Environmental Impact Study - 138 Robert Street East, Town of Penetanguishene, Simcoe County, Ontario

2022-09-23

Prepared for:
Matti Decent Homes Inc.

Cambium Reference: 14475-001

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1.0 Introduction

Cambium Inc. (Cambium) was retained by Matti Decent Homes Inc. to conduct an Environmental Impact Study for the property located at 138 Robert Street East, in the Town of Penetanguishene, Simcoe County, Ontario (Figure 1). The subject property is bounded on the northwest by Robert Street East, on the northeast and southeast by Thompsons Road, and on the west by existing residential and institutional (i.e., school and long-term health care) land uses. The proposed development includes the construction of a mixed-use subdivision requiring a Draft Plan of Subdivision application. Based on the scale and extend of the proposed development, the entire property will be considered the "Site" for this report.

An Environmental Impact Study (EIS; the Study) is required in support of the Draft Plan application, to address potential impacts to natural heritage features identified during the preliminary development review process, as required by the Provincial Policy Statement, 2020 (PPS). The Site contains or is adjacent to (within 120 m of) the following mapped natural heritage and/or hydrologic features: unevaluated wetlands, woodlands, and candidate significant wildlife habitat. The Site is located within Ecoregion 6E-6 of Ontario (Crins, Gray, Uhlig, & Wester, 2009) and within the Town of Penetanguishene's designated Settlement Area.

The Endangered Species Act, 2007 (ESA) protects endangered and threatened species and their habitats from harm or destruction. Habitat for endangered and threatened species is also afforded protection under provincial natural heritage policy; however, it is ultimately the proponent's responsibility to ensure that no harm to these species or their habitats occurs during their planned activities. This Study includes a habitat-based screening for species of conservation concern to determine if the Site has suitable habitat for any provincially or federally listed species at risk (SAR).

This Study has been prepared to meet application submission standards for the proposed development of the Site, and includes: the results of a background review, a description of methods used to collect site-specific natural heritage information, and a summary of field

investigations conducted at the Site. Information has been compiled to evaluate the existing natural heritage features on and adjacent to the Site, including an assessment of the significance and sensitivity of these features. An assessment of the form and function of natural heritage features on and adjacent to the Site is provided, which includes an evaluation of the potential for impact to these features in relation to the proposed development. Data was interpreted in accordance with provincial and municipal policies and regulations to determine potential constraints to development, guide the decision making process, and address approval authority requirements.

1.1 Terms of Reference

The proposed Terms of Reference were circulated to the Town of Penetanguishene for review and comment. No response had been received dated at the time of reporting. Relevant correspondence and documentation are included in Appendix A.

1.2 Existing Land Use and Proposed Development

The Site is irregularly shaped, occupying approximately 31 ha, and with frontage on both Robert Street East and Thompsons Road. The subject lands are located on the border of an existing, well-established mixed use area in Town of Penetanguishene. The Site is currently vacant and consists primarily of forested lands. A cultural meadow that was partially ploughed during the Study period was located in the southern corner of the Site. Walking trails on the Site have been used historically by local residents and students, given their long-standing proximity to nearby residential areas and schools. Evidence of ongoing recreational use was noted at the time of the field investigations.

The proposed development includes the construction of a mixed-use subdivision, consisting of residential lots, employment blocks, parklands, and associated stormwater management facilities and internal roads. The current Draft Plan, prepared by Innovative Planning Solutions (September 12, 2022), is provided in Appendix B.

2.0 Natural Heritage Policy Context

The evaluation of the form and function of natural heritage features present on, and adjacent to, the Site was undertaken to meet the requirements of the following legislation, plans, and policies:

- Provincial Policy Statement (PPS), 2020
- Simcoe County Official Plan, 2016
- Town of Penetanguishene Official Plan, 2020
- Town of Penetanguishene Zoning By-law, No. 2000-02
- Provincial Endangered Species Act, 2007 (ESA)
- Federal Species at Risk Act (SARA)
- Federal Migratory Birds Convention Act, 1994 (MBCA)

This Study includes an evaluation of conformity of the proposed development with relevant natural heritage policies. A summary of policy conformity is included in Section 6.0.

2.1 Provincial Policy Statement, 2020

The PPS provides direction on matters of provincial interest related to land use planning and development. Section 2.1 of the PPS (Ministry of Municipal Affairs and Housing, 2020) protects the form and function of eight types of significant natural heritage features, which include:

- significant wetlands
- significant coastal wetlands
- significant woodlands (limited to Ecoregions 6E and 7E)
- significant valleylands
- significant wildlife habitat (SWH)
- significant areas of natural and scientific interest (ANSI)
- fish habitat
- habitat of endangered and threatened species

Given their significance, development and site alteration are prohibited within provincially significant wetlands (PSW) in Ecoregions 5E, 6E, and 7E, and within significant coastal wetlands. Development and site alteration in fish habitat or the habitat of endangered and threatened species shall only be permitted in accordance with provincial and federal requirements. Development and site alteration within other natural heritage features and on lands adjacent to all natural heritage features may be permitted if it is demonstrated that there will be no negative impacts on the feature or its ecological function. The PPS defines "development" as the creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the Planning Act. "Site alteration" means activities, such as grading, excavation, and the placement of fill that would change the landform and natural vegetative characteristics of a site.

Section 2.2 of the PPS protects the quality and quantity of water, including the form and hydrologic function of sensitive surface water features and sensitive ground water features. Focus is given to maintaining hydrologic linkages and functions at the watershed scale to minimize potential negative impacts, including cross-jurisdictional and cross-watershed impacts of development. Mitigative measures and/or alternative development approaches should be considered for development near water features.

2.2 Official Plan and Zoning By-Law

Current land use designations and zoning applicable to the Site are described as follows:

Official Plan – County of Simcoe	Settlement Area
Official Plan – Town of Penetanguishene	Employment Area and Neighbourhood Area
Zoning By-law – Town of Penetanguishene	Deferred Development and Rural

2.3 Provincial Endangered Species Act, 2007

Species listed as endangered or threatened on the Species at Risk in Ontario (SARO) list, and their habitats, are protected under the provincial Endangered Species Act, 2007 (ESA) (Government of Ontario, 2007). Section 9(1) of the ESA prohibits a person from killing,

harming, harassing, capturing or taking a member of a species listed as endangered, threatened, or extirpated. Section 10(1) of the ESA prohibits the damage or destruction of habitat of species listed as endangered or threatened. Protection of special concern species is provided through designation of their habitat as significant wildlife habitat (SWH), a provincially protected natural heritage feature. Species at risk (SAR) are discussed throughout this report, as applicable.

2.4 Species at Risk Act, 2002

The federal Species at Risk Act (SARA) was adopted in 2002 to prevent endangered or threatened species from becoming extinct or extirpated, to help in the recovery of endangered, threatened, and extirpated species, and to manage species of special concern to help prevent them from becoming endangered or threatened. Habitat which is deemed necessary for the survival/recovery of a listed wildlife species, referred to as Critical Habitat, is protected under Section 56 of the SARA. The SARA applies to all federal lands in Canada; however, at-risk aquatic and migratory bird species located on private property in Ontario also receive protection under the Act.

2.5 Migratory Birds Convention Act, 1994

The federal Migratory Birds Convention Act, 1994 (MBCA) prohibits killing, capturing, injuring, taking, or disturbing of listed migratory birds (including eggs) or the damaging, destroying, removing, or disturbing of nests of a listed species. To ensure compliance with the MBCA during development, best management practices should be implemented to detect and avoid disturbances to active nests of listed species. Active nests are protected and should be left undisturbed until all young have fledged, or the nest is determined by a qualified professional to be inactive.

3.0 Technical Approach and Data Collection Methods

3.1 Background Information Review

Supporting background information pertaining to the Site and surrounding landscape was compiled and reviewed, as part of a comprehensive desktop exercise, to better understand local biophysical conditions. Data was obtained from provincial, municipal, and other online resources to provide context to the development proposal, and to guide development of the site-specific work program. Field studies were subsequently conducted to verify and/or add detail to the high-level contextual information derived from these publicly available resources.

The comprehensive desktop review for this Site included the following resources:

- Land Information Ontario (LIO) database via the online Natural Heritage Areas: Make-a-Map tool (Ministry of Natural Resources and Forestry, 2022)
- Natural Heritage Information Center (NHIC) database: species at risk (SAR) occurrence records
- Online Atlas Data:
    - Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2018)
    - Ontario Breeding Birds Atlas (OBBA) (2001-2005) (Bird Studies Canada, 2005)
- Simcoe County Official Plan (Simcoe County, 2016)
- Town of Penetanguishene Official Plan (Town of Penetanguishene, 2020)
- Town of Penetanguishene Zoning By-law, No. 2000-02

Mapped natural heritage features present in the general area of the Site are shown on Figure 1.

Table 1 Background Review Summary

Source	Location Reference	Relevant Records
LIO Geographic Database	Site and 120 m adjacent lands	Unevaluated Wetlands Woodlands
NHIC Database	17NK8558 17NK8658 17NK8557 17NK8657	Massasauga – THR Bobolink – THR Northern Map Turtle – SC Eastern Meadowlark – THR
Ontario Breeding Bird Atlas (OBBA)	17TNK85	Eastern Whip-poor-will – THR Eastern Wood-pewee – SC Wood Thrush – SC
Ontario Reptile and Amphibian Atlas (ORAA)	17NK85	Massasauga – THR
Aquatic SAR distribution maps	Site and 120 m adjacent lands	None

Note: THR = Threatened species on SARO list
END = Endangered species on SARO list
SC = Special concern species on SARO list
OBBA and ORAA grid squares occupy 100 km^2; therefore only species with potential to occur on the Site based on habitat type, size, and availability are listed as relevant records

3.2 Consultation and Agency Correspondence

Regulatory agency consultation may include Fisheries and Oceans Canada (DFO), the Ministry of Natural Resources and Forestry (MNRF), the Ministry of Environment, Conservation, and Parks (MECP), and the local Conservation Authority, as applicable. The MECP is responsible for administering the ESA and providing direction on potential compliance issues. MECP has prepared a guidance document titled *Client's Guide to Preliminary Screening for Species at Risk* (Ministry of the Environment, Conservation and Parks, 2019). This document aims to "help clients better understand their obligation to gather information and complete a preliminary screening for SAR before contacting the Ministry" and was used to guide the habitat-based SAR screening for the Study.

3.3 Field Investigations

Ecological investigations were completed on the Site by a team of qualified ecologists to understand potential ecological constraints to development. Information gathered through the background review was used to guide the development of the fieldwork program and was supplemented with additional site-specific information gathered through various standard methodologies. Survey methodologies for each of the field investigations completed on the Site are described in the following sections.

All surveys were conducted by appropriately trained Cambium staff. Survey stations were GPS marked in the field. Data were documented manually or digitally, reviewed upon return to the office, and transposed to a final digital format for secure data management.

3.3.1 Ecological Land Classification and Vegetation Survey

The Ecological Land Classification (ELC) System for Southern Ontario (Lee, et al., 1998) was used to classify vegetation communities on the Site. Definitions of vegetation types are derived from the ELC for Southern Ontario First Approximation Field Guide (Lee, et al., 1998) and the revised 2008 tables. ELC units were initially delineated and classified by orthoimagery interpretation. Field investigations served to confirm the type and extent of ELC communities on the Site through vegetation inventory, and soil assessment with a hand auger where vegetation types could not be classified based on vegetation alone. Where vegetation communities extended off the Site, classification was done through observation from property boundaries and publicly accessible lands.

Data includes the provincial status of plant species and vegetation communities, where such information exists. Sensitivity of individual vegetation species was evaluated based on the coefficient of conservatism (CC) which is a measure of the tolerance of a species to disturbance and fidelity to a specific habitat type; species with CC of 9-10 exhibit a high degree of fidelity to a narrow range of habitat parameters. The sensitivity of vegetation communities was evaluated through an assessment of various community attributes including age, habitat quality, degree of disturbance, presence of non-native/invasive species, and presence of

sensitive plant species (plants with CC of > 9). A description of CC values is provided in Table 2.

Table 2 Coefficient of Conservatism (Adapted from Oldham et al. 1995)

Coefficient of Conservatism	Rank	Description
0 to 3	Tolerant	Found in a wide variety of plant communities, including disturbed sites.
4 to 6	Moderately Conservative	Typically associated with a specific plant community, but tolerate moderate disturbance.
7 to 8	Conservative	Typically associated with a plant community in an advanced successional stage that has undergone minor disturbance.
9 to 10	Highly Conservative	Typically displaying a high degree of fidelity to a specific plant community or a narrow range of synecological parameters.

3.3.2 Surface Water and Drainage Feature Mapping

Presence, location, boundary, and direction of flow were confirmed for all surface water features on and adjacent to the Site through visual investigation. Where feasible, the substrate type and cover features of surface water features were also noted. Indicators of surface drainage, including eroded soils, rill and gully formations, and sediment deposition areas were noted and traced to identify upgradient sources of erosion. All watercourse and drainage feature crossings were noted and GPS marked in the field, including bridges, culverts, and bed-level crossings.

A summary of the drainage conditions on the Site is presented in Section 4.2.

3.3.3 Breeding Bird Surveys

Two breeding bird surveys were carried out during the peak breeding season between May 24 and July 10, a minimum of 7 days apart. Point counts were complete using components of the Ontario Breeding Bird Atlas (OBBA) Guide for Participants (Ontario Breeding Bird Atlas, 2001) and the Forest Bird Monitoring Program (Cadman, Dewar, & Welsh, 1998) based on habitat

characteristics. Point count stations were established in various habitat types and were combined with incidental observations to determine the presence, variety, and abundance of species. As outlined in the OBBA protocol, point counts are to be done between dawn and five hours after dawn, when wind speed is low (<19 km/h) and in the absence of rain or thick fog. All species observations (visual and auditory) were recorded during a five (5) minute period. Each species observed was classified and assigned a code based on the highest level of breeding evidence, as defined by the protocol: Confirmed, Probable, Possible or Observed.

The Natural Heritage Information Center (NHIC) database and Species at Risk in Ontario (SARO) list were reviewed to determine the current provincial status for each bird species.

3.3.4 Eastern Whip-poor-will Surveys

The Eastern Whip-poor-will (*Caprimulgus vociferus*) is a SAR listed as threatened on the SARO list. It is usually found in areas with a mix of open and forested areas, such as patchy forests with clearings, forests that are regenerating after major disturbances, savannahs, open woodlands, or openings in more mature forests. In order to determine if the Site is being used as nesting habitat by Eastern Whip-poor-will, avian surveys were conducted following the approved MNDMRF protocol (Ministry of Natural Resources and Forestry, 2013). Surveys are to be conducted three times between May 18 and June 30, with two surveys being conducted during the first full moon cycle and one survey conducted in the next full moon cycle. Since moon phase is known to affect calling rates, the moon should be greater than 50% illuminated above the horizon (generally one week prior to and following the full moon). Conditions should include nights with temperatures above 10°C, no precipitation, low noise levels, wind <19 km/h (Beaufort Wind Scale of 3 or lower), and clear skies. Points should be established 500 m apart and all species observations (visual and auditory) recorded during a five-minute period. Observations should be recorded with the direction and approximate distance from the survey station. cultural.

3.3.5 Bat Maternity Roost Habitat Surveys

Many bat species native to Ontario use snag or cavity trees as maternity roosting habitat. A snag or cavity tree is defined as a standing live or dead tree ≥25 cm diameter at breast height (DBH), with cracks, crevices, hollows, cavities and/or loose or naturally exfoliating bark appropriate for bat roosting. High quality or SWH is defined as woodlands with greater than 10 roost trees per hectare. To determine if suitable habitat for bats existed on/or adjacent to the Site, Cambium staff conducted a bat maternity roost survey using the methods detailed in the *Bat and Bat Habitats: Guidelines for Wind Power Projects* (Ontario Ministry of Natural Resources, 2011). The protocol requires that for sites with ≤10 ha of deciduous or mixed treed forest or swamp ELC community types (i.e., FOD, FOM, SWD, SWM), a minimum of 10 randomly selected plots are to be surveyed, with an additional plot added per hectare, to a maximum of 35 plots for the project area. At each plot, the number of snag/cavity trees ≥25 cm DBH within a 12.6 m radius (0.05 ha) is to be recorded. A calculation is then made to determine the snag density and if the number of cavity trees found meets the criteria for maternity surveys.

3.3.6 Habitat-Based Wildlife Surveys

Given the scale of the proposed development, a habitat-based approach was used to assess potential impacts to wildlife, consistent with standard practice. General habitat information gathered through the field investigations was used to assess the connectivity of the Site with the surrounding landscape and evaluate the ecological significance of the local area. Cambium staff actively searched for features that may provide specialized habitat for wildlife. These searches included inspecting tree cavities, overturning logs, rocks, and debris, and scanning for scat, browse, sheds, fur, etc. Any evidence of breeding, forage, shelter, or nesting was noted. Species and habitat observations were documented and photographed.

4.0 Characterization of Natural Features and Functions

Data acquired through the background information review and field investigations is summarized in the following sections. Based on the information gathered, an assessment of significance has been completed to identify protected natural heritage and hydrologic features on and/or adjacent to the Site.

A summary of the field investigations completed on the Site is presented in Table 3. Representative Site photos are included within the Photo Log in Appendix C. Survey stations/areas are shown on Figure 2.

Table 3 Summary of Field Investigations

Date	Time On Site	Weather	Observer	Activities
2021-12-16	13:30-15:30	14-16ºC, cloudy Wind: 5 Noise: 0	D. Langlois	Ecological Land Classification and Vegetation Survey
2022-04-20	8:45-15:30	2-5ºC, partly cloudy Wind: 2 Noise: 1	B. Hnatiw	Maternity Bat Roost Survey
2022-05-25	9:00-14:30	15-25ºC, partly cloudy Wind: 1 Noise: 0	B. Hnatiw	Ecological Land Classification and Vegetation Survey
2022-06-10	6:20-7:15	14ºC, clear Wind: 3 Noise:2	M. Soden	Breeding Bird Survey #1
2022-06-13	21:35-22:20	14-15ºC, overcast Wind: 0 Noise: 1	J. Prahl	Eastern Whip-poor-will Survey #1
2022-06-15	22:00-22:30	23ºC, clear Wind: 1 Noise: 1	J. Prahl	Eastern Whip-poor-will Survey #2
2022-06-17	6:20-7:15	17ºC, clear	M. Soden	Breeding Bird Survey #2

Date	Time On Site	Weather	Observer	Activities
		Wind: 3 Noise: 3		
2022-07-13	23:35-00:00	16ºC, clear Wind: 1 Noise: 0	J. Prahl	Eastern Whip-poor-will Survey #3
2022-08-16	8:30-12:15	21-27ºC, cloudy Wind: 1 Noise: 1	B. Hnatiw	Ecological Land Classification and Vegetation Survey

Notes: Wind = Beaufort Wind Scale value (0 = 0-2 kph, 1 = 3-5 kph, 2 = 6-11 kph, 3= 12-19 kph, 4 = 20-30 kph, 5 = 31-39 kph, 6 = 40-50 kph). Noise is reported based on background noise levels: Index 0 – no appreciable effect, 1 – slightly affecting sampling, 2 – moderately affecting sampling, 3 – seriously affecting sampling, 4 – profoundly affecting sampling.

4.1 Landscape Position and Topography

The Site is located within the Mixedwood Plains Ecozone: Lake Simcoe Rideau Ecoregion 6E, which extends southward from a line connecting Lake Huron in the west to the Ottawa River in the east, including Ottawa, Kingston, Peterborough, Barrie, Tobermory, Kitchener, and Toronto. This Ecoregion is characterized by a mixed geology that includes both shallow soil areas such as alvar and bedrock plains, as well as deep soil areas such as the Oak Ridges Moraine. It falls within the Great-Lakes St. Lawrence Forest Region, including deciduous and mixed forests; however, over 50% of the landscape in this Ecoregion is currently in use as agricultural land (Lee, et al., 1998).

The Site's topography generally slopes downwards towards the west. The elevation ranges from 230-240 m above sea level. A small hill, potentially a remnant fill pill that has naturalized, was documented in the southwest corner of the Site.

4.2 Surface Water and Drainage Features

No watercourses or drainage features were observed on-Site.

A culvert was identified along the northeastern boundary, under Thompsons Road, as shown on Figure 2; however, no watercourse channel or drainage feature was observed. It is

assumed that the subject culvert provides equalization for roadside drainage which collects along Thompsons Road.

4.3 Wetland Delineation

Provincial mapping shows unevaluated wetlands in the northern portion of the Site and along the northeastern boundary, extending eastward onto adjacent lands, as shown on Figure 1. Mapped unevaluated wetlands are approximate; as such, they require field verification to determine their presence and confirm their boundaries. Wetland delineations were carried out by following provincially approved methods outlined in the Ontario Wetland Evaluation System: Southern Manual, 3rd Ed. (Ministry of Natural Resources, 2013). This system is based on the presence and abundance of wetland indicator vegetation along wetland boundaries.

Cambium staff visited the areas of mapped unevaluated wetlands under spring and summer conditions to verify the accuracy of provincially mapped wetland units. Based on the field investigations conducted, Cambium determined that wetlands are absent from the Site.

4.4 Vegetation Communities

The vegetation communities on the Site are summarized in Table 4 and are mapped on Figure 2. A list of identified species and representative photos for each community are provided in Appendix D.

Table 4 Vegetation Communities

No.	ELC Code	Community Description	Community Type	S -Rank
1	FOCM6-3	Dry – Fresh Scots Pine Naturalized Coniferous Plantation	Terrestrial	SNA
2	FOD5-1	Dry – Fresh Sugar Maple Deciduous Forest	Terrestrial	S5
3	AGR	Cultural Meadow	Terrestrial	SNA

4.5 Significant Woodlands

In the past 200 years, over 70 percent of woodland cover has been lost in Ecoregions 6E and 7E (Ministry of Natural Resources, 2010). The protection of woodland cover in southern Ontario is an important concern (Ministry of Natural Resources, 2010). Planning authorities are responsible for protecting significant woodlands within Ecoregions 6E and 7E in accordance with policies 2.1.4(b) and 2.1.6 of the PPS.

The Simcoe County Official Plan (2013) defines a 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.

However, the Simcoe County Official Plan also states that local municipalities shall determine whether a woodlot is a significant woodland within a Settlement Area based on criteria established within the local Official Plan.

The Town of Penetanguishene Official Plan (2018) defines significant woodlands in Section 3.10.6 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. These are to be identified using criteria established by the Ontario Ministry of Natural Resources and Forestry.*"

The Town of Penetanguishene has identified significant woodlands on Schedule B1 of the Official Plan (OP) as an Environmental Protection Overlay.

Based on a review of Schedule B1 of the OP, the forested lands on and adjacent (to the east and south) of the Site are designated as an Environmental Protection Overlay (EPO) and are therefore considered significant woodlands.

4.6 Wildlife Survey Results

Incidental wildlife observations were recorded during all site visits. These included American Crow, American Robin, Black-capped Chickadee, Blue Jay, Downy Woodpecker, Mourning Dove, Northern Cardinal, Pileated Woodpecker, Wild Turkey, Black Squirrel, Grey Squirrel, Red Squirrel, and White-tailed Deer.

4.6.1 Birds

OBBA breeding bird surveys were completed as a part of the Study. A full list of bird species observed on or adjacent to the Site, as well as their breeding evidence, federal and provincial status, and s-ranks, are provided in Appendix E. A total of seven species had probable or confirmed breeding evidence (refer to shaded cells in Appendix E). These included:

- One SAR: Eastern Wood-pewee
- Two area-sensitive forest birds: Ovenbird, Scarlet Tanager

Targeted surveys for Eastern Whip-poor-will (a provincially listed bird) were completed as a part of the Study. Three survey points were established along the edge of the treed area on the Site (i.e., along the edges of Communities 1 and 2). No Eastern Whip-poor-wills were observed during the targeted surveys or incidentally during the field investigations.

Details on species of conservation concern and their protected habitats are provided in Section 4.8.

4.6.2 Mammals

As part of the bat maternity roost survey, a total of thirteen plots were surveyed in the large section of Community 1 in the eastern corner of the Site. A total of 12 plots were surveyed in Community 2. Transects were walked in the small section of Community 1 west of Community 2, given its relatively small size (approximately 1.2 ha). Individual trees that met the criteria were marked with a hand-held GPS unit. The number of potential bat maternity roost trees observed within each plot was then divided by the total plot area within the survey area. The densities of candidate bat maternity roost trees on the Site were determined to be: 1.23

trees/ha (Community 1), 2.5 trees/ha (Community 2), and 6.9 trees/ha (small section of Community 1). None of the treed areas surveyed met the Province's snag density criteria of 10 snag trees/ha. Therefore, none of the treed Communities on the Site are considered significant wildlife habitat (SWH) for bat maternity roosting, as per Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (Ministry of Natural Resources and Forestry, 2015).

4.7 Significant Wildlife Habitat

Guidance documents produced by the MNRF for the identification and evaluation of SWH were used to identify and confirm occurrences of SWH on the Site (MNR, 2000). The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (Ministry of Natural Resources and Forestry, 2015) apply to the subject property. Information gathered during the background review and field investigations were compared to SWH criteria to evaluate the property for SWH. A comprehensive SWH Screening table is provided in Appendix F. Details on species of conservation concern and their protected habitats are provided in Section 4.8.

4.8 Species of Conservation Concern

A list of species of conservation concern, including SAR, with potential to occur in the general vicinity of the Site has been compiled based on known species' ranges, habitat requirements, and review of background information sources (as listed in Section 3.1). In addition, the list has been augmented with direct field observations from the Study, as detailed in the previous sections. Cambium has employed a habitat-based screening, supplemented with targeted field surveys where necessary, to identify suitable habitat for species of conservation concern located on or adjacent to the Site. A detailed habitat suitability analysis is provided in Appendix G and a discussion of the results is provided below.

No Critical Habitat for aquatic species at risk listed under SARA was identified on or adjacent to the Site, based on our review of DFO Aquatic SAR mapping.

4.8.1 Endangered and Threatened Species

Based on habitat characteristics, the Site may provide habitat for the following bat species: Tri-coloured Bat, Eastern Small-footed Myotis, and Little Brown Myotis. The results of the bat maternity roost surveys indicate that while there are suitable cavity trees for bat roosting, these trees do not occur at a density that meets the threshold for habitat protection. Open areas of the Site may be used as foraging habitat for these species; however, foraging habitat is not protected under the ESA. As such, there is no protected habitat for SAR bats on the Site. No SAR bats or evidence of bats was observed on the Site. Avoidance and mitigation measures relating to the general protection of bats are provided in Section 5.0.

4.8.2 Special Concern Species

Eastern Wood-pewee were documented with probable breeding evidence at breeding bird survey station BBS2, within the FOCM6-3 community (Community 2). While Eastern Wood-pewee is listed as special concern in Ontario, it is locally abundant and readily observed in forested areas of North Simcoe County.

A discussion on potential impacts to the species and recommended mitigation strategies is provided in Section 5.2.

5.0 Impact Assessment and Mitigation Measures

The following sections address potential impacts to protected features identified on and adjacent to Site that may result from the proposed draft plan of subdivision for a future mixed-used development, as shown on Figure 3.

The following protected features were identified on and adjacent to the Site:

- Significant Woodlands
- Significant Wildlife Habitat
- Habitat of Endangered or Threatened Species

No other natural heritage features protected by provincial policy were confirmed on or adjacent to the Site.

Mitigation measures and best management practices have been recommended to ensure that the integrity of the existing natural features is protected and/or enhanced and that the associated functions are not negatively impacted during or following construction.

5.1 Significant Woodlands

The forested lands (Communities 1 and 2) on the Site are designated Environmental Protection Overlay (EPO) in the Town of Penetanguishene Official Plan Schedule B1 and are therefore considered significant woodlands. This EPO area extends onto adjacent lands to the east and south. The proposed development would require removal of the majority of the woodlands on the Site.

Due to existing anthropogenic stressors (i.e., historical and ongoing recreational use), the subject woodland exhibited signs of regular disturbance. An extensive trail system and indicators of transient use were noted. Vegetative diversity within the woodland is relatively low, with a large component (Community 1) being dominated by a remnant, non-native Scotch Pine Plantation. In addition, no supporting hydrologic features or uncommon characteristics were observed within the forest communities on the Site.

Given the position of the subject woodland within the larger tract of natural cover in the vicinity of the Site, it does not act as a significant wildlife corridor or linkage area. Wildlife movement patterns will be largely maintained via the extensive forested and agricultural lands to the east and south of the Site, on the opposite side of Thompsons Road. Wildlife movement to the west and north is mainly precluded by existing residential, institutional, and industrial development.

Considering the items noted above, Cambium is of the opinion that removing the portion of the significant woodland located on the Site will not negatively impact the overall ecological function of the feature. The remaining adjacent woodlands will continue to qualify as significant woodlands in the proposed post-development condition.

5.2 Significant Wildlife Habitat

Special Concern and Rare Wildlife Species SWH was documented in the southern FOCM6-3 community (Community 2) on the Site (see Figure 2). Although this vegetation community qualifies as SWH based on the presence of special concern species, it is a common (i.e., non-limiting) vegetation community type on the local landscape. Eastern Wood-pewee is listed as special concern in Ontario; however, it is locally abundant and readily observed in areas of Simcoe County with expansive forest cover. Eastern Wood-pewee is not an area-sensitive species and is known to inhabit a range of forest types that provide mid-canopy foraging habitat. Although Community 2 qualifies as SWH based on provincial criteria, Cambium does not consider the subject habitat type to be significant at the local level.

Although the proposed development includes the removal of the FOCM6-3 community on the Site, a more expansive forested area which provides high quality habitat for this species will remain present on adjacent lands east and south of the Site in the proposed post-development condition. Furthermore, nesting birds are protected under the *Migratory Birds Convention Act, 1994*. To minimize negative impacts to this species and all other bird species, vegetation clearing on the Site should occur outside the breeding bird season, which extends from April 1 to August 31 in the local area (as per Environment and Climate Change Canada Guidelines).

5.3 Habitat of Endangered and Threatened Species

The Site may offer marginal bat roosting habitat potential. As such, vegetation removal on the Site should occur outside of the active bat season, which extends from April 1 to September 31 of any given year. Any SAR discovered on the property must be left undisturbed as required by the ESA. If any individuals are encountered, activities should cease until consultation MECP has occurred. Provided this timing window is respected, no impacts to at-risk bats are anticipated as a result of the proposed development.

5.4 Best Management Practices

To minimize potential impacts to the natural environment on and surrounding the Site, Cambium recommends that the best management practices outlined in Table 5 be implemented.

Table 5 Best Management Practice Recommendations

Potential Impact	Recommended Best Practice
Erosion and Sedimentation	Prior to any construction activities taking place, it is essential that perimeter sediment fencing be installed around construction areas. Fencing should be properly keyed into the ground and securely fastened to vertical supports spaced ≤ 2 m apart. This key control measure will help prevent sediment from entering surface water features in the surrounding landscape. All sediment fencing should be regularly maintained and kept in good working condition, until the area has been stabilized and/or successfully revegetated. Any observed overland drainage channels originating from Site, that may or may not have arisen as a result of erosion, should be directed to a check dam structure, prior to discharging to off-site areas.

Potential Impact	Recommended Best Practice
	Construction activities that require earthworks (e.g., grading, excavation, etc.) should be scheduled to avoid dates of heavy rainfall events and times of high runoff volumes.
Increase in Runoff - Impervious Surfaces	Runoff from the Site is expected to increase with the introduction of impermeable surfaces (i.e., building roofs, roadways, and walkways) and compacted surfaces with reduced infiltration capacity. Measures to increase infiltration of run-off from these surfaces should be encouraged and, where possible, included in the Site Plan for the development. Eaves trough downspouts should be directed to vegetated areas (such as lawn, or gardens) and not onto hardened surfaces, to encourage infiltration.
Changes to Water Quality and Quantity	The Stormwater Management Plan prepared for the Site should specifically address potential stormwater-related impacts to water quality and quantity of the surrounding wetlands and watercourse, through quality control measures and a feature-based water balance study.
Wildlife: Birds (Disturbance and Harm)	Nesting birds and their nests, eggs, and young are protected under the *Migratory Birds Convention Act, 1994*. Vegetation clearing on the Site should occur outside the breeding bird season, which extends from April 1 to August 31 in the local area (as per Environment and Climate Change Canada Guidelines). If vegetation clearing or construction is to occur between April 1 and August 31, the vegetation should be investigated by a qualified biologist to confirm if any active nests are present, prior to site alteration. Vegetation clearing can proceed provided there are no

Potential Impact	Recommended Best Practice
	active nests. If active nests are confirmed, the nests should be left undisturbed until young have fledged or the nest is determined to be inactive. Note that some birds nest on the ground and in low-lying vegetation and shrubs; therefore, all habitat types should be inspected prior to ground disturbance if removals are to occur during the breeding season.
Species at Risk (SAR; Threatened and Endangered)	SAR observations, including most species of snakes and turtles, should be reported to the Natural Heritage Information Centre (NHIC). If any individuals are encountered, they should be photographed and allowed time to move out of harm's way. SAR should not be handled by unauthorized individuals.
Spread of Invasive Species	Invasive species are becoming problematic throughout Ontario and can adversely impact our natural landscapes, including wetlands, woodlands, and watercourses. Best management practices to reduce the spread of invasive species include: • Revegetate with species native to the local area. • Request fill and compost from reputable sources that are conscious of the potential for the spread of invasive species via these media. • Get to know the most common invasive species in the area. • Brush off or clean any shoes, boots and equipment that have encountered invasive species before returning to the property. • Immediately eradicate invasive species if they are observed on the property.

Potential Impact	Recommended Best Practice
	• Do not compost invasive species; put them in plastic bags and dispose of them in the garbage. • Do not dispose of lawn or garden clippings in the forest or wetlands to avoid species introductions. An excellent resource for identifying and controlling invasive species can be found through the Ontario Invasive Plant Council: Home - Ontario Invasive Plant Council (ontarioinvasiveplants.ca) (OIPC, 2022)
Anthropogenic Impacts – Noise	Noise is not expected to increase significantly because of the proposed development as it is consistent with the land use on the surrounding properties. Temporary acute noise may occur during construction activities and should follow appropriate local noise by-laws. All equipment should be equipped with appropriate mufflers to mitigate noise levels during construction.
Anthropogenic Impacts – Lighting	Artificial lighting can have an impact on nocturnal movement of wildlife within natural areas. To minimize impacts to wildlife, it is recommended that outdoor lights be operated on timers, rather than by motion detection. Outdoor lighting associated with the development should be directed at the ground, rather than into the adjacent natural areas. Bulb wattage should be as low as practical while meeting the safety intent of the lighting.

6.0 Policy Conformity

The proposed development is subject to the natural heritage policies of the PPS and the Town of Penetanguishene Official Plan. Compliance with applicable PPS natural heritage policy is summarized in Table 6 and compliance with relevant municipal polices is detailed below.

The Town of Penetanguishene Official Plan identifies an Environmental Protection Overlay (EPO; associated with the significant woodlands) on and adjacent to the Site. Section 3.10.8 states that development or site alteration in or adjacent to a significant woodland feature shall not be permitted unless it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions, through the completion of an EIS. Section 4.10 contains polices with respect to lands designated Environmental Protection. Section 4.10 states development and site alteration may be permitted within EPO lands, subject to the preparation of an EIS. This Study addresses the EIS requirements of the Official Plan for all confirmed features on or adjacent to the Site.

Table 6 PPS Policy Conformity Summary

Natural Heritage / Hydrologic Feature	On Site	On Adjacent Lands	Meets Associated Policy
Significant Wetland in Ecoregions 5E, 6E and 7E or in the Canadian Shield north of Ecoregions 5E, 6E and 7E	No	No	N/A
	Explanation: N/A		
Significant Coastal Wetland	No	No	N/A
	Explanation: N/A		
Coastal Wetlands in Ecoregions 5E, 6E and 7E1 that are not subject to policy 2.1.4(b)	No	No	N/A
	Explanation: N/A		
	Yes	Yes	Yes

Natural Heritage / Hydrologic Feature	On Site	On Adjacent Lands	Meets Associated Policy
Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)	Explanation: Significant woodlands are identified both on and adjacent to the Site. Although the woodlands on the Site are considered significant, they are separated from the expansive woodland on adjacent lands by Thompsons Road and exhibit signs of historic anthropogenic disturbance. The woodland does not act as a significant wildlife movement corridor, given its position on the edge of the Town's built area. The woodlands are relatively low in vegetative diversity and are partially composed of a remnant, non-native Scotch Pine plantation. No hydrologic features or uncommon habitat characteristics were observed. Cambium is of the opinion that removing the woodland on the Site will not negatively impact the overall ecological function of the expansive significant woodland tract in the area, provided that the mitigation measures summarized in Section 7.0 are implemented.		
Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)	No	No	Yes
	Explanation: N/A		
Significant Wildlife Habitat (including habitat of special concern species)	Yes	Potentially	Yes
	Explanation: SWH was documented for one special concern bird species. The vegetation community encompassing the SWH is relatively common and non-limiting on the local landscape. Suitable habitat will remain within the expansive woodland on adjacent lands. Cambium is of the opinion that removing the woodland on the Site will not negatively impact the species, provided that the mitigation measures summarized in Section 7.0 are implemented.		
Habitat of Threatened and Endangered Species	Potentially	Potentially	Yes
	Explanation: The Site may provide marginal roosting habitat for bat species. Provided the mitigation in Section 5.3 is implemented, no impact to the species is anticipated.		

Natural Heritage / Hydrologic Feature	On Site	On Adjacent Lands	Meets Associated Policy
Areas of Natural and Scientific Significance	No	No	N/A
	Explanation: N/A		
Fish Habitat	No	No	N/A
	Explanation: N/A		
Seepage Areas/Springs	No	No	N/A
	Explanation: N/A		

7.0 Summary of Mitigation, Compensation, and Best Practices

The following recommendations are provided for the proposed development:

1. All required approvals and permits should be obtained prior to the commencement of any Site alteration / construction activities.
2. Clearing of vegetation should occur outside of the active bird and bat season, which extends from April 1 to September 31. Vegetation removal should be limited to the greatest extent possible across the Site. Any active bird nests should be left undisturbed until young have fledged or the nest is determined to be inactive.
3. The Stormwater Management Plan prepared for the Site should specifically address potential stormwater-related impacts to water quality and quantity of the surrounding features, erosion potential, and a feature-based water balance study (if required).
4. An Erosion and Sediment Control (ESC) Plan that includes perimeter light duty sediment fencing should be implemented along the watercourse side of the construction area prior to the commencement of any Site alteration.
    - Fencing should be properly keyed into the ground and securely fastened to vertical supports spaced ≤ 2 m apart.
    - All sediment fencing should be regularly maintained and kept in good working condition, until the area has been stabilized and/or successfully revegetated.
    - All ESC fencing should be removed following construction, once exposed soils have been revegetated or appropriate stabilized.
5. Machinery and construction materials should be stored within the designated construction area, throughout the construction period.
6. Construction activities that require earthworks (e.g., grading, excavation, etc.) should be scheduled to avoid dates of heavy rainfall events and times of high runoff volumes.
7. Best management practices to reduce the spread of invasive species should be implemented at the Site.

8. Though not identified in the field inventories, any subsequently identified SAR discovered on the Site must be left undisturbed as required by the *Endangered Species Act, 2007*. If any SAR individuals are encountered, they should be photographed and allowed time to move out of harms way. All SAR observations should be reported to the MNRF Natural Heritage Information Centre.

8.0 Closing

In closing, potential negative impacts associated with the proposed development and site alteration can be appropriately minimized, provided that the recommendations outlined in Section 7.0 are followed. The information presented herein demonstrates that the proposed development can be carried out in a way that will not adversely impact natural heritage and hydrologic features and function identified on or adjacent to the subject Site. Furthermore, the proposed development complies with applicable provincial policy.

Respectfully submitted,

Cambium Inc.

Jeremy Prahl, B.Sc., EP, Can-CISEC Senior Biologist / Group Manager	Danielle Leal, B.Sc., EPt Project Coordinator / Ecologist

JPP/djl

P:\14400 to 14499\14475-001 Matti Decent Homes Inc - EIS - 138 Robert St E, Penetanguishene\Deliverables\REPORT - EIS\Draft\2022-09-23 RPT EIS 138 Robert St E Penetanguishene.docx

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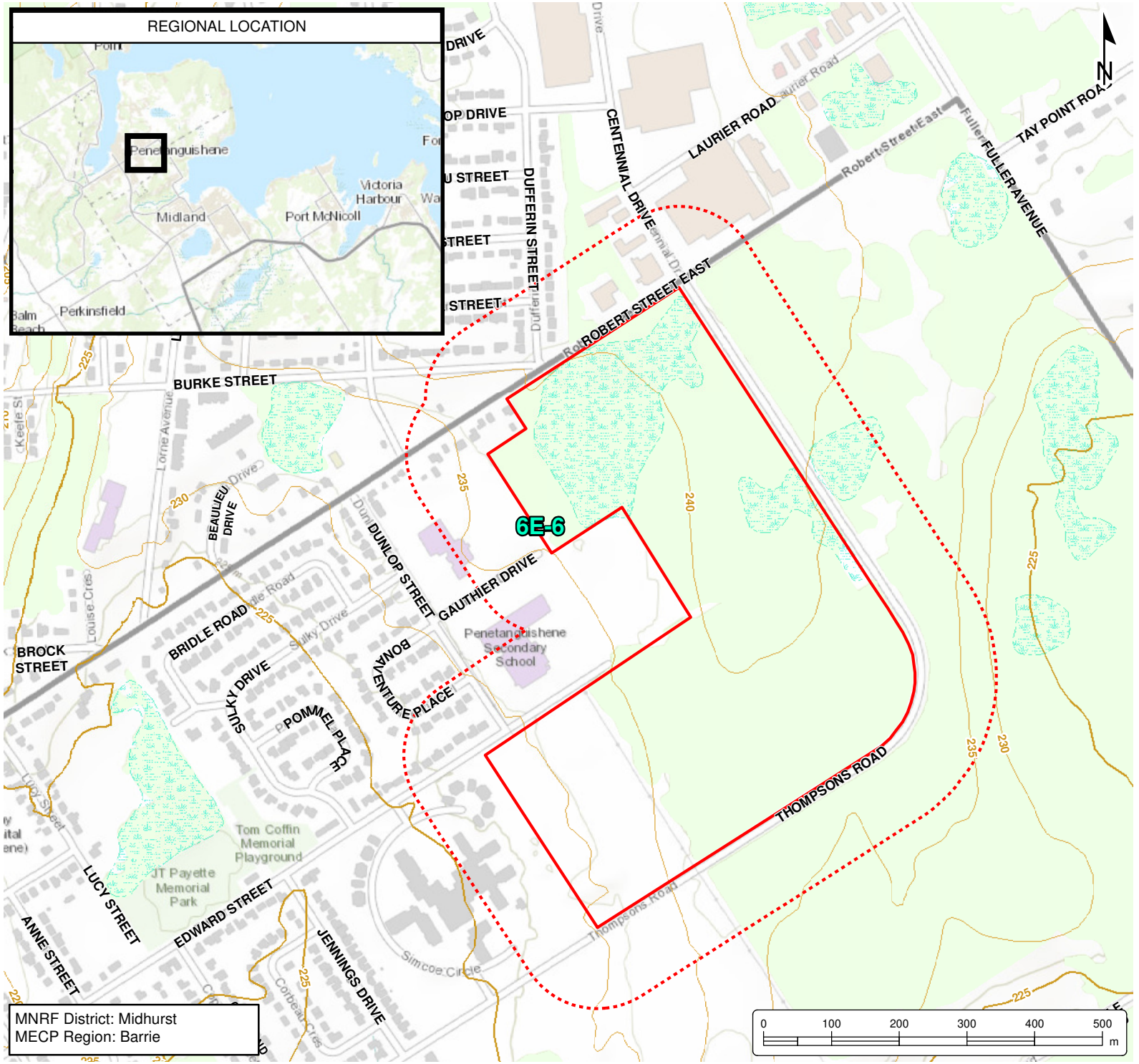
Glossary of Terms

ANSI: Area of Natural and Scientific Interest
ARA: Aquatic Resources Area
ARA: Aggregate Resources Act
AS: Agricultural System
ATK: Aboriginal Traditional Knowledge
BMA: Bear Management Area
BMP: Best Management Practice
CA: Conservation Authority
CEAA: Canadian Environmental Assessment Act/Agency
CFA: Canadian Forestry Association
CFIP: Community Fisheries Involvement Program
CFS: Canadian Forestry Service
CHU: Critical Habitat Unit
CH: Cultural Heritage
CLI: Canada Land Inventory
CLU: Crown Land Use
COSSARO: Committee on the Status of Species at Risk in Ontario
CR: Conservation Reserve
CWIP: Community Wildlife Involvement Program
CWS: Canadian Wildlife Service
DFO: Fisheries and Oceans Canada
EA: Environmental Assessment
EAA: Environmental Assessment Act
EAB: Emerald Ash Borer
EBR: Environmental Bill of Rights
EIA: Environmental Impact Assessment
EIS: Environmental Impact Study/Statement
ELC: Ecological Land Classification System
ELUP: Ecological Land Use Plan
END: Endangered species
EPA: Environmental Protection Act
ER: Environmental Registry
ESA: Endangered Species Act (2007)
ESA: Environmentally Sensitive Area
ESC: Erosion and Sediment Control
GIS: Geographic Information System
GLSL: Great Lakes – St. Lawrence
GPGGH: Growth Plan for the Greater Golden Horseshoe
GPS: Global Positioning System
HSA: Habitat Suitability Analysis
HIS: Habitat Suitability Index
KHA: Key Hydrologic Areas
KHF: Key Hydrologic Features
KNHF: Key Natural Heritage Features
LCFSP: Licence to Collect Fish for Scientific Purposes
LIO: Land Information Ontario
LRIA: Lake and Rivers Improvement Act
LUP: Land Use Permit or Plan
MA: Management Area
MAFA: Moose Aquatic Feeding Area
MCEA: Municipal Class Environmental Assessment
MECP: Ontario Ministry of Environment, Conservation and Parks
MNDMRF: Ontario Ministry of Natural Resources and Forestry
NER: Natural Environment Report
NHIC: Natural Heritage Information Centre
NHIS: Natural Heritage Information System
NHS: Natural Heritage System
OBM: Ontario Base Map
OFIS: Ontario Fisheries Information System
OLI: Ontario Land Inventory
OMAFRA: Ontario Ministry of Agriculture, Food and Rural Affairs
OWES: Ontario Wetland Evaluation System
PPS: Provincial Policy Statement (2014)
PSW: Provincially Significant Wetland
RLUP: Regional Land Use Plan
RMP: Regional Management Plan
R.P.F.: Registered Professional Forester
SAR: Species at Risk
SARO: Species at Risk in Ontario
SC: Special Concern species

F&W: Fish and Wildlife
FA: Fisheries Act (Federal)
FEC: Forest Ecosystem Classification
FMP: Forest Management Plan
FRI: Forest Resources Inventory
FWCA: Fish and Wildlife Conservation Act
GGH: Greater Golden Horseshoe
GHP: General Habitat Protection
SWH: Significant Wildlife Habitat
SWM: Stormwater Management
THR: Threatened species
TOR: Terms of Reference
TPP: Tree Preservation Plan
WIA: Woodlands Improvement Act
WMU: Wildlife Management Unit

Appended Figures



ENVIRONMENTAL IMPACT STUDY

MATTI DECENT HOMES INC.
138 Robert Street E
Penetanguishene, Ontario

LEGEND

- Contour 5m Interval (Major)
- Contour 5m Interval (Minor)
- Wooded Area
- Unevaluated Wetlands
- Ecodistrict
- Site
- 120 m Adjacent Lands

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources and Forestry or the Ontario Government).
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LANDSCAPE SETTING AND POLICY AREAS

Project No.: 14475-001		Date: September 2022	Rev.:
Scale: 1:8,000		Projection: NAD 1983 UTM Zone 17N	
Created by: DJL	Checked by: JPP	Figure: 1	

O:\GIS\MXDs\14400-14499\14475-001 Matti Decent Homes Inc - EIS - 138 Robert St E, Penetanguishene\2022-09-14 FIG1 - Landscape Setting and Policy Areas.mxd

ENVIRONMENTAL IMPACT STUDY

MATTI DECENT HOMES INC.
138 Robert Street E
Penetanguishene, Ontario

LEGEND

- Breeding Bird Survey Station (BBS)
- Eastern Whip-poor Will Survey Station (WPW)
- Culvert
- Contour 5m Interval (Major)
- Contour 5m Interval (Minor)
- Vegetation Communities
- Site
- 120 m Adjacent Lands

VEGETATION COMMUNITIES

1: FOCM6-3; Dry - Fresh Scotch Pine Naturalized Coniferous Plantation
2: FODM5-1; Dry – Fresh Sugar Maple Deciduous Forest
3: CUM; Cultural Meadow

Notes:
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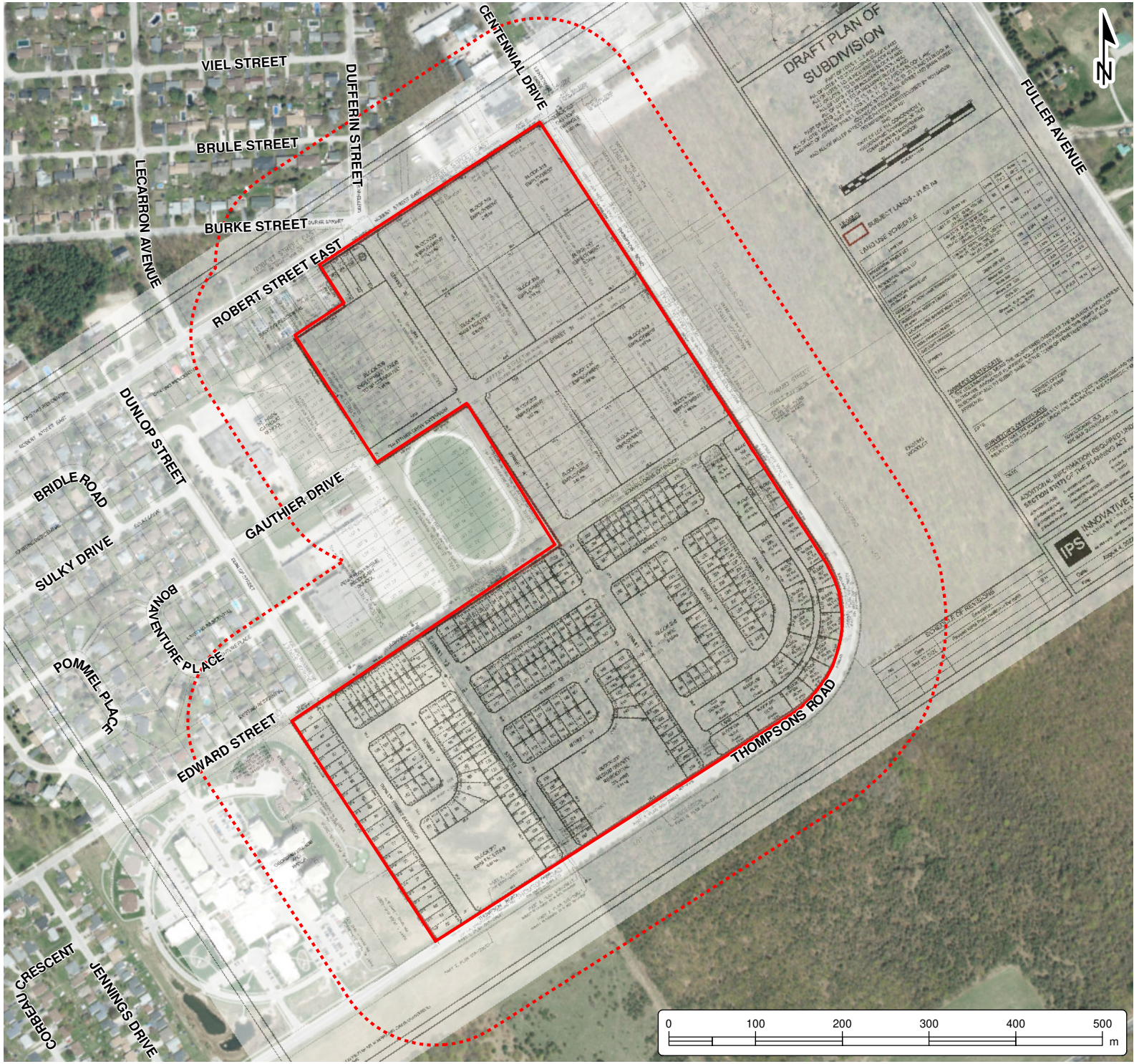
NATURAL HERITAGE FEATURES AND ECOLOGICAL SURVEY STATIONS

Project No.: 14475-001		Date: August 2022 Rev.:	
Scale: 1:6,250		Projection: NAD 1983 UTM Zone 17N	
Created by: DJL	Checked by: JPP	Figure:	2

O:\GIS\MXDs\14400-14499\14475-001 Matti Decent Homes Inc - EIS - 138 Robert St E, Penetanguishene\2022-08-30 FIG2- Natural Heritage Features and Ecological Survey Stations.mxd

ENVIRONMENTAL IMPACT STUDY

MATTI DECENT HOMES INC.
138 Robert Street E
Penetanguishene, Ontario



LEGEND

- 120 m Adjacent Lands
- Site

Notes:
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- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
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NATURAL HERITAGE CONSTRAINTS

Project No.: 14475-001		Date: September 2022	Rev.:
Scale: 1:6,250		Projection: NAD 1983 UTM Zone 17N	
Created by: DJL	Checked by: JPP	Figure: 3	

O:\GIS\MXDs\14400-14499\14475-001 Matti Decent Homes Inc - EIS - 138 Robert St E, Penetanguishene\2022-09-16 FIG3- Natural Heritage Constraints.mxd

Appendix A
Correspondence

Danielle Leal

From: Danielle Langlois
Sent: April 25, 2022 2:28 PM
To: abetty@penetanguishene.ca
Cc: Cambium Admin; Jeremy Prahl
Subject: Proposed Terms of Reference - 138 Robert St. (14475-001)

Hi Andrea,

Cambium has been retained to complete an Environmental Impact Study (EIS) for 138 Robert Street East, in the Town of Penetanguishene, in support of a draft plan of subdivision application. Based on the fieldwork completed December 2021 and April 2022, the unevaluated wetlands shown on provincial mapping are not present on the Site. We have adjusted our proposed scope of work accordingly. If you could kindly review and comment on the suitability of the following proposed Terms of Reference for the EIS, that would be greatly appreciated.

- Consult with the Town, to determine their interest/concerns regarding the proposed works and scope of work requirements.
- Compile and review applicable background information and environmental mapping pertaining to the Site.
- Conduct an aquatic habitat assessment, documenting riparian vegetation, erosion prone areas, and fish habitat features. *Completed April 2022.*
- One survey during leaf-off period, following snow melt; Reconnaissance to determine if targeted Amphibian Breeding Surveys are required. *Completed April 2022. No areas of suitable amphibian breeding habitat observed.*
- Conduct one bat maternity roost survey during lead-off period per MNRF protocol. *Completed April 2022.*
- Conduct three vascular plants surveys on the Site to provide a three-season survey. *One visit completed in December 2021.*
- Classify existing vegetation communities on the Site, according to the Ecological Land Classification System for Southern Ontario (Lee et. al., 1998), and evaluate them for sensitivity, rarity, and botanical quality.
- Conduct two (2) breeding bird surveys on the Site, using Components of the Ontario Breeding Bird Atlas Guide for Participants (OBBA, 2001) and the Forest Bird Monitoring Program (Canadian Wildlife Service, 2005) as appropriate, based on site conditions.
- Conduct three (3) evening Whip-poor-will surveys, following the Survey Protocol for Eastern Whip-poor-will in Ontario (Ministry of Natural Resources and Forestry, 2013).
- Undertake a Species at Risk (SAR) screening to assess for potential SAR habitat and evaluate compliance with the provincial Endangered Species Act, 2007.
- Record observations of wildlife occurrences and assess wildlife habitat function, including significant wildlife habitat on the Site. Any evidence of breeding, forage, shelter or nesting sites, and/or travel corridors will be noted.
- Identify, assess, and include detailed descriptions of the natural features and functions identified on the Site and adjacent lands. This assessment will include significant woodlands.
- Map key natural heritage and hydrologic features, vegetation communities, and other environmental features (watercourses, areas of groundwater discharge, habitat features, etc.) and proposed development on current, high quality aerial imagery. Any environmental feature/area mapping generated through the EIS work will be made available in GIS shapefile format.
- Provide a map of identified SWH, including any applicable radius/adjacent area that qualifies as SWH, per the Provincial SWH guidance document for Ecoregion 6E.
- Provide an assessment of the potential impacts of the proposed development on natural features and their related ecological and hydrologic functions.

- Demonstrate conformity with the applicable policies and plans including: the Town of Penetanguishene Official Plan, County of Simcoe Official Plan, the Provincial Policy Statement, 2020 (PPS) and the Growth Plan for the Greater Golden Horseshoe, 2020 (GPGGH).
- Develop an appropriate avoidance, mitigation, and/or restoration strategy, to address the potential impacts identified.
- Complete one (1) final report with supporting figures for circulation for approval to the Town.

Thanks,

Danielle

Danielle Langlois, B.Sc., EPt
Project Coordinator/Ecologist

Cambium - Barrie

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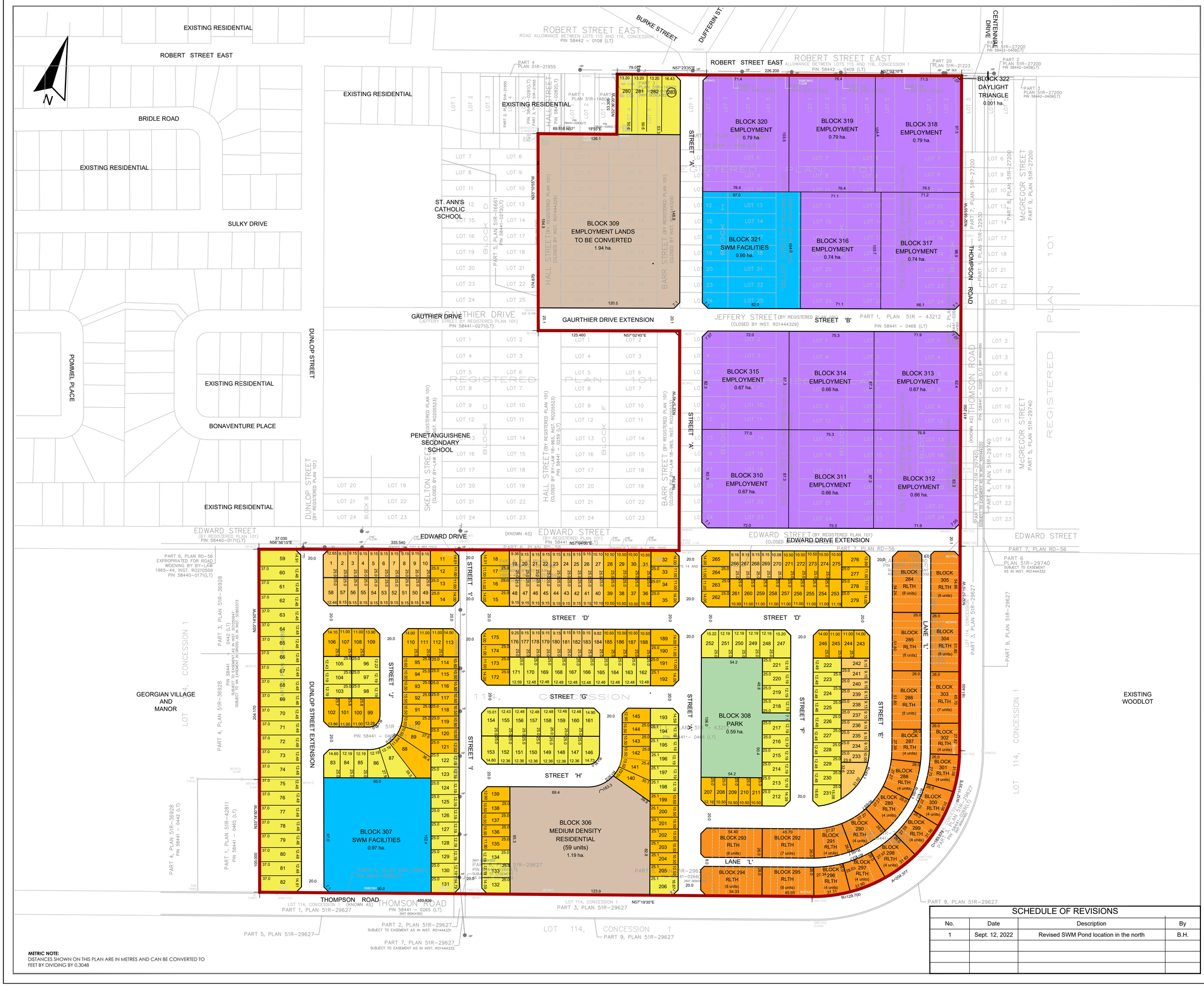
Since 2006, our team has worked diligently to bring the insights needed for good decisions and collective success. We are grateful for what has been and is yet to come!

Environmental | Building Sciences | Geotechnical | Construction Quality Verification

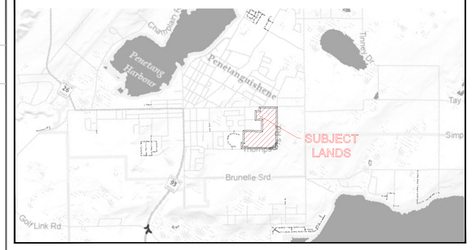
Appendix B

Conceptual Site Plans



KEY MAP

Scale: 1:50,000



DRAFT PLAN OF SUBDIVISION

PART OF LOTS 1, 2, 3 AND
ALL OF LOTS 4 TO 25 INCLUSIVE BLOCK E AND
ALL OF LOTS 1 TO 24 INCLUSIVE BLOCK G AND
ALL OF LOTS 1 TO 25 INCLUSIVE BLOCK H AND
ALL OF LOTS 1 TO 25 INCLUSIVE BLOCK I AND
ALL OF LOTS 1 TO 24 INCLUSIVE BLOCK K AND
PART OF LOTS 1, 4, 5, 8, 9, 12, 13, 16, 17, 20, 21 AND 24 BLOCK L AND
ALL OF LOTS 1 AND 2, PART OF LOTS 3, 7, 8, 11, 12, 15, 16, 19, 20 23 AND 24 BLOCK M
AND PART OF JEFFERY STREET, EDWARD STREET, HALL STREET AND BARR STREET
(CLOSED BY RO1444329)
AND ALL OF MILLER STREET AND PATTON STREET(CLOSED BY RO1444329)
REGISTERED PLAN 101
AND
PART OF LOT 114, CONCESSION 1
(GEOGRAPHIC TOWNSHIP OF TAY)
TOWN OF PENETANGUISHENE
COUNTY OF SIMCOE

30 0 30 60 90 120 150

SCALE = 1:1500

LEGEND

SUBJECT LANDS - 31.62 ha

LAND USE SCHEDULE

Land Use	Lot / Block No.	Units	Area (ha.)	Area (ac.)	%
RESIDENTIAL SINGLE LOT *(9.15m / 30')*	Lots 1-10, 19-27, 40-58, 176-184, 232-242, 266-270	63	1.495	3.69	4.7
RESIDENTIAL SINGLE LOT *(10.50m / 34')*	Lots 11-18, 28-39, 88-95, 99-102, 106-121, 135-145, 172-175, 185-192,199-205, 207-211, 243-246, 253-265, 271-279	109	3.185	7.87	10.1
RESIDENTIAL SINGLE LOT *(12.19m / 40')*	Lots 59-87, 96-98, 103-105, 122-134, 146-171, 193-198, 206, 212-231, 247-252, 280-283	111	4.083	10.09	12.9
RESIDENTIAL REAR LANE TOWNHOUSES *(6.1m / 20')*	Blocks 284-305	126	2.244	5.54	7.1
RESIDENTIAL MEDIUM DENSITY *(50 upha.)*	Blocks 306, 309	155	3.127	7.73	9.9
STORMWATER MANAGEMENT FACILITIES	Block 307, 321		1.870	4.62	5.9
PARK	Block 308		0.593	1.46	1.9
EMPLOYMENT LANDS	Blocks 310 - 320		7.839	19.37	24.8
DAYLIGHT TRIANGLES	Block 321		0.001	0.01	0.0
STREETS	Street A - K (20.0m ROW) Lane 'L' (8.0m ROW)		7.185	17.76	22.7
TOTAL		564	31.622	78.14	100.0

OWNER'S CERTIFICATE

I, THE UNDERSIGNED, BEING THE REGISTERED OWNER OF THE SUBJECT LANDS, HEREBY AUTHORIZE INNOVATIVE PLANNING SOLUTIONS TO PREPARE THIS DRAFT PLAN OF SUBDIVISION AND TO SUBMIT SAME TO THE TOWN OF PENETANGUISHENE FOR APPROVAL.

DATE

SIGNING OFFICER
NAME OF FIRM

SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

DATE

TOM KRCMAR, OLS
KRCMAR SURVEYORS LTD.

ADDITIONAL INFORMATION REQUIRED UNDER
SECTION 51(17) OF THE PLANNING ACT

a) SHOWN ON PLAN
b) SHOWN ON PLAN
c) SHOWN ON PLAN
d) RESIDENTIAL, OPEN SPACE, EMPLOYMENT
e) SHOWN ON PLAN
f) SHOWN ON PLAN
f1) NONE
g) SHOWN ON PLAN
h) MUNICIPAL WATER
i) SANDY
j) SHOWN ON PLAN
k) MUNICIPAL SEPTIC SERVICES
l) NONE

SCHEDULE OF REVISIONS

No.	Date	Description	By
1	Sept. 12, 2022	Revised SWM Pond location in the north	B.H.

INNOVATIVE PLANNING SOLUTIONS
PLANNERS • PROJECT MANAGERS • LAND DEVELOPERS
647 WELHAM RD., UNIT 9, BARRIE, ONTARIO, L4N 0B7
tel: 705 • 812 • 3281 fax: 705 • 812 • 3438 e: info@ipsconsultinginc.com www.ipsconsultinginc.com

Date:	August 4, 2022	Drawn By:	BH
File:		Checked:	CS

METRIC NOTE:
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

Appendix C
Photographic Log

Photo 1 Cultural meadow (Community 3) onsite facing west, December 16, 2021.

Photo 2 Hill in southwest corner of Community 3, December 16, 2021.

Photo 3 Community 1 FOCM6-3, December 16, 2021.

Photo 4 Community 2 FODM5-1, December 16, 2021.

Photo 5 Deer scat on forest floor, December 16, 2021.

Photo 6 West side of Community 2 facing north west, April 20, 2022.

Photo 7 Pathway within Community 1, April 20, 2022.

Photo 8 Evidence of transient use in Community 1, April 20, 2022.

Photo 9 Standing at northeast Site boundary along Thompsons Rd looking north west, April 20, 2022.

Photo 10 Standing at northeast Site boundary along Thompsons Rd looking southeast, April 20, 2022.

Photo 11 Culvert underneath Thompsons Rd at northeast site boundary, April 20, 2022.

Photo 12 No wetland present on Site where unevaluated wetland mapped along east Site boundary, April 20, 2022.

Photo 13 No wetland present where unevaluated wetland mapped on adjacent property opposite east Site boundary, April 20, 2022.

Photo 14 No wetland present where unevaluated wetland mapped on Site in community 2 at north and northwest portion of Site, April 20, 2022.

Photo 15 Community 3 recently plowed on Site facing south, May 25, 2022

Photo 16 Hill in Community 3 recently plowed on Site facing south, May 25, 2022

Appendix D

Vegetation Species List

VEGETATION COMMUNITY CLASSIFICATION: FOCM6-3

COMMUNITY #: 1

LOCATION: 138 Robert St E

COORDINATES: 44.77146548219025, -79.91743004880846

PROJECT NUMBER: 14475-001

DATE: May 25, 2022 August 16, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Allegheny Blackberry	*Rubus allegheniensis*	Rosaceae	3	2			S5
Alternate-leaved Dogwood	*Cornus alternifolia*	Cornaceae	3	6			S5
American Beech	*Fagus grandifolia*	Fagaceae	3	6			S4
Aster spp.	*Symphyotrichum spp*	Asteraceae	5	6			S4
Basswood	*Tilia americana*	Tiliaceae	3	4			S5
Black Cherry	*Prunus serotina var. serotina*	Rosaceae	3	3			S5
Broad-leaved Enchanter's Nightshade	*Circaea canadensis*	Onagraceae	3	2			S5
Broad-leaved Helleborine	*Epipactis helleborine*	Orchidaceae	3				SNA
Calico Aster	*Symphyotrichum lateriflorum var. lateriflorum*	Asteraceae	0	3			S5
Canada Enchanter's Nightshade	*Circaea canadensis ssp. canadensis*	Onagraceae	3	2			S5
Canada Goldenrod	*Solidago canadensis var. canadensis*	Asteraceae	3	1			S5
Canada Lettuce	*Lactuca canadensis*	Asteraceae	3	3			S5
Common Buttercup	*Ranunculus acris*	Ranunculaceae	0				SNA
Common Dandelion	*Taraxacum officinale*	Asteraceae	3				SNA
Common Lady Fern	*Athyrium filix-femina*	Dryopteridaceae	0	4			S5
Common Speedwell	*Veronica officinalis*	Scrophulariaceae	5				SNA
Common St. John's-wort	*Hypericum perforatum ssp. perforatum*	Clusiaceae	5				SNA
Cranberry Viburnum	*Viburnum opulus*	Caprifoliaceae	-3	5			S5
Eastern Hop-hornbeam	*Ostrya virginiana*	Betulaceae	3	4			S5
Eastern Prickly Gooseberry	*Ribes cynosbati*	Grossulariaceae	3	4			S5
Eastern White Pine	*Pinus strobus*	Pinaceae	3	4			S5
European Gromwell	*Lithospermum officinale*	Boraginaceae	5				SNA
European Mountain-ash	*Sorbus aucuparia*	Rosaceae	5				SNA
European Red Currant	*Ribes rubrum*	Grossulariaceae	5				SNA
Frosted Hawthorn	*Crataegus pruinosa*	Rosaceae	5	4			S5

VEGETATION COMMUNITY CLASSIFICATION: FOCM6-3 COMMUNITY #: 1 LOCATION: 138 Robert St E COORDINATES: 44.77146548219025, -79.91743004880846

PROJECT NUMBER: 14475-001 DATE: May 25, 2022 August 16, 2022 PROJECT MANAGER: Jeremy Prahl FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Garlic Mustard	*Alliaria petiolata*	Brassicaceae	0				SNA
Glossy Buckthorn	*Frangula alnus*	Rhamnaceae	0				SNA
Hawthorn spp.	*Crataegus spp*	Rosaceae	5	4			S4S5
Indian-pipe	*Monotropa uniflora*	Monotropaceae	3	6			S5
Large False Solomon's Seal	*Maianthemum racemosum*	Liliaceae	3	4			S5
Large-toothed Aspen	*Populus grandidentata*	Salicaceae	5	5			S5
Little-leaved Linden	*Tilia cordata*	Tiliaceae	5				SNA
Long-stalked Sedge	*Carex pedunculata*	Cyperaceae	3	5			S5
Manitoba Maple	*Acer negundo*	Aceraceae	0	0			S5
Marginal Wood Fern	*Dryopteris marginalis*	Dryopteridaceae	3	5			S5
Morrow's Honeysuckle	*Lonicera morrowii*	Caprifoliaceae	3				SNA
Northern Red Oak	*Quercus rubra*	Fagaceae	3	6			S5
Northern Starflower	*Lysimachia borealis*	Primulaceae	0	6			S5
Norway Maple	*Acer platanoides*	Aceraceae	5				SNA
Oxeye Daisy	*Leucanthemum vulgare*	Asteraceae	5				SNA
Pale Starwort	*Stellaria pallida*	Caryophyllaceae	5				SNA
Paper Birch	*Betula papyrifera*	Betulaceae	3	2			S5
Partridgeberry	*Mitchella repens*	Rubiaceae	3	6			S5
Pin Cherry	*Prunus pensylvanica*	Rosaceae	3	3			S5
Poison Ivy	*Toxicodendron radicans*	Anacardiaceae	0	2			S5
Poverty Oatgrass	*Danthonia spicata*	Poaceae	5	5			S5
Red Columbine	*Aquilegia canadensis*	Ranunculaceae	3	5			S5
Red Maple	*Acer rubrum*	Aceraceae	0	4			S5
Red Raspberry	*Rubus idaeus*	Rosaceae	3	2			S5
Riverbank Grape	*Vitis riparia*	Vitaceae	0	0			S5

VEGETATION COMMUNITY CLASSIFICATION: FOCM6-3 COMMUNITY #: 1 LOCATION: 138 Robert St E COORDINATES: 44.77146548219025, -79.91743004880846

PROJECT NUMBER: 14475-001 DATE: May 25, 2022 August 16, 2022 PROJECT MANAGER: Jeremy Prahl FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Scots Pine	*Pinus sylvestris var. sylvestris*	Pinaceae	3				SNA
Staghorn Sumac	*Rhus typhina*	Anacardiaceae	3	1			S5
Spinulose Wood Fern	*Dryopteris carthusiana*	Dryopteridaceae	-3	5			S5
Spotted Knapweed	*Centaurea stoebe*	Asteraceae	5				SNA
Sugar Maple	*Acer saccharum*	Aceraceae	3	4			S5
Tatarian Honeysuckle	*Lonicera tatarica*	Caprifoliaceae	3				SNA
Three-flowered Bedstraw	*Galium triflorum*	Rubiaceae	3	4			S5
Trembling Aspen	*Populus tremuloides*	Salicaceae	0	2			S5
Tufted Vetch	*Vicia cracca*	Fabaceae	5				SNA
Virginia Creeper	*Parthenocissus quinquefolia*	Vitaceae	3	6			S4?
Virginia Dwarf-dandelion	*Krigia virginica*	Asteraceae	5	10			S1
White Ash	*Fraxinus americana*	Oleaceae	3	4			S4
White Baneberry	*Actaea pachypoda*	Ranunculaceae	5	6			S5
White Clover	*Trifolium repens*	Fabaceae	3				SNA
Wild Basil	*Clinopodium vulgare ssp. vulgare*	Lamiaceae	5	4			S5
Wild Lily-of-the-valley	*Maianthemum canadense*	Liliaceae	3	5			S5
Wild Strawberry	*Fragaria virginiana ssp. virginiana*	Rosaceae	3	2			S5
Woodland Lettuce	*Lactuca floridana*	Asteraceae	3	6			S1S2

NOTES: Canopy cover >60%, dominated by Scots Pine and Sugar Maple. Understorey between 25-60% cover, dominated by Ironwood. Groundcover between 25-60%, dominated by Poison Ivy.

VEGETATION COMMUNITY CLASSIFICATION: FOCM6-3

COMMUNITY #: 1

LOCATION: 138 Robert St E

COORDINATES: 44.77146548219025, -79.91743004880846

PROJECT NUMBER: 14475-001

DATE: May 25, 2022 August 16, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

VEGETATION COMMUNITY PHOTOS:

Taken May 25, 2022

VEGETATION COMMUNITY CLASSIFICATION: FOCM6-3

COMMUNITY #: 1

LOCATION: 138 Robert St E

COORDINATES: 44.77146548219025, -79.91743004880846

PROJECT NUMBER: 14475-001

DATE: May 25, 2022 August 16, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

Taken August 16, 2022

VEGETATION COMMUNITY CLASSIFICATION: FOD5-1 COMMUNITY #: 2 LOCATION: 138 Robert St E COORDINATES: 44.77529978379607, -79.91689662449062

PROJECT NUMBER: 14475-001 DATE: May 25, 2022 August 16, 2022 PROJECT MANAGER: Jeremy Prahl FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Alternate-leaved Dogwood	*Cornus alternifolia*	Cornaceae	3	6			S5
American Beech	*Fagus grandifolia*	Fagaceae	3	6			S4
Basswood	*Tilia americana*	Tiliaceae	3	4			S5
Bracken Fern	*Pteridium aquilinum*	Dennstaedtiaceae	3	2			S5
Broad-leaved Helleborine	*Epipactis helleborine*	Orchidaceae	3				SNA
Calico Aster	*Symphyotrichum lateriflorum var. lateriflorum*	Asteraceae	0	3			S5
Common Dandelion	*Taraxacum officinale*	Asteraceae	3				SNA
Common Speedwell	*Veronica officinalis*	Scrophulariaceae	5				SNA
Eastern Hop-hornbeam	*Ostrya virginiana*	Betulaceae	3	4			S5
Eastern Prickly Gooseberry	*Ribes cynosbati*	Grossulariaceae	3	4			S5
European Mountain-ash	*Sorbus aucuparia*	Rosaceae	5				SNA
European Red Currant	*Ribes rubrum*	Grossulariaceae	5				SNA
Glossy Buckthorn	*Frangula alnus*	Rhamnaceae	0				SNA
Heart-leaved Aster	*Symphyotrichum cordifolium*	Asteraceae	5	5			S5
Kidney-leaved Buttercup	*Ranunculus abortivus*	Ranunculaceae	0	2			S5
Large False Solomon's Seal	*Maianthemum racemosum*	Liliaceae	3	4			S5
Large-toothed Aspen	*Populus grandidentata*	Salicaceae	5	5			S5
Long-stalked Sedge	*Carex pedunculata*	Cyperaceae	3	5			S5
Morrow's Honeysuckle	*Lonicera morrowii*	Caprifoliaceae	3				SNA
Northern Red Oak	*Quercus rubra*	Fagaceae	3	6			S5
Poison Ivy	*Toxicodendron radicans*	Anacardiaceae	0	2			S5
Poverty Oatgrass	*Danthonia spicata*	Poaceae	5	5			S5
Red Maple	*Acer rubrum*	Aceraceae	0	4			S5
Red Trillium	*Trillium erectum*	Liliaceae	3	6			S5
Rough-stemmed Goldenrod	*Solidago rugosa*	Asteraceae	0	4			S5

VEGETATION COMMUNITY CLASSIFICATION: FOD5-1

COMMUNITY #: 2

LOCATION: 138 Robert St E

COORDINATES: 44.77529978379607, -79.91689662449062

PROJECT NUMBER: 14475-001

DATE: May 25, 2022 August 16, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

Common Name	*Scientific Name*	Family	CoW	CoC	SARA	SARO	S-Rank
Sharp-lobed Hepatica	*Hepatica acutiloba*	Ranunculaceae	5	8			S5
Spinulose Wood Fern	*Dryopteris carthusiana*	Dryopteridaceae	-3	5			S5
Sugar Maple	*Acer saccharum*	Aceraceae	3	4			S5
Trembling Aspen	*Populus tremuloides*	Salicaceae	0	2			S5
Virginia Creeper	*Parthenocissus quinquefolia*	Vitaceae	3	6			S4?
White Ash	*Fraxinus americana*	Oleaceae	3	4			S4
White Baneberry	*Actaea pachypoda*	Ranunculaceae	5	6			S5
White Rattlesnakeroot	*Nabalus albus*	Asteraceae	3	6			S5
White Trillium	*Trillium grandiflorum*	Liliaceae	3	5			S5
Wild Lily-of-the-valley	*Maianthemum canadense ssp. canadense*	Liliaceae	3	5			S5
Wild Sarsaparilla	*Aralia nudicaulis*	Araliaceae	3	4			S5
Woodland Forget-me-not	*Myosotis sylvatica*	Boraginaceae	5				SNA
Yellow Trout-lily	*Erythronium americanum ssp. americanum*	Liliaceae	5	5			S5

NOTES: Canopy cover is >60%, dominated by Sugar Maple. Understorey cover is 10-25%, dominated by Ironwood. Groundcover is 10-25%, dominated by White Trillium.

VEGETATION COMMUNITY CLASSIFICATION: FOD5-1

COMMUNITY #: 2

LOCATION: 138 Robert St E

COORDINATES: 44.77529978379607, -79.91689662449062

PROJECT NUMBER: 14475-001

DATE: May 25, 2022 August 16, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

VEGETATION COMMUNITY PHOTOS:

Taken May 25, 2022

VEGETATION COMMUNITY CLASSIFICATION: FOD5-1

COMMUNITY #: 2

LOCATION: 138 Robert St E

COORDINATES: 44.77529978379607, -79.91689662449062

PROJECT NUMBER: 14475-001

DATE: May 25, 2022
August 16, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

Taken August 15, 2022

VEGETATION COMMUNITY CLASSIFICATION: CUM

COMMUNITY #: 3

LOCATION: 138 Robert St E

COORDINATES: 44.77189337834716, -79.9173220898956

PROJECT NUMBER: 14475-001

DATE: May 25, 2022 August 16, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Alfalfa	*Medicago sativa ssp. sativa*	Fabaceae	5				SNA
Annual Fleabane	*Erigeron annuus*	Asteraceae	3	0			S5
Bitter Wintercress	*Barbarea vulgaris*	Brassicaceae	0				SNA
Black Locust	*Robinia pseudoacacia*	Fabaceae	3				SNA
Black Walnut	*Juglans nigra*	Juglandaceae	3	5			S4?
Bladder Campion	*Silene vulgaris*	Caryophyllaceae	5				SNA
Bull Thistle	*Cirsium vulgare*	Asteraceae	3				SNA
Canada Horseweed	*Erigeron canadensis*	Asteraceae	3	0			S5
Canada Thistle	*Cirsium arvense*	Asteraceae	3				SNA
Clammy Ground-cherry	*Physalis heterophylla*	Solanaceae	5	3			S4
Common Burdock	*Arctium minus*	Asteraceae	3				SNA
Common Dandelion	*Taraxacum officinale*	Asteraceae	3				SNA
Common Lamb's-quarters	*Chenopodium album*	Chenopodiaceae	3				SNA
Common Milkweed	*Asclepias syriaca*	Apocynaceae	5	0			S5
Common Mullein	*Verbascum thapsus ssp. thapsus*	Scrophulariaceae	5				SNA
Common Pokeweed	*Phytolacca americana var. americana*	Phytolaccaceae	3	3			S4
Common Ragweed	*Ambrosia artemisiifolia*	Asteraceae	3	0			S5
Common Tansy	*Tanacetum vulgare*	Asteraceae	5				SNA
Common Timothy	*Phleum pratense ssp. pratense*	Poaceae	3				SNA
Common Viper's Bugloss	*Echium vulgare*	Boraginaceae	5				SNA
Curled Dock	*Rumex crispus*	Polygonaceae	0				SNA
English Plantain	*Plantago lanceolata*	Plantaginaceae	3				SNA
Eurasian Black Bindweed	*Fallopia convolvulus*	Polygonaceae	3				SNA
Field Bindweed	*Convolvulus arvensis*	Convolvulaceae	5				SNA
Garden Bird's-foot Trefoil	*Lotus corniculatus*	Fabaceae	3				SNA
Garlic Mustard	*Alliaria petiolata*	Brassicaceae	0				SNA

VEGETATION COMMUNITY CLASSIFICATION: CUM

COMMUNITY #: 3

LOCATION: 138 Robert St E

COORDINATES: 44.77189337834716, -79.9173220898956

PROJECT NUMBER: 14475-001

DATE: May 25, 2022 – August 16, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Hoary Alyssum	*Berteroa incana*	Brassicaceae	5				SNA
Manitoba Maple	*Acer negundo*	Aceraceae	0	0			S5
Orchard Grass	*Dactylis glomerata*	Poaceae	3				SNA
Poison Ivy	*Toxicodendron radicans*	Anacardiaceae	0	2			S5
Red Clover	*Trifolium pratense*	Fabaceae	3				SNA
Red Raspberry	*Rubus idaeus*	Rosaceae	3	2			S5
Reed Canarygrass	*Phalaris arundinacea var. arundinacea*	Poaceae	-3	0			S5
Riverbank Grape	*Vitis riparia*	Vitaceae	0	0			S5
Scots Pine	*Pinus sylvestris var. sylvestris*	Pinaceae	3				SNA
Smooth Crabgrass	*Digitaria ischaemum*	Poaceae	3				SNA
Spotted Knapweed	*Centaurea stoebe*	Asteraceae	5				SNA
Spotted Lady's-thumb	*Persicaria maculosa*	Polygonaceae	-3				SNA
Spreading Dogbane	*Apocynum androsaemifolium*	Apocynaceae	5	3			S5
Staghorn Sumac	*Rhus typhina*	Anacardiaceae	3	1			S5
Sugar Maple	*Acer saccharum*	Aceraceae	3	4			S5
Sulphur Cinquefoil	*Potentilla recta*	Rosaceae	5				SNA
Trembling Aspen	*Populus tremuloides*	Salicaceae	0	2			S5
Tufted Vetch	*Vicia cracca*	Fabaceae	5				SNA
Virginia Creeper	*Parthenocissus quinquefolia*	Vitaceae	3	6			S4?
White Ash	*Fraxinus americana*	Oleaceae	3	4			S4
White Clover	*Trifolium repens*	Fabaceae	3				SNA
Wild Carrot	*Daucus carota*	Apiaceae	5				SNA
Wild Strawberry	*Fragaria virginiana ssp. virginiana*	Rosaceae	3	2			S5

VEGETATION COMMUNITY CLASSIFICATION: CUM

COMMUNITY #: 3

LOCATION: 138 Robert St E

COORDINATES: 44.77189337834716, -79.9173220898956

PROJECT NUMBER: 14475-001

DATE: May 25, 2022
August 16, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

NOTES: Ploughed field filled in with ragweed, except for a hill and hedgerow. Groundcover was 0-10% in May but over 60% in August.

VEGETATION COMMUNITY PHOTOS:

Taken May 25, 2022

Taken August 16, 2022

VEGETATION COMMUNITY CLASSIFICATION: CUM

COMMUNITY #: 3

LOCATION: 138 Robert St E

COORDINATES: 44.77189337834716, -79.9173220898956

PROJECT NUMBER: 14475-001

DATE: May 25, 2022 August 16, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Brenden Hnatiw

FIELD SHEET – Vegetation Species List

Appendix E

Bird Species List

VEGETATION COMMUNITY CLASSIFICATION: Cultural Meadow

LOCATION: 138 Robert St E

POINT COUNT #: 1

PROJECT NUMBER: 14475-001

DATES: June 10, 2022 June 17, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Mackenzie Soden

FIELD SHEET – Bird Species List

June 10, 2022

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
American Crow	*Corvus brachyrhynchos*	Corvidae			S5B	H
American Robin	*Turdus migratorius*	Turdidae			S5B	H
Black-capped Chickadee	*Poecile atricapillus*	Paridae			S5	H
Chipping Sparrow	*Spizella passerina*	Passerellidae			S5B	S
Great Crested Flycatcher	*Myiarchus crinitus*	Tyrannidae			S4B	S
Mallard	*Anas platyrhynchos*	Anatidae			S5	X
Pine Warbler	*Setophaga pinus*	Parulidae			S5B	S
Red-winged Blackbird	*Agelaius phoeniceus*	Icteridae			S4	S
Savannah Sparrow	*Passerculus sandwichensis*	Passerellidae			S4B	S
Song Sparrow	*Melospiza melodia*	Passerellidae			S5B	S
Wild Turkey	*Meleagris gallopavo*	Phasianidae			S5	S

June 17, 2022

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
American Crow	*Corvus brachyrhynchos*	Corvidae			S5B	H
American Robin	*Turdus migratorius*	Turdidae			S5B	H
House Wren	*Troglodytes aedon*	Troglodytidae			S5B	S
Mourning Dove	*Zenaida macroura*	Columbidae			S5	H
Red-winged Blackbird	*Agelaius phoeniceus*	Icteridae			S4	T
Savannah Sparrow	*Passerculus sandwichensis*	Passerellidae			S4B	D
Song Sparrow	*Melospiza melodia*	Passerellidae			S5B	T

VEGETATION COMMUNITY CLASSIFICATION: Cultural Meadow

LOCATION: 138 Robert St E

POINT COUNT #: 1

PROJECT NUMBER: 14475-001

DATES: June 10, 2022 / June 17, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Mackenzie Soden

FIELD SHEET – Bird Species List

X = Species observed in its breeding season (no breeding evidence)
H = Species observed in its breeding season in suitable nesting habitat
S= Singing male present, or breeding calls heard, in its breeding season in suitable nesting habitat
P= Pair observed in their breeding season in suitable nesting habitat
T= Permanent territory presumed through registration of territorial song on at least 2 days, a week apart, at the same place
D= Courtship or display between a male and a female or 2 males, including courtship feeding or copulation
V= Visiting probable nest site
X = Species observed in its breeding season (no breeding evidence)
CF= Adult carrying food for young
NE= Nest containing eggs

A = Agitated behaviour or anxiety calls of an adult
B= Brood patch on adult female or cloacal protuberance on adult male
N= Nest-building or excavation of nest hole
DD= Distraction display or injury feigning
NU= Used nest or egg shell found (occupied or laid within the period of study)
FY= Recently fledged young or downy young, including young incapable to sustain flight
AE= Adults leaving or entering nest site in circumstances indicating occupied nest
FS= Adult carrying faecal sac
NY= Nest with young seen or heard

Shaded cells indicate probable or confirmed breeding by the species within the vegetation community.

NOTES: Field recently tilled.

VEGETATION COMMUNITY CLASSIFICATION: Cultural Meadow

LOCATION: 138 Robert St E

POINT COUNT #: 1

PROJECT NUMBER: 14475-001

DATES: June 10, 2022
June 17, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Mackenzie Soden

FIELD SHEET – Bird Species List

VEGETATION COMMUNITY PHOTOS:

Taken June 10, 2022

VEGETATION COMMUNITY CLASSIFICATION: Cultural Meadow

LOCATION: 138 Robert St E

POINT COUNT #: 1

PROJECT NUMBER: 14475-001

DATES: June 10, 2022 June 17, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Mackenzie Soden

FIELD SHEET – Bird Species List

Taken June 17, 2022

VEGETATION COMMUNITY CLASSIFICATION: Woodland

LOCATION: 138 Robert St E

POINT COUNT #: 2

PROJECT NUMBER: 14475-001

DATES: June 10, 2022 / June 17, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Mackenzie Soden

FIELD SHEET – Bird Species List

June 10, 2022

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
Eastern Wood-pewee	Contopus virens	Tyrannidae	SC	SC	S4B	S
House Wren	Troglodytes aedon	Troglodytidae			S5B	S
Ovenbird	Seiurus aurocapilla	Parulidae			S4B	D
Red-eyed Vireo	Vireo olivaceus	Vireonidae			S5B	A

June 17, 2022

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
American Crow	Corvus brachyrhynchos	Corvidae			S5B	H
Eastern Wood-pewee	Contopus virens	Tyrannidae	SC	SC	S4B	T
Ovenbird	Seiurus aurocapilla	Parulidae			S4B	D
Pine Warbler	Setophaga pinus	Parulidae			S5B	S

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V= Visiting probable nest site
X = Species observed in its breeding season (no breeding evidence)
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A = Agitated behaviour or anxiety calls of an adult
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FY= Recently fledged young or downy young, including young incapable to sustain flight
AE= Adults leaving or entering nest site in circumstances indicating occupied nest
FS= Adult carrying faecal sac
NY= Nest with young seen or heard

Shaded cells indicate probable or confirmed breeding by the species within the vegetation community.

NOTES: Canopy cover 90%.

VEGETATION COMMUNITY CLASSIFICATION: Woodland

LOCATION: 138 Robert St E

POINT COUNT #: 2

PROJECT NUMBER: 14475-001

DATES: June 10, 2022
June 17, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Mackenzie Soden

FIELD SHEET – Bird Species List

VEGETATION COMMUNITY PHOTOS:

Taken June 10, 2022

VEGETATION COMMUNITY CLASSIFICATION: Woodland

LOCATION: 138 Robert St E

POINT COUNT #: 2

PROJECT NUMBER: 14475-001

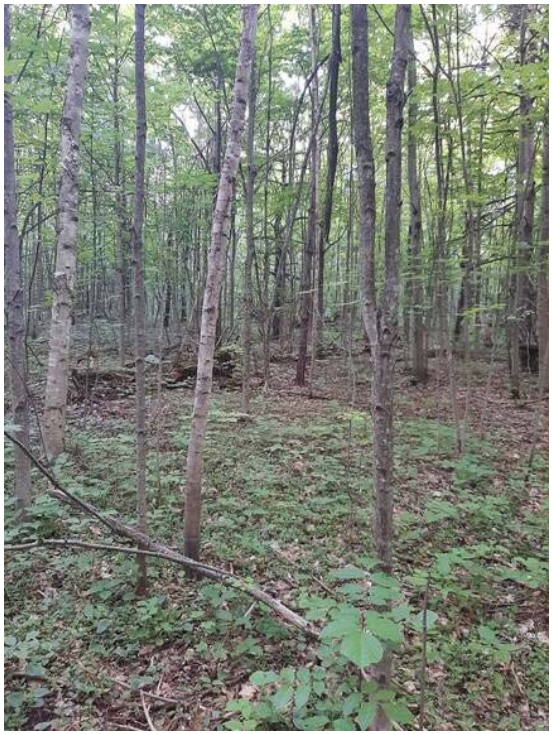
DATES: June 10, 2022 / June 17, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Mackenzie Soden

FIELD SHEET – Bird Species List

Taken June 17, 2022



VEGETATION COMMUNITY CLASSIFICATION: Forest LOCATION: 138 Robert St E POINT COUNT #: 3

PROJECT NUMBER: 14475-001 DATES: June 10, 2022 – June 17, 2022 PROJECT MANAGER: Jeremy Prahl FIELD STAFF: Mackenzie Soden

FIELD SHEET – Bird Species List

June 10, 2022

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
Great Crested Flycatcher	*Myiarchus crinitus*	Tyrannidae			S4B	S
Ovenbird	*Seiurus aurocapilla*	Parulidae			S4B	D
Red-eyed Vireo	*Vireo olivaceus*	Vireonidae			S5B	S
Scarlet Tanager	*Piranga olivacea*	Cardinalidae			S4B	S

June 17, 2022

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
American Redstart	*Setophaga ruticilla*	Parulidae			S5B	S
Eastern Wood-pewee	*Contopus virens*	Tyrannidae	SC	SC	S4B	S
Ovenbird	*Seiurus aurocapilla*	Parulidae			S4B	S
Red-eyed Vireo	*Vireo olivaceus*	Vireonidae			S5B	T
Scarlet Tanager	*Piranga olivacea*	Cardinalidae			S4B	T

X = Species observed in its breeding season (no breeding evidence)
H = Species observed in its breeding season in suitable nesting habitat
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FS= Adult carrying faecal sac
NY= Nest with young seen or heard

Shaded cells indicate probable or confirmed breeding by the species within the vegetation community.

NOTES: Canopy cover 90%.

VEGETATION COMMUNITY CLASSIFICATION: Forest

LOCATION: 138 Robert St E

POINT COUNT #: 3

PROJECT NUMBER: 14475-001

DATES: June 10, 2022
June 17, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Mackenzie Soden

FIELD SHEET – Bird Species List

VEGETATION COMMUNITY PHOTOS:

Taken June 10, 2022

VEGETATION COMMUNITY CLASSIFICATION: Forest

LOCATION: 138 Robert St E

POINT COUNT #: 3

PROJECT NUMBER: 14475-001

DATES: June 10, 2022 – June 17, 2022

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Mackenzie Soden

FIELD SHEET – Bird Species List

Taken June 17, 2022

Appendix F

Significant Wildlife Habitat Assessment

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes
Seasonal Concentration Areas of Animals					
Waterfowl Stopover and Staging Areas (Terrestrial)	Ducks	Cultural Ecosites: CUM1, CUT1	Fields that flood during spring (mid-March to May).	N	N/A
Waterfowl Stopover and Staging Area (Aquatic)	Ducks, Geese	Marshes, Swamps, Shallow Water Ecosites: MAS1,MAS2, MAS3, SAS1 SAM1, SAF1, SWD1 to SWD7,	Ponds, marshes, lakes, bays, coastal inlets, and watercourses. Sewage treatment ponds and storm water ponds **not** SWH Reservoir managed as a large wetland or pond/lake qualifies.	N	N/A
Shorebird Migratory Stopover Area	Shorebirds	Beaches, Dunes, Meadow Marshes: BBO1, BBO2, BBS1, BBS2 BBT1, BBT2, SDO1, SDS2, SDT1, MAM1 to MAM5	Shorelines of lakes, rivers and wetlands. Sewage treatment ponds and storm water ponds **not** SWH.	N	N/A
Raptor Wintering Area	Eagles, Hawks, Owls	Hawks/Owls - Combination of Forest and Cultural Ecosites: FOD, FOM, FOC, CUM, CUT, CUS, CUW Bald Eagle: Forest or swamp close to open water (hunting ground): FOD, FOM, FOC, SWD, SWM, SWC	Raptor wintering sites: >20ha, with a combination of forest and upland. Idle/Fallow/Meadow (>15ha) with adjacent woodlands. Eagle sites: open water, large trees and snags for roosting.	N	N/A
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	Caves, Crevices: CCR1, CCR2, CCA1, CCA2	Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. Buildings and active mine sites **not** SWH.	N	N/A
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	Deciduous or mixed forests and swamps: FOD, FOM, SWD, SWM	Mature deciduous and mixed forest stands with >10/ha; large trees >25 cm DBH with cavities.	N	Field investigations confirmed that forested lands on the property did not contain a hgh density of suitable bat maternity roost trees.
Turtle Wintering Area	Turtles	SW, MA, OA, SA, FEO, BOO	Free water beneath ice. Soft mud substrate. Permanent water bodies, large wetlands, bogs, fens with adequate DO.	N	N/A
Reptile Hibernaculum	Snakes	Habitat may be found in any ecosite other than very wet ones. Five-lined Skink: FOD and FOM, FOC1, FOC3	Below frost line in burrows, rock crevices, rock piles or slopes, stone fences, abandoned stone foundations. Conifer or shrub swamps/swales, poor fens, depressions in bedrock with accumulations of sphagnum moss or sedge hummock ground cover. Skink: mixed forest with rock outcrop openings; granite bedrock with fissures.	N	Field investigations confirmed that there are no areas with extensive rock piles or slopes, old stone fences,etc. that would provide hibernaculum sites for reptiles.
Colonially-nesting Bird Breeding Habitat (Bank and Cliff)	Cliff Swallow, Northern Rough-winged Swallow	Eroding banks, sandy hills/piles, burrow pits, steep slopes, cliff faces, bridge abutments, silos, barns. CUM1, CUT1, CUS1, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1	Exposed soil banks, **not** a licensed/permitted aggregate area. Does **not** include man-made structures (bridges or buildings), or recently (2 yrs) disturbed soil areas (berms, embankments, soil/aggregate stockpiles).	N	N/A
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Great Blue Heron, Black-crowned Night Heron, Great Egret, Green Heron	SWM2, SWM3, SWM5, SWM6, SWD1 to SWD7, FET1	Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and emergents may be used. Nests in trees are 11 to 15 m from ground, near top of the tree.	N	N/A
Colonially-nesting Bird Breeding Habitat (Ground)	Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer's Blackbird	Rocky island or peninsula in lake or river. Close to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird). MAM1 – 6; MAS1 – 3; CUM, CUT, CUS	Gulls and terns nesting on islands or peninsulas with open water or marshy areas. Brewers Blackbird colonies are found on the ground in low bushes close to streams and irrigation ditches within farmlands.	N	N/A
Migratory Butterfly Stopover Area	Painted Lady, Red Admiral, **Special Concern:** Monarch	Combination of open and forested ecosites (need one from each). Field: CUM, CUT, CUS Forest: FOC, FOD, FOM, CUP	Minimum of 10 ha, located within 5 km of Lake Ontario. Combination of field and forest, undisturbed sites, with flowering species (preferred nectar plants).	N	N/A
Landbird Migratory Stopover Areas	All migratory songbirds. All migrant raptor species.	FOC, FOM, FOD, SWC, SWM, SWD	Woodlots need to be >10 ha in size and within 5 km of Lake Ontario. If multiple woodlands are located along the shoreline, those Woodlands <2km from Lake Ontario are more significant. Include a variety of habitats; forest, grassland and wetlands.	N	N/A
Deer Yarding Areas	White-tailed Deer	FOM, FOC, SWM, SWC, CUP2, CUP3, FOD3, CUT	Stratum I: core deer yard - coniferous forest; 60% canopy cover with pine, hemlock, cedar, spruce. Stratum II: mixed or deciduous forest with plenty of browse available, may include agricultural areas.	N	N/A

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes
Deer Wintering Congregation Areas	White-tailed Deer	FOC, FOM, FOD, SWC, SWM, SWD	When movement is not constrained by snow depth (20cm) Woodlots > 100 ha and used annually.	N	N/A
Rare Vegetation Communities					
Cliffs and Talus Slopes		TAO, TAS, CLO, CLS, TAT, CLT	Cliff: near vertical bedrock >3m in height; Talus Slope: coarse rock rubble at the base of a cliff	N	N/A
Sand Barren		SBO1, SBS1, SBT1	Sand Barrens >0.5 ha. Vegetation can vary from patchy and barren to continuous meadow, thicket--like, or tree covered (less than 60%). Less than 50% vegetation cover are exotic species.	N	N/A
Alvar	*Indicator species: Carex crawei, Panicum philadelphicum, Eleocharis compressa, Scutellaria parvula, Trichostema brachiatum,* Loggerhead Shrike	ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2	Alvar >0.5 ha. Level, mostly unfractured calcareous bedrock with mosaic or rock pavements and bedrock overlain with thin veneer of soil. Vegetation cover varies from patchy to barren with <60% tree cover.	N	N/A
Old Growth Forest		FOD, FOC, FOM, SWD, SWC, SWM	Woodland areas 30 ha or greater or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest.	N	N/A
Savannah		TPS1, TPS2, TPW1, TPW2, CUS2	No minimum size; A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60% with less than 50% cover of exotic species. Remnant sites (railway right-of-ways) are **not** SWH.	N	N/A
Tallgrass Prairie		TPO1, TPO2	No minimum size; An open Tallgrass Prairie habitat has < 25% tree cover. Less than 50% cover of exotic species. Remnant sites (railway right-of-ways) are not SWH.	N	N/A
Other Rare Vegetation Communities		Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps. Review Appendix M	N	N/A
Specialized Habitat for Wildlife					
Waterfowl Nesting Area	Ducks	Upland habitats adjacent to: MAS1 to MAS3, SAS1, SAM1, SAF1, MAM1 to MAM6, SWT1, SWT2, SWD1 to SWD4	Extends 120 m from a wetland or wetland complex. Upland areas should be at least 120 m wide. Wood Ducks and Hooded Mergansers use cavity trees (>40cm dbh) in woodlands.	N	N/A
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Osprey, Bald Eagle	FOD, FOM, FOC, SWD, SWM, SWC directly adjacent to riparian areas	Nesting areas are associated with waterbodies along forested shorelines, islands, or on structures over water.	N	N/A
Woodland Raptor Nesting Habitat	Northern Goshawk, Cooper's Hawk, Sharp-shinned Hawk, Red-shouldered Hawk, Barred Owl, Broad-winged Hawk	All forested ELC ecosites. Forests, swamps, and conifer plantations: FOD, FOM, FOC, SWD, SWM, SWC, CUP3	Natural or conifer plantation woodland/forest stands >30 ha with > 10 ha interior habitat. Stick nests.	N	N/A
Turtle Nesting Areas	Midland Painted Turtle, Snapping Turtle, Northern Map Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within: MAS1 to MAS3, SAS1, SAM1, SAF1, BOO1	Nest sites close to water, within open sunny areas with soil suitable for digging. Sand and gravel beaches. Nesting areas on sides of roads are not SWH.	N	N/A
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp.	Seeps/Springs are areas where ground water comes to the surface.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream/river system.	N	N/A
Amphibian Breeding Habitat (Woodland)	Woodland Frogs and Salamanders	FOC, FOM, FOD, SWC, SWM, SWD	Wetland, pond or woodland pool of >500 m^2 within or adjacent (within 120m) to wooded areas (no min. size). Woodlands with permanent ponds or those containing water until mid-July are preferred.	N	N/A
Amphibian Breeding Habitat (Wetlands)	Toads, Frogs, and Salamanders	SW, MA, FE, BO, OA and SA. Typically isolated (>120m) from woodland ecosites, however larger wetlands may be adjacent to woodlands.	Wetlands >500m^2 isolated from woodland ecosites with high species diversity. Permanent water bodies with abundant vegetation for bullfrogs.	N	N/A

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes
Woodland Area-Sensitive Bird Breeding Habitat	Birds: Yellow-bellied Sapsucker Red-breasted Nuthatch, Veery, Blue-headed Vireo, Northern Parula, Black-throated Green Warbler, Blackburnian Warbler, Black-throated Blue Warbler, Ovenbird, Scarlet Tanager, Winter Wren, Special Concern: Cerulean Warbler Canada Warbler	FOC, FOM, FOD, SWC, SWM, SWD	Large mature (>60 years) forest stands or woodlots > 30 ha. Interior forest habitat of >200 m from forest edge.	N	While breeding bird surveys documented probable breeding for two of the woodland area-senstive indicators (Ovenbird and Scarlet Tanger), the lands are not considered SWH as the criteria requires the presence of 3 or more of the indicator species.
Habitat of Species of Conservation Concern					
Marsh Bird Breeding Habitat	American Bittern, Virginia Rail, Sora, Common Moorhen, American Coot, Pied-billed Grebe, Marsh Wren, Sedge Wren, Common Loon, Sandhill Crane, Green Heron, Trumpeter Swan	MAM1 to MAM6, SAS1, SAM1, SAF1, FEO1, BOO1 For Green Heron: SW, MA and CUM1 sites.	Wetlands with shallow water and emergent aquatic vegetation.	N	N/A
Open Country Bird Breeding Habitat	Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl	CUM1, CUM2	Grassland/meadow >30 ha. Not being actively used for farming. Habitat established for 5 years or more.	N	No qualifying vegetation communities of sufficient size on or adjacent to Site.
Shrub/Early Successional Bird Breeding Habitat	Brown Thrasher, Clay-coloured Sparrow, Field Sparrow, Black-billed Cuckoo, Eastern Towhee, Willow Flycatcher, Yellow-breasted Chat, Golden-winged Warbler	CUT1, CUT2, CUS1, CUS2, CUW1, CUW2	Large field areas succeeding to shrub and thicket habitats > 10 ha. Areas not actively used for farming in the last 5 years.	N	No qualifying vegetation communities of sufficient size on or adjacent to Site.
Terrestrial Crayfish	Chimney or Digger Crayfish; (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish; (*Cambarus Diogenes*)	MAM1 to MAM6, MAS1 to MAS3, SWD, SWT, SWM, CUM1 sites with inclusions of the aforementioned.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish	N	N/A
Special Concern and Rare Wildlife Species	Any species of concern or rare wildlife species (S1-S3, SH) plant and animal.	Any ELC code.	Presence of species of concern or rare wildlife species identified within 1 or 10 km grid (NHIC).	Y	See Species of Conservation Concern Screening for a list of special cocern species that may be present on the Site.

Appendix G

Species Of Conservation Concern Screening

APPENDIX: Species of Conservation Concern - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
Birds								
Bald Eagle	*Haliaeetus leucocephalus*	No Status	SC	S2N,S4B	The Bald Eagle is a bird of prey with a white head, neck and tail, a massive bright yellow beak, powerful legs, and a wingspan of over 2 m. It nests in a variety of habitats and forest types, almost always near a major lake or river where they do most of their hunting. These nests are usually on islands in freshwater lakes or in large trees such as the pine and poplar. During the winter, they may also be found near open bodies of water that do not freeze (1).	No	Confirmed absent through targeted surveys	No further consideration required
Bank Swallow	*Riparia riparia*	THR	THR	S4B	The Bank Swallow is a small songbird of around 12 cm long with a distinctive dark breast band, that flies with quick and erratic wingbeats (1). It nests in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. This can include banks of rivers and lakes, bluffs, active sand and gravel pits, road cuts and stockpiles of soils. However, they prefer sand-silt substrates for excavating their nest burrows. They often use large wetlands as communal nocturnal roosts post-breeding or during wintering periods (2).	No	Confirmed absent through targeted surveys	No further consideration required
Barn Swallow	*Hirundo rustica*	THR	THR	S4B	The Barn Swallow is a mid-sized songbird with steel-blue backs and wings, glossy in males, and a line of white spots across its upper tail. It lives in a variety of open habitats for foraging, such as grassy fields, pastures, certain agricultural crops, shorelines, cottage areas, wetlands, or subarctic tundra (2). They prefer to nest within human made structures such as barns, bridges, and culverts. Barn Swallow nests are cup-shaped and made of mud, typically attached to horizontal beams or vertical walls underneath an overhang (1).	No	Confirmed absent through targeted surveys	No further consideration required
Black Tern	*Chlidonias niger*	No Status	SC	S3B	The Black Tern is a small waterbird with a forked tail, straight pointed bill, slender shape, and black head during breeding season. It builds floating nests in loose colonies in shallow marshes, with a preference for cattails. They breed primarily in the marshes along the edges of the Great Lakes, but may also use wetlands further north if suitable (1).	No	Confirmed absent through targeted surveys	No further consideration required
Bobolink	*Dolichonyx oryzivorus*	THR	THR	S4B	The Bobolink is a mid-sized songbird of tan colour with black stripes, except for males during summer breeding season who are black with a white back and yellow collar. It prefers tall, grassy meadows, hayfields and some croplands, and feeds (largely on insects) on the ground in dense grasses (1). It tends to nest in forage crops: hayfields and pastures dominated by species including clover, bluegrass, and broadleaf plants (2).	No - CUM community ploughed within study period.	Confirmed absent through targeted surveys	No further consideration required
Canada Warbler	*Cardellina canadensis*	THR	SC	S4B	The Canada Warbler is a small songbird with bright yellow underparts and bluish-grey back and tail (1). It can be found in a variety of forest types, but is most abundant in moist, mixed forests with a well-developed, dense shrub layer. Nests are usually located on or near the ground on mossy logs, and along stream banks (3).	Yes: on-site	Confirmed absent through targeted surveys	No further consideration required
Cerulean Warbler	*Setophaga cerulea*	END	THR	S3B	The Cerulean Warbler, a small songbird, is blue-green with white eyebrows and two prominent white wing bars (1). It requires relatively large tracts of mature deciduous forest (>100 ha), and nests in older, second-growth deciduous forests. During breeding season, it is found in relatively large tracts of mature deciduous forests that feature large, tall trees and an open understorey (4).	No	Confirmed absent through targeted surveys	No further consideration required
Chimney Swift	*Chaetura pelagica*	THR	THR	S4B,S4N	The Chimney Swift is a small bird, between 12 and 14 cm, with a brown, cigar-shaped body, slender wings, and an erratic flight pattern. Prior to settlement, the Chimney Swift would mainly nest in cave walls and hollow trees. Now, it is found mostly near urban and suburban areas where the presence of chimneys or other manmade structures provide nesting and roosting habitat. They also tend to stay in habitat close to the water (1).	No	Confirmed absent through targeted surveys	No further consideration required
Common Nighthawk	*Chordeiles minor*	THR	SC	S4B	The Common Nighthawk is a medium-sized bird with long, pointed wings, a long tail with a notch, and large eyes. Its plumage of dark brown with black and white specks blends with its roost site. It is typically found in open areas such as gravel beaches, rock outcrops and burned woodlands, that have little to no ground vegetation. This species can also be found in highly disturbed locations such as clear cuts, mine tailing areas, cultivated fields, urban parks, gravel roads, and orchards (1).	No	Confirmed absent through targeted surveys	No further consideration required
Eastern Meadowlark	*Sturnella magna*	THR	THR	S4B	The Eastern Meadowlark is a medium-sized migratory songbird with a bright yellow throat and belly, a black V shape on its chest, and a pointed bill. It prefers pastures and hayfields, but is also found to breed in orchards, shrubby fields, human-use areas such as airports and roadsides, or other open areas. The Eastern Meadowlark can nest from early May to mid-August, in nests that are built on the ground and well-camouflaged with a roof woven from grasses (1).	No - CUM community ploughed within study period.	Known to occur in the general area	No further consideration required
Eastern Whip-poor-will	*Antrostomus vociferus*	THR	THR	S4B	The Eastern Whip-poor-will is a medium-sized bird with mottled brown and grey feathers to blend in with its surroundings, a large flattened head, and small bill. They are usually found in areas with a mix of open and forested areas such as patchy forests with clearings, forests that are regenerating after major disturbances, savannahs, open woodlands or openings in more mature forests. Breeding habitat is dependent on forest structure rather than composition, although common tree associations are pine and oak, and it nests directly on the forest floor (2). The species prefers to nest in semi-open or patchy forests with clearings as it forages in open areas and uses forested areas for roosting (1).	Yes: on-site and adjacent lands	Confirmed absent through targeted surveys	No further consideration required
Eastern Wood-Pewee	*Contopus virens*	SC	SC	S4B	The Eastern Wood-pewee is a species of 'flycatcher', a bird that eats flying insects. It grows to approximately 15 cm, has greyish-olive upper parts and pale bars on its wings. This species lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It prefers intermediate-age forest stands with little understory vegetation (1). It typically creates nests on tree branches 2-12 m in height (2).	Yes: on-site and adjacent lands	Confirmed habitat on-site through targeted surveys	Confirmed significant wildlife habitat on-site
Evening Grosbeak	*Coccothraustes vespertinus*	SC	SC	S4B	The Evening Grosbeak is a large songbird with a thick greenish bill. It is a social bird that is often found in flocks, particularly during the winter months. Their preferred habitat is thick coniferous forest. During their breeding season, they are generally found in open, mature mixed forests dominated by Firs, White Spruce, or Trembling Aspen (1).	No	Confirmed absent through targeted surveys	No further consideration required

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COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
Golden Winged Warbler	*Vermivora chrysoptera*	THR	SC	S4B	The Golden-winged Warbler is a small songbird with distinctive yellow wing patches and patches behind their eyes. It inhabits early successional habitat of old fields and favour areas where trees are spread out or forest edges to use for perching, singing, and searching for food. They seem to prefer regeneration zones with young shrub growth, surrounded by mature forest, locations that have recently been disturbed, such as field edges, hydro or utility right-of-ways, or logged areas for their breeding sites; often frequenting clusters of herbaceous plants and low bushes (1).	No	Confirmed absent through targeted surveys	No further consideration required
Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC	S4B	The Grasshopper Sparrow is a small songbird with a streaked back, a white stripe down the center of its crown, a flattish head, and a conical beak. It inhabits open grasslands and prairies with well-drained soil, preferring areas that are sparsely vegetated. It will also nest in hayfields and pastures, as well as alvars and occasionally grain crops such as barley (1).	No	Confirmed absent through targeted surveys	No further consideration required
King Rail	*Rallus elegans*	END	END	S2B	The King Rail is a large bird, standing at around 40 cm tall, with a long, curved bill, orange chest and neck, and black sides with vertical white bars. This species prefers densely vegetated freshwater marshes with open shallow water and shrub thicket areas. Current records for Ontario suggest that these birds prefer sites within coastal marshes of the Great Lakes. Most breeding pairs left in Ontario are found in wetlands bordering Lake St Clair or coastal marshes along Lakes Erie and Ontario (1).	No	Confirmed absent through targeted surveys	No further consideration required
Least Bittern	*Ixobrychus exilis*	THR	THR	S4B	The Least Bittern is a small member of the heron family, reaching around 30 cm in length. It has brown and beige plumage with chestnut patches on its wings (1). The species nests in marshes (> 5 - 10 ha) and swamps dominated by emergent vegetation, preferably cattails, interspersed with patches of woody vegetation and open water. They require dense vegetation and open water with stable levels within 10 m for nesting, and access to clear, open water for foraging (4).	No	Confirmed absent through targeted surveys	No further consideration required
Loggerhead Shrike	*Lanius ludovicianus*	END	END	S2B	The Loggerhead Shrike is a small bird with a black, hooked bill, grey crown, and white throat and chest. This species has specific habitat requirements that are dependent on active livestock grazing, or grassland areas that have naturally short grass cover (i.e. alvar communities). They also require spiny, multi-branched shrubs, or barbed fencing, to catch prey. They prefer grassland habitats that have sporadic occurrences of low trees and shrubs; particularly hawthorn species, which are used as part of their feeding behaviour (1).	No	Confirmed absent through targeted surveys	No further consideration required
Olive-sided Flycatcher	*Contopus cooperi*	THR	SC	S4B	The Olive-sided Flycatcher is a medium-sized songbird with olive colouring, often seen perching on top of tall trees waiting to catch their prey. It prefers open areas along natural mature forest edges, forest edges near natural openings such as rivers or swamps, human-made openings, or burned forest openings with numbers of dead trees. Breeding habitat usually consists of coniferous or mixed forests adjacent to rivers or wetlands, in Ontario often nesting in White and Black Spruce, Jack Pine, and Balsam Fir (1).	No	Confirmed absent through targeted surveys	No further consideration required
Peregrine Falcon	*Falco peregrinus*	SC	SC	S3B	The Peregrine Falcon is a bird of prey with a slate blue back, cream-coloured chest with dark markings, and pointed wings spanning around 1 m. It also has bright yellow feet and legs. This species can be found nesting on tall, steep cliff ledges close to large bodies of water. They prefer open habitats such as wetlands, tundra, savannah, sea coasts and mountain meadows for hunting , but may also be found above open forests. This species has also adapted well to living and nesting in urban areas, and has been documented using the ledges of tall buildings and other tall man-made structures for perches and nesting (1).	No	Confirmed absent through targeted surveys	No further consideration required
Piping plover	*Charadrius melodus*	END	END	S1B	The Piping Plover is a small shorebird with light colouring, a stubby orange bill and orange legs. This species almost exclusively nests on dry sandy or gravelly beaches above the high-water mark to avoid waves. It can be found pecking the sand, searching for small pools of water for insects and small crustaceans to consume. Although not particularly common in Ontario, it is found along the shores of the Great Lakes, and in the Lake of the Woods in northwestern Ontario (1).	No	Confirmed absent through targeted surveys	No further consideration required
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END	S4B	The Red-headed Woodpecker is a mid-sized bird, at around 20 cm long, with a vivid red head, neck and breast as well a strong bill. The species can be found in open woodland and woodland edges, often near man-made landscapes such as parks, golf courses and cemeteries. These areas must contain a large number of dead trees for perching and nesting (1).	No	Confirmed absent through targeted surveys	No further consideration required
Short-eared owl	*Asio flammeus*	SC	SC	S2N,S4B	The Short-eared Owl has a large round head with small tufts of feathers, long wings, a short tail, and cryptic colouring of brown streaks. This species is found in scattered pockets across the province where suitable open habitat, including grasslands, tundra, peat bogs and marsh, can be found in sufficient quantities. Adults build nests on the ground in grassy areas and occasionally agricultural fields (1). The main factor influencing their choice in habitat is believed to be an abundance of their food source, primarily rodents and other small mammals (2).	No	Confirmed absent through targeted surveys	No further consideration required
Wood Thrush	*Hylocichla mustelina*	THR	SC	S4B	The Wood Thrush is a medium-sized songbird of around 20 cm with rusty brown coloured upper parts and white underparts with large dark spots. It breeds in deciduous and mixed forests with moderate understories, shade and abundant leaf litter where it forages for food, including larval and adult insects as well as plant material. They prefer moist stands of trees with well-developed undergrowth and tall trees for perches (1).	Yes: on-site and adjacent lands	Confirmed absent through targeted surveys	No further consideration required
Yellow Rail	*Coturnicops noveboracensis*	SC	SC	S4B	The Yellow Rail is a small, quail-like marsh bird with a short yellow or black bill, short tail, with yellowish and black streaks on its back and white wing patches. This species is mainly found in the Hudson Bay Lowlands region, and is only found in localized marshes in southern Ontario. It is a secretive bird that lives deep within the reeds, sedges, and marshes of shallow wetlands which nest on the ground in areas that have an overlying mat of dry vegetation that can be used for nest building (1).	No	Confirmed absent through targeted surveys	No further consideration required
Fish								

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American Eel	*Anguilla rostrata*	No Status	END	S1?	The American Eel is a long, slender bodied fish, with one long fin extending down the back and around the tail, and two small pectoral fins. It has thick lips, and a protruding lower jaw that extends out above the upper jaw. At the juvenile stage, they swim up the St. Lawrence River to reach Lake Ontario and connected tributaries where they will remain for 8 to 23 years before migrating back to their spawning grounds. In Ontario, the American eel prefers mud, sand or gravel substrates during the juvenile stage when they reside primarily in the benthic zone of waterbodies. More mature eels are able to thrive in most environments provided there is available cover during daylight hours, and the habitat is accessible (2).	No	Known to occur in the general area	No further consideration required
Deepwater Sculpin	*Myoxocephalus thompsonii*	SC	-	S1	The Deepwater Sculpin grows tup to 8 cm in length, and has eyes on top of its head, a large mouth, three dark bands on its pectoral fins, and lacks true scales. This species inhabits the bottoms of cold, highly oxygenated lakes (2).	No	Known to occur in the general area	No further consideration required
Grass Pickerel	*Esox americanus*	SC	SC	S3	Like other members of the pike family, the Grass Pickerel has a long, cylindrical body with a long snout and forked tail. Colouration may vary, but often consists of several thin, dark, wavy vertical bars along the sides. The fins are dusky to yellow-green. Adults have a dark bar extending below the eye. Grass Pickerel are foujnd in wetlands, pond, slow moving streams and shallow bays of larger lakes with warm, shallow, clear water and abundant aquatic vegetation. In Ontario, Grass Pickerel is found in coastal wetlands in the Great Lakes and tributaries of Lake St. Clair, Lake Erie, Lake Huron, the Niagara River, Lake Ontario and the St. Lawrence River, and inland in the Severn River system (2).	No	Known to occur in the general area	No further consideration required
Lake Sturgeon	*Acipenser fulvescens*	No Status	END	S2	The Lake Sturgeon, a large freshwater fish, has an extended snout with four whisker-like organs hanging near the mouth and is dark to light brown or grey on its back and sides with a lighter belly. In Ontario, this fish is found in the rivers of the Hudson Bay Basin, the Great Lakes basin, and their connecting waterways. Lake Sturgeon's live almost exclusively in freshwater lakes and rivers with soft bottoms of mud, sand or gravel and are usually found at depths of 5 to 20 m. They spawn in relatively shallow, fast-flowing water or if available deeper water habitat as well (1).	No	Known to occur in the general area	No further consideration required
Nothern Brook Lamprey	*Ichthyomyzon fossor*	SC	SC	S3	The Northern Brook Lamprey is a small, elongate fish growing up to 16 cm long with a round, jawless mouth, sevel gill openings, and no pectoral or pelvic fins. This species has a larval stage, in which they require soft substrates for burrowing and typically use slow-moving portions of coolwater streams, and an adult stage, in which they are more typically associated with fast flowing ripples in coolwater strams with rock or gravel bottoms (1).	No	Known to occur in the general area	No further consideration required
Northern Sunfish (Great Lakes - Upper St. Lawrence population)	*Lepomis peltastes*	SC	SC	S3	The Northern Sunfish is a small (about 130 mm long), typical looking member of the sunfish family (Centrarchidae). It has a deep, laterally compressed and olive coloured body with bright blue and red markings. In Ontario, the Northern Sunfish lives in shallow vegetated areas of quiet, slow flowing rivers and streams, as well as warm lakes and ponds, with sandy banks or rocky bottoms. Northern Sunfish prefer to be near aquatic vegetation where they can avoid strong currents. The Great Lakes - Upper St. Lawrence Populations are found throughout southern Ontario including waters flowing into Lake Huron, Georgian Bay, Lake St. Clair, Lake Erie and Lake Ontario, as well as rivers and small lakes in eastern Ontario (1).	No	Known to occur in the general area	No further consideration required
Silver Lamprey (Great Lakes - Upper St. Lawrence River population)	*Ichthyomyzon unicuspis*	SC	SC	S3	The Silver Lamprey is an eel-shaped fish growing from 9 to 39 cm long, with a sucking disc mouth and no jaws or paired fins. They can be differed from other lamprey species based on fin shapes and teeth arrangements. Their habitat requirements include clear water, the availability of fish hosts, and relatively clean beds of sand or organic debris (1).	No	Known to occur in the general area	No further consideration required
Herptiles								
Blanding's Turtle	*Emydoidea blandingii*	END	THR	S3	Blanding's Turtles are identifiable by their bright yellow throat and chin and domed shell. They spend the majority of their life cycle in the aquatic environment, usually in large wetlands or shallow lakes with high densities of water plants (1). These turtles prefer shallow, nutrient rich water with organic sediment and dense vegetation. They use terrestrial sites for travel between habitat patches and to lay clutches of eggs, often going hundreds of meters from their nearest water body. Blanding's Turtles nest in dry coniferous and mixed forest habitats, as well as fields and roadsides (2). From late October until the end of April, they hibernate in the mud at the bottom of permanent water bodies (1).	No	Known to occur in the general area	No further consideration required
Eastern Musk Turtle	*Sternotherus odoratus*	SC	SC	S3	The Eastern Musk Turtle is small with a narrow carapace, a dark brown body and two light stripes on each side of their head (5). It is a small freshwater turtle found primarily in slow moving water bodies with abundant emergent vegetation and mucky bottoms along the southern edge of the Canadian Shield within which they burrow into overwinter. Nesting sites vary, but must be close to the water and exposed to direct sunlight (1).	No	Known to occur in the general area	No further consideration required
Midland Painted Turtle	*Chrysemys picta marginata*	SC	-	S4	The Midland Painted Turtle has a olive to black carapace with red or dark orange markings on the marginal scutes, as well as red and yellow stripes on the head and neck. The species uses a variety of waterbodies including, ponds, marshes, lakes and slow-moving creeks with a soft bottom and an abundance of basking sites and aquatic vegetation. This species usually hibernates on the bottom of waterbodies (5).	No	Known to occur in the general area	No further consideration required
Northern Map Turtle	*Graptemys geographica*	SC	SC	S3	The Northern Map Turtle is a medium sized turtle identified by its carapace's map contour-like patterning. It lives in larger lakes and rivers, requiring high water quality to support their primary prey species: molluscs. This species can often be seen in large groups basking together on rocks and logs. In the winter, the Northern Map Turtle can be found hibernating on the bottom of slow-moving rivers (1).	No	Known to occur in the general area	No further consideration required
Snapping Turtle	*Chelydra serpentina*	SC	SC	S3	The Snapping Turtle, with its large serrated carapace, small plastron, and spiked tail, is Canada's largest freshwater turtle (5). It spends the majority of its life in water, preferring shallow water with soft mud and leaf litter, and will travel upland to gravel or sandy embankments, roadsides, along railway lines or beaches to lay their eggs (1).	No	Known to occur in the general area	No further consideration required
Spotted Turtle	*Clemmys guttata*	END	END	S2	The Spotted Turtle is named after the distinct yellow spots on its carapace. The species is semi-aquatic and prefers ponds, marshes, bogs and even ditches with slow-moving, unpolluted water and an abundant supply of aquatic vegetation. This species usually hibernates in wetlands or seasonally wet areas with structures such as overhanging banks, hummocks, tree roots, or aquatic animal burrows (1).	No	Known to occur in the general area	No further consideration required

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Wood Turtle	*Glyptemys insculpta*	THR	END	S2	The Wood Turtle has orange coloured front legs, neck and chin and a sculpted carapace with raised, pyramidal scutes (5). They prefer clear rivers and streams that have moderate current, and sandy or gravelly substrates. This species spends more time on land than other turtle species including in meadows, swamps and fields. Wooded areas are an essential habitat component, and the species uses aquatic habitats for hibernation and mating. Nesting occurs in areas with sandy soil and abundant light (1).	No	Known to occur in the general area	No further consideration required
Eastern Fox Snake (Georgian Bay GLSL Population)	*Pantherophis gloydi*	END	THR	S3	The Eastern Foxsnake has a rusty orange head and a golden-brown body with dark blotches. The Georgian Bay population predominantly uses open habitats along shorelines (e.g., coastal rock barrens and meadow marshes) as habitat during the active season. The foxsnakes inhabiting this coastline do not venture far inland, restricting the majority of their activity to within 150 m of the water (4). The females require rotten logs, stumps, compost or decaying leaf piles for incubating their eggs (5).	No	Known to occur in the general area	No further consideration required
Eastern Hog-nosed Snake	*Heterodon platirhinos*	THR	THR	S3	The Eastern Hog-nosed Snake can be a variety of colours and patterns so is most easily identified by its flattened, upturned nose. They prefer sandy well-drained habitats such as beaches and dry forests because they lay their eggs, hibernate and burrow in these areas. The main diet of this snake is toads and frogs, so they usually stay close to water including marshes and swamps, where they have an increased chance of finding their preferred prey (1).	No	Known to occur in the general area	No further consideration required
Eastern Milksnake	*Lampropeltis triangulum*	SC	NAR	S4	The Eastern Milksnake's colouration is grey or tan with reddish alternating blotches otlines in black along its back and sides (5). It has recently been delisted from being a species at risk in Ontario (1). This species tends to use open habitats such as rocky outcrops, fields and forest edges. The preferred prey of milksnakes are mice, small rodents, and ground nesting birds which are amply found in and surrounding agricultural outbuildings. The milksnake is secretive and is not likely to be encountered during the day or at night while hunting (5).	No	Known to occur in the general area	No further consideration required
Eastern Ribbonsnake	*Thamnophis sauritus*	SC	SC	S4	The Eastern Ribbonsnake is slender with three bright yellow stripes running down its back and sides and a white crescent in front of each eye. This snake is usually found close to water as they are strong swimmers, often fleeing predators by diving into shallow water. It prefers wetland habitats where its prey species, frogs and small fish, are abundant. Over winter, they congregate in underground burrows or rock crevices to hibernate (1).	No	Known to occur in the general area	No further consideration required
Massasauga Rattlesnake (Great Lakes - St. Lawrence population)	*Sistrurus catenatus*	THR	THR	S3	The Massasauga, Ontario's venomous snake, can be identified by its rattle, vertical pupils, and triangular head. It inhabits a range of different habitats throughout Ontario, including tall grass prairies, marshes, bogs, shorelines, forests, and alvars. Within these habitats they require open areas to warm themselves in the sun (1).	No	Known to occur in the general area	No further consideration required
Common Five-lined Skink (Southern Shield Population)	*Plestiodon fasciatus*	SC	SC	S3	The Common Five-lined Skink is Ontario's only lizard species. Its Southern Shield population can be found underneath rocks on open bedrock in forests and like to bask on sunny rocks and logs. They hibernate in crevices among rocks or buried in the soil (1). They hibernate in groups under rocks and tree stumps or in rotting wood (5).	No	Known to occur in the general area	No further consideration required
Western Chorus Frog	*Pseudacris triseriata*	THR	-	S3	The Western Chorus Frog is small with a dark stripe running through its eye and a light stripe underneath (5). It is primarily a lowland terrestrial species that requires access to terrestrial and aquatic habitats in close proximity to one another. Relying on marshes and wooded wetlands adjacent to forested habitats, this species also requires isolated, predator free pools for breeding. Temporary pools, such as vernal pools in wooded areas, are preferred. This species hibernates terrestrially in a variety of environments, including leaf litter, wood debris, and vacant animal burrows (2).	Yes: adjacent lands only	Known to occur in the general area	No further consideration required
Invertebrates								
Monarch Butterfly	*Danaus plexippus*	SC	SC	S2N,S4B	The Monarch is an orange and black butterfly with small white spots and a wingspan of around 10 cm. It relies on milkweed plants as a food source for growing caterpillars, but the adult butterflies forage in diverse habitats for nectar from wildflowers (1).	No	Known to occur in the general area	No further consideration required
Hine's Emerald	*Somatochlora hineana*	END	END	S1	Hine's Emerald is a medium-sized dragonfly with a dark abdomen, metallic gree thorax with two yellow stripes, and green eyes. Its habitat consists of groundwater-fed wetlands with grassy vegetation (1).	No	Known to occur in the general area	No further consideration required
West Virginia White	*Pieris virginiensis*	No Status	SC	S3	The West Virginia White is a small, dingy white butterfly. This species is found in moist deciduous woods, and requires a supply of toothwort, a small, spring-blooming plant, which provides the only source of food for its larvae. The West Virginia White is found mostly in the central and southern parts of Ontario, but its range extends north to Manitoulin and St. Joseph islands (1).	No	Known to occur in the general area	No further consideration required
Yellow-banded Bumble Bee	*Bombus terricola*	SC	SC	S3S5	The Yellow-banded Bumble Bee is a medium-sized bumble bee with a distinct yellow and black abdominal band pattern found on its queens, males, and workers. This species is a forage and habitat generalist, able to use a variety of nectaring plants and environmental conditions. It can be found in mixed woodlands, particularly for nesting and overwintering, as well as a variety of open habitat such as native grasslands, farmlands and urban areas. The Yellow-banded Bumble Bee ranges from the Mixedwood Plains of southern Ontario to the Hudson Bay Lowlands in the north (1).	No	Known to occur in the general area	No further consideration required
Mammals								
Tri-colored Bat	*Perimyotis subflavus*	END	END	S3?	The Tri-colored Bat is small, with pale brown with orange-red forearms, muzzle, and ears. It is named for the black, yellow, and brown hairs on its back. It is considered rare in this region of Ontario which is at the northernmost limit of the natural range. These bats prefer to nest in foliage, tree cavities and woodpecker holes, but are occasionally found in buildings; though this is not their preferred habitat. Winter hibernation takes place in caves, mines and deep crevices. Tri-colored Bats prefer an open forest habitat type in proximity to water (6).	Yes: on-site and adjacent lands	Known to occur in the general area	Consideration required under the ESA
Eastern Small-footed Myotis	*Myotis leibii*	No Status	END	S2S3	The Eastern Small-footed Myotis has fur with black roots and shiny brown tips as well as very small feet. In the spring and summer, the Eastern Small-footed Myotis will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. They change their roosting locations daily and hunt at night for insects. They hibernate in winter, often in caves and abandoned mines choosing colder and drier sites than other similar bats (1).	Yes: on-site and adjacent lands	Known to occur in the general area	Consideration required under the ESA

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Little Brown Myotis	*Myotis lucifugus*	END	END	S4	The Little Brown Myotis has glossy brown fur and a fleshy projection covering the entrance to its ears. This species roosts in trees and buildings, often selecting attics, abandoned buildings and barns for summer colonies where they can raise their young. Little Brown Bats hibernate from October/November to March/April, most often in caves or abandoned mines that are humid and remain above freezing (1).	Yes: on-site and adjacent lands	Known to occur in the general area	Consideration required under the ESA
Northern Myotis	*Myotis septentrionalis*	END	END	S3	The Northern Myotis has dull yellow-brown fur with pale bellies and long, rounded ears. This species is found in boreal forests, roosting under loose bark and in the cavities of trees. These bats hibernate from October/November to March/April, most often in caves or abandoned mines (1).	No	Known to occur in the general area	No further consideration required
Algonquin Wolf	*Canis lycaon*	SC	THR	S4	Formerly called the Eastern Wolf, this canine was recently renamed the Algonquin Wolf. In the southern portion of the province, this species prefers deciduous and mixed forest landscapes while their northern range include mixed and coniferous forests. It is most prevalent in areas with abundant prey species which include Beaver, White-tailed Deer and Moose. Dens sites are usually found in coniferous forests with easily excavated soil types like sand and close to a permanent water source (1).	No	Known to occur in the general area	No further consideration required
Trees, plants, fungi and lichens								
American Ginseng	*Panax quinquefolius*	END	END	S2	American Ginseng is a perennial plant which grows up to 60 centimetres in height. The leaves typically have five leaflets arranged in a whorl at the end of the leaf stem. The root looks like a gnarly parsnip. The flowers are an inconspicuous green-white in colour, but the berries are bright red and arranged in a cluster. In Ontario, the American Ginseng typically grows in rich, moist, and mature deciduous woods dominated by Sugar Maple, White Ash, and American Basswood. It typically grows in deep, nutrient rich soil over limestone or marble bedrock (1).	No	Confirmed absent through targeted surveys	No further consideration required
American Hart's-tongue Fern	*Asplenium scolopendrium*	SC	SC	S3	American Hart's Tongue Fern is a perennial evergreen fern with fronds growing from a short underground stem. Its blades are strap-shaped with a heart-shaped base and pointed tip. The species grows on calcareous rocks on slopes in deciduous forests, preferring deep shade. In Ontario, most occurences are in maple-beech forests (1).	No	Confirmed absent through targeted surveys	No further consideration required
Black Ash	*Fraxinus nigra*	No status	END	S4	The Black Ash is a smaller-sized tree with a narrow crown, light grey and scaly bark, and green, oval leaflets on a central stalk. It grows everywhere in Ontario except for the far north, preferring moist climates and soils such as swampy woodlands or bogs (1).	No	Confirmed absent through targeted surveys	No further consideration required
Broad Beech Fern	*Phegopteris hexagonoptera*	SC	SC	S3	The Broad Beech Fern can grow to a height of 50 cm or more and has a creeping, scaly root (2). The fern has large divided leaves called fronds which grow from 25 to 75 cm long and triagular leaf blades. The Broad Beech Fern perfers rich, moist soils in deciduous forests, usually in full shade and often dominated by Maple and Beech trees. In Ontario, it is found in southern Muskoka, along Lake Erie, and in the eastern Lake Ontario - St Lawrence River region (1).	No	Confirmed absent through targeted surveys	No further consideration required
Butternut	*Juglans cinerea*	END	END	S2?	The Butternut is a medium sized tree reaching 30 m in height. It has large compound leaves with 11 to 17 leaflets. The fruit is oval, fuzzy and sticky. In Ontario, the Butternut prefers moist, well-drained soil, often along streams, or occasionally well-drained gravel sites. It grows alone or in small groups in deciduous forests (1).	Yes: on-site and adjacent lands	Confirmed absent through targeted surveys	No further consideration required
Eastern Prairie Fringed-orchid	*Platanthera leucophaea*	END	END	S2	The Eastern Prairie Fringed-Orchid has distinctive fringed white flowers with a deep "nectar spur" containing nectar and a flat, fringed "lip" serving as a platform for pollinating insects. It may lie dormant for years before flowering. It can be found in areas of tallgrass prairie or fen throughout the province and in some tamarack swamps of the Bruce Peninsula and Ottawa Area (1).	No	Confirmed absent through targeted surveys	No further consideration required
Purple Twayblade	*Liparis liliifolia*	THR	THR	S2	The Purple Twayblade is a small orchid with two broad, shiny leaves at the base of the plant and a single stem from which mauve-purple flowers cluster. It can be found in a variety of habitats including open woodlands, mixed deciduous forests, shrub thickets, deciduous swamps, and coniferous plantations. It requires partial, but can not tolerate full, shade and therefore depends on natural disturbances to keep its habitat relatively open (1).	No	Confirmed absent through targeted surveys	No further consideration required

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