Environmental Impact Study- The New Farm

Prepared for:
Gillian Flies and Brent Preston
Creemore, ON

Report prepared by:
Neil Morris, Consulting Ecologist
Report Reference #22-11.1

12 January 2023

Executive Summary

This Environmental Impact Study (EIS) report is in reference to the 40 hectare (ha) Property at 9783 6/7 Nottawasaga Sideroad, Creemore, Ontario. The property location is depicted in Figure 1. The property is currently owned by Brent Preston and Gillian Flies and is the site of the New Farm, an organic family farm. For the purposes of this report, this land is referred to hereafter as the "New Farm Property", or simply the "Property".

The Property owners are proposing to rezone portions of the property and to construct a new single detached residential dwelling within the northeast corner of the Property as an element of the existing farm operation. A zoning by-law amendment (ZBLA) and site plan application (SPA) will be required for these purposes.

<u>Environmental Constraints</u>

There are several features identified within or near the Property which could generally trigger the need for an EIS in the event that development of some form and extent was proposed for the Property. These are;

1. the presence of ~10 ha of mapped Woodlands occupying the east end of the Property, the majority of which could be considered as Significant Woodlands,
2. the presence of a small watercourse that traverses wooded portions of the east end of the Property, and
3. the presence of an unevaluated wetland, as mapped by the MNRF, that is generally associated with the riparian zone of the noted watercourse.

Any development proposed that extends within the above-noted features or is within their respective adjacent lands could be subject to a requirement for an EIS. In regard to Significant Wildlife Habitat (SWH) or critical habitat for Species at Risk (SAR), comprehensive mapping of these features has not been compiled, but their presence is also a possibility to consider at any site at the outset of an EIS.

<u>EIS Rationale and Scope</u>

The proposed building site (PBS) lies within the adjacent lands of identified natural heritage features. This circumstance triggers one or more policies pertaining to natural heritage protection. In general, this EIS has been undertaken with the overall objective of determining whether the proposed residential development can occur without adverse impacts on the various relevant natural heritage features and functions. This EIS has been prepared to support a ZBLA and SPA, and the approval process in general.

Existing Conditions

Only about 20% of the New Farm Property is currently occupied by natural vegetation communities, including both deciduous and coniferous forests as well as forested wetlands. The entirety of the forested areas within the Property can be conservatively considered as Significant Woodlands, simply on the basis of size-related criteria. The PBS is situated within a patch of Cultural Meadow (CUM) community separated from the nearest woodlands by a distance of about 70 m. The woodlands do not exhibit characteristics which would be considered sensitive to indirect disturbance or which would warrant protective priority from a conservation perspective.

The CUM community which encompasses the PBS supports moderately diverse assemblages of flora and fauna that are common and typical of the region, and also typical of sites that have been disturbed. The wildlife species that have been observed are from secure populations and almost all are considered not to be of conservation concern. Isolated occurrences of two Species at Risk (SAR) were observed in association with the CUM community in locations separated from the PBS. Otherwise, the CUM community surrounding the PBS does not support species or functions which would be considered as sensitive or as conservation priorities.

The study area also borders a small watercourse and associated riparian wetland, both of which are separated from the PBS by a minimum distance of 130 m. The watercourse is intermittent and there is no indication that it serves as direct fish habitat. The wetland generally supports species and functions which are not considered to be sensitive or conservation priorities. No evidence of SAR or SWH was observed during examination of either the watercourse or the wetland.

Potential for Impacts

In general consideration of development at the PBS, and without accounting for any Site Plan adjustments or other mitigating measures, an initial high-level assessment identifies the theoretical potential for several natural heritage implications, as follows;

- direct loss or impairment of a limited area of Cultural Meadow (CUM) community and its ecological functions,
- indirect disturbance of forest communities and their ecological functions, including areas that could be deemed to be Significant Woodlands,
- possible direct harm or indirect disturbance of Priority Species or Significant Wildlife Habitat (SWH) that have been indicated as possibly present in proximity to the PBS, and
- possible indirect impacts on a small watercourse and associated wetland that border the study area.

Following detailed analysis, the proposed single-family residential development within the New Farm Property has been determined to meet policy requirements, and there is no expectation of any negative impacts on the specific features of interest (Significant Woodlands, Priority Species, SWH, wetlands and watercourses) or the Natural Heritage System (NHS) that they comprise.

<u>Recommendations</u>

Regardless of the relatively low level of risk, there should be efforts to further mitigate the risk of any impacts potentially associated with proposed development of the Property. Recommendations are provided herein to avoid, limit or otherwise mitigate the potential impacts that have been identified. The recommendations are summarized as follows:

- In general, any development or alteration within the New Farm Property should be confined to the Cultural Meadow (CUM) community, and avoid encroachment within 10 m of the Sugar Maple deciduous forest (FOD5) community, and within 30 m of the wetland or the watercourse.
- As a standard precautionary measure, Erosion and Sediment Control (ESC) measures should be implemented prior to the onset of construction to mitigate the low risk of sedimentation impacts on the watercourse and wetland features down-gradient of the PBS.
- Construction activities or any other effort resulting in meaningful alteration of natural vegetation communities within the Property should be timed to avoid the active bird nesting period (i.e., from May to August, inclusive). Such timing, combined with the installation of ESC fencing around the perimeter of the construction envelope, will mitigate the theoretical risk of impacts on the Priority Species which may be occasionally present in the area around the PBS.

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

Acronyms and Abbreviations

BBS	Breeding Bird Survey
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
CUM	Cultural Meadow (ELC community)
DBH	Diameter (of a tree) at breast height
EIS	Environmental Impact Study
ELC	Ecological Land Classification
FOC	Coniferous Forest (ELC community)
FOD	Deciduous Forest (ELC community)
ha	hectare(s)
masl	meters above sea level
MECP	Ministry of Environment Conservation and Parks
MNRF	Ministry of Natural Resources and Forestry
NHS	Natural Heritage System
NHIC	Natural Heritage Information Centre
NVCA	Nottawasaga Valley Conservation Authority
OBBA	Ontario Breeding Bird Atlas
OARA	Ontario Amphibian and Reptile Atlas
OP	Official Plan
PBS	Proposed Building Site
SAR	Species at Risk
SARA	Species at Risk Act (Canada)
SOCC	Species of Conservation Concern
SPA	Site Plan Approval
SWC	Coniferous Swamp (ELC community)
SWH	Significant Wildlife Habitat
ZBLA	Zoning By-law Amendment

1.0 INTRODUCTION

1.1 Background

1.1.1 Property Description

This Environmental Impact Study (EIS) report is in reference to the 40 hectare (ha) property at 9783 6/7 Nottawasaga Sideroad, Clearview, Ontario. The property location is depicted in Figure 1. The property is currently owned by Brent Preston and Gillian Flies and is the site of the New Farm, an organic family farm. For the purposes of this report, this land is referred to hereafter as the "New Farm", or simply the "Property".

At present, only about 10 ha of the New Farm Property is occupied by natural vegetation communities, largely in the form of deciduous and coniferous forest and also coniferous wetland (swamp) at the east end of the Property. The majority of the Property is dedicated to agricultural land use, consisting of a mix of pasture/forage lands and crop-lands. The existing development within the Property is confined to the west end within 300 m of County Road 124, including a residential dwelling and various structures used in support of the agricultural operation. Figure 2 depicts the general layout of the Property and the distribution of main natural vegetation features within the Property.

Under the Official Plan (OP) of both Simcoe County and Clearview Township, the land use designation of the majority of the New Farm Property is "Agricultural". Portions of the far east end of the Property that are occupied by woodlands and wetlands are designated as "Greenlands" in both OPs. The Greenlands are also zoned "Environmental Protection" by Clearview Township.

1.1.2 Environmental Constraints

The current understanding of potential environmental constraints of relevance to the Property is based in part on review of mapping of formal delineations available from several sources, including:

- the Simcoe County and Clearview OPs and supporting on-line mapping resources,
- Natural Heritage mapping available from the Ministry of Natural Resources and Forestry (MNRF) or Land Information Ontario (LIO), and
- mapping available from the Nottawasaga Valley Conservation Authority (NVCA).

Copies of relevant constraint maps are provided in Appendix A.

There are several natural heritage features identified within or near the Property which could generally trigger the need for an EIS in the event that development of some form and extent was proposed for the Property. These are;

1. the presence of ~15 ha of woodlands occupying the east end of the Property, the majority of which is recognized as *Significant Woodlands*,
2. the presence of a small watercourse that traverses wooded portions of the east end of the Property, and
3. the presence of a wetland, mapped and classed as "unevaluated" by the MNRF, that is generally associated with the riparian zone of the noted watercourse.

In general, these features correspond to the Greenlands designation and EP Zoning that come with inherent constraints directed at environmental protection.

In regard to Significant Wildlife Habitat (SWH) or critical habitat for Species at Risk (SAR), comprehensive mapping of these features is not available, but their presence is a possibility to consider at any site at the outset of any EIS.

In general, any development proposed that extends within the above-noted features or is within their respective adjacent lands could be subject to a requirement for an EIS.

1.1.3 Development Proposal

The New Farm owners are proposing changes to the use and zoning of the Property. This will include rezoning of about 2.2 ha of land at the west end of the Property from Agricultural A1 Zone to an Agriculturally Related Commercial (AGC) Zone. This area encompasses the existing farm cluster, which includes a dwelling which is to be converted to an Accessory Farm Office and Seasonal Farm Labour Accommodation Building. These changes will permit "on-farm diversified uses" such as agri-tourism uses, value-added agricultural products, and various accessory uses. A Zoning By-law Amendment (ZBLA) will be required to allow these changes.

In addition, the owners wish to construct a new residential dwelling in the east end of the Property, more than 50.0 m from any Accessory Dwelling Unit or Seasonal Farm Labour Accommodation Building. The proposed building site (PBS) will be set back about 100 m from 6/7 Sideroad within the core of an existing area of pasture/forage cover. The residence will be serviced by private well and septic, and accessed from 6/7 SR via an existing gravel laneway. A copy of the proposed Site Plan that has been prepared for the New Farm is attached as Appendix C. The PBS is also approximately illustrated in Figures 2 through 5 of this EIS report. A ZBLA is not explicitly required to permit the new residential dwelling. However, the overall plan for the New Farm is subject to Site Plan Approval (SPA).

1.1.4 EIS Rationale and Objectives

To PBS itself occupies the *adjacent lands* of several natural heritage features (woodlands, wetlands, watercourse). This circumstance triggers one or more policies pertaining to natural heritage protection. In general, this EIS has been undertaken with the overall objective of determining whether the proposed rezoning and residential development can occur without adverse impacts on the various relevant natural heritage features and functions. This EIS has been prepared to support of the ZBLA and SPA applications, and the approval process in general.

The EIS has included focused characterization of the noted environmental features and an analysis of potential effects of the proposed development on those features. This in turn serves to demonstrate policy adherence relating the noted natural heritage features.

1.2 Scope of Work

The scope and content of this EIS are site-specific and have been developed so that concerns regarding natural heritage features or functions are addressed to the satisfaction of approval authorities and other concerned agencies. The scope of this EIS reflects the nature and location of the proposed development and also the distribution and characteristics of the natural heritage features and functions identified above as possible concerns for the Property.

The scope and content of this EIS were developed with the intent of being consistent with the general principles and/or specifications presented in Section 3.8 of the Simcoe County OP and Sections 4.1.2.2 and 8.18 of the Clearview Township OP. The EIS is in support of plans for construction of a new residence that would be located within the adjacent lands of certain natural heritage features (i.e., woodlands, wetlands). In this case, the level of detail necessary to demonstrate conformity with relevant policies is less than typically required for higher level approvals (e.g. approval of a plan of subdivision). In consideration of these factors, this EIS has been conducted as a "Scoped" EIS. A Terms of Reference (TOR) for this EIS was developed in consultation with the NVCA (see Appendix B).

This EIS has been undertaken with a focus on the potential impacts of proposed residential development on the features and functions in proximity to the PBS. The coverage and level of detail of on-site surveillance allow effective characterization of the Property within and around the PBS, and also the surrounding area within about 200 m of the PBS.

The characterization of the Property and relevant features is based primarily on direct field-level surveillance. To effectively address the identified EIS requirements, this field surveillance has included:

- Direct examination of slope/topography, conveyance features (ditches, swales, streams), and overburden characteristics within and adjacent to the Property, to understand hydrological processes and potential connectivity between the area of potential development and any nearby aquatic features.

- Inventory of terrestrial biota with a focus on identification of SAR, SOCC and SWH that may be present. This includes a botanical inventory, a breeding bird survey (BBS), and incidental surveillance of other fauna (amphibians, reptiles, mammals).
- Direct assessment of vegetation communities within and near the PBS, including community composition (e.g. species, age/size class, relative density), forest strata characteristics (where applicable), soil characteristics, and wildlife presence and utilization.

The information acquired through the on-site monitoring has been combined with existing information from other sources to complete the required site characterization. Further details of monitoring methods are provided in Section 2.

2.0 METHODOLOGY

The work undertaken to allow the preparation of this EIS Report has included two main components;

1. a desktop review of previously recorded information regarding the characteristics of the Property and adjacent lands, and
2. focused on-site monitoring of the Property, with a focus on the portion of the study area that more closely surrounds the PBS.

The assessment herein collectively considers the findings of the desktop review and the on-site monitoring in a weight-of-evidence manner, with primary emphasis on site-specific data.

The following sections describe the methods employed in conducting the various components of environmental monitoring for the purposes of this EIS. In summary, the methodology adopted for the monitoring documented herein was developed to provide results appropriate to the stated objectives, and is based on standard accepted protocol where such protocol have been established.

A handheld GPS unit (Garmin model “GPSmap 76”) was used to delineate key features, to measure areas of features, and to provide the geographic coordinates of monitoring locations or key natural heritage features of relevance. All coordinates have been obtained and reported using the Universal Transverse Mercator (UTM) coordinate system and NAD83 datum.

2.1 Review of Existing Information

A review of existing information of relevance to the New Farm Property was completed prior to completion of direct on-site assessment. Several sources of information were consulted for this purpose, including:

- Simcoe County’s web-based interactive GIS mapping tool,
- the Natural Heritage Information Centre (NHIC) on-line database,
- on-line natural feature mapping available from Land Information Ontario (LIO),
- the Ontario Breeding Bird Atlas (OBBA) (Cadman et al, 2007) and associated database (Bird Studies Canada (BSC) *et al*., 2021),
- the Ontario Reptile and Amphibian Atlas on-line database (OARA), and
- the Soil Survey of Simcoe County (Hoffman et al, 1962).

The information obtained in this review has served in part to determine certain ecological characteristics of the Property, and also in part to identify possible features to receive focused attention during the on-site monitoring efforts.

Information from several of the sources noted above was also used to complete initial screening in regard to the possible presence of Species at Risk (SAR). The available information of relevance has ultimately been combined with results of direct surveillance of the Property to assess SAR presence (see Section 4.8).

2.2 On-Site Monitoring

The on-site surveillance reported herein was conducted during five separate visits to the Property over the period of May to August of 2022. The timing of site visits was intended to allow for effective seasonal coverage of the various specific monitoring endpoints.

Given the size and location of the anticipated development footprint, and the scope of the EIS, on-site monitoring was focused on the eastern portion of the Property within about 200 m of the PBS. The location of the focused monitoring area within the New Farm Property is depicted in Figure 2. Figures 3 through 5 are generally confined to this area.

2.2.1 Avian Monitoring

A focused survey of birds was completed at the New Property over the full period of monitoring (May to August 2022), covering a portion of the spring migration period and the core of the breeding season (June and July). A focused Breeding Bird Survey (BBS) was completed using a combination of two methods; 1) the point-count method, and 2) incidental surveillance. The BBS gave focused attention to any indications of the possible presence of SOCC or SAR.

The point-count method was implemented following protocol consistent with that employed for the Ontario Breeding Bird Atlas (OBBA) (Cadman et al., 2007) and the Marsh Monitoring Program (BSC, 2003). A single point-count station was established (see Figure 3) to directly encompass the PBS and the vegetation communities within/near the PBS (i.e., Cultural Meadow and also Deciduous Forest - see Section 4.2).

Point-count monitoring was conducted between sunrise and 10:00 a.m.. Each individual bird heard or seen within a 100 meter radius (3.142 ha) of the fixed centre was recorded over two successive five-minute periods (10 continuous minutes per survey episode). The distance from the observation point was approximated for each individual bird occurrence. Breeding evidence for each bird species was documented using OBBA Evidence Codes.

Wandering incidental surveillance was also conducted throughout the east end of the New Farm Property, noting all individual bird occurrences and breeding evidence while traversing the Property. Incidental surveillance was used to augment the temporal and spatial coverage of point-count monitoring and to provide a more complete assessment of avian diversity within the Property. The habitat and location of each bird observed during surveillance was noted, along with notes regarding activity (foraging, in flight, singing, nest defending, etc.). Wandering surveillance was completed on all days on which the Property was visited.

2.2.2 Surveillance of Other Fauna

During all site visits, all observations of amphibians, reptiles and mammals on or near the Property were recorded, along with any other evidence of faunal presence (e.g. foot prints, scat, skin sheds, and burrows). In absence of any amphibian breeding habitat (i.e., features with a meaningful extent and duration of standing water) within 100 m or more of the PBS, standard point-count monitoring of amphibian vocalizations was <u>not</u> conducted at the New Farm Property. However, the small pond located about 170 west of the PBS (see Figure 3), which exhibits conditions that could support some amphibian species, was subject to direct surveillance for any evidence of amphibian presence for breeding or other purposes.

2.2.3 Botanical Inventory

Surveillance of terrestrial vascular plant species was completed following a basic "wandering transect" approach to determine the presence and general distribution of plant species within the New Farm Property. The vascular plant inventory was conducted with a focus on each of the distinct vegetation communities delineated within or near the PBS. (see Section 4.2 and Figure 5). Botanical inventory was also completed elsewhere within the Property further away from the PBS, but with less intensity. Focused attention throughout the botanical inventory was given to the possible presence of any plant SAR or SOCC that have been identified in the general vicinity of the Property (see Section 4.8).

2.2.4 Ecological Land Classification

The New Farm Property has been assessed following the Ecological Land Classification (ELC) methodology described by Lee *et al*. (1998). This approach generates classification and mapping of ecological communities down to a size of approximately 0.5 hectares or less (if relevant), and allows much more detailed classification of communities than broad scale Landsat imagery. ELC of the Property was completed through the following general task sequence:

- initial site reconnaissance (completed in May 2022) to ascertain major distinct units of vegetation cover, topography, and soil characteristics,

- subsequent delineation of community distribution using satellite imagery and aerial photos for a first approximation of ELC, and
- further detailed site monitoring to refine initial ELC approximation. Each distinct community was examined to determine soil characteristics and to determine the composition and characteristics of woody and non-woody vegetation layers present.

The detailed site monitoring included examination of physiographic attributes such as topography/slope, surface soil profiles, and the possible presence of elevated water table. To facilitate characterizations of soil conditions (texture, moisture regimes) vertical soil profiles were completed in multiple locations within each distinct vegetation unit. Soil profiles were completed to a depth of 0.5 to 1 m below ground surface (bgs) using a hand-auger.

Within each identified unit, the following information regarding vegetation cover was recorded:

- Relative species composition and percent cover of trees and shrubs, where present
- Caliper and height range of trees in wooded units, and
- General under-storey characteristics and non-woody species composition.

Through other specific monitoring efforts (e.g. BBS, general faunal surveillance), the habitat function of each ELC unit was also assessed and recorded.

2.2.5 Aquatic Features and Wetlands

The stream, pond and wetland features (see Figures 2 and 4) are all located about 130 m or more from the PBS, and there is no evidence of meaningful hydrological connectivity between the PBS and these watercourses. For this reason, these features were subject to relatively general assessment as part of this EIS.

The area of unevaluated wetland within 200 m of the PBS, as mapped by the MNRF, was encompassed in the various surveillance activities undertaken as part of this EIS (e.g. faunal surveys, botanical inventory). In addition, the wetland was examined to determine the extent and duration of standing water or surface saturation. The wetland was also examined for any indication of habitat functions typically associated with wetlands (e.g. amphibian breeding, waterfowl nesting).

3.0 PHYSICAL CHARACTERISTICS

3.1 Topography

Overall, the New Farm Property exhibits relatively minor relief in the west half, and considerably rolling topography in the east half where the PBS is located. Elevations within the east end of the Property are illustrated in Figure 4. Within the area of focused monitoring, there is a central plateau extending in about 100 m from the 6/7 Concession, measuring about 1 ha in area. The maximum elevation at roadside is 512 meters above sea level (masl) and the south edge of a plateau exhibits elevations in the range of 508-510 masl. There is an abrupt and substantial slope (generally in range of 10-20%) down from the perimeter of the plateau in all directions, leading to a trough that encompasses the watercourse and the wetland area. The trough exhibits a gradual decline in elevation from about 496 masl in the core of the wetland area to the west of the PBS to about 490 masl in the SE corner. The PBS is located at the south edge of the plateau, extending slightly onto the south slope and sitting at an elevation at least 10 m above the wetland and watercourse. There is an absence of any complex microtopography within the area of focused monitoring.

3.2 Soils and Geology

Overburden consists of well-sorted outwash materials developed on calcareous bedrock. According to the Simcoe County soil survey (Hoffman et al., 1962), soils within the New Farm Property, including the area of focused monitoring, are mapped as Otonabeee Loam. This is a light grey, calcareous loam till that is well drained, both internally and externally. The Simcoe Soil Survey also indicates the presence of a limited pocket of muck soil corresponding generally with the mapped wetland feature on the east and south perimeter of the monitoring area. The muck is described as well decomposed organic matter over 30 cm deep underlain by sand, gravel, silt or clay. Muck soils are typically found in depressions with low infiltration rates and where water tends to collect. Organic matter also migrates to these depressions where it accumulates and decomposes to form the muck soils.

Direct examination of soils within the New Farm Property as part of this EIS has confirmed the presence of the noted mineral soil profiles throughout the upland portions of the Property, and particularly around the PBS. The presence of muck soils within the confines of the wetland was also confirmed, although the spatial extent of muck soils appears slightly more restricted than indicated in the Soil Survey report, particularly along the southern perimeter of the Property.

3.3 Hydrology

Key elements of hydrology within the area of monitoring are illustrated in Figure 4. The Property lies within the Noisy/Mad River Watershed and the general direction of drainage throughout the Property is eastward toward the main channel of the river. There is a small watercourse that traverses the east half of the New Farm Property. The watercourse originates near the downstream end of a culvert that crosses the 6/7 Concession, initially flowing north to south more or less along the west edge of the study area. The watercourse then veers east and meanders along the south edge of the Property. The watercourse is a first-order tributary to the Mad River system, eventually converging with other tributaries and discharging to the Noisy River (a major tributary to the Mad River) about 2.5 km downstream (~southeast) of the Property.

Existing mapping (MNRF, NVCA) indicates the presence of a small wetland associated largely with the path of flow of the small watercourse through the Property (see Figures 2 and 4). The total wetland area is approximately 4.6 ha, with about 2.8 ha encompassed within the New Farm Property. The portion of the wetland boundary within the study area was subject to on-ground delineation on the basis of Ontario Wetland Evaluation System (OWES, MNRF 2014) criteria. The field-approximated boundary was found to be generally consistent the MNRF mapped boundary within a few meters. For the purpose of this EIS, the boundary as mapped by the MNRF serves as the basis for any assessment of the wetland.

As noted in Section 3.1, the wetland feature is confined to a local topographical depression and is mostly within 30 to 40 m of the stream channel. The wetland appears to function primarily as a discharge feature, exhibiting saturated conditions during the spring runoff period and otherwise relatively dry during much of the growing season.

Given the well-drained nature of the soils within the Property, and also the low relief and dense vegetation of the plateau where the PBS is located, it is likely that the large bulk of drainage in the area of the PBS rapidly infiltrates to groundwater. Given the nature of soils and overburden, it is expected that groundwater is mostly subject to vertical movement and minimal lateral conveyance. Some lateral movement of shallow groundwater may occur at times (e.g. in spring when surface soils are thawed but subsoil remains frozen) following the local gradient (i.e., southward). Examination of the sloped area between the PBS and the wetland and watercourse did not reveal any evidence of sustained or collated surface flow moving through this area. There were no seeps or springs observed at the base of the slope anywhere along the watercourse. Overall, it appears that the area of monitoring, and particularly near the PBS, is characterized by high rates of stormwater infiltration. There may be some degree of stormwater transport in the form of shallow groundwater toward wetland and watercourse, but this is not expected to constitute a significant contribution to the hydrological balance of these features.

4.0 ECOLOGICAL CHARACTERISTICS

The following sections describe the ecological characteristics of the New Farm Property. A description of the regional ecology is provided for context. Results of on-site monitoring are summarized in Tables 1 to 3.

4.1 Regional and Local Ecology

The New Farm Property is situated within the Mixedwood Plains *Ecozone*, and more specifically it is within the Manitoulin – Lake Simcoe *Ecoregion*, equivalent to Site Region 6E under Provincial classification. This Ecoregion is characterized by warm summers, mild winters, and relatively abundant precipitation (700 to 1000 mm/a) that is evenly distributed throughout the year. The dominant land cover is cropped land with significant areas of mixed forest. Climax vegetation is characterized by mixed hardwoods, including Sugar Maple, American Beech, Eastern Hemlock, Red Oak, and Basswood. Pioneer species include White Pine, Paper Birch, and Trembling Aspen. Yellow Birch, White and Slippery Elm, Red Maple, Black Ash and White Cedar are typical forest cover species in depressions and moist areas. Wetlands account for only about 3.5% of the total land area within this Ecoregion.

On a more local scale, the general characteristics of lands within a few km of the Property are largely shaped by topographic influences and also land management. About half of the area is currently occupied by agricultural lands (a mix of perennial forage and annual crops) and devoid of natural plant communities. Forest cover in the area is largely in the form of forested wetland (i.e., swamps) encountered on lands within or adjacent to the Mad River or its tributaries. The forest patches in table lands are mostly deciduous, with Sugar Maple being a dominant constituent. Coniferous forest cover, comprised mainly of Eastern White Cedar, is mostly encountered in lowland settings within or near wetlands and watercourses.

4.2 Ecological Communities

The delineation of ecological communities completed for the New Farm Property is intended to identify vegetation communities at a scale that has meaning and relevance to the overall objectives of the EIS.

Following the ELC system of Lee *et al.* (1998), a total of five community types have been delineated within the study area for consideration in this EIS. Figure 5 depicts the distribution of the ELC communities within the study area. Each community type and its ecological functions are briefly described in the following sections, with a summary of main attributes provided in Table 1. Representative photos of each of the community types are provided in Appendix D.

4.2.1 Cultural Communities

The nature of existing vegetation communities within the New Farm Property is predominantly shaped by past and present patterns of anthropogenic landuse. Aerial imagery indicates that the majority of the Property was clear of natural vegetation at least as far back as 1954, and used for agricultural purposes. For the purpose of this EIS, the lands that continue to be used for agricultural purposes in their various current states are delineated and described as *Cultural* community types in the ELC context.

Cultural Meadow (CUM)

The area within 100 m of the PBS is largely devoid of established woody cover and occupied primarily by a grass/forb mix typical of land used for pasture or forage production. Approximately 1 ha of the open meadow area has recently been planted with native coniferous trees (White Pine, Tamarack, and White Spruce) in a standard plantation pattern. At this time, the trees are <1 m tall and do not yet constitute woody cover in the ELC context. However, this area will eventually transition to a cultural plantation (CUP) community within a decade or so. For the purpose of this EIS, the planted area in its current state is functionally recognized as part of a Cultural Meadow (CUM) community.

The remaining 4 ha of the open habitat is now used for rotational cattle grazing. Access to the upper treed portion of the CUM community is currently precluded by the presence of livestock fencing. Small patches of coniferous trees (Eastern White Cedar, Tamarack) have established over the past couple of decades, mainly in the south-west corner of this grazed meadow area. The largest patch (~0.3 ha) is almost a pure stand of Tamarack that appears to have been initially planted and has since naturalized to some extent. For the purpose of this EIS, the conifer patches are recognized as *inclusions* of either Conifer Plantation (CUP) communities or natural upland coniferous forest (FOC) communities.

Dominant grass species of the CUM community include Timothy, Orchard Grass, Smooth Brome and Reed Canary Grass. The assemblage of herbs is variable, but generally comprised of species typical of disturbed sites, including numerous non-native and/or invasive species (e.g. clovers and trefoils, dandelions, wild carrot, vetches, etc.). The species assemblage is slightly variable with slope/topography, with the prevalence of grasses generally decreasing toward the lower perimeter. Various sedges and other relatively hydrophilic species are encountered in modest abundance on the southern perimeter in proximity to the wetland area.

Partly because of the limited patch size and also a general lack of native flora and structural diversity, the ecological function of the CUM community is limited primarily to supporting a relatively low abundance and diversity of common and unspecialized wildlife. The area of CUM is just at the reported minimal size threshold to function as preferred habitat for a number grassland-specialist species of bird or mammal, and an abundance of such birds is not expected. The results of direct wildlife surveillance support this characterization, although limited occurrence of two grassland birds that are

Species at Risk (SAR) was observed in association with this community (see Section 4.8). There are no plant species which are considered to be of conservation concern in any part of the CUM community.

4.2.2 Forest Communities

At the east end of the Property, there is a total of about 10 ha of forest cover that largely surrounds the open meadow where the PBS is located. The cover is comprised of three forest community types that have been delineated for the purpose of this EIS (see Figure 5).

<u>Deciduous Forest</u>

The area adjacent to the Property's east boundary is occupied by about 4.5 ha of relatively uniform deciduous forest cover. The canopy is dominated by Sugar Maple with a secondary presence of Basswood, Black Cherry, Beech, Ironwood, and White Ash. Conifers are generally absent in this forest stand. Under the ELC system, this forest block is described as a Dry Fresh Sugar Maple Deciduous Forest (FOD5) community.

Aerial imagery indicates the presence of forest cover in this area dating back to 1954. However, the current stand is relatively young and even-aged, suggesting that the stand has been subject to either logging or other use/management in recent decades. The canopy trees throughout the majority of this stand are mostly <30 cm DBH with many <15 cm DBH. There are isolated tree specimens (mainly Sugar Maple and Beech) measuring up to 80 cm DBH along the western perimeter, bordering the CUM community. These individual trees largely occupy an old fence-line and are likely remnants of the forest cover that existed in the 1950's.

This forest community exhibits a modest degree of structural layering, with a sub-canopy comprised mainly of young Sugar Maple and White Ash, and a relatively thin shrub layer comprised of typical constituents of deciduous forests in the region (e.g. Alternate-leaved Dogwood, Choke Cherry, Maple and Ash saplings). Ground cover is relatively well established (~40-50% on average) reflective in part of a relatively immature and thin canopy. The groundcover is comprised of a variety of species typical of deciduous forests in the region (Trilliums, Wild Leek, Sarsaparilla, False Solomon's-seal, wood violets, various ferns). There is also a minor presence of non-native species (e.g. Dandelions, Common Strawberry).

Overall, the FOD5 forest community along the eastern perimeter of the New Farm Property appears to support a modest diversity of regionally common fauna. Direct surveillance has not revealed any evidence of the presence of any Priority Species of plant or animal, or any Significant Wildlife Habitat (SWH) function. The possible exception is bat habitat function that could be supported by the remnant mature trees on the forest perimeter (see Section 4.9).

Coniferous Forest

The Property encompasses about 4 ha of coniferous forest (FOC) cover that is associated with the stream corridor along the west and southern edges of the area of monitoring. Mostly, this forest cover consists of a blend of both upland and wetland communities, both dominated by Eastern White Cedar. The elevated margins of the forest cover associated with the watercourse constitute a Fresh-Moist White Cedar Coniferous Forest (FOC4) community under the ELC system. With declining elevation toward the watercourse, there is a short transition to a coniferous swamp (SWC) community, as discussed in Section 4.2.3. For purposes of this EIS, the FOC and SWC are mapped as a single functional unit (see Figure 5).

Mixed Forest

There is a small (~0.6 ha) patch of forest to the southeast of the PBS that is transitional between the FOD5 and FOC/SWC communities. The dense canopy is dominated by Eastern White Cedar and Balsam Fir with a secondary presence of a limited variety of deciduous trees (e.g. Sugar Maple, Ironwood). Most canopy specimens are <30 cm DBH, and many are <15 cm DBH. There is sparse ground cover and shrub presence under the relatively dense conifer coverage. This forest patch is generally consistent with the Fresh-Moist White Cedar Hardwood mixed forest (FOM7) community.

4.2.3 Wetland Communities

The majority of the mapped wetland area associated with the watercourse is occupied by coniferous swamp (SWC) cover. The specific composition of tree cover is slightly variable, but Eastern White Cedar is abundant and widespread and constitutes the large majority of the canopy. The Cedar are accompanied by a variable secondary presence of several other tree species, including Balsam Fir, Eastern Larch, Balsam Poplar, Green Ash, and Yellow Birch. None of these account for >5% of canopy cover in this forested block. Overall, the swamp community is dominated by Eastern White Cedar and is a blend of the White Cedar Mineral Coniferous Swamp (SWC1) and White Cedar Organic Coniferous Swamp (SWC3) communities. The tree cover is mixed age, with most canopy specimens <30 cm DBH but with some scattered specimens up to 45 cm DBH.

Ground cover is variable, but generally sparse where the Cedar canopy is well established. In more open areas, the ground cover is more well established and consists of a variety of sedges, rushes and various hydrophylic dicots. On the west side of the wetland, within 100 m of 6/7 Sideroad, there are small (<0.1 ha) inclusions of thicket swamp and mineral marsh communities.

On-site surveillance of these wetlands suggests an absence of standing water of meaningful depth, spatial extent and/or temporal persistence. The small isolated pond located within the wetland boundary is the only exception. It is generally expected that the forested wetland community provides limited support for wetland habitat functions typically prioritized in conservation efforts (e.g. habitat for turtles, breeding amphibians, wetland-nesting birds)

4.3 Vascular Plants

The detailed plant species list for the New Farm Property is provided in Table 2. This list reflects monitoring over the period of May to August.

A total of 155 vascular plant species have been identified within the New Farm Property. Of those that are native to Ontario, all are ranked as "Secure" (S5) or "Apparently Secure" (S4) in the Province. There are no plant species that have been observed within the Property that are currently regulated as Species at Risk (SAR) or are otherwise considered to be Species of Conservation Concern (SOCC).

The terrestrial plants found within the Property consist of a mix of native and non-native species, many of which are typical of Cultural communities that have been subject to past anthropogenic disturbance. Almost 30% the plant species that have been observed within the Property are non-native. At least 22 (~14%) of the vascular plant species identified within the Property are considered by various sources to be invasive in Ontario. Non-native and/or invasive species are encountered in all ELC communities, but are most prevalent within and adjacent to relatively open areas, which includes the CUM community where the PBS is located.

A total of 50 (32%) of the vascular plant species encountered within the Property are species which grow primarily in wet conditions (i.e., coefficient of wetness (CW) is -3 or lower). About half of these hydrophytes are considered to be obligate wetland species (i.e., CW = -5) or wetland indicator species (i.e., CW of -4 or -5) as per ELC guidance. The hydrophytes within the New Farm Property are quite limited in distribution, associated primarily with the lands close to the watercourse, including the mapped wetland feature. Eastern White Cedar is the only hydrophilic species which exhibits any meaningful presence in other parts of the Property, reflective of its ability to establish and form stands in disturbed sites, regardless of moisture regimes. Otherwise, the general lack of hydrophytes in most areas reflects the relatively well-drained nature of the Property.

Only six of the plant species recorded within the Property have a coefficient of conservatism (CC) greater than 6. These species were encountered within isolated and relatively open portions of the wetland (i.e., in absence of dense Eastern White Cedar cover) or within the stand of Maple forest (FOD5) to the east of the PBS. None of these species was observed within or near the PBS. The implications are that the core of the monitoring area, including the PBS, is occupied mainly by plant species that are not typical of long-standing communities.

There is a modest variety of plant species that exhibit meaningful abundance and/or distribution within and immediately around the PBS, none of which are woody species.

This includes several species of grasses and herbs that are typical of culturally modified sites and which have a CC of 3 or less or are not assigned a CC value due to the fact that they are not native.

4.4 Birds and Bird Habitat

A full list of all bird species observed at the New Farm Property throughout the monitoring period is provided in Table 3. In total, 28 species of bird have been observed within the Property over the period of study. Only three species were confirmed as breeding within the area of monitoring, and another 15 species were indicated as "probable" breeders. The Provincial ranking of 20 of the species observed at the Property is "secure" (S5), and the remaining eight species are ranked as "apparently secure" (S4). In terms of breeding habitat preference, only six (~21%) of the species observed are considered forest species while 11 (~39%) are habitat generalists. A total of eight of the species observed are grassland or early succession species. Only one of the species on record (i.e., the Ovenbird) is recognized as an area-sensitive forest interior species. This bird was only encountered in the maple forest community (FOD5) in locations well-separated from the PBS. A total of four species observed within or near the Property are recognized as having some level of wetland association. Only two of these (Red-winged Blackbird and Common Yellowthroat) were observed within 200 m of the PBS, in association with riparian wetland habitat. Both species are commonly found in upland habitats as well as wetlands. There were no occurrences of obligate wetland bird species within the area of monitoring within the Property.

The New Farm Property lies within Ontario Breeding Bird Atlas (OBBA) square 17NK60. Data have been obtained for this square and considered as regional context for the Property. The local breeding status determined through the OBBA is included as context in Table 3. The OBBA surveillance of square 17NK60 has identified 96 species of bird with some evidence of breeding within the 100-km^2 area of this square. Of these species, 11 have been subject to assessment by COSEWIC and/or COSSARO. As of the date of this report, four of the 11 have been deemed to be *Not at Risk*. The eight species on record for the square that are currently identified as *Endangered*, *Threatened* or *Special Concern* are summarized in Table 4. Direct on-site monitoring of the Property for the purpose of this EIS has identified the presence of two of these species; 1) Eastern Meadowlark, and 2) Bobolink. Both species are listed as *Threatened*, and their presence within or near the Property is discussed in further detail in Section 4.8.

Overall, the avian community within the study area is comprised of a modest abundance and diversity of species with mixed habitat requirements. The majority of the species encountered were observed in association with trees or tree-lines, with a concentrated presence in or near the forested wetland west of the PBS (none of these with obligate wetland habitat requirements). The presence of grassland birds was sparse. However, this includes the Meadowlark and Bobolink which are both SAR. Only the Bobolink was observed within the confines of Property. Bobolink occurrence consisted of a solo singing male at the south end of CUM community (~100 m south of PBS) in May and early June. No singing was heard on subsequent visits. The location where singing was heard was subject to focused monitoring on all visits, and there was no evidence to confirm nesting activity. The presence of Bobolink and other SAR is discussed in Section 4.8.

4.5 Amphibians

During general surveillance of the New Farm Property, the presence of only three amphibian species was evidenced, as follows:

- Breeding vocalizations of a single Gray Treefrog specimen were heard on one occasion in close proximity to small pond located ~170 m to the west of the PBS,
- Single adult specimens of Leopard Frog observed on several occasions in grassland habitat in close proximity to the west wetland area.
- Multiple vocalizations of Green Frog heard emanating from the small pond and immediately adjacent lands. There was no direct evidence (larvae, egg masses) of the use of the pond by Green Frog, or any other amphibian, as breeding habitat.

The population of each of these species in Ontario is considered "secure" (S Rank = S5) and none are considered to be species of conservation concern.

Overall, the wetland feature and pond appear to support a very low abundance and diversity of common amphibians, and there is no evidence of meaningful levels of amphibian reproduction in these locations or otherwise within at least 150 m of the PBS. The area where the PBS is located does not exhibit characteristics that would be considered conducive to the meaningful presence of any amphibians.

4.6 Reptiles

During monitoring of the New Farm Property, no species of reptile were detected in the area of focused monitoring or elsewhere within the Property. The nature of the Property is such that regionally common snake species might be present in various locations from time to time. Data from the Ontario Amphibian and Reptile Atlas (OARA - see Table 5) indicate that there are several such species on record for the area surrounding the Property, including the Eastern Milksnake. These species was not observed during on-site surveillance. The Milksnake is recognized herein as a *Priority Species,* and the possible presence of this species is discussed further in Section 4.8.

In absence of any meaningful presence of persistent standing water within the New Farm Property, other than the small shallow pond, the likelihood of presence of any species of turtles within the Property, particularly in or near the PBS, is considered to be very low. No evidence of turtle presence was observed during surveillance of the Property, including the wetland area and also the small pond

4.7 Mammals

Monitoring of the New Farm Property did not reveal any direct evidence of the presence of any mammal species. It is considered likely that a number of species of regionally common mammals (e.g. White-tailed Deer, Raccoon, Coyote, various rodents) are present within the Property from time to time. All of these mammal species are ranked as "secure" (S5) in the province of Ontario and are common in Simcoe County and none are considered to be SOCC or SAR.

In regard to bats, there are several species which are regionally present and which include a number of SAR. The vegetation communities found within and immediately adjacent to the PBS are characterized by an absence of larger dead or dying trees that might contain hollows, cavities, large bark flakes and crevices that could function as roosting or hibernation sites. Rock outcrops, caves or other sites that could serve as hibernation sites were not found within the Property, specifically near the PBS. The presence of bats as potential Priority Species is discussed further in Section 4.8.

Overall, the likelihood of presence within the Property of mammal species that are of conversation concern is considered to be low, particularly in relatively close proximity to the PBS.

4.8 Priority Species

For the purpose of this EIS, the term "Priority Species" includes:

1. any species with a provincial (sub-national) conservation status rank (SRank) of S1, S2, S3 or SH, or otherwise considered rare in Ontario, and
2. any species that has been designated as either *Endangered*, *Threatened*, or *Special Concern* by either the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or the Committee on the Status of Species at Risk in Ontario (COSSARO).

The term "Species at Risk" (SAR) is applied to those included in regulatory listings as *Threatened* or *Endangered*, and thus subject to certain regulatory prohibitions. The term "Species of Conservation Concern" (SOCC) is generally applied to species other than those legally designated as *Threatened* and *Endangered.* Species of any of the noted designations are all tracked by the Natural Heritage Information Centre (NHIC).

The potential presence of SAR within or near the Property was initially examined in a manner consistent with guidance prepared by the Ministry of Environment, Conservation and Parks (MECP, 2019). Existing information from several sources was reviewed to initially identify Priority Species that are on record for the area within a few km of the Property. This includes:

- the NHIC Element Occurrences (EO) for the area within 3 km of the Property, as summarized in Table 5,
- the most recent results of the Ontario Breeding Bird Atlas (OBBA) for the 10-km x 10-km Square 17NK60, which encompasses the Property, as summarized in Table 4, and
- the results of the Ontario Amphibian and Reptile Atlas (OARA) for Square 17NK60 as summarized in Table 6.

The likelihood of occurrence of identified Priority Species within or in very close proximity to the Property has been assessed in consideration of the specific habitat requirements of each species. Direct surveillance of the Property was also conducted with focused attention on the possible presence of the Priority Species known to be present in the general area of the Property. The understanding of the presence and distribution of Priority Species within the New Farm Property, particularly within or around the PBS, is based on combined consideration of the existing data for the area and the results of on-site monitoring.

The NHIC Element Occurrence (EO) records include any species that would be considered herein as a Priority Species. NHIC EO records were obtained for the 1-km grid segments within about 3 km of the Property (22 grid squares in total). A total of nine species are listed (see Table 5). The habitat requirements of most of the listed species are generally not met to any significant extent within the area of the PBS or the Property as a whole. The conditions encountered within the study area could support Butternut, Black Ash, Wood Thrush, Meadowlark and Bobolink. Focused surveillance of the Property did reveal the presence of the Meadowlark and Bobolink, but none of the other species on the NHIC list. The Meadowlark and Bobolink are relatively common grassland species, often found in CUM habitats, including pastures.

As discussed in Section 4.4, data from the OBBA for Square 17NK60 indicate the presence of a total of eight Priority Species in the area of the Property. This includes the Bobolink and Meadowlark identified in the NHIC records for the area. For the other six Priority Species identified exclusively in the OBBA, the habitat requirements are such that only the Wood Thrush and Eastern Wood-pewee have some reasonable likelihood of being present within the Property in proximity to the PBS. Direct on-site surveillance did not reveal any evidence of the presence of either of these species within the maple forest (FOD5) community to the east of the PBS, or elsewhere within the Property.

Data from the OARA (Table 6) indicate a total of only three Priority Species of reptile or amphibian in the area of the New Farm Property; 1) Snapping Turtle, 2) Eastern Milksnake and 3) Western Chorus Frog. The small pond located ~170 m to the west of the PBS could support some amphibians, but it lacks standing water of sufficient depth or persistence to serve as turtle habitat. No turtles were observed during direct surveillance of the Property, and only limited presence of amphibians other than the Western Chorus Frog was observed. Overall, there is no indication of meaningful turtle or amphibian presence within the Property, particularly in proximity to the PBS. The potential for occasional presence of the Eastern Milksnake within the Property is considered possible. Milksnakes were not observed during surveillance, but could theoretically be encountered at times within the Property in proximity to the PBS.

There was one occurrence of a Priority Species other than those identified through review of existing datasets. One isolated occurrence of the Monarch was recorded during surveillance of the Property, but there is general absence of substantial milkweed presence that might support key life stages of this species. The Property is not considered to function as critical habitat for this species.

In total, available information indicates that there are 18 Priority Species could be found within the New Farm Property and potentially affected by the proposed development. Table 7 provides a summary of these species and their status and/or distribution within the Property. Through site surveillance, the presence of only three Priority Species was confirmed within or immediately adjacent to the Property. This includes the Monarch which is not expected to rely on any part of the Property for critical habitat function. In addition, the Meadowlark and Bobolink were both observed in very low abundance (i.e., only single specimens during each occurrence). These occurrences were as follows:

- Meadowlark - a single singing male was heard on one occasion in July, along the edge of the 6/7 Concession and possibly off property.
- Bobolink - solo calling males in the lower half of CUM habitat on two occasions during wandering surveillance in June, a separate observation of solo male in flight over the same area, and also a recurrent singing solo male recorded during point-count survey in June. All occurrences consisted of single specimens, and their may have been a single territory in the lower end of CUM area, with no breeding evidence other than the presence of a singing male.

Overall, the available information indicates that the study area does not function as meaningful habitat for either of these grassland SAR.

Otherwise, all flora and fauna observed on or near the New Farm Property are from relatively secure populations and do not warrant any consideration as conservation concerns. The other Priority Species on record within the general area have not been observed within the Property, and the preferred habitats of most of these species are generally not present to any meaningful extent within study area.

4.9 Significant Wildlife Habitat

For planning purposes in Ontario, Significant Wildlife Habitat (SWH) is defined as habitat that is "*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*".

The information available for the purpose of this EIS, as presented above, has been reviewed in specific consideration of the potential presence and implications of SWH within the New Farm Property. The analysis of potential SWH presence and impacts is based on guidance provided by the MNRF (MNR 2000, MNRF 2015). There are several categories and specific SWH designations which have been considered. These various categories have generally recognized associations with a number of the ELC community types that have been identified within the Property. The presence of these communities does not necessarily equate to the presence of SWH. There are various criteria, often related to ELC patch size, that have been established as partial determinants of SWH function for the given ELC community type. The determination of SWH habitat is ultimately based on direct evidence of presence of the class of wildlife in question, particularly the indicator species specified in MNRF Guidance.

The current assessment of possible SWH function considers the results of on-site monitoring to assess candidate areas of SWH for which the relevant ELC community types are found within the Property, particularly near the PBS (i.e., CUM, FOC, FOD, and SWC ecosites). The following sections provide a brief synopsis of this assessment process.

4.9.1 Seasonal Concentration Areas

<u>Waterfowl Staging and Stopover Areas (terrestrial):</u>

The CUM area within the New Farm Property does not exhibit seasonal sheet flooding, and none of the identified indicator species were observed during surveillance of the Property.

<u>Raptor wintering yards:</u>

The Property does encompass a mix of open (CUM) and Forest (FOD) communities. Direct assessment of winter raptor presence was not included in the scope of this EIS. Natural heritage mapping and databases (LIO, MNRF) do not indicate the presence of raptor wintering yards in the vicinity of the property. The open habitat within the study area does not embody the characteristics of preferred sites (i.e., lightly grazed meadow or fallow area >15 ha).

Bat hibernacula and maternity colonies:

As discussed in Section 4.7, the forest communities within and near the PBS generally lack the attributes that would be conducive to the presence of hibernacula or maternal colonies (i.e., the presence of >10 relatively large snag trees per ha). During direct surveillance of the New Farm Property, there was no evidence of maternal roosting of bats near the PBS. The presence of old, large trees with cavities and crevices that could be used as maternal roost sites is limited to a few remnant specimens mainly on the outer edge of the Maple Forest (FOD5) located to the east of the PBS. For the purpose of this EIS, it is conservatively assumed that this part of the Property could support some level of maternal bat roosting in this location, even though the specific criteria for this SWH function have not been met.

Colonial Nesting Breeding Bird Habitat (Bank or Cliff):

The small area of CUM habitat within the Property does not exhibit exposed soil banks, and none of the identified indicator species were observed during surveillance of the Property.

Colonially-Nesting Bird Breeding Habitat (Ground)

The patch size of CUM habitat located within the east end of the New Farm Property is generally too small for this SWH function. The relevant indicator species (Brewer's Blackbird) was not observed during surveillance of CUM communities within the Property. Other existing databases (e.g. OBBA) do not indicate the presence of this species in the area of the Property.

Landbird Migratory and Stopover Areas

The New Farm Property does overlap forest habitat (FOD, FOC, SWC) that meets the size criterion (i.e. >10 ha). However, the Property is located over 20 km from Georgian Bay (the nearest large waterbody) which is well in excess of the minimum distance criterion of 5 km. In addition, direct surveillance of the Property in May did not reveal the presence of migratory birds at a level indicative of this specific habitat function.

Deer Wintering Areas

Various forest communities (e.g. FOC, SWC) may function as deer wintering yards. However, there are no identified deer wintering yards (LIO, MNRF) that overlap or abut the Property. The nearest mapped deer wintering yards are about 2 km to the west and 2.5 km to the east of the Property at the most proximate point. With about 4 ha of coniferous cover within the Property, there is some possibility of occasional use by deer during the winter, but significant wintering yard function is not expected.

4.9.2 Rare Vegetation Communities

As per the MNRF (2015) there are a number of vegetation communities that can be considered as rare in Ecoregion 6E, including alvars, dunes, prairies, barrens, cliffs and old growth forest. These community types are not found within the New Farm Property (see Section 4.2). The communities found within the Property all have a Provincial Rank of S5 (Secure).

4.9.3 Specialized Habitat for Wildlife

There are numerous species of wildlife that require substantial areas of certain habitat(s) that support critical stages of their life history in order for the local population to be sustainable.

Bald Eagle and Osprey Nesting, Foraging and Perching Habitat

The Property does encompass relevant ELC community types within the Property (FOC) but lacks the presence of riparian areas that is required for this SWH function. Neither of the indicator species was observed during surveillance of the Property and no large stick nests were observed.

Woodland Raptor Nesting Habitat

The Property does contain various areas of forested habitat that generally are recognized as potential nesting habitat for woodland raptor species. However, the east portion of the New Farm Property where the PBS is located does not provide interior habitat consistent with the noted criterion (i.e., >200 m from forest edge). None of the indicator species or any stick nests were observed during surveillance of forested areas within the Property.

Seeps and Springs

No seeps or springs were observed within or near the PBS or elsewhere within the study area.

Amphibian breeding habitat (woodland)

The upland forest (FOD5) to the east of the PBS is devoid of wetlands or small ephemeral pools that could potentially function as woodland breeding habitat for amphibians. The conifer swamp community (SWC) located to the west of the PBS does encompass a small pond feature. However, the estimated area of the pond is ~400 m^2, which is below the noted SWH size criterion (i.e., >500 m^2). Direct monitoring of the Property indicates an absence of significant levels of amphibian breeding activity at the pond or any other location (see Section 4.5). Overall, there is no evidence to indicate that there is any significant amphibian breeding habitat function supported within the study area.

<u>Area-Sensitive Bird Breeding Habitat</u>

The block of forest cover that overlaps the Property does not exhibit dimensions that meet the criterion for forest interior habitat (i.e., >200 m from forest edges) within the Property itself. Forest cover in close proximity to the PBS is also generally not fully mature, which is a secondary defining characteristic of interior forest. During breeding bird surveillance of the Property, the presence of only <u>two</u> of the listed indicator species was evidenced within the Property. This consisted of isolated occurrences of single specimens and limited evidence of breeding of the Ovenbird ("Probable") and the Red-breasted Nuthatch ("Possible"). The criterion for this form of SWH is the <u>confirmed</u> nesting presence of <u>three</u> of the indicator species. Accordingly, this form of SWH is not considered to be present within the confines of the Property.

4.9.4 Habitat for Species of Conservation Concern

In this context, SOCC include wildlife species that are listed as *Special Concern* or rare, but exclude those listed as *Endangered* or *Threatened* species.

<u>Open Country Bird Breeding Habitat:</u>

The Property does contain a relatively small area (~5 ha) of CUM community that is nearly contiguous to a larger patch that exceeds the size criterion (30 ha) to function as SWH for open country birds. However, none of the specified indicator species were observed during the surveillance of the Property.

<u>Special Concern and Rare Wildlife Species</u>

As discussed in Section 4.9, there is only one species Provincially designated as *Special Concern* and/or with a Provincial Rank of S3 that is confirmed as being present within the Property. Isolated occurrences of the Monarch were recorded during surveillance of the Property, but there is general absence of habitat (including milkweed presence) that would support this species in meaningful abundance. Review of existing information also suggests that Milksnake (designated as Special Concern federally, but not provincially) might be present at times within the Property. Neither species is considered to be present within the area of the PBS to an extent that consideration of this specific category of SWH might be warranted. However, the EIS provides precautionary recommendations (see Section 6.3) to address the possibility of isolated presence of the Milksnake, as a Priority Species, in close proximity to the PBS during the construction phase.

4.9.5 Animal Movement Corridors

Amphibian Movement Corridors

Corridors that facilitate movement of select amphibians between aquatic breeding habitat and terrestrial habitat, usually woodlands, can be specified as SWH. There are no wetlands or vernal pools within 150 m of the PBS. Surveillance has indicated a relatively low abundance and diversity of amphibians within the Property (see Section 4.5), and has not revealed any evidence of the presence or substantial migratory movement of amphibians through the area of the PBS.

Deer Movement Corridors

Areas of continuous and appropriate vegetation cover that serve as corridors that facilitate movement of deer to and from wintering yards may constitute SWH. There are no identified deer wintering yards (LIO, MNRF) that overlap or abut the Property. The nearest mapped deer wintering yards are about 2 km west of and 2.5 km to the east at the most proximate point. There is some possibility that deer moving between these wintering yards might occasionally traverse the portions of the Property with coniferous forest. However, this forest cover is neither expansive or continuous, and it is not considered likely that any possible deer presence would be meaningful in terms of abundance or frequency.

5.0 ANALYSIS OF POTENTIAL IMPACTS

The current proposal for the New Property calls for the construction of a single-family residence and associated infrastructure (driveway, private septic service). A Site Plan for the residential development has been prepared (see Appendix B), illustrating the proposed building site (PBS) for the residence. In general consideration of development at the PBS, and without accounting for any Site Plan adjustments or other mitigating measures, an initial high-level assessment identifies the theoretical potential for several natural heritage implications, as follows;

- direct loss or impairment of a limited area of Cultural Meadow (CUM) community and its ecological functions,
- indirect disturbance and/or impairment of forest communities and their ecological functions, including areas that could be deemed to be Significant Woodlands,
- possible direct harm or indirect disturbance of Priority Species or Significant Wildlife Habitat (SWH) that have been indicated as possibly present within or near the Property, and
- possible indirect impacts on a small watercourse and associated wetland, both within 200 m and downgradient of the PBS.

The following analysis further examines the potential impacts listed above. For each of the specific natural features of concern, the likelihood and significance of adverse effects due to proposed development of the Property are qualitatively assessed. The assessed potential for adverse effects is based in part on the characteristics and functions of the features themselves. The assessment considers various aspects of proposed development, including the extent of site alteration and various conditions that might be encountered within the Property both during and after construction.

Conclusions and recommendations drawn from this analysis, including mitigation recommendations, are provided in Section 6.

5.1 Priority Species

In summary, there are a total of 18 Priority Species (*i.e.*, SOCC or SAR) on recent record within or in the general vicinity of the New Farm Property. The Property generally does not exhibit the characteristics or specific habitat elements that would support local populations of most of the Priority Species that have been observed in the area. When considering habitat limitations and the findings of direct surveillance of the Property, only the Eastern Meadowlark and Bobolink have been confirmed as present within the ELC Community that encompasses the PBS. There are several key factors to consider in regard to the status of these species within the Property and any risk of impact on them, as follows:

- local abundance and distribution - both species were observed only as solitary occurrences, in locations separated from the PBS by ~100 m or more.
- nesting status - surveillance of the study area did not yield any evidence to confirm nesting presence of either species.
- habitat suitability - the patch of cultural meadow measures about 5 ha, which is the minimum size threshold of preferred habitat for these species. In addition, the 1-ha upper terrace has recently been planted with coniferous trees, which likely detracts from the overall suitability as nesting habitat for these species.
- degree of disturbance - the Site Plan indicates that total area of site alteration is expected to be very limited.

Overall, these factors indicate that the CUM community which encompasses the PBS does not have a meaningful function as habitat for either of these grassland species, and that the proposed single-family residence will not displace or impair their habitat to any meaningful extent. There is a theoretical potential for inadvertent harm or loss of individual birds or nests during the construction phase. Any such impacts would not be meaningful from a population perspective, either regional or local, and the risks can be entirely mitigated through construction timing.

The only other species which has been identified as possibly present within the confines of the study area is the Eastern Milksnake. The general habitat conditions for this species are found within the lot. However, the Milksnake was not evidenced during direct surveillance of the Property, nor is it expected to be present within close proximity of the small area of the PBS in meaningful abundance or duration. For this EIS, it is conservatively assumed that there is some theoretical potential for presence of Milksnake within the lot during the construction phase. This creates a theoretical risk of adverse effect as a result of inadvertent direct contact, but there are mitigation measures which can be taken to effectively alleviate this risk.

Overall, the risk associated with potential impacts to these Priority Species is considered to be very low, and measures are available to mitigate the risk (see Section 6.3).

5.2 Significant Wildlife Habitat

Analysis of potential SWH function (see Section 4.9) has not confirmed any of the candidate functions for the relevant ELC communities encountered within the New Farm Property. However, for the purpose of this EIS there are two categories of SWH that are conservatively assumed to possibly be supported to some extent within the Property; 1), bat hibernacula and maternity colonies, and 2) habitat for special concern and rare wildlife species (i.e., Milksnake).

As noted in Section 5.1, the Milksnake is not expected to be present in close proximity to the PBS in meaningful abundance or duration. Overall, the risk of loss or impairment of any presumed SWH function for this species is considered to be very low. However, precautionary recommendations are provided herein (Section 6.3) to mitigate the already low level of risk to this species.

In regard to bats, there are a small number of large snag trees along the edge of the deciduous forest (FOD5) to the east of the PBS that are conservatively assumed to have the potential to support some level of maternal bat roosting. Since the Site Plan does not call for any site alteration within almost 50 m of the noted trees, there is effectively no risk of loss or meaningful impairment of bat habitat function.

Overall, the risk of adverse effects on SWH functions within and around the PBS is considered to be extremely low. Precautionary recommendations for mitigation measures that will serve to further reduce the risk are provided in Section 6.3.

5.3 Significant Woodlands

The Provincial Policy Statement (PPS) defines significant woodland as "an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history". Regional assessments are undertaken by various agencies using criteria derived from this general definition to identify woodland areas for initial designation as "significant". The Natural Heritage Reference Manual (MNR, 2010) provides detailed recommendations for criteria and standards to be used in the assessment of woodland significance.

The current assessment of potential impacts on the woodlands found in relatively close proximity to the PBS is conducted in consideration of several of the core functional categories identified in the MNR's Natural Heritage Reference Manual. These categories overlap with the stated criteria for designation of "Significance" in the PPS and the County OP. This includes woodland size, forest cover characteristics, the presence of SAR or SOCC, ecological functions and linkages, and water protection functions.

On-site surveillance of the forest communities in proximity to the PBS does not indicate the presence of plant or animal communities or ecological function that would be considered to be sensitive to indirect impacts. All of the species of plants and animals that have been confirmed as present within and around the Property's forest communities are relatively common to the region and the Province, and many are typical of forests influenced by some level of human disturbance. These species are not considered to be particularly sensitive or of conservation concern. The available information does not indicate that the presence of Priority Species or SWH would be a factor contributing to a designation of *Significant* for the forested areas adjacent to the PBS.

General ecological linkage functions are also a consideration in the assessment of Significant Woodlands. The woodland habitat within the Property does likely facilitate some level of ecological connectivity within and around the Property, particularly along the band of forest cover extending east along the tributaries to the Mad/Noisy River. The wooded areas at the east end of the New Farm Property also likely provide some water protection function where they border the small watercourse that traverses the Property. These could be considered a contributing factors to the Significance designation.

Overall, the Significant Woodland areas within the Property do provide some ecological and hydrological function within the local landscape. As site alteration will not result in any direct loss of woodlands, there will be no diminishment of woodland size or direct loss of any function. The risk of indirect impacts is limited in part by the fact that the woodlands do not exhibit any characteristics that would suggest susceptibility to indirect effects. The risk is also significantly limited by the very small scale of development (i.e., single-family residential) and spatial separation of the PBS from the woodlands. Overall, the risk of meaningful indirect impact on any function associate with the woodland is considered to be negligible. Various mitigation measures are provided in Section 6.3 which would further reduce the already minimal risk of adverse effects on Significant Woodlands or their functions.

5.4 Watercourse and Wetlands

The small intermittent watercourse that skirts the study area is separated from the PBS by a distance of at least 150 m, and there is no indication of any meaningful hydrological connectivity between the PBS and this watercourse. Overall, there is no expectation of any direct or indirect impacts of the proposed development on this watercourse or its functions.

The outer margins of the riparian wetland feature associated with the watercourse are also separated from the PBS by 150 m or more, and there is no indication of any meaningful hydrological connectivity between the PBS and any wetland features within or near the Property. Surveillance of the wetland has provided no indication of SAR presence or SWH function, or any other function that could be particularly sensitive to indirect impacts. Overall, there is no expectation of any direct or indirect impacts of development at the PBS on wetland features or functions.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of Existing Conditions

Only about 20% of the New Farm Property is currently occupied by natural vegetation communities, including both deciduous and coniferous forests as well as forested wetlands. The entirety of the forested areas within the Property can be conservatively considered as Significant Woodlands, simply on the basis of size-related criteria. The Proposed Building Site (PBS) is situated within a patch of Cultural Meadow (CUM) community separated from the nearest woodlands by a distance of about 50 m. The woodlands do not exhibit characteristics which would be considered sensitive to indirect disturbance or which would warrant protective priority from a conservation perspective.

The CUM community which encompasses the PBS supports moderately diverse assemblages of flora and fauna that are common and typical of the region, and also typical of sites that have been disturbed. The wildlife species that have been observed are from secure populations and almost all are not considered to be of conservation concern. Isolated occurrences of two Species at Risk (SAR) were observed in association with CUM community in locations separated from the PBS. Otherwise, the CUM community surrounding the PBS does not support species or functions which would be considered as sensitive or as conservation priorities.

The study area also borders a small watercourse and associated riparian wetland, both of which are separated from the PBS by a minimum distance of 130 m. The watercourse is intermittent and there is no indication that it serves as direct fish habitat. The wetland generally support species and functions which are not considered to sensitive or conservation priorities. No evidence of SAR or SWH was observed during examination of either the watercourse or the wetland.

6.2 Summary of Potential Impacts

An understanding of the risk of potential impacts potentially associated with the proposed development of the New Farm Property is derived in part from the analysis presented in Section 5. The likelihood and significance of each category of potential impact are relatively ranked (e.g. low, medium, high). The likelihood and significance of any possible impacts of proposed development are dependent on the natural heritage characteristics of the Property and also the specific aspects of the proposed development. For each environmental feature of interest, the overall risk is a function of both *likelihood* and *significance*. Table 8 provides a summary of the assessed risks associated with proposed development of the New Farm Property.

Priority Species

Based on information obtained and reviewed in this EIS, there is a very low likelihood of occurrence of Priority Species of flora or fauna within or near the PBS in meaningful number, for meaningful duration, or for critical aspects of their life cycle. The only confirmed occurrence of Priority Species that warrants initial consideration is the presence of the Eastern Meadowlark and Bobolink in the Cultural Meadow ((CUM) community in which the PBS is located. There is also a theoretical potential for very limited presence of Milksnake within or near the PBS. In considering all factors, including the implementation of certain mitigation measures, the risk of loss or disturbance of these species is deemed to be very low.

Significant Wildlife Habitat

There are two potential SWH functions which have been determined as possibly being supported by the ELC communities (FOD, FOC, SWC, CUM) that border the study area. This includes the conservatively assumed maternal bat roosting habitat function associated with a very limited presence of older and larger trees along the western perimeter of the FOD5 community, separated from the PBS by at least 70 m. There is no expectation that the construction and presence of single family residence at the PBS would result in any direct impacts or indirect disturbance of these trees or any bat habitat function that they might support. The risk of the proposed development in regard to this conservatively assumed SWH element is deemed to be very low.

The possible occasional presence of Milksnake in and around the PBS presents a theoretical risk of direct impacts on this species during construction. Any such impacts would not be frequent or numerous and would not have meaningful effects on the local population.

Wetlands and Watercourses

The small watercourse and associated riparian wetland area that traverse the eastern and southern perimeter of the study area are separated from the PBS by at least 130 m of mostly open uplands. There is no evidence of meaningful hydrological connectivity between the PBS and the wetlands or the watercourse. Overall, there is no expectation of any direct or indirect impacts of development at the PBS on these features or their functions.

Significant Woodlands

The Property encompasses about 10 ha of woodlands that are considered as Significant Woodlands, including deciduous forest communities about 30 m to the east of the PBS. The Site Plan indicates that there will not be any site alteration within the forested areas close to the PBS. The findings of this EIS indicate that the woodlands do not support any biota or ecological functions that would be sensitive to indirect disturbance. Overall, the risk of adverse effects on Significant Woodlands is deemed to be negligible.

6.3 Mitigation Recommendations

Regardless of the overall low level of risk, there should be efforts to further mitigate the risk of any impacts potentially associated with proposed development of the Property. Recommendations are provided herein to avoid, limit or otherwise mitigate the potential impacts that have been identified.

6.3.1 Priority Species

Available information indicates the possible future presence of individual specimens of three Priority Species in or near the PBS. This includes the Meadowlark, Bobolink and Milksnake.

To reduce the risk of impacts on the Meadowlark and Bobolink, or any other breeding birds which would be subject to prohibitions of the Migratory Bird Convention Act, any site clearance or preparation should be timed to avoid the active bird nesting period (i.e., from May to August, inclusive).

To mitigate risk to Milksnakes, the timing restrictions noted for nesting bird protection would also serve to mitigate risk of inadvertent harm to specimens that might be in the area. As an additional precaution, a barrier should be placed on the perimeter of the construction site. The barrier will help prevent inadvertent travel of equipment outside of the construction site, and will also help prevent movement of snakes into the site. Fencing installed for purposes of erosion and sediment control (ESC), if placed on the perimeter of the construction envelope, would serve this purpose.

6.3.2 Significant Wildlife Habitat

No SWH function has been confirmed within the Property. As a precaution, mitigation measures could be considered. The barrier measures noted in Section 6.3.1 to protect Priority Species would also effectively serve this purpose.

6.3.3 Woodlands

The placement of the PBS within the CUM community (see Figure 5) generally avoids any meaningful risk of direct impacts, and all but eliminates any risk of indirect impacts on nearby woodlands. However, as a general precautionary measure, efforts to reduce the risk of inadvertent encroachment on wooded areas can be considered. The barrier measures noted in Section 6.3.1 to protect Priority Species would also serve this purpose.

In the unlikely event of any inadvertent loss of trees, replacement planting is recommended to compensate for such losses. Replacement plantings should consist of native tree species suited to the site conditions, and may include any of the <u>native</u> tree and shrub species listed in Table 2. Planting should occur within the Cultural Meadow area, preferably on the perimeter adjacent to the edge of existing forest cover to expand the footprint.

6.3.4 Aquatic Features

The study area borders a small watercourse and an associated riparian wetland area. These features are hydrologically down-gradient of the PBS, but the risk of direct or indirect impacts on this watercourse has been deemed to be effectively negligible. The implementation of a standard erosion and sediment control (ESC) plan would serve as a precautionary measure to further mitigate the risk of sedimentation effects on the watercourse and wetland.

6.4 Policy Interpretation

The Provincial Policy Statement (PPS) serves as the foundation for the various policies contained in the County and Municipal OPs, including those that are intended to protect and maintain the natural environment and its functions. The following summaries address the PPS and OP natural heritage policy elements that are of relevance to the Property.

Significant Woodlands

No development or site alteration may occur within Significant Woodlands or their adjacent lands (within 120 m) unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions. In addition, fragmentation of significant woodlands is generally discouraged.

The development of a single-family residence will not occur immediately within woodland areas. This EIS concludes that development within adjacent lands will not fragment or otherwise result in adverse impacts on Significant Woodlands as a functional component of the NHS that overlaps the Property and surrounding lands.

Habitat of Threatened/Endangered Species

The PPS states that no development or site alteration will be permitted within the habitat of Threatened or Endangered species except in accordance with provincial and federal requirements. No development or site alteration will be permitted within the adjacent lands (120 m) to these areas unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions.

The isolated presence of Eastern Meadowlark and Bobolink is the only instance of a provincially Threatened or Endangered Species within or in close proximity to the PBS. In consideration of various factors, this EIS concludes that the area affected by development does not provide meaningful habitat function for these species and that the proposed severance and subsequent single-family residential development can occur without negative impacts on these Species at Risk or their habitat.

Significant Wildlife Habitat

In the PPS, development and site alteration is not permitted within Significant Wildlife Habitat (SWH) and adjacent lands (120 m) unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions.

The EIS has not identified any confirmed SWH function, but does conservatively recognize a theoretical potential for SWH in proximity to the PBS. With appropriate mitigation measures, no impacts on any possible SWH function are expected.

Fish Habitat

Development and site alteration are not permitted in Fish Habitat except in accordance with relevant provincial and federal requirements. No development will be permitted within 30 m of the banks of a stream, river, or lake unless an EIS, or the Conservation Authority, concludes setbacks may be reduced

The small intermittent tributary does not appear to support direct fish habitat function, but could support indirect habitat function. This watercourse is separated by >120 m from the PBS and is functionally isolated from the PBS. The EIS concludes that no impacts on the watercourse or any presumed Fish Habitat function are expected.

Summary

Overall, the proposed development of a single-family residence as set out on Appendix C within the New Farm Property meets policy requirements and there is no expectation of any negative impacts on several specific features of interest or the Natural Heritage System (NHS) that they comprise.

7.0 REFERENCES

Bird Studies Canada (BSC), Environment Canada's Canadian Wildlife Service, Ontario Nature, Ontario Field Ornithologists and Ontario Ministry of Natural Resources. 2021. Ontario Breeding Bird Atlas Database. Data accessed from NatureCounts, a node of the Avian Knowledge Network, Bird Studies Canada. Available at: http://www.naturecounts.ca.

Bird Studies Canada (BSC). 2003. The Marsh Monitoring Program Training Kit and Instructions for Surveying Marsh Birds, Amphibians, and Their Habitats. Revised 2003.

Cadman, M.D., D.A. Sutherland, G.G Beck, D. Lepage, and A.R. Couturier (eds.). 2007. Atlas of the Breeding Birds of Ontario, 2001 - 2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature. Toronto, ON.

Simcoe County Geographic Information Systems (GIS) website (https://opengis.simcoe.ca/). Last accessed 30 July 2022.

Hoffman, D.W, R.E. Wicklund and N.R. Richards. 1962. Soil Survey of Simcoe County. Report No. 29 of the Ontario Soil Survey.

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

Natural Heritage Information Centre (NHIC) Element Occurrence Database at http://nhic.mnr.gov.on.ca/nhic_.cfm. Last accessed 15 June 2022.

Ontario Ministry of Natural Resources (MNR). 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition. Toronto: Queen's Printer for Ontario. 248 pp. March 2010.

Ontario Ministry of the Environment, Conservation and Parks (MECP). 2019. DRAFT Client's Guide to Preliminary Screening for Species at Risk. May 2019.

Ontario Ministry of Natural Resources and Forestry (MNRF). 2014. Ontario Wetland Evaluation System (OWES) - Southern Manual. 3rd Edition, Version 3.3. Queen's Printer for Ontario. August 2014.

Ontario Ministry of Natural Resources and Forestry (MNRF). 2015a. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. Queen's Printer for Ontario. 38 pp. January 2015.

Ontario Ministry of Natural Resources and Forestry (MNRF). 2015b. Significant Wildlife Habitat Mitigation Support Tool - Version 2014. Queen's Printer for Ontario. 533 pp. March 2015.

TABLES

Table 1: Summary of ELC Community Characteristics

Community Type[1]	Cover Composition[3]	Average Tree Cover[2]	Tree Size (DBH) Distribution[4]			Summary of Functions[5]
			<15 cm	15 to 30 cm	>30 cm	
Cultural Meadow (CUM)	Mix of common grasses and forbs, including numerous non-native species	<5%	NA	NA	NA	Limited abundance and diversity of fauna. General absence of grassland specialized species. Limited occurrence of two Priority Species. No SWH function.
White Cedar Coniferous Swamp (SWC)	Cedar>>Balsam Fir>Trembling Aspen	100%	70%	25%	5%	Low abundance and diversity of fauna. No Priority Species or SWH.
White Cedar Coniferous Forest (FOC2, FOC4)	Cedar>>>Maple	100%	75%	20%	5%	Low abundance and diversity of fauna. No Priority Species or SWH.
White Cedar Mized Forest (FOM)	Cedar>Balsam Fir>Sugar Maple	100%	70%	25%	5%	Low abundance and diversity of fauna. No Priority Species or SWH.
Sugar Maple Deciduous Forest (FOD5)	Sugar Maple>>White Ash>Beech=Black Cherry	95%	65%	20%	5%	No Priority Species. No interior forest function. Potential for SWH function (bat roosting) associated with remnant mature trees on west perimeter.

1 - Community type as determined through ELC following Lee et al., 1998. See Figure 5.
2 - estimate of average absolute cover of upper canopy, as per Lee et al. 1998
3 - estimate of relative abundance of tree species present in canopy, as per Lee et al., 1998
4 - estimated percentage of trees within canopy in the noted range of diameter at breast height (DBH)
5 - SWH = Significant Wildlife Habitat

Table 2: Plant Species List for the New Farm Property

Common Name	Scientific Name	Provincial Status (S-RANK)[1]	Native vs Non-Native Status	Conservation Coefficient[2]	Wetness Coefficient[2]
Alfalfa*	*Medicago sativa*	NA	Non-native	NA	5
Alternate-leaved Dogwood	*Cornus alternafolia*	S5	Native	6	3
American Basswood	*Tilia americana*	S5	Native	4	3
American Beech	*Fagus grandifolia*	S4	Native	6	3
American Larch	*Larix laricina*	S5	Native	7	-3
American Water-horehound	*Lycopus americanus*	S5	Native	4	-5
Awl-fruited Sedge	*Carex stipata*	S5	Native	3	-5
Balsam Fir	*Abies balsamea*	S5	Native	5	-3
Balsam Poplar	*Populus balsamifera*	S5	Native	4	-3
Barberpole Sedge	*Scirpus microcarpus*	S5	Native	4	-5
Bebb's Willow	*Salix bebbiana*	S5	Native	4	-3
Birdfoot Trefoil*	*Lotus corniculatus*	NA	Non-native	NA	3
Black Cherry	*Prunus serotina*	S5	Native	3	3
Black Knapweed*	*Centaurea nigra*	NA	Non-native	NA	5
Black Medic*	*Medicago lupulina*	NA	Non-native	NA	3
Black Nightshade	*Solanum emulans*	S5	Native	1	3
Black Raspberry	*Rubus occidentalis*	S5	Native	2	5
Black-eyed Susan*	*Rudbeckia hirta*	S5	Native	0	3
Bladder Campion	*Silene cucubalus*	NA	Non-native	NA	5
Blue Cohosh	*Caulophyllum thalictroides*	S5	Native	5	5
Blue-eyed Grass	*Sisyrinchium montanum*	S5	Native	4	0
Boneset	*Eupatorium perfoliatum*	S5	Native	2	-3
Broad-leaf Cattail	*Typha latifolia*	S5	Native	1	-5
Brown Knapweed*	*Centaurea jacea*	NA	Non-native	NA	5
Calico Aster	*Symphyotrichum lateriflorum*	S5	Native	3	0
Canada Goldenrod	*Solidago canadensis*	S5	Native	1	3
Canada Mayflower	*Maianthemum canadense*	S5	Native	5	0
Canada Thistle*	*Cirsium arvense*	NA	Non-native	NA	3
Chicory	*Chicorium intybus*	NA	Non-native	NA	5
Choke Cherry	*Prunus virginiana*	S5	Native	2	3
Cleavers	*Galium aparine*	S5	Native	NA	3
Climbing Nightshade	*Solanum dulcamara*	NA	Non-native	NA	0
Cockspur Hawthorn	*Crataegus crus-galli*	S4	Native	4	0
Coltsfoot*	*Tussilago farfara*	NA	Non-native	NA	3
Common (Old-field) Cinquefoil	*Potentilla simplex*	S5	Native	3	3
Common Burdock*	*Arctium minus*	NA	Non-native	NA	3
Common Buttercup*	*Ranunculus acris*	NA	Non-native	NA	0
Common Dandelion*	*Taraxacum officinale*	NA	Non-native	NA	3
Common Evening Primrose	*Oenothera biennis*	S5	Native	0	3
Common Milkweed	*Asclepias syriaca*	S5	Native	0	5
Common Mullein*	*Verbascum thapsis*	NA	Non-native	NA	5
Common Plantain	*Plantago major*	NA	Non-native	NA	3
Common Ragweed	*Ambrosia artemisiifolia*	S5	Native	0	3
Common St. Johnswort	*Hypericum perforatum*	NA	Non-native	NA	5
Common Strawberry	*Fragaria virginiana*	S5	Native	2	3
Common Timothy	*Phleum pratense*	NA	Non-native	NA	3
Common Yarrow	*Achillea millefolium*	NA	Non-native	NA	3
Coontail	*Ceratophyllum demersum*	S5	Native	4	-5
Crested Sedge	*Carex cristatella*	S5	Native	3	-3
Curly Dock	*Rumex crispus*	NA	Non-native	NA	0
Daisy Fleabane	*Erigeron annuus*	S5	Native	0	3
Dark Green Bulrush	*Scirpus atrovirens*	S5	Native	3	-5
Dog Violet	*Viola conspersa*	S5	Native	3	0
Domestic Apple	*Malus pumila*	NA	Non-native	NA	5

Table 2: Plant Species List for the New Farm Property

Common Name	Scientific Name	Provincial Status (S-RANK)[1]	Native vs Non-Native Status	Conservation Coefficient[2]	Wetness Coefficient[2]
Early Goldenrod	*Solidago juncea*	S5	Native	3	5
Early Meadow-rue	*Thalictrum dioicum*	S5	Native	6	3
Eastern White Cedar	*Thuja occidentalis*	S5	Native	4	-3
Eastern White Pine	*Pinus strobus*	S5	Native	4	3
Enchanter's Nightshade	*Circaea lutetiana ssp. canadensis*	S5	Native	2	3
English Plantain	*Plantago lanceolata*	NA	Non-native	NA	3
False Solomon's-seal	*Maianthemum racemosum*	S5	Native	4	3
Field Horsetail	*Equisetum arvense*	S5	Native	0	0
Fowl Mannagrass	Glyceria striata	S5	Native	3	-5
Fox Sedge	*Carex vulpinoidea*	S5	Native	3	-5
Fragrant Bedstraw	*Galium triflorum*	S5	Native	4	2
Fringed Loosestrife	*Lysimachia ciliata*	S5	Native	4	-3
Fringed Sedge	*Carex crinita*	S5	Native	6	-5
Garlic Mustard*	*Alliaria petiolata*	NA	Non-native	NA	0
Graceful Sedge	*Carex gracillima*	S5	Native	4	3
Green Ash	*Fraxinus pennsylvanica*	S4	Native	3	-3
Green Foxtail	*Setaria viridis*	NA	Non-native	NA	5
Greenish Sedge	*Carex viridula*	S5	Native	5	-5
Ground Ivy	*Glechoma hederacea*	NA	Non-native	NA	3
Hard-stemmed Bulush	*Schoenoplectus acutus*	S5	Native	5	-5
Harlequin Blue Flag	*Iris versicolor*	S5	Native	5	-5
Helleborine	*Epipactis helleborine*	NA	Non-native	NA	3
Herb-Robert	*Geranium robertianum*	S5	Native	2	3
Intermediate Woodfern	*Dryopteris intermedia*	S5	Native	5	0
Ironwood	*Ostrya virginiana*	S5	Native	4	3
Jack-in-the-pulpit	*Arisaema triphyllum*	S5	Native	5	-3
Lance-leaved Goldenrod	*Euthamia graminifolia*	S5	Native	2	0
Late Goldenrod	*Solidago gigantea*	S5	Native	4	-3
Lesser Duckweed	*Lemna minor*	S5	Native	5	-5
Male Fern	*Dryopteris filix-mas*	S4	Native	9	5
Marsh Bedstraw	*Galium palustre*	S5	Native	5	-5
Marsh Marigold	*Caltha palustris*	S5	Native	5	-5
Meadow Fescue	*Lolium pratense*	NA	Non-native	NA	3
Meadow Horsetail	*Equisetum pratense*	S5	Native	8	-3
Mouse-ear Chickweed	*Cerastium fontanum*	S5	Non-native	NA	3
Mouse-ear Hawkweed	*Hieracium pilosella*	NA	Non-native	NA	5
Multiflora Rose	*Rosa multiflora*	NA	Non-native	NA	3
Musk Mallow	*Malva moschata*	NA	Non-native	NA	5
Narrow-leaved Blue-eyed-grass	*Sisyrinchium angustifolium*	S4	Native	6	0
Narrow-leaved Cattail*	*Typha angustifolia*	NA	Native	NA	-5
New England Aster	*Symphyotrichum novae-angliae*	S5	Native	2	-3
Nodding Beggar-ticks	*Bidens cernua*	S5	Native	2	-5
Northern Bedstraw	*Galium boreale*	S5	Native	7	0
Northern Water Plantain	*Alisma triviale*	S5	Native	1	-5
Orange Hawkweed	*Hieracium aurantiacum*	NA	Non-native	NA	5
Orchard Grass	*Dactylis glomerata*	NA	Non-native	NA	3
Oxeye Daisy*	*Leucanthemum vulgare*	NA	Non-native	NA	5
Peach-leaved Willow	*Salix amygdaloides*	S5	Native	6	-3
Philadelphia Fleabane	*Erigeron philadelphicus*	S5	Native	1	-3
Porcupine Sedge	*Carex hystericina*	S5	Native	5	-5
Pussy Willow	*Salix discolor*	S5	Native	3	-3
Red Clover*	*Trifolium pratense*	NA	Non-native	NA	3
Red Elderberry	*Sambucus racemosa*	S5	Native	5	3
Red Raspberry	*Rubus idaeus*	S5	Native	2	3

Table 2: Plant Species List for the New Farm Property

Common Name	Scientific Name	Provincial Status (S-RANK)[1]	Native vs Non-Native Status	Conservation Coefficient[2]	Wetness Coefficient[2]
Red-osier Dogwood	*Cornus sericea*	S5	Native	2	-3
Reed Canary Grass	*Phalaris arundinacea*	S5	Native	0	-3
Rough Avens	*Geum laciniatum*	S4	Native	4	-3
Rough Bedstraw	*Galium asprellum*	S5	Native	6	-5
Rough-fruited Cinquefoil*	*Potentilla recta*	NA	Non-native	0	5
Rough-stemmed Goldenrod	*Solidago rugosa*	S5	Native	4	0
Sarsaparilla	Aralia nudicaulis	S5	Native	4	3
Self-heal	*Prunella vulgaris*	NA	Non-native	NA	0
Sensitive Fern	*Onoclea sensibilis*	S5	Native	4	-3
Shining Willow	*Salix lucida*	S5	Native	5	-3
Small White Aster	*Symphyotrichum lateriflorum*	S5	Native	NA	-3
Smooth (Awnless) Brome	*Bromus inermis*	NA	Non-native	NA	5
Smooth Blackberry	*Rubus canadensis*	S5	Native	2	5
Soft Rush	*Juncus effusus*	S5	Native	4	-5
Soft-stemmed Bulrush	*Schoenoplectus tabernaemontani*	S5	Native	5	-5
Spotted Jewelweed	*Impatiens capensis*	S5	Native	4	-3
Spotted Joe-pye Weed	*Eupatorium maculatum*	S5	Native	3	-5
Starry False Solomon's-seal	*Maianthemum stellatum*	S5	Native	6	0
Stiff Arrowhead	*Sagittaria rigida*	S4	Native	6	-5
Sugar Maple	*Acer saccharum*	S5	Native	4	3
Tall Goldenrod	*Solidago altissima*	S5	Native	1	3
Tufted Vetch*	*Vicia cracca*	NA	Non-native	NA	5
Variegated Pond-lily	*Nuphar variegata*	S5	Native	7	-5
Virginia Creeper	*Parthenocissus quinquefolia*	S4	Native	6	3
Virginia Waterleaf	*Hydrophyllum virginianum*	S5	Native	6	0
Watercress*	*Nasturtium officinale*	NA	Non-native	NA	-5
Welted Thistle	*Carduus crispus*	NA	Non-native	NA	5
White Ash	*Fraxinus americana*	S4	Native	4	3
White Baneberry	*Actaea pachypoda*	S5	Native	6	5
White Birch	*Betula papyrifera*	S5	Native	2	3
White Clover*	*Trifolium repens*	NA	Non-native	NA	3
White Elm	*Ulmus americana*	S5	Native	3	-3
White Spruce	*Picea glauca*	S5	Native	6	3
White Sweet Clover	*Melilotus albus*	NA	Non-native	NA	3
White Trillium	*Trillium grandiflorum*	S5	Native	5	3
Wild Carrot*	*Daucus carota*	NA	Non-native	NA	5
Wild Grape	*Vitis riparia*	S5	Native	0	0
Wild Leek	*Allium tricoccum*	S5	Native	7	3
Wild Madder	*Galium mollugo*	NA	Non-native	NA	5
Wild Parsnip*	*Pastinaca sativa*	NA	Non-native	NA	3
Wild Raspberry	*Rubus occidentalis*	S5	Native	2	5
Woodland Agrimony	*Agrimonia striata*	S4	Native	3	3
Woodland Strawberry	*Fragaria vesca*	S5	Native	4	3
Yellow Bedstraw	*Galium verum*	NA	Non-native	NA	5
Yellow Birch	*Betula alleghaniensis*	S5	Native	6	0
Yellow Goat's-beard	*Tragopogon pratensis*	NA	Non-native	NA	5
Yellow Sedge	*Carex flava*	S5	native	5	-5

* - species marked with an asterisk are considered by various sources to be invasive in Ontario

1. Provincial Rank: S4 - Apparently Secure, S5 - Secure, NA = not applicable (non-native species)

2. Coefficients as reported by Oldham et al., 1995

Table 3: Summary of Bird Species Observed at the New Farm Property

Species		Breeding Status		Conservation Status			Breeding Habitat Preference[6]
Common name	Scientific name	Site[1]	OBBA[2]	SRANK[3]	COSEWIC[4]	COSSARO[5]	
American Crow	*Corvus brachyrhynchos*	Possible	Probable	S5	-	-	general
American Goldfinch	*Carduelis tristis*	Probable	Probable	S5	-	-	general
American Redstart	*Setophaga ruticilla*	Possible	Possible	S5	-	-	early succession
American Robin	*Turdus migratorius*	Probable	Confirmed	S5	-	-	general
Black-capped Chickadee	*Poecile atricapillus*	Probable	Possible	S5	-	-	general
Blue Jay	*Cyanocitta cristata*	Probable	Probable	S5	-	-	forest
Bobolink	*Dolichonyx oryzivorus*	Probable	Probable	S4	THR	THR	grassland
Cedar Waxwing	*Bombycilla cedrorum*	Confirmed	Possible	S5	-	-	general
Chipping Sparrow	*Spizella passerina*	Probable	Possible	S5	-	-	general
Common Grackle	*Quiscalus quiscula*	Probable	Confirmed	S5	-	-	general
Common Yellowthroat	*Geothlypis trichas*	Probable	Probable	S5	-	-	early succession, wetland
Downy Woodpecker	*Picoides pubescens*	Probable	Possible	S5	-	-	forest
Eastern Meadowlark	*Sturnella magna*	Possible	Possible	S4	THR	THR	grassland
Eastern Towhee	Pipilo erythrophthalmus	Possible	Possible	S4	-	-	early succession
Field Sparrow	*Spizella pusilla*	Confirmed	Possible	S4	-	-	open
Great Crested Flycatcher	*Myiarchus crinitus*	Possible	Possible	S5	-	-	forest
Indigo Bunting	*Passerina cyanea*	Probable	Probable	S4	-	-	early succession
Mourning Dove	*Zenaida macroura*	Probable	Probable	S5	-	-	general
Northern Flicker	*Colaptes auratus*	Probable	Confirmed	S4	-	-	general
Ovenbird	*Seiurus aurocapilla*	Probable	Probable	S4	-	-	forest
Red-breasted Nuthatch	*Sitta canadensis*	Possible	Possible	S5	-	-	forest
Red-eyed Vireo	*Vireo olivaceus*	Probable	Probable	S5	-	-	forest
Red-winged Blackbird	*Agelaius phoeniceus*	Probable	Probable	S4	-	-	wetlands, grasslands
Ring-billed Gull	*Larus delawarensis*	Observed	Not Reported	S5	-	-	wetland
Ruby-throated Hummingbird	*Archilochus colubris*	Possible	Probable	S5	-	-	general
Sandhill Crane	*Grus canadensis*	Possible	Not Reported	S5	-	-	wetland
Song Sparrow	*Melospiza melodia*	Confirmed	Confirmed	S5	-	-	general
Turkey Vulture	*Cathartes aura*	Possible	Possible	S5	-	-	unassigned

1. includes adjacent lands within 50 m of property perimeter
2. the highest breeding status reported in the OBBA for Square 17NK60
3. Provincial Rank: S4 - Apparently Secure, S5 - Secure
4. Federal Status: THR = Threatened
5. Provincial Status: SC - Special Concern
6. based on the Ontario Breeding Bird Atlas (OBBA)

Table 4: Bird SAR and SOCC Reported in the OBBA[1]

Species					
Common Name	**Scientific Name**	**SRank[2]**	**ESA Status[3]**	**SARA Status[4]**	**Primary Habitat Association[5]**
Barn Swallow	*Hirundo rustica*	S4	THR	THR	man-made structures
Bank Swallow	*Riparia riparia*	S4	THR	THR	river banks, sand piles
Bobolink	*Dolichonyx oryzivorus*	S4	THR	THR	grasslands, hayfields (usually > 5 ha)
Canada Warbler	*Wilsonia canadensis*	S5	SC	THR	mature wet forest with conifers
Eastern Meadowlark	*Sturnella magna*	S4	THR	THR	grasslands, hayfields (usually > 5 ha)
Eastern Wood-pewee	*Contopus virens*	S4	SC	SC	deciduous and mixed forest
Golden-winged Warbler	*Vermivora chrysoptera*	S3	SC	THR	disturbed areas within mature forest
Upland Sandpiper	*Bartramia longicauda*	S2	-	-	Unused pasture and old field habitat

1 - Ontario Breeding Bird Atlas - Square 17NK60

2 - Provincial Rank - S2 = Imperiled, S3 = Vulnerable, S4 = Apparently Secure, S5 = Secure

3 - Endangered Species Act, Ontario - SC = Special Concern, THR = Threatened

4 - Species at Risk Act (Canada) - SC = Special Concern, THR = Threatened

5 - as reported in the Ontario Breeding Bird Atlas (OBBA)

Table 5: NHIC Element Occurrences (EO) in Vicinity of Property

Common Name	Scientific Name	SRank[1]	SARO Status[2]	SARA Status[3]	Primary Habitat
Bobolink	*Dolichonyx oryzivorus*	S4	THR	THR	grasslands, hayfields (usually > 5 ha)
Eastern Meadowlark	*Sturnella magna*	S4	THR	THR	grasslands, hayfields (usually > 5 ha)
Louisiana Waterthrush	*Parkesia motacilla*	S3	THR	THR	steep stream valleys within large forest tracts
Wood Thrush	*Hylocichla mustelina*	S4	SC	THR	mature deciduous or conifer-deciduous forests
Black Ash	*Fraxinus nigra*	S4	END[4]	THR[5]	forested wetlands and lowland forests
Butternut	*Juglans cinerea*	S3	END	END	deciduous forests, often on slopes or stream banks
Hart's-tongue Fern	*Asplenium scolopendrium*	S3	-	-	rock outcrops and crevices
Musk Monkeyflower	*Erythranthe moschata*	S1/S2	-	-	cool, moist places such as seeps and springs
Snapping Turtle	*Chelydra serpentina*	S4	SC	SC	most freshwater habitats, most often with slow-moving water, soft substrates and abundant vegetation

1 - Provincial Rank - S1 = Critically Imperiled, S2 = Imperiled, S3 = Vulnerable, S4 = Apparently Secure
2 - Endangered Species Act, Ontario - SC = Special Concern, THR = Threatened, END = Endangered
3 - Species at Risk Act (Canada) - SC = Special Concern, THR = Threatened, END = Endangered
4 - Formally listed as *Endangered* in 2022, but regulatory protections under ESA are temporarily paused until 2024.
5 - Recommended as *Threatened* by COSEWIC in 2018, but not yet listed under SARA
EO records obtained for NHIC 1-km squares within ~ 2 km of the Property

Table 6: Reptile and Amphibian Species Reported in the OARA[1]

Species					
Common Name	**Scientific Name**	**SRank[2]**	**ESA Status[3]**	**SARA Status[4]**	**Primary Habitat Association[5]**
Snapping Turtle	*Chelydra serpentina*	S4	SC	SC	Most freshwater habitats, most often with slow-moving water, soft substrates and abundant vegetation
Eastern Gartersnake	*Thamnophis sirtalis sirtalis*	S5	-	-	A generalist, occupying wide variety of habitats
Eastern Milksnake	*Lampropeltis triangulum*	S4	NAR	SC	Open habitats - rocky outcrops, fields and forest edge
Smooth Greensnake	*Opheodrys vernalis*	S4	-	-	various habitats with grass and other dense vegetation
Gray Treefrog	*Hyla versicolor*	S5	-	-	Various plant communities near permanent water
Green Frog	*Lithobates clamitans*	S5	-	-	Shallow permanent waterbodies
Mink Frog	*Lithobates septentrionalis*	S5	-	-	large, cold, permanent ponds, lakes and slow-moving rivers with abundant vegetation
Northern Leopard Frog	*Lithobates pipiens*	S5	NAR	NAR	Relatively permanent ponds without fish
Pickerel Frog	*Lithobates palustris*	S4	NAR	NAR	Ponds and streams with stable temperatures, particularly springs and cold seepages
Spring Peeper	*Pseudacris crucifer*	S5	-	-	Temporary woodland ponds, or swamps
Western Chorus Frog	*Pseudacris maculata*	S4	NAR	THR	Fishless ponds with ≥10 cm of water
Wood Frog	*Lithobates sylvaticus*	S5	-	-	Vernal woodland pools
American Toad	*Anaxyrus americanus*	S5	-	-	Variety of warm, shallow waters
Red-spotted Newt	*Notophthalmus viridescens*	S5	-	-	Slow-moving water in a variety of ponds and lakes
Eastern Red-backed Salamander	*Plethodon cinereus*	S5	-	-	Deciduous or mixed forests
Spotted Salamander	*Ambystoma maculatum*	S4	-	-	Breeds in shallow, temporary wetlands that are free of fish

1 - Ontario Amphibian and Reptile Atlas - Square 17NK60
2 - Provincial Rank - S4 = Apparently Secure, S5 = Secure
3 - Endangered Species Act (Ontario) - NAR = Not at Risk, SC = Special Concern
4 - Species at Risk Act (Canada) - NAR = Not at Risk, SC = Special Concern THR = Threatened
5 - as reported in the Ontario Amphibian and Reptile Atlas (Ontario Nature)

Table 7: Summary of Priority Species Status at the New Farm Property

Candidate Species[1]		Status in Ontario		Status within/near Property		
Common Name	**Scientific Name**	**SRank[2]**	**ESA Status[3]**	**Habitat Available[4]**	**Presence Confirmed[5]**	**Notes**
Bank Swallow	*Riparia riparia*	S4	THR	No	No	No exposed river banks or sand piles found within Property.
Barn Swallow	*Hirundo rustica*	S4	THR	No	No	Presence of man-made structures confined to west end of Property, ~800 m from PBS
Bobolink	*Dolichonyx oryzivorus*	S4	THR	Yes	**Yes**	Grassland (CUM) patch encompassing PBS is ~ 5 ha which is the reported minimum size threshold for prefered habitat. Single specimens observed ~100 m from PBS, but no evidence to confirm breeding.
Eastern Meadowlark	*Sturnella magna*	S4	THR	Yes	**Yes**	Grassland patch encompassing PBS is ~ 5 ha which is the reported minimum prefered size threshold. Single specimen observed on north perimeter of Property, but not within core of Property.
Canada Warbler	*Wilsonia canadensis*	S5	SC	No	No	Suitable forest conditions not found within Property.
Golden-winged Warbler	*Vermivora chrysoptera*	S3	SC	No	No	Suitable forest conditions not found within Property.
Wood Thrush	*Hylocichla mustelina*	S4	SC	Yes	No	Suitable habitat available within FOD5 community, east of PBS. Not observed during surveillance of this habitat.
Eastern Wood-pewee	*Contopus virens*	S4	SC	Yes	No	Suitable habitat available within FOD5 community. Not observed in area potentially affected by development.
Louisiana Waterthrush	*Parkesia motacilla*	S3	THR	No	No	Property does not contain steep stream valleys within large forest tracts.
Upland Sandpiper	*Bartramia longicauda*	S2	-	No	No	Open habitats within Property are mostly in active use as forage or pasture.
Snapping Turtle	*Chelydra serpentina*	S4	SC	No	No	No permanent standing water within Property to support turtle species.
Eastern Milksnake	*Lampropeltis triangulum*	S4	NAR	Yes	No	Suitable forest edge conditions do exist within Property in proximity to PBS
Western Chorus Frog	*Pseudacris maculata*	S4	NAR	Yes	No	The small man-made pond almost 200 m west of PBS could support this amphibian species to some extent.
Monarch Butterfly	*Danaus plexippus*	S2/S4	SC	Yes	**Yes**	Property contains open habitat that could support Monarchs. Limited presence of milkweed.
Black Ash	*Fraxinus nigra*	S4	END[4]	Yes	No	Wetland habitat is present, but no specimens of Black Ash have been observed.
Butternut	*Juglans cinerea*	S3	END	Yes	No	No Butternut specimens observed within monitoring area
Musk Monkeyflower	*Erythranthe moschata*	S1/S2	-	No	No	No seeps or springs observed within monitoring area
Hart's-tongue Fern	*Asplenium scolopendrium*	S3	-	No	No	Rock outcrops not found within monitoring area

1 - Species has been identified in existing databses (NHIC, OBBA, OARA) or through direct site surveillance as present within or near the Property
2 - Provincial Status (S-Rank) - S1 = Extirpated, S2 = Imperiled, S3 = Vulnerable, S4 = Apparently Secure
3 - END = Endangered, THR = Threatened, SC = Special Concern, NA = Not Assessed
4 - Sufficient quantity of preferred habitat is present within or adjacent to areas potentially affected by development
5 - Species has been observed during monitoring of the Property or immediatley adjacent lands
6 - Formally listed as *Endangered* in 2022, but regulatory protections under ESA are temporarily paused until 2024

Table 8: Summary of Risks Associated with Proposed Development

Affected Feature	Potential Impact	Risk: Likelihood	Risk: Potential Significance[1]	Risk: Overall Risk[2]	Limiting and Mitigating Factors[3]
Signficant Woodlands	Direct loss of woodlands	None	Low	None	Forest communities near PBS have modest ecological function and value. Site Plan does not indicate direct loss of forest cover. Precautionary mitigation through construction timing and preservation measures (e.g. tree protection)
	Indirect impairment	Very Low	Low	Very Low	Plant and animal communities are not rare or sensitive. Habitat function of woodlands near PBS is limited. Precautionary mitigation through construction timing and preservation measures.
Watercourse and wetlands	Loss or direct interference of feature	None	Low	None	Development will avoid direct incursion into watercourse and wetlands or within standard 30-m setback.
	Indirect effects on hydrology, water quaility or ecological function	Very Low	Low	Very Low	Watercourse exhibits intermittent flow. Wetland and watercourse exhibit limited and non-sensitive habitat function. No meaningful hydrological connectivity between PBS and watercourse Risk mitigation through standard setback and ESC measures.
Priority Species (SOCC and SAR)	Direct harm to Priority Species	Very Low	Low	Very Low	Limited and/or isolated presence of Priority Species within or near PBS, and none immediatley within PBS. Mitigation primarily through construction timing.
	Loss or interference of Habitat	Very Low	Low	Very Low	Small loss of Cultural Meadow (CUM) habitat will occur, but Priority Species not meaningfully associated with this habitat. Mitigation partly achieved through construction timing (avoid nesting season of migratory birds).
Significant Wildlife Habitat (SWH)	Direct loss or indirect impairment	Very Low	Low	Very Low	Some possible SWH function associated with FOD5 community. PBS well-separated from this area. No SWH function in close proximity to PBS.

FIGURES

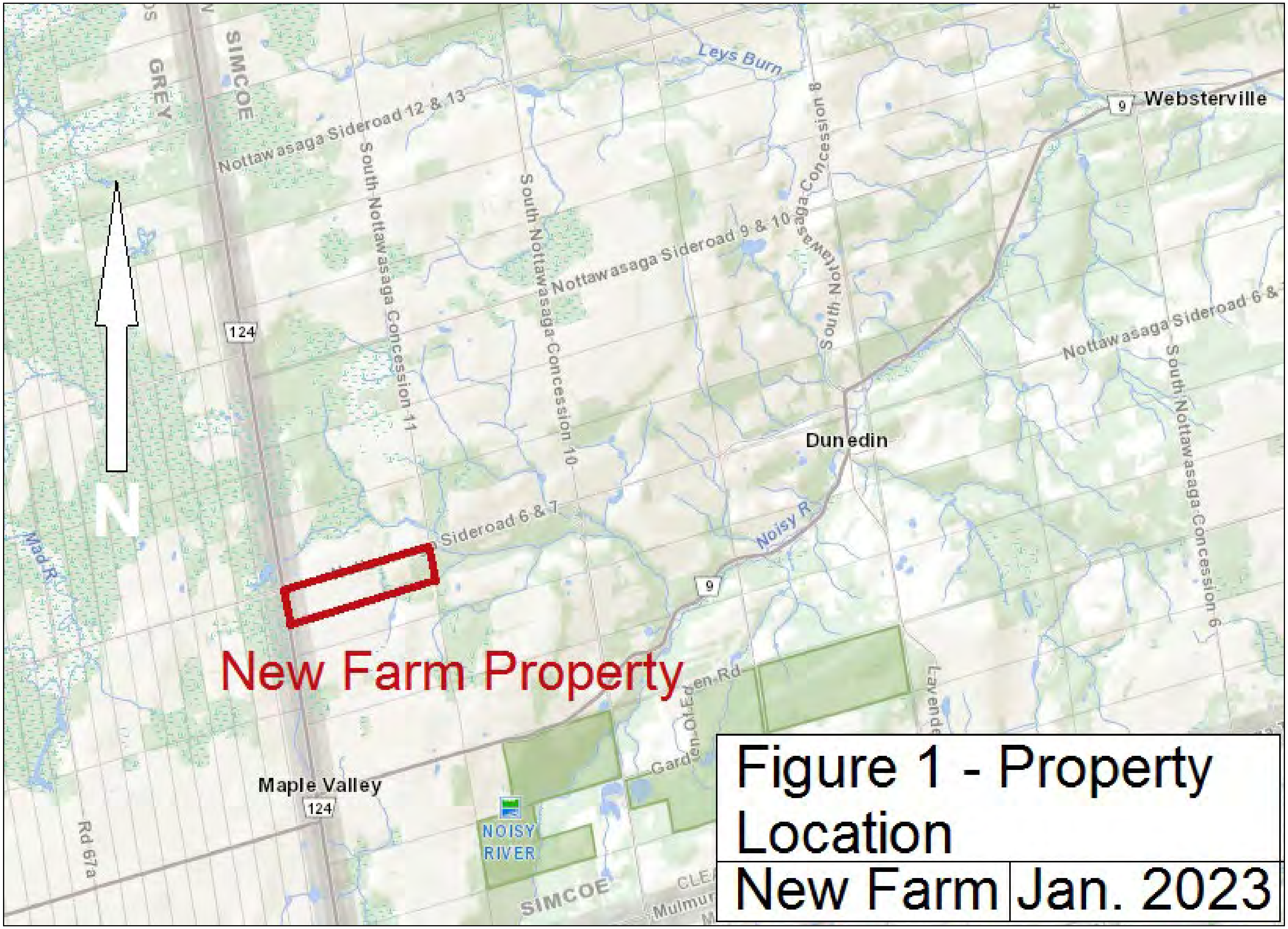
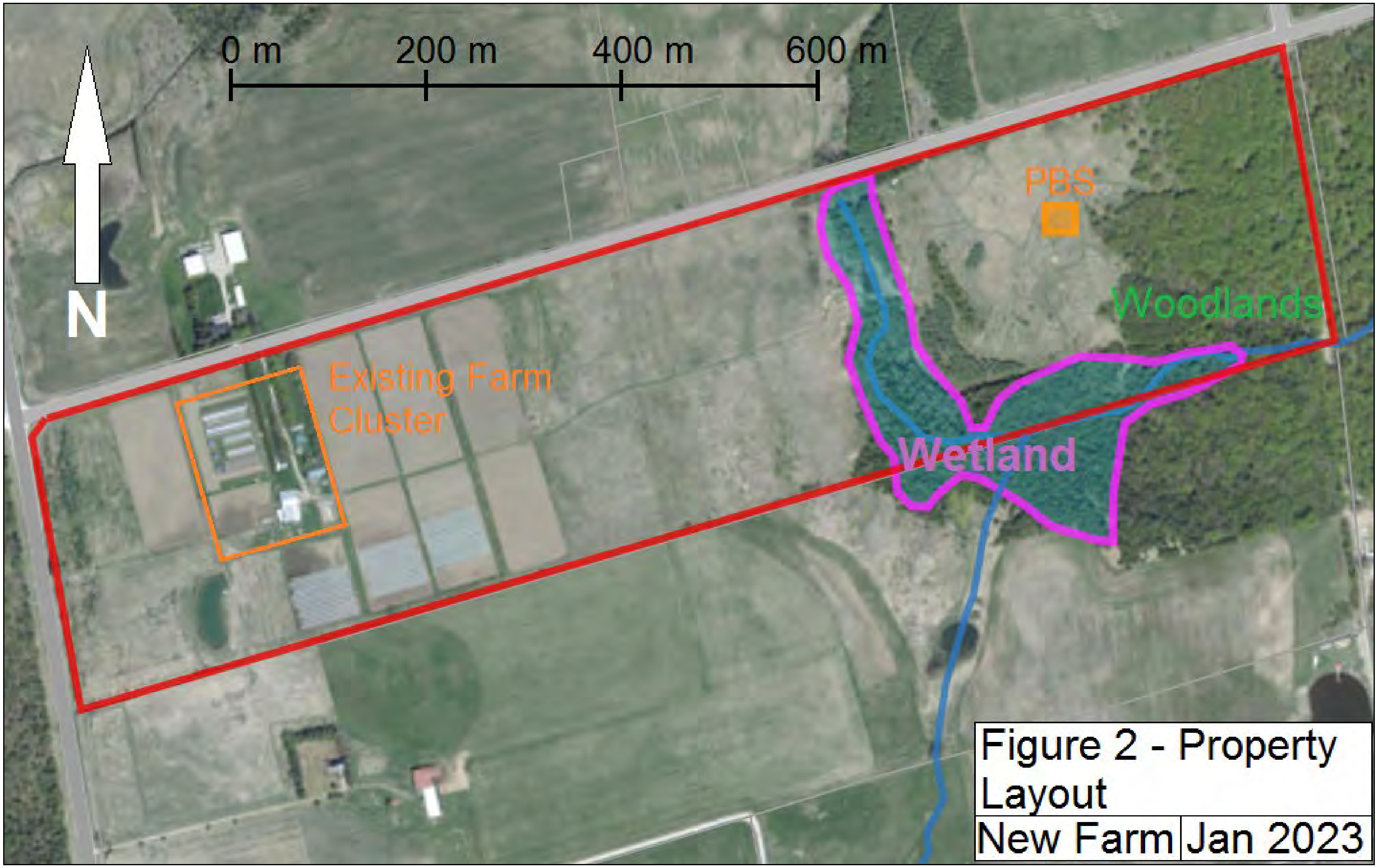


Figure 1 - Property Location	
New Farm	Jan. 2023


0 m
200 m
400 m
600 m
N
PBS
Woodlands
Existing Farm
Cluster
Wetland
Figure 2 - Property
Layout
New Farm
Jan 2023

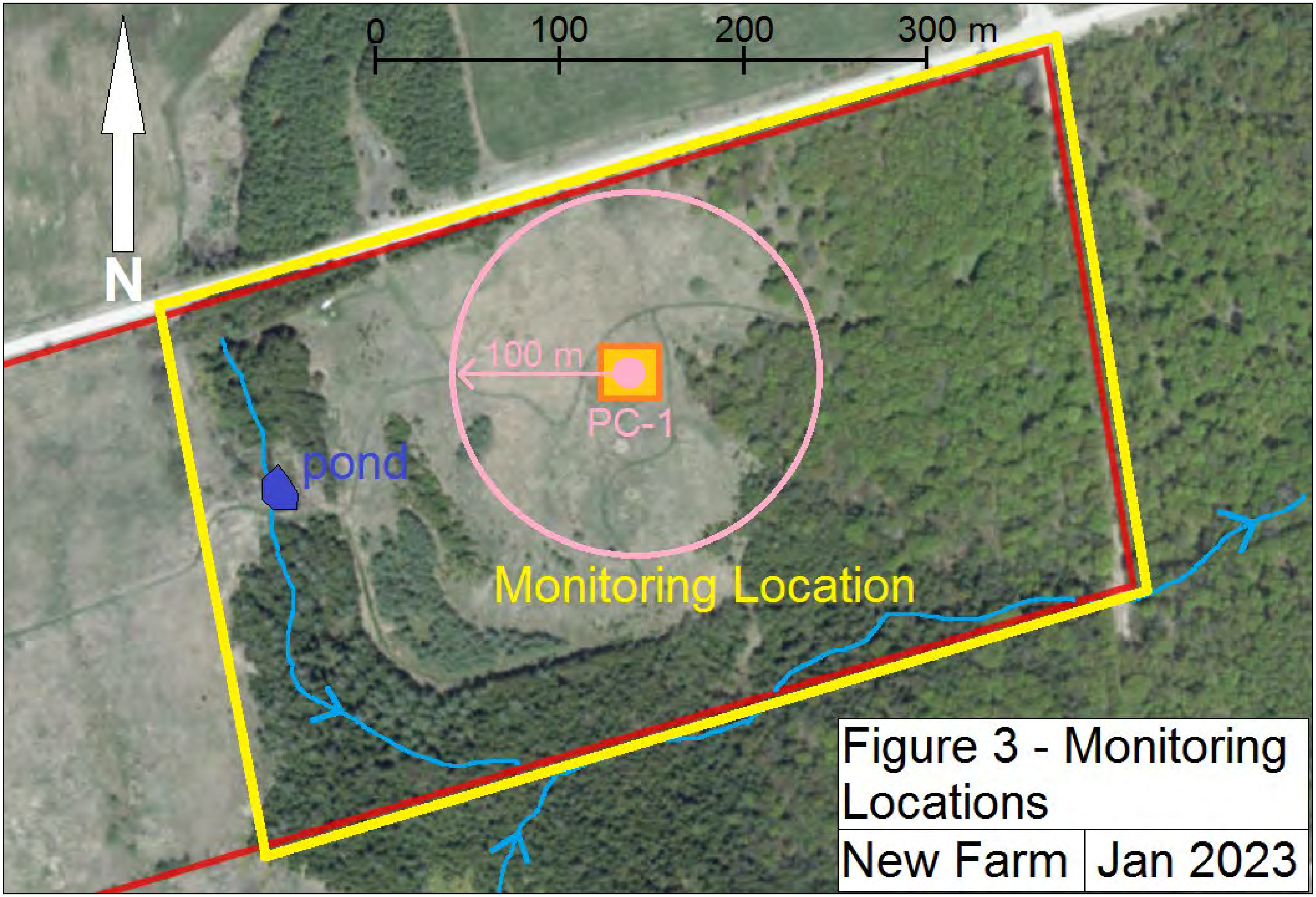


Figure 3 - Monitoring Locations

New Farm	Jan 2023

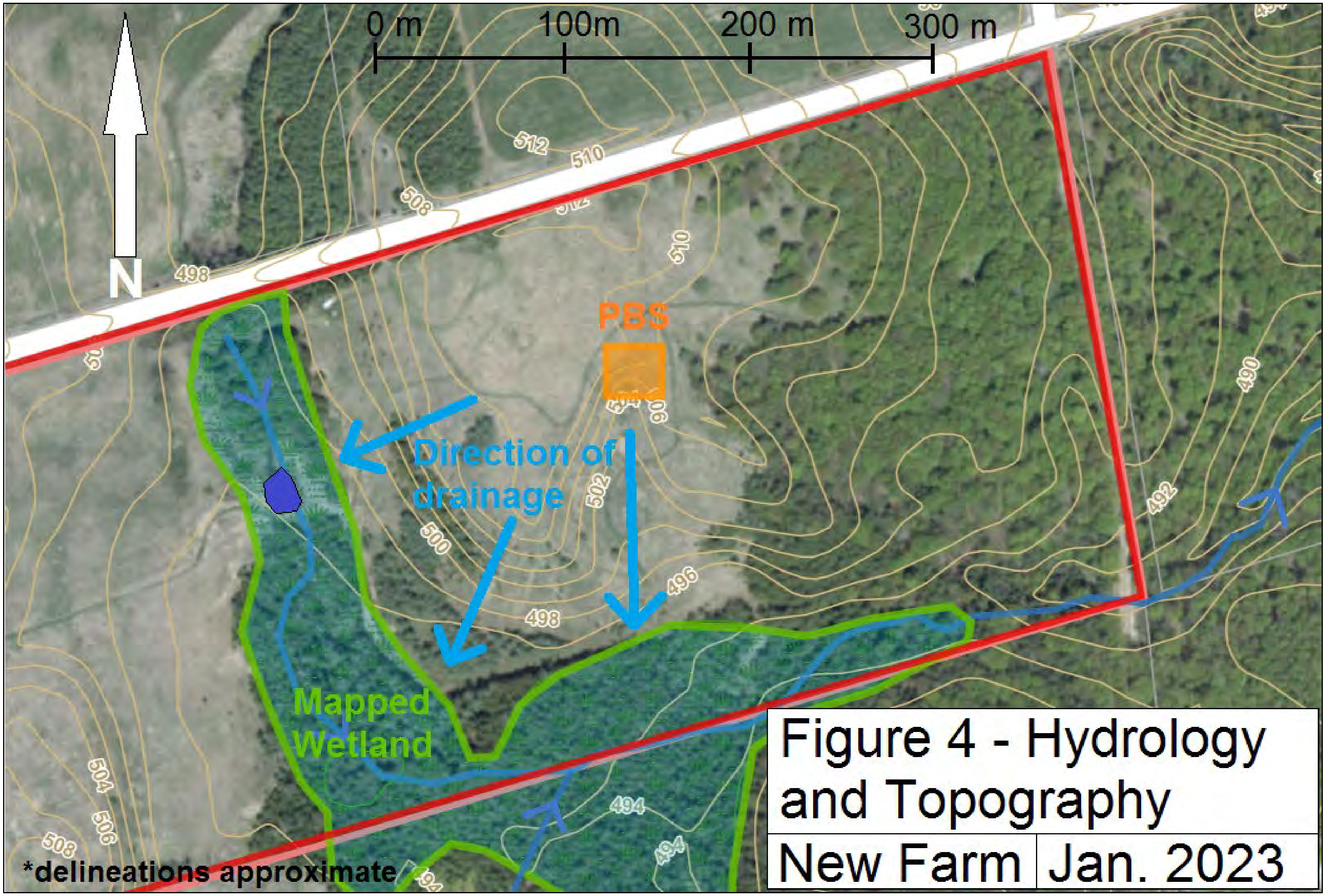


Figure 4 - Hydrology and Topography

New Farm	Jan. 2023

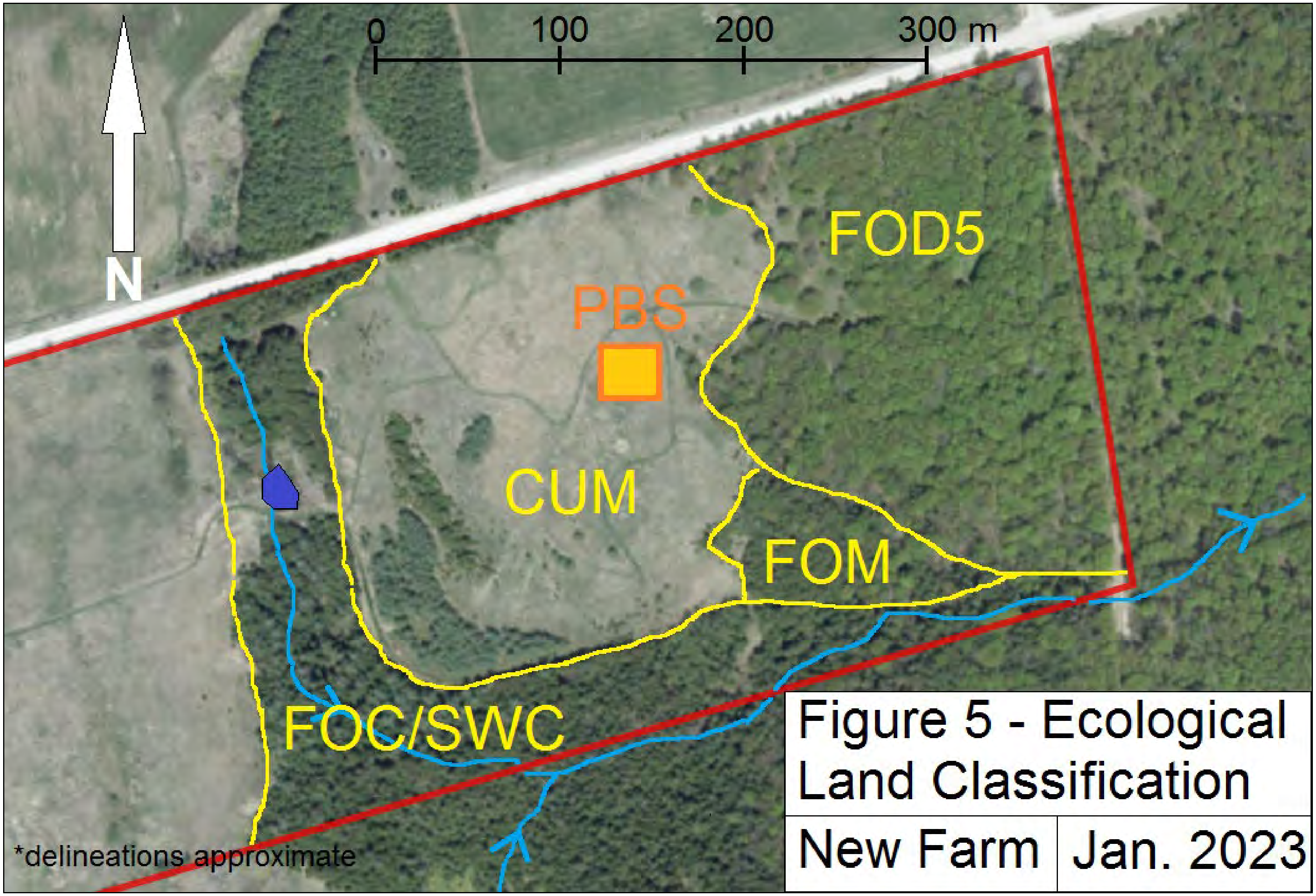


Figure 5 - Ecological Land Classification

APPENDICES

Appendix A – Existing Constraint Mapping

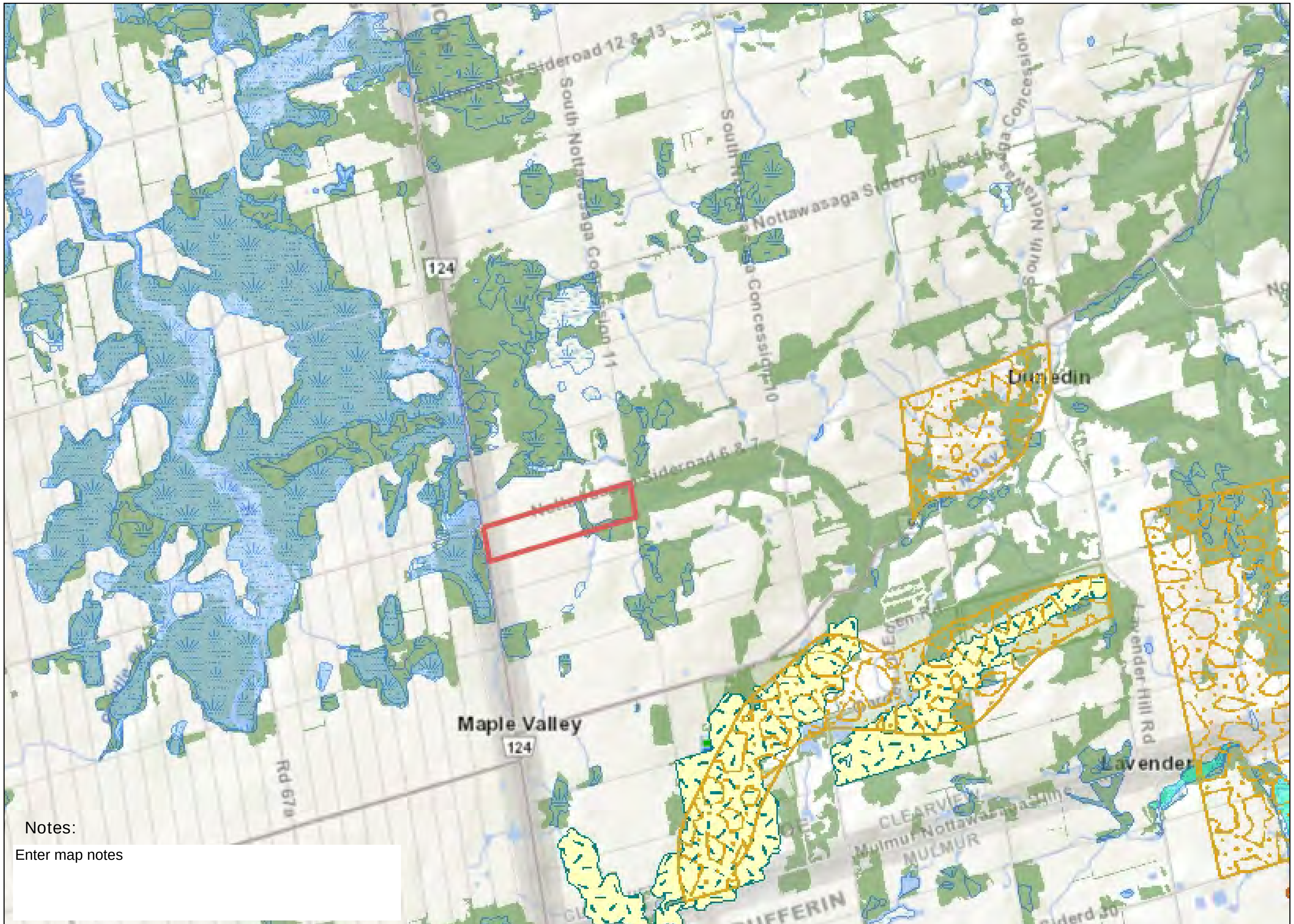
Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

MNRF Mapped Features

Map created:6/20/2022



Notes:

Enter map notes

Legend

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

2.6 0 1.31 2.6 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.

Property Screening Report

14-Sep-2022

Information Resources for Regulated Properties

Do I need a permit?

Submit a Property Inquiry

Google Driving Directions

Info Regarding Covid-19

Email the Regulations Department
permits@nvca.on.ca

NVCA Contact Information

(705) 424-1479

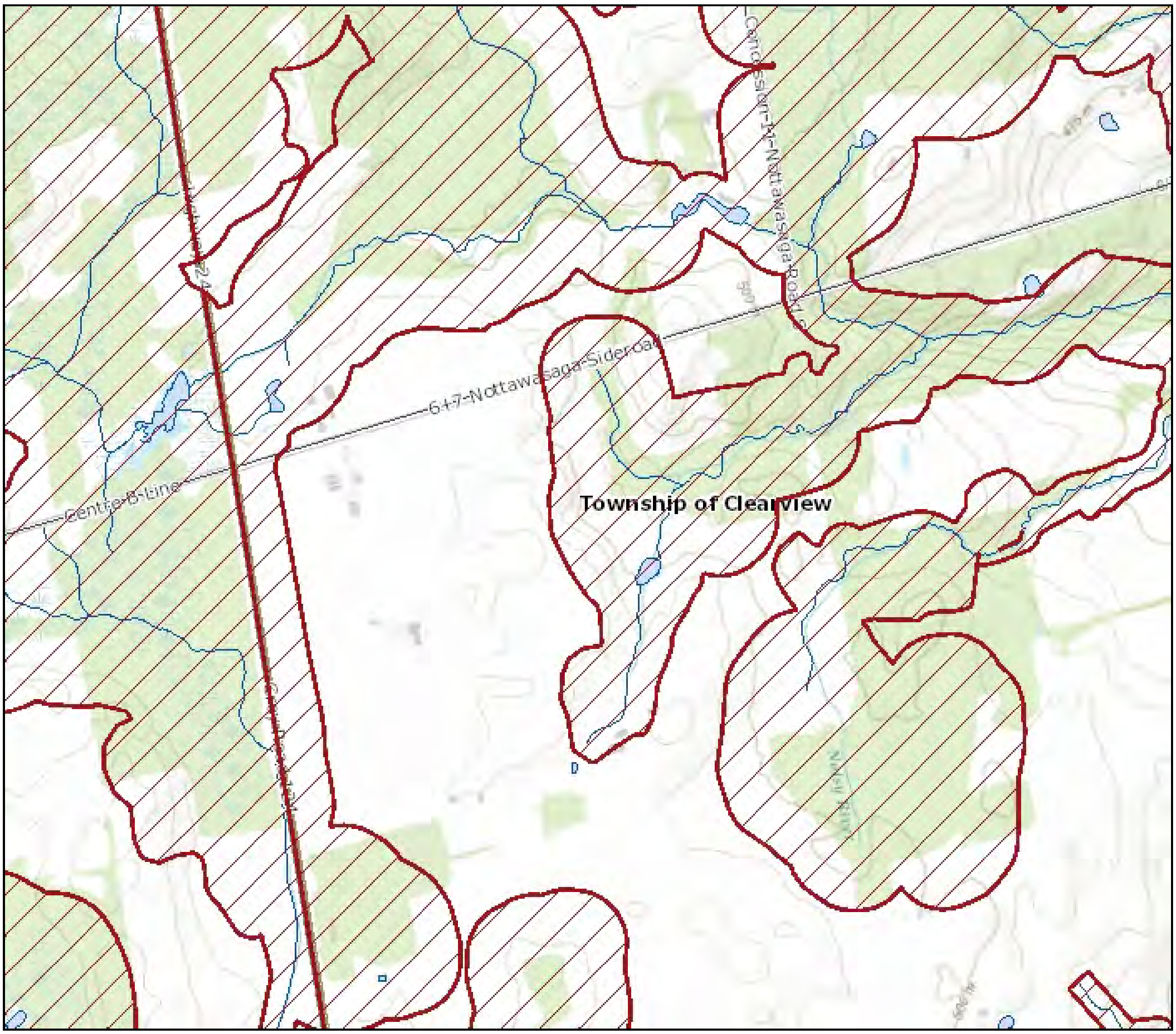
8195 8th Line,
Utopia, ON L0M 1T0

www.nvca.on.ca

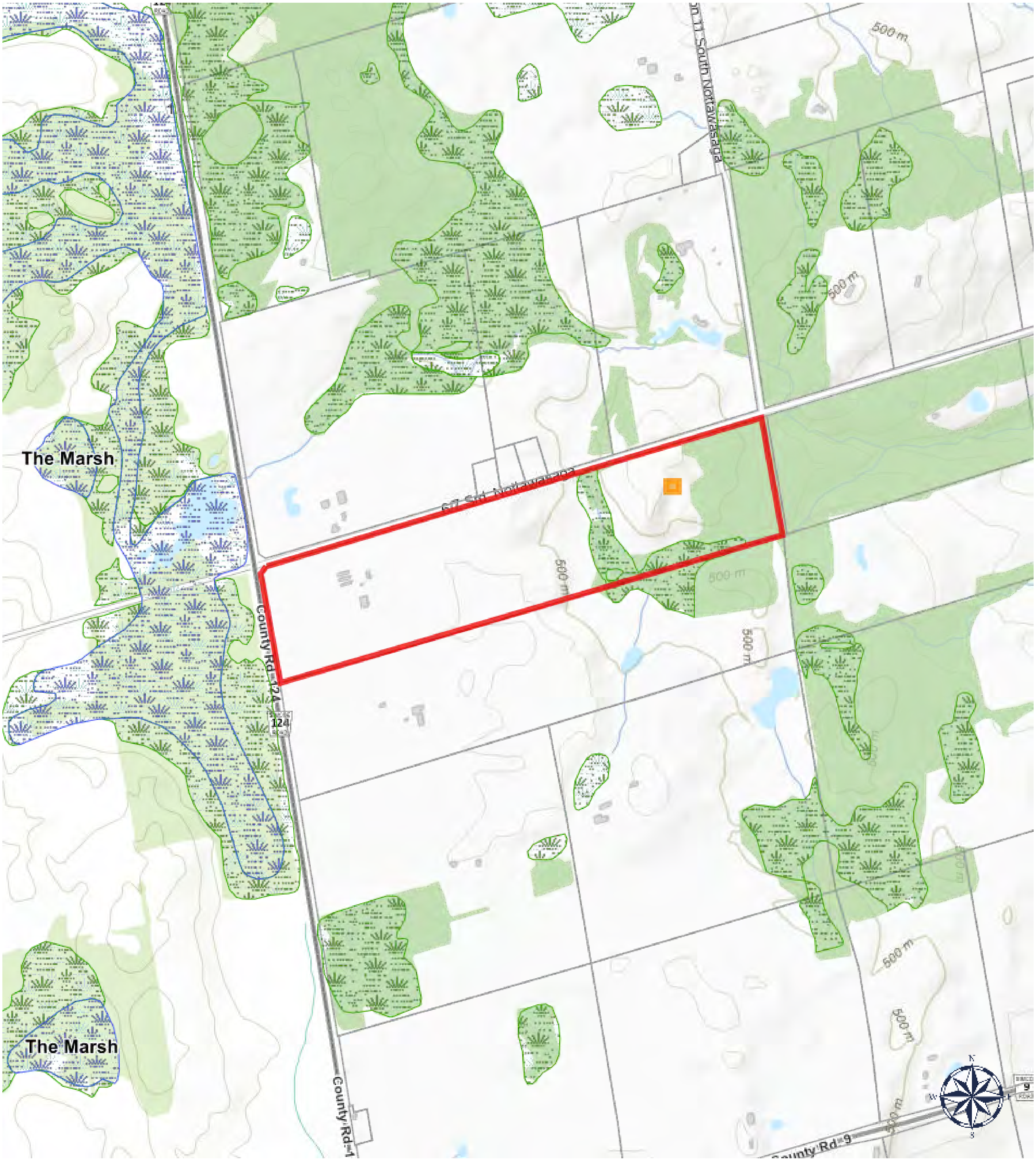
Monday to Friday

8:30 a.m. to 4:30 p.m.

except between 12:00 p.m. - 1:00 p.m.



County of Simcoe - Woodlands and Wetlands



0 200 400 600m

1 : 18,056

COUNTY OF SIMCOE

Jan 13, 2023

Appendix B – TOR Correspondence

RE: 9783 6/7 Sideroad

Emma Perry <eperry@nvca.on.ca>
Wed 15-Jun-2022 4:36 PM
To:'Neil Morris' <neilpmorris@msn.com>

Hi Neil,

Thank you for the detailed note. I am in agreement that if amphibian breeding is assumed present within the appropriate habitats identified on-site, and the applicable setback for development is demonstrated (30m for wetlands and woodland vernal pools) through the concept plan, the formal amphibian survey can be waived. Should the proposed development encroach within 30m, the call survey would be necessary to rule out SWH and reduce the 30m setback. Note that it is the SWH Mitigation Support Tool (SWHMiST) which stipulates the 30m setback for these features and provides direction on demonstrating consistency with the PPS and Growth Plan NH policies.

For the wetland delineation, there is no need to complete an OWES-based evaluation unless wetland removal will be proposed as part of the application. The wetland should be delineated using the ELC-protocol and classification to vegetation type ecosite, including the standard assessment of soils for the polygons (field sheets and photos are fine to document this). A simple discussion of the hydrologic functions and any connectivity as observed in the field program is sufficient.

For woodland features, a natural heritage evaluation utilizing the components identified in Tables 7-2 and 8-1 of the MNRF Natural Heritage Reference Manual (2005) and the SWH Technical Guide / SWHMiST would be expected, but this would only be necessary if the proposed development is within 30m of natural heritage features. You could also assume candidate Significant Woodland, Valleyland and Wildlife Habitat are present, and then buffer/setback development accordingly. Just be sure to iterate all assumptions made within the formal EIS report.

Screening for SAR and SWH should occur through habitat-based assessment. Candidate habitat screened in should be assessed with the relevant protocol to confirm presence/absence, or assume presence and again, buffer/setback development accordingly. MECP is the approval authority for SAR so NVCA's role is to screen and advise the applicant to undertake due diligence under the ESA.

As for a site visit, I would be happy to attend to discuss the above further. Unfortunately with it being peak field season and me leaving for training next week, my next availability to attend would be June 27th or potentially June 28th. Would either date work for you?

Sincerely,

Emma

Emma Perry, B. Sc., GCER (she/her/hers)
Planning Ecologist

Nottawasaga Valley Conservation Authority
8195 8th Line, Utopia, ON L0M 1T0
T 705-424-1479 ext. 244
eperry@nvca.on.ca | **nvca.on.ca**

From: Neil Morris <neilpmorris@msn.com>
Sent: Wednesday, June 15, 2022 3:29 PM
To: Emma Perry <eperry@nvca.on.ca>
Cc: Rossalyn Workman <rworkman@clearview.ca>; Mara Burton <mburton@clearview.ca>; David Finbow <dfinbow8@gmail.com>
Subject: Re: 9783 6/7 Sideroad

Good afternoon Emma,

I'm following up on the matter of EIS scope for the property in question. I completely understand the rationale of NVCA's initial TOR (09 May) for this Property. In absence of a concept plan, it would make sense to identify all potentially affected natural heritage features and assume that the full suite of studies would be required. With the benefit of a visit to the property in late May, and also considering the nature and scale of development as I understand it, my advice to the proponents is that an EIS of reduced scope would be effective and appropriate. In summary, the EIS scope I would recommend is intended to adequately assess possible effects on several natural heritage features/functions, including:

- the small unevaluated wetland on the west side of the candidate building area (CBA),
- the watercourse that flows through this wetland toward 6/7 side road,
- the woodlands (presumed significant) on the east side,
- any Species at Risk (SAR), species of conservation concern (SOCC) or significant wildlife habitat (SWH) that might be associated with the wetland, watercourse, woodlands or the remaining open habitat that encompasses the CBA

The field work proposed would allow an effective characterization of these features and functional connectivity with the CBA. This would include;

- direct assessment of the watercourse (flow regime, stream morphology, habitat function, hydrological connectivity to CBA),

- direct assessment of wetland characteristics and functions, generally as per key attributes of focus in the Ontario Wetland Evaluation System (OWES), and also hydrological connectivity to CBA,
- direct assessment of woodland characteristics (tree species assemblage, canopy characteristics, age, habitat function, etc.),
- Ecological Land Classification (ELC), and
- inventories of flora and fauna in all identified ELC communities, with focus on SAR/SOCC/SWH indicators.

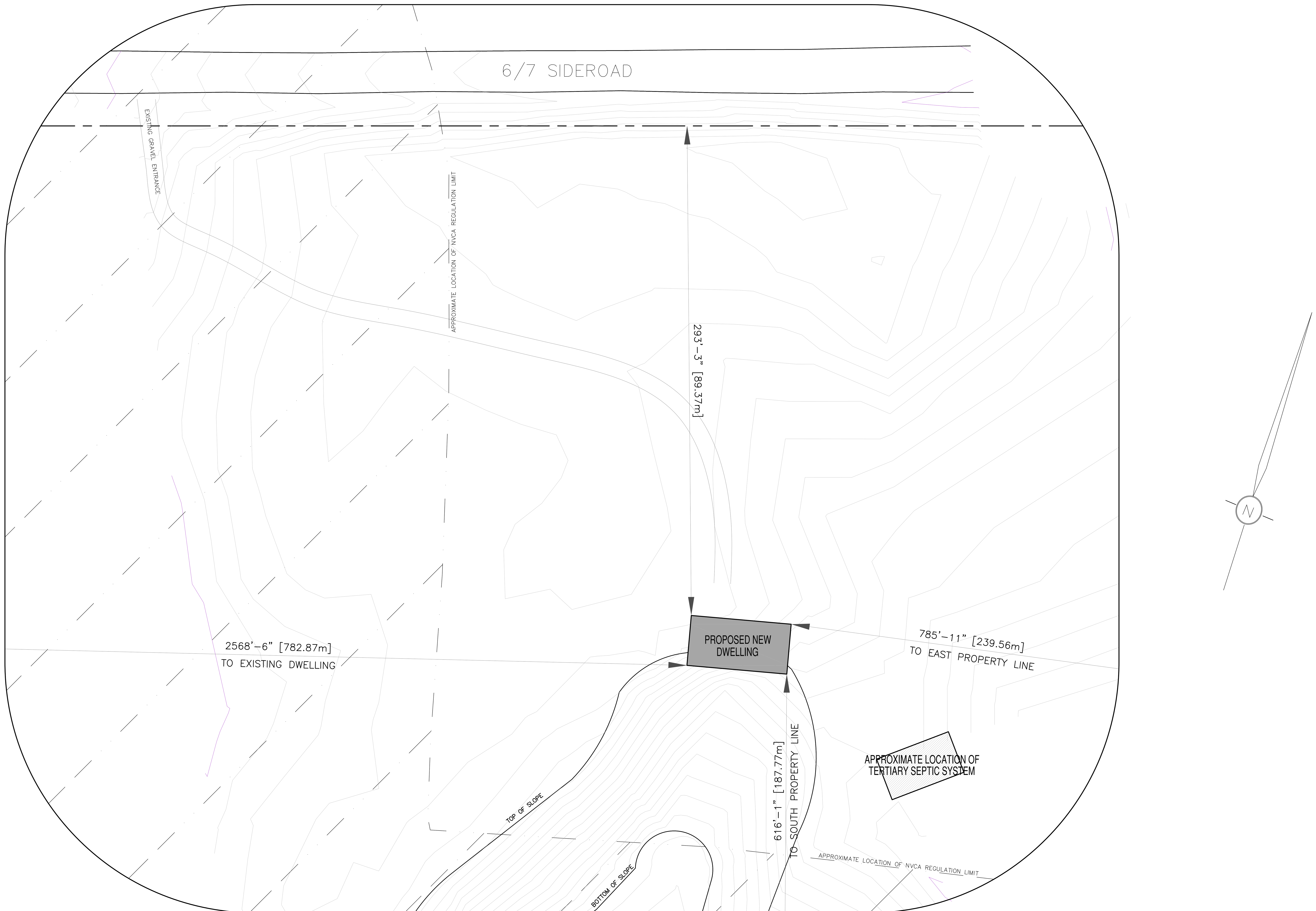
On-site monitoring would continue through the growing season of 2022. Certain monitoring activity that occurs at least in part in early spring would not be covered. However, the EIS would include certain conservative assumptions in regard to the relevant endpoints. For example, in absence of a complete amphibian vocalization survey, the wetland could be assumed to function as amphibian breeding habitat. The assessment of potential impacts would be based on this assumption and also an understanding of the functional connectivity between the CBA and the wetland. Under this approach, an absence of a vocalization survey would not preclude an effective assessment.

That's the general overview of the EIS scope that I am recommending. Of course, NVCA will have the eventual opportunity to comment on the adequacy of scope in context of the full EIS report and its conclusions when it is submitted for review. In the meantime, I am happy to provide more detail or have a direct discussion to answer questions or address specific concerns that you might currently have. Just let me know if/when you might want to follow up.

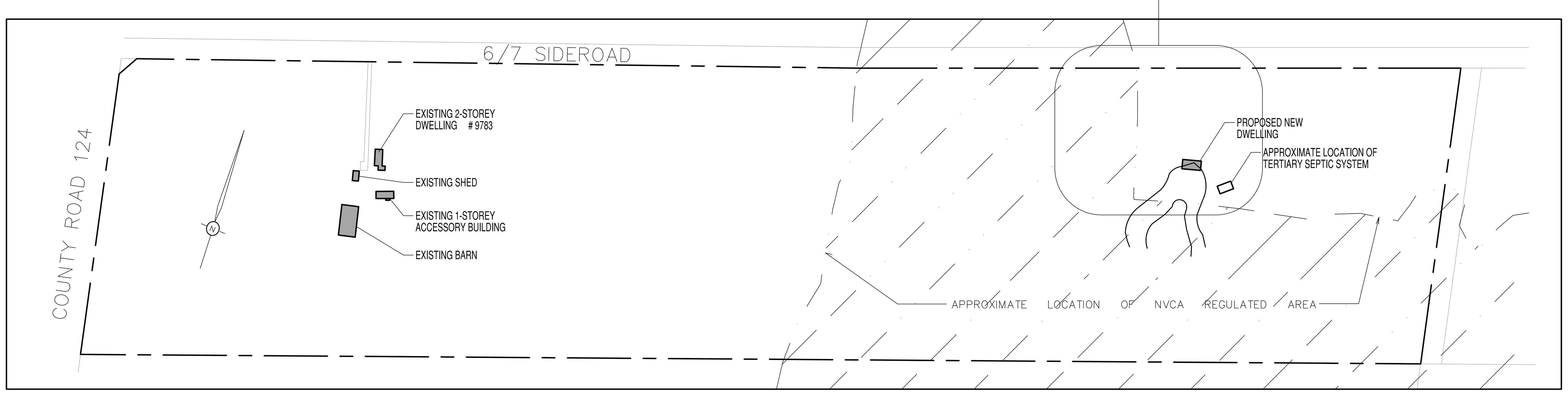
Thanks for your time and attention,

Neil Morris
Consulting Ecologist
905-838-1485

Appendix C – Site Plan



ENLARGED AREA



KEY PLAN

Michael Preston Design
76 GORE STREET, KINGSTON, ONT. K7L 2L5 . 416-737-2126 . www.mpdesign.ca

THE UNDERSIGNED HAS REVIEWED AND TAKES RESPONSIBILITY FOR THIS DESIGN, ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.4. OF DIVISION C OF THE BUILDING CODE. THE UNDERSIGNED IS QUALIFIED, AND THE FIRM IS REGISTERED, IN THE APPROPRIATE CLASSES/CATAGORIES.

QUALIFICATION INFORMATION

MICHAEL PRESTON — NAME | SIGNATURE | 31162 — BCIN

REGISTRATION INFORMATION

MICHAEL PRESTON DESIGN — FIRM NAME | 33326 — BCIN

DATE:	ISSUE:

TITLE: PROPOSED SITE PLAN'

PROJECT: THE NEW FARM - 9783 SIDEROAD 6/7

DATE: DEC. 2022
SCALE: 1/32"=1'
DRAWN: M.P.

SHEET: A-1

Appendix D – Site Photos

Photo 1- Looking West from PBS within Cultural Meadow (CUM) community

Photo 2- Looking East from PBS within CUM community. Edge deciduous forest community (FOD5) in background.

Photo 3 - Looking North from PBS within CUM community. Tree-line along 6/7 Concession in background.

Photo 4 - Looking South from PBS within CUM community. Edge of Cedar Swamp (SWC) in centre background.

Photo 5 - Looking North at PBS base of slope, close to edge of wetland.

Photo 6 - Typical appearance of Maple Forest (FOD5) east of PBS

Photo 7 - Typical appearance of Eastern White Cedar Swamp (SWC) south and west of PBS

Photo 8 - Small pond located ~170 m west of PBS