, B.Sc.
Natural Sciences Lead

Reviewed by: 

Ben Radford, B.Sc.
Project Biologist

SF/BR/mp

7.0 References

- Chapman and Putnam, 1966. The Physiography of Southern Ontario, 2nd Edition. University of Toronto Press.
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Appendix A

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

Site Plan

SUMMARY TABLE

85162 – WALLACE POINT ROAD, OTONABEE–SOUTH MONAGHAN	
REGULATIONS	PROPOSED
NUMBER OF LOTS	50 RESIDENTIAL LOTS 1 COMMERCIAL BLOCK 1 SWM BLOCK 1 ACCESS BLOCK
LOT AREA (MIN.)	0.79 ACRE (3197.0m²)
LOT FRONTAGE (MIN.)	25.0m
AVERAGE LOT DEPTH	72–84m
ROAD AREA	–
BUFFER AREAS	–
TOTAL SITE AREA	24.79ha

KEY PLAN

TRUE NORTH

REVISIONS

No.	Description	Date

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

WILLS

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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.	SCALE: Horz. 1:1500 Vert. –	
Designed By: M.B.	Issue Date: February 23, 2023	
Checked By: J.D.F.	Project No.: 21-85162	Sht. No.:
Engineer: – – –	Dwg File No.: 85162 – DPV2	200

NOT FOR CONSTRUCTION

Printed By: mbell Printed On: February 23, 2023
q:\85000 – private\85100–85199\85162 – 3491 wallace point rd\02 drawings\02 current drawings\cad\dpg\85162 – dpv2.dwg

Appendix C

NHIC Map

Legend

- Assessment Parcel
- ANSI
- Earth Science Provincially Significant/sciences de la terre d'importance provinciale
- Earth Science Regionally Significant/sciences de la terre d'importance régionale
- Life Science Provincially Significant/sciences de la vie d'importance provinciale
- Life Science Regionally Significant/sciences de la vie d'importance régionale
- Evaluated Wetland
- Provincially Significant/considérée d'importance provinciale
- Non-Provincially Significant/non considérée d'importance provinciale
- Unevaluated Wetland
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System

0.3 0 0.16 0.3 Kilometres

Absence of a feature in the map does not mean they do not exist in this area.

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Natural Resources and Forestry(OMNRF) shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

NHIC Map

3491 Wallace Point Road,
Township of Otonabee-South
Monaghan, ON.

WILLS

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Drawn By: SF	Scale: See Scale Bar
Checked:	Date: Mar 2023
Project No.: 85162	Drawing File No.:

Appendix D

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.

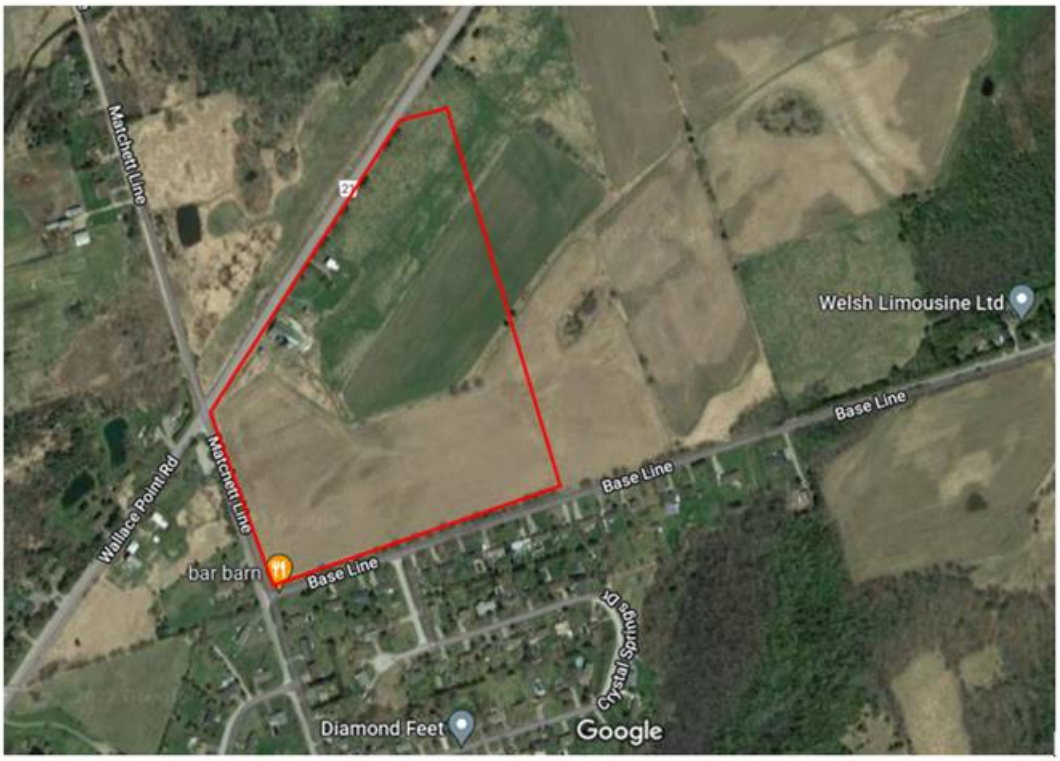
Let me know if you need to chat, thanks.

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>
Sent: February 24, 2022 12:41 PM
To: Tyler Jones <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>
Sent: Tuesday, February 22, 2022 3:45 PM
To: Jasmine Gibson <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

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) 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

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 substituts, 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

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

Appendix E

Site Photographs

Client Name: Nirvana Homes	**Site Location:** 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.

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

Client Name: Nirvana Homes	**Site Location:** 3491 Wallace Point Road, Township of Otonabee-South Monaghan

Photo Number: 3
Date: May 10, 2022
Direction Photo Taken: Southeast
Description: North end of HDF 1.

Photo Number: 4
Date: May 10, 2022
Direction Photo Taken: Southeast
Description: West end of HDF1, looking east.

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

Client Name: Nirvana Homes	**Site Location:** 3491 Wallace Point Road, Township of Otonabee-South Monaghan

Photo Number: 5
Date: May 10, 2022
Direction Photo Taken: Northeast
Description: HDF2

Photo Number: 6
Date: May 18, 2022
Direction Photo Taken: Southwest
Description: View of pasture lands within Cultural Meadow ecosite.

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

Client Name: Nirvana Homes	**Site Location:** 3491 Wallace Point Road, Township of Otonabee-South Monaghan

Photo Number: 7
Date: May 18, 2022
Direction Photo Taken: Northwest
Description: Early successional meadow habitat within Cultural Meadow ecosite.

Photo Number: 8
Date: May 18, 2022
Direction Photo Taken: Southeast
Description: Active agricultural lands in the background and strip of grass between fields in the foreground.

Client Name: Nirvana Homes	**Site Location:** 3491 Wallace Point Road, Township of Otonabee-South Monaghan

Photo Number: 9
Date: May 18, 2022
Direction Photo Taken: Northeast
Description: Wetland feature on the east side of the property.

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