Environmental Impact Study

3770 HAZEL STREET, FORT ERIE, ON

Prepared for

Schout Group

45 Reinhart Place, PO Box 190
Petersburg
N0B 2H0

February 21, 2023
Project No. P2022-688

Prepared by

GeoProcess Research Associates Inc.
133 King Street West
PO Box 65506 DUNDAS
Dundas, ON L9H 6Y6

February 21, 2023

Mike Schout
Schout Group

Re: Scoped Environmental Impact Study
3770 Hazel Street, Fort Erie

Dear Mike Schout:

GeoProcess Research Associates Inc. (GeoProcess) is pleased to present the following Environmental Impact Study (EIS) for the proposed residential development at 3770 Hazel Street, Fort Erie, ON. The EIS was completed as required by the Region of Niagara per the policies of Section 3.1.9.9.1 and 3.1.9.9.2 of the Official Plan. Mitigation measures and recommendations have been provided to prevent negative impacts on the natural features adjacent to the development site.

Regards,

GEOPROCESS RESEARCH ASSOCIATES INC

Ken Glasbergen MSc., ERPG
Senior Ecologist, Principal

Executive Summary

GeoProcess Research Associates has been retained by Schout Group, to complete an Environmental Impact Study (EIS) for the proposed residential development at 3770 Hazel Street, Fort Erie, Ontario. Environmental surveys such as Ecological Land Classification and a Tree Inventory were completed to address the natural features and ecological functions of the study area. The study area contains Significant Woodlands that were refined in the field by GeoProcess staff and approved by the Region of Niagara. The EIS determined a mandatory buffer of 10 m based on the sensitivity of the Significant Woodland and the potential impacts from the proposed development. The following EIS outlines the impacts of the development to the satisfaction of the Town of Fort Erie, the Region of Niagara, the Ministry of Environment, Conservation and Parks and the Niagara Peninsula Conservation Authority. The EIS has demonstrated that there will be no negative impacts on the natural features in the study area.

Table of Contents

List of Tables

List of Maps

1. Introduction

GeoProcess Research Associates Inc. (GeoProcess) has been retained by Schout Group, to complete an Environmental Impact Study (EIS) for the proposed residential development at 3770 Hazel Street, Fort Erie, Ontario. This is herein referred to as the "subject property", while the "study area" comprises the subject property plus 120 m of accessible lands (Map 1).

This EIS establishes the extent and function of the Natural Heritage System in the study area based on the policies of the Regional Municipality of Niagara, the Town of Fort Erie, and the Province of Ontario. The ecological features and functions associated with the study area were characterized by the information gathered, and ecologically appropriate limits for the development were established. Mitigation and management strategies were developed with the objective of protecting, restoring, and enhancing the ecological features and functions in the study area.

1.1. Site Description

The subject property was formally used as a public elementary school, which was closed permanently in 2016. The property is 2.69 hectares (ha) and contains the remnants of an old schoolyard, soccer field, playground, and several landscape trees. Surrounding land use includes low-density neighborhoods and woodlands. Lake Erie is located approximately 3 km south of the property.

2. Policy Context

2.1. Provincial Policy Statement

The Provincial Policy Statement (PPS), 2020 is administered under Section 3 of the *Planning Act*. It became effective May 1, 2020 and replaces the 2014 PPS. The PPS applies to planning decisions made on or after that date. It provides policy direction for land use and development within the Province of Ontario and provides for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment. The policies of the PPS may be complemented by provincial and municipal plans and policies.

The PPS defines eight natural heritage features and provides planning polices for each, listed below. The function of Natural Heritage Features and Areas is further clarified by the definition of a Natural Heritage System, which is *"a system made up of natural heritage features and areas, and linkages intended to provide connectivity (at the regional or site level) and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems."*

1. Significant wetlands;

2. Coastal wetlands;

3. Fish habitat;

4. Significant woodlands;

5. Significant valleylands;

6. Habitat of endangered species and threatened species;

7. Significant Wildlife Habitat; and,

8. Significant Areas of Natural and Scientific Interest (ANSIs).

Section 2.0 and 3.0 of the PPS deal with development and site alteration, and where these activities shall not be permitted. Section 2.0 policies surround the conservation of biodiversity, and protection of the health of the Great Lakes, natural heritage, water, agricultural, mineral and cultural heritage and archaeological resources for their economic, environmental and social benefits. Section 3.0 directs development away from areas of natural or human-made hazards to mitigate risks to public health or safety, and property damage from natural hazards, including the risks that may be associated with the impacts of a changing climate.

Policies in Section 2.1 are particularly relevant as they surround development and site alteration in and adjacent to *natural heritage features*. These policies and select others are outlined below, in Table 1.

Table 1. Applicable Policies of the Provincial Policy Statement

Policy Number	Policy
(2.1 - Natural Heritage) 2.1.2	The diversity and connectivity of natural features in an area and the long-term *ecological function* and biodiversity of *natural heritage systems*, should be maintained, restored or where possible, improved, recognizing linkages between and among *natural heritage features and areas*, *surface water features* and *ground water features*.
2.1.3	*Natural heritage systems* shall be identified in Ecoregions 6E & 7E, recognizing that *natural heritage systems* will vary in size and form in *settlement areas, rural areas*, and *prime agricultural areas*.
2.1.4	*Development* and site alteration shall not be permitted in: a) *significant wetlands* in Ecoregions 5E, 6E and 7E; and, b) *significant coastal wetlands.*
2.1.5	Development and site alteration shall not be permitted in: a) *significant wetlands* in the Canadian Shield north of Ecoregions 5E, 6E and 7E; b) *significant woodland*s in Ecoregions 6E and 7E (excluding islands in Lake Huron and St. Marys River); c) *significant valleylands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and St. Marys River); d) *significant wildlife habitat*; e) *significant areas of natural and scientific interest*; and f) *coastal wetlands* in Ecoregions 5E, 6E and 7E that are not subject to policy 2.1.4(b) unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.
2.1.6	*Development* and *site alteration* shall not be permitted in *fish habitat* except in accordance with *provincial and federal requirements.*
2.1.7	*Development and site alteration* shall not be permitted in *habitat of endangered species and threatened species*, except in accordance with *provincial and federal requirements*.
2.1.8	*Development* and *site alteration* shall not be permitted on *adjacent lands* to the *natural heritage features and areas* identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated that there will be no *negative impacts* on the natural features or on their *ecological functions*.

Policy Number	Policy
(2.2 - Water) 2.2.2	*Development* and *site alteration* shall be restricted in or near *sensitive surface water features* and *sensitive ground water features* such that these features and their related *hydrologic functions* will be protected, improved or restored. Mitigative measures and/or alternative development approaches may be required in order to protect, improve or restore *sensitive surface water features*, *sensitive ground water features*, and their *hydrologic functions*.
3.1.3	Planning authorities shall prepare for the impacts of a changing climate that may increase the risk associated with natural hazards

2.2. Endangered Species Act (2007)

The Endangered Species Act (ESA) (2007) provides protection to species designated as Threatened or Endangered on the Species at Risk in Ontario list (MECP 2019). The habitat of some species at risk is also protected under the ESA. Protected habitat is habitat identified as essential for life processes including breeding, rearing, feeding, hibernation and migration.

The ESA (Subsection 9(1)) states that:

"No person shall,
> *(a) kill, harm, harass, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species;*
> *(b) possess, transport, collect, buy, sell, lease, trade or offer to buy, sell, lease or trade,*
>> *(i) a living or dead member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species,*
>> *(ii) any part of a living or dead member of a species referred to in subclause (i),*
>> *(iii) anything derived from a living or dead member of a species referred to in subclause (i); or*
> *(c) sell, lease, trade or offer to sell, lease or trade anything that the person represents to be a thing described in subclause (b) (i), (ii) or (iii)."*

Clause 10 (1)(a) of the ESA also states that:

"No person shall damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario list as an endangered or threatened species."

An authorization or permit between the proponent and the MECP is required to authorize activities that would otherwise be prohibited by subsection 9(1) and 10(1) of the ESA.

There are three applicable regulations under the ESA, 2007; O. Reg. 230/08 - the Species at Risk in Ontario (SARO) List, O. Reg. 242/08 (General), and O. Reg 830/21 (Exemptions – Barn Swallow, Bobolink, Eastern Meadowlark and Butternut). These regulations serve to identify which species and habitats receive protection and provide direction on the current implementation of the ESA.

2.3. Town of Fort Erie Official Plan (September 2021)

The Town of Fort Erie Official Plan (OP) identifies where residential, open space, commercial, industrial and institutional uses can be located and how such uses can develop. The Official Plan also identifies important natural heritage features and contains policies to protect or conserve these features. Per the *Fort Erie Land Use Plan (Schedule A)* the subject property is designated as Medium-High Density Residential within Site-Specific Policy Area (Bertie Public School). The study area is part of the Ridgeway-Thunder Bay Secondary Plan. As per *Schedule RBT-3: Open Space and Natural Heritage Plan* (2013) the area to the northeast is Environmental Conservation Land and is considered a Woodlot Over 2 ha.

The following policies pertain to the study area.

Policy 4.14.26. BERTIE PUBLIC SCHOOL

The lands designated in Site Specific Policy Area 22 as "Medium Density Residential" shall generally be governed by the Medium Density Residential policies of Section 4.18.7. Notwithstanding the policies of Section 4.18.7 the site shall:

a) Permit single detached dwellings and semi-detached dwellings in addition to the permitted uses identified in 4.18.7 (a).

b) Low-rise apartment dwellings will generally be restricted to 4 storeys in height. Medium Density apartment building height beyond 4 storeys will only be allowed by Zoning By-law Amendment with required supporting studies such as a visual impact assessment or shadow study, where in the opinion of the Town such impacts may be realized, and demonstration of compatibility.

c) Permit institutional uses subject to the policies contained in 4.18.10.

d) Permit a public park subject to the policies contained in 4.18.11.1.

e) Permit Storm water management (SWM) facilities subject to the policies contained in 4.18.11.4.

Any removal of the existing building and the overall redevelopment of the site should contain at a minimum, an apartment/condominium block with a minimum of 45 units.

Policy 4.15.13.3
The Niagara Peninsula Conservation Authority shall be consulted with respect to any development proposals located within, adjacent to or within 50 m of an Environmental Conservation Area.

Policy 4.18.12.3.
a) *Environmental Conservation Area designation comprises wooded areas over 2.0 ha. and the most sensitive of natural areas identified by the Town's Natural Areas Inventory. The Environmental Conservation Area designation is an overlay and is shown on Schedules RTB-2 & RTB-3.*
b) *When an EIS is required, the Region's guidelines will be followed. The guidelines contain requirements and procedures for scoping and waiving studies. The applicable approval authority shall have regard*

for the requirements in to simplify the approval process while allowing development that safeguards the natural environment.

c) *A Tree Preservation Plan may be required to implement the recommendations of an EIS, or to protect trees identified as worthy for protection. Requirements for a Tree Preservation Plan will be identified in conditions of draft plan or site plan approval.*

2.4. Niagara Official Plan (2022)

The Niagara Official Plan is the long-range, community planning document used to guide the physical, economic, and social development of Niagara. It contains objectives, policies and mapping that implement the Region's approach to managing growth, growing the economy, protecting the natural environment, resources, and agricultural land, and providing infrastructure. The Official Plan was updated and approved by the Province of Ontario's Ministry of Municipal Affairs and Housing.

As per *Schedule A "Regional Structure"* (June 2022), the study area is within a Delineated Built-Up Area, which is considered a settlement area as per Section 2.2 of the OP. *Schedule C2 "Natural Environment System"* (June 2022) indicates that the study area contains Significant Woodlands (note these features are not on the subject property).

As per Section 3.1.9.9.1 and 3.1.9.9.2 within settlement areas, mandatory buffers from natural heritage features and areas are required. The width of an ecologically appropriate buffer would be determined through an EIS. Development or site alteration shall not be permitted in the mandatory buffer, unless it has been demonstrated through preparing an EIS that there will be no negative impacts and the buffer will continue to provide the ecological function for which it was intended.

2.5. Niagara Peninsula Conservation Authority

The Niagara Peninsula Conservation Authority (NPCA) is responsible for O. Reg 155/06 – Development, Interference with Wetlands and Alterations to Shorelines and Watercourses, a regulation under the Conservation Authorities Act, 1990. This regulation prohibits development within the Regulation Limits set by the NPCA and applies to shorelines, rivers, stream valleys, hazardous lands, wetlands or areas adjacent to a wetland. The study area does not contain any NPCA regulated areas.

3. Methodology

3.1. Field Work

GeoProcess conducted field studies to characterize and inventory the natural heritage features and wildlife activity of the subject property and surrounding landscape. A summary of the field work details is provided below in Table 2.

Table 2. Completed Field Work

Activity	Date	Staff
Vegetation Characterization	June 1, 2021 and October 13, 2022	Meghan Douglas and Scott Dowle
Tree Inventory	June 1, 2021	Meghan Douglas
Significant Woodland Staking	November 25, 2022	Meghan Douglas

3.1.1.   Floristic Studies

Ecological Land Classification (ELC) surveys were completed by qualified ecologists in the spring of 2021 and the fall of 2022. Vegetation communities within the study area were characterized and delineated following the ELC system for Southern Ontario 1st approximation; community codes used generally follow the 2nd approximation (Lee, et al., 1998, 2008). Boundaries of ELC communities were mapped using aerial images and field observations (Map 2). As part of this process, soils were characterized, and the study area was systematically examined to provide a two season Botanical Inventory.

Identified ELC communities were cross-referenced with the NHIC Ontario Plant Community List (NHIC 2022) to determine rare plant communities (S1-Critically Imperiled, S2-Imperiled, or S3-Vulnerable). The Subnational, or Provincial, Ranks (S Rank) are assigned by the Ontario Ministry of Natural Resources and Forestry (MNRF) and the Natural Heritage Information Centre (NHIC) to help assign protection priorities. Detailed field notes of each ELC community are provided in Appendix B. Identified vascular plant species were compared to provincial and federal SAR lists (COSARO, COSEWIC), and provincial ranks (NHIC 2021). A list of all identified plant species is provided in Appendix B.

3.1.2.   Tree Inventory

A tree inventory was completed for trees within and adjacent (3 m setback) to the subject property. The tree inventory was completed by a Certified Arborist on June 1,2021. An assessment of individual trees included all trees 10 cm DBH or greater. Information collected during the inventory included species name, DBH, location (handheld GPS +/- 3 m accuracy), a general health assessment, and notable characteristics of trunk, crown, and canopy conditions. The results are found in Section 4.3 and Map 3.

3.1.3.   Incidental Wildlife Surveys

Formal surveys for mammals, reptiles, and insects were not completed, but incidental observations were completed during other survey times. The results are presented in Section 4.4.

3.2. Species at Risk Screening and Assessment

An assessment and screening of potential Species at Risk (SAR) was conducted for the study area based on Federal and Provincial status. The screening was based on a review of the Natural Heritage Information Centre (NHIC), the regional species list, atlases (breeding bird, butterfly and moth) citizen science databases (i.e. iNaturalist). Note that all SAR matters, including administration of the Endangered Species Act (ESA), are

handled by the Ministry of the Environment, Conservation and Parks (MECP). The SAR assessment results are found in Section 5.

For the purpose of the screening, SAR are defined as:

- Endangered and Threatened species that are on the Species at Risk in Ontario (SARO) list and protected by the provincial Endangered Species Act, 2007 (ESA)

- Endangered and Threatened aquatic species that are listed on Schedule 1 of the federal Species at Risk Act, 2002 (SARA) and protected by the SARA

Species of Conservation Concern (SOCC) are defined as:

- Special Concern species on the SARO list

- Endangered, Threatened and Special Concern terrestrial species listed on Schedule 1 of SARA, but not protected by the ESA.

- Species with provincial ranks of S1 to S3. Provincial ranks (S ranks) are used by the NHIC to set protection priorities for rare species and vegetation communities. They are based on the number of occurrences in Ontario and are not legal designations. Provincial S ranks are defined as follows:

  S1: Critically imperiled; usually fewer than 5 occurrences
  S2: Imperiled; usually fewer than 20 occurrences
  S3: Vulnerable; usually fewer than 100 occurrences
  S4: Apparently secure; uncommon but not rare, usually more than 100 occurrences
  S5: Secure, common, widespread and abundant
  ? S-rank followed by a "?" indicates the rank is uncertain

3.3. Significant Wildlife Habitat Screening and Assessment

A screening for Significant Wildlife Habitat following the Ministry of Natural Resources and Forestry Significant Wildlife Habitat Technical Guide (2000) and Significant Wildlife Habitat Criteria Schedule for Ecoregion 7E (January 2015) was conducted for the subject property and study area. Potential SWH identified was assessed during the complementary field studies. The results are found in Section 6.

4. Existing Conditions

4.1. Physiography and Geology

The study area is in the Clay Plains physiographic region which is characterized by heavy clay soils that are relatively impermeable, resulting in a high level of runoff and little groundwater recharge. Geologic formation occurred during the Silurian period and the study area is part of the Bertie bedrock formation, which comprises bituminous dolostone, grey argillaceous dolostone; brown and cream mottled dolostone and light brown and finely laminated dolostone (Telford, P.G. and Hamblin, A.P, 1980).

4.2. Vegetation

The floristic inventories (ELC and tree inventory) identified 74 species within the study area. Of those identified, 41 species, or 57% were native and 31 species or 43% were non-native. Most of the native species are ranked S5 (secure in Ontario) with five species, Wood's Sedge (*Carex woodii*), Green Ash (*Fraxinus pennsylvanica*), Virginia Smartweed (*Persicaria virginiana*), Canada Sanicle (*Sanicula canadensis*) and Arrow-leaved Aster (*Symphyotrichum urophyllum*) ranking S4 (apparently secure in Ontario), and an additional species, Black Walnut (*Juglans nigra*) ranked S4?, indicating uncertainty in its ranking. No S1-S3 species were observed in the study area.

The Co-efficient of Conservatism (CC) provides additional information on the nature of the vegetation communities within the study area. The CC values range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape that is relatively unaltered or is in a pre-settlement condition. A CC of 0, for example, is given to plants that do not demonstrate much fidelity to natural communities, i.e., may be found almost anywhere. Plants that are almost always restricted to pre-settlement remnants, i.e., a high-quality natural environment, are given a CC of 10. Since introduced plants were not part of the pre-settlement flora, no CC values have been assigned to them. The mean value for the study area was 3.76 out of a possible 10, indicating a highly disturbed landscape. A full list of the vegetation species observed within the study area has been included in Appendix B.

4.2.1. Ecological Land Classification

The community polygons identified during the ELC surveys are summarized in Table 3 and on Map 2. Field forms and the vascular plant list are presented in Appendix B. Plant diversity was limited within the subject property as the site was traditionally used as a school playground and was maintained as manicured lawn.

Table 3. Ecological Land Classification communities

ELC Code	Vegetation Type	Community Description
Commercial and Institutional (CVS)/Greenlands(CGL)		
CVS 1/CGL 4	Education and Recreational	The subject property was previously the site of Bertie Public School. Vegetation within the subject property was limited to maintained lawn and several landscape trees.
Coniferous Forest (FOC)		
FOCM6	Naturalized Coniferous Plantation	This forested community occurs off property to the northeast and is part of the Regions' Environmental Conservation Lands. The canopy is dominated by mature Norway Spruce (*Picea abies*) while the sub-canopy contains Green Ash (*Fraxinus pennsylvanica*), Red Elm (*Ulmus rubra*), and mature European Buckthorn (*Rhamnus cathartica*).
FOCM6-2	Red Pine Naturalized Coniferous Plantation Type	This forested community occurs off property to the north and is part of the Environmental Conservation Lands. The dominant tree species was Red Pine (*Pinus resinosa*) with a few Red Elm, Freeman Maple (*Acer x freemanii*) and Green Ash. The shrub canopy was dominated by Gray Dogwood (*Cornus racemosa*) and European Buckthorn. The ground layer was sparse and consisted of Riverbank Grape (*Vitis riparia*), Woodland

ELC Code	Vegetation Type	Community Description
		Strawberry (*Frageria vesca*), Woodland Sedge (*Carex woodii*), Thicket Creeper (*Parthenocissus vitacea*), Bittersweet Nightshade (*Solanium dulcamara*) and Common Nipplewort (*Lapsana communis*),
Deciduous Thicket (THD)		
THDM2	Dry - Fresh Deciduous Shrub Thicket Ecosite	This community occurs within the eastern edge of the subject property. Species reflect a disturbed woodland edge community with a shrub dominant canopy and young trees scattered throughout.
Forb Meadow (MEF)		
MEFM1	Dry - Fresh Forb Meadow Ecosite	The forb meadow is located north of the subject property. Forb species included Canada Goldenrod (*Solidago canadensis*), New-England Aster (*Symphyotrichum novae-angliae*), Panicled Aster (*Symphyotrichum lanceolatum),* and Calico Aster (*Symphyotrichum lateriflorum*) and Arrow-leaved Aster. Shrubs and young trees were scattered throughout.
Shallow Marsh (MAS)		
MASM1-1	Cattail Mineral Shallow Marsh Type	This shallow marsh community is located within the FOCM6 woodlot. Emergent vegetation comprises cattail and Red-osier Dogwood. Frogs were incidentally heard calling from this feature,

4.3. Tree Inventory

The tree inventory documented 61 trees, including 45 within the subject property limits and 16 within 3 m of adjacent lands (Map 3). The dominant tree species growing on the subject property is mature Silver Maple (*Acer saccharinum*), with Black Walnut (*Juglans nigra*) and White Spruce (*Picea glauca*) being more dominant in the small hedgerow that bisects the property to the southeast. Trees along the forest edge are comprised mainly of Black Walnut, with a Hawthorn (*Crataegus sp.*) and Common Buckthorn understory. Most trees appeared in good health, however, because of Emerald Ash Borer (*Agrilus planipennis*), the identified Green Ash individuals displayed indications of decline such as epicormic branching and dead canopies.

4.4. Incidental Wildlife.

Incidental wildlife observations made in addition to the above formal field surveys are presented in Table 4. All observations were of single individuals unless otherwise stated. None of these species are designated as SAR.

Table 4. Incidental Wildlife Summary

Common Name	Scientific Name	Taxa	Date	Location/Notes
Great-crested Flycatcher	*Myiarchus crinitus*	Bird	June 1, 2021	Observed during ELC
Blue Jay	*Corvidae cristata*	Bird	June 1, 2021 October 13, 2022	Three observed during ELC

Common Name	Scientific Name	Taxa	Date	Location/Notes
Pileated Woodpecker	*Dryocopus pileatus*	Bird	June 1, 2021	Observed during ELC
Song Sparrow	*Melospiza melodia*	Bird	June 1, 2021	Observed during ELC
American Robin	*Turdidae migratorius*	Bird	June 1, 2021 October 13, 2022	Three observed during ELC
American Crow	*Corvus brachyrhynchos*	Bird	June 1, 2021	Two observed during ELC
American Redstart	*Setophaga ruticilla*	Bird	June 1, 2021	Observed during ELC
American Goldfinch	*Spinus tristis*	Bird	June 1, 2021	Two observed during ELC
Eastern Bluebird	*Sialia sialis*	Bird	June 1, 2021	Observed during ELC
Pickerel Frog	*Lithobates palustris*	Amphibian	June 1, 2021	Observed during tree inventory
Gray Squirrel	*Sciurus carolinensis*	Mammal	October 13, 2022	Observed during ELC

5. Species at Risk Screening

A list of SAR and SOCC with the potential to occur in the study area (Table 5) was prepared by reviewing the following sources:

- MNRF Land Information Ontario (LIO) digital mapping of natural heritage features
- Natural Heritage Information Centre (NHIC) database (Atlas ID: 17PH5850)
- Species at Risk in Ontario (SARO) List Schedule 2 & 3
- Species at Risk Act (SARA), Schedule 1
- Ontario Breeding Bird, Butterfly, Moth, Reptile and Amphibian Atlases (Atlas Square: 17PH55)
- iNaturalist and eBird (citizen science databases)

The desktop background review identified 5 SAR and 10 SOCC that have been previously documented as occurring in the atlas square or citizen science database associated with the study area (Table 5). Observations of SAR within these squares do not necessarily represent observations within the boundaries of the study area.

Table 5. Screening Results

Species	Status		
	S_Rank	SARO	SARA
Birds			
Northern Bobwhite (*Colinus virginianus*)[2]	S1?B	Endangered	Endangered
Bobolink (*Dolichonyx oryzivorus*)[2]	S4B	Threatened	Threatened
Eastern meadowlark (*Sturnella magna*)[2,4]	S4B	Threatened	Threatened
Chimney Swift (*Chaetura pelagica*)[2,4]	S4B,S4N	Threatened	Threatened
Barn Swallow (*Hirundo rustica*)[2,4]	S5B	Threatened	Threatened
Wood Thrush (*Hylocichla mustelina*)[2,4]	S4B	Special Concern	Threatened
Common Nighthawk (*Chordeiles minor*)[2,4]	S4B	Special Concern	Threatened
Eastern Wood-pewee (*Contopus virens*)[2,4]	S4B	Special Concern	Special Concern
Grasshopper Sparrow (*Ammodramus savannarum*)[2]	S4B	Special Concern	Special Concern
Canada Warbler (*Cardellina canadensis*)[4]	S5B	Special Concern	Special Concern
Bald Eagle (*Haliaeetus leucocephalus*)[4]	S4	Special Concern	
Olive-sided Flycatcher (*Contopus cooperi*)[4]	S4B	Special Concern	Special Concern
Amphibians			
Western Chorus Frog (*Pseudacris maculata pop.* 1)[1]	S4	NAR	Threatened
Insects			
Monarch (*Danaus plexippus*)[5]	S2N, S4B	Special Concern	Special Concern
Plants			
Black Gum (*Nyssa sylvatica*)[1]	S3		
Swamp Rose Mallow (*Hibiscus moscheutos*)[6]	S3	Special Concern	Special Concern
Fish			
Grass Pickerel (*Esox americanus*)[1]	S3	Special Concern	Special Concern

[1] NHIC Database
[2] OBBA
[3] Ontario Reptile and Amphibian Atlas
[4] eBird Database
[5] Ontario Buttefly Atlas
[6] iNaturalist

The NHIC report also identified the following elements:

- Beaver Creek Fort Erie Wetland Complex (Natural Area)- This wetland complex is provincially significant and is located northwest of the subject property and beyond to study area.

- Mixed Wader Nesting Colony (Wildlife Concentration Area)- This element is likely associated with the Beaver Creek Fort Erie Wetland Complex located beyond the study area. Field investigations did not detect habitat that would attract colony nesting wader birds.

5.1. Assessment

Based on the results of the field investigations, the subject property does not provide suitable habitat for SAR or SOCC.

Due to a lack of natural habitat (disturbed school yard), targeted surveys were not conducted for birds; however, the study area could provide habitat for one SOCC, the Eastern Wood-pewee. Eastern wood-pewees inhabit multiple types of forest which can include both coniferous and deciduous. It is also found along forest edges and within clearings of forests. Therefore, the Eastern Wood-pewee may use the adjacent wooded areas for nesting, but it is unlikely.

GeoProcess staff did not detect the Eastern Wood-pewee incidentally, but it was confirmed at the nearby Shagbark Nature Park (1.5 km east) in 2022 based on eBird results. Impacts are not expected to the habitat of this species as the development does not encroach the woodland habitat.

6. Significant Wildlife Habitat

Evaluation criteria and the SWH assessment results are detailed in Appendix C. A brief description of the five main categories of SWH are provided below:

Seasonal Concentration Areas: Seasonal concentration areas are those sites where large numbers of a species gather at one time of the year, or where several species congregate. Only the best examples of these concentration areas are usually designated as SWH. None of the 16 subcategories of SWH for this category were found within the study area.

Rare Vegetation Communities: Rare habitats are those with vegetation communities that are rare in the province. It is assumed that these habitats are at risk and that they are also likely to support additional wildlife species that are significant. None of the seven subcategories of rare vegetation communities were detected in the study area.

Specialized Habitat for Wildlife: Specialized habitats are microhabitats that are critical to some wildlife species. Of the eight subcategories, none were identified as *candidate* within the study area:

Habitat for Species of Conservation Concern: Habitats of Species of Conservation Concern include wildlife species that are listed as Special Concern or rare, that are declining, or are featured species. Habitats of Species of Conservation Concern do not include habitats of Endangered or Threatened species as identified by the Endangered Species Act 2007. Of the five subcategories of SWH, two were identified as *candidate* within the study area.

- Marsh Bird Breeding Habitat- Nesting occurs in all wetlands and all wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. Therefore, the MAS1-1 community could be considered candidate habitat. Studies to confirm habitat were not completed. However, this community is likely much to small to provide functional marsh bird breeding habitat and will protected within the setback of the Significant Woodland.

- Special Concern and Rare Wildlife Species – no Rare (i.e., NHIC Sranks of S1 to S3) or Special Concern Species were detected during field investigations. However, the Eastern Wood-pewee may be present within the study area. Studies to confirm habitat were not completed. The Significant Woodland is proposed for protection with a 10 m setback.

Animal Movement Corridors: Migration corridors are areas that are traditionally used by wildlife to move to one habitat from another. This is usually in response to different seasonal habitat requirements. There is one type of animal movement corridor (Amphibian Movement) Ecoregion 7E and it was not observed in the Study area.

7. Proposed Development

The proposed site plan will occupy an area of 2.57 ha and includes 13 townhouse blocks with 93, 3-storey units, an amenity area and 141 parking spaces. Three road access points are proposed, including two from Hazel Street and one from Pearl Street. Refer to Map 4 for the concept.

Construction of the proposed development would include vegetation clearing and grading activities, as well as the placement of driveways, sidewalks, and underground servicing for stormwater, sanitary and water. Clearing activities will include the removal of trees within the previously existing schoolyard. While grading activities will work to maintain the current grade along the property boundary. There is limited grading required within the 10 m dripline setback along the north property line to match the existing top of ditch elevations on the south side and allow uncontrolled drainage into this feature. There are no encroachments required to match the grade of the existing ditch located inside the east property line. The proposed grading also provides an emergency overland flow route to Belleview Boulevard via the north site entrance. With the proposed grading, the SWM objectives can be achieved, capturing runoff from the subject property, and directing it towards the SWM infrastructure via an internal storm system.

7.1. Stormwater Management

WalterFedy was retained by Schout Group to complete the Functional Servicing and Stormwater Management Report (dated: February 10, 2023) for the proposed development. As per their analyses, it appears that the previously existing school site did not have any significant on-site storm sewer infrastructure. Pre-development conditions were divided into two catchment areas. Catchment 101 represents the majority of the school site (building, asphalt parking and lawn areas) that drained by sheet flow to Belleview Boulevard and Hazel Street and the existing ditch along the north property line. Runoff is conveyed in the existing road ditches and municipal storm sewers to approximately the intersection of Belleview Boulevard and Pearl Street. Catchment 102 represents the lawn area on the east side of the property that drains north through the existing drainage ditch and into the existing woodlot on the northeast corner.

Post-development stormwater management conditions would be divided into five catchment areas. Catchments 201 to 204 represents site areas that would ultimately drain to Belleview Blvd. Catchment 201 represents the bulk of the proposed developments internal driveway/parking, building roof areas and landscaped areas. Discharge from 201 would be controlled by installing a 205 mm diameter orifice at the downstream end of the proposed storm sewer system and allowing excess flows to surcharge into approximately 432 m^3 of StormCon underground storage tanks located in the proposed amenity area. Catchments 202, 203 and 204 represents perimeter areas along the north, south and west side of the site that would drain uncontrolled. Catchment 205 also represents uncontrolled drainage from the east side of the proposed development consisting of rear yard and partial roof areas that would outlet to the existing ditch that drains to the existing woodlot northeast of the site.

Water quality control for the site will be provided by a HydroStorm HS-10 Oil/Grit separator unit. The unit was sized to service Catchment 201 (1.807 ha at 72% impervious), representing all the impervious driveways and parking areas, roof areas, and landscaped surface areas. The impervious coverage for the remaining catchment areas (202 to 205) is comprised of roof runoff which is considered clean.

7.2. Significant Woodland Buffer

The drip line of the Significant Woodland was staked by GeoProcess on November 28, 2022, using a survey-grade global navigation satellite system (GNSS) receivers with enabled real-time kinematic (RTK) corrections (+/- 0.30 m error). It was determined that the woodlot is not a continuous feature and therefore, two limits were delineated. These limits were submitted and approved by the Niagara Region planning staff on November 29, 2022 (Appendix A).

The Regional Official Plan requires buffers to natural heritage features such as woodlands to protect their form and function from impacts from development. The outer limit of the buffers determines the outer boundary of the protected natural features and the constraints to guide development activities within the subject property. Development may be warranted within the outer extents of buffers where impacts are determined to be negligible.

In order to adequately protect the Significant Woodland from the proposed development, a 10m buffer is recommended. A minor encroachment within the outer 5 m of the 10 m buffer at the northern section of the subject property is proposed to accommodate grading. Fill between 0.6 m to 1.0 m is proposed immediately adjacent to the edge of the development/lot and grading down to existing grade at the edge of the existing swale feature. It is anticipated that this placement of fill within the woodland buffer will not have a negative impact on the trees located along the woodland edge because it is unlikely their roots will be extending beyond the existing swale feature.

8. Environmental Impact Assessment

This section outlines the environmental impacts that might be expected to result from the proposed development. The potential impacts are outlined in terms of short- and long-term impacts. Where impacts have been identified, appropriate mitigation measures have been recommended.

As is the case with most projects working within or adjacent to natural features, there is the potential for the proposed activities to create an impact on the natural feature. It is important to identify what these impacts

may be and to provide measures to avoid the impacts if possible, or mitigate the impacts if avoidance is not possible. Impacts associated with development as proposed on the subject property tend to be either short term in nature, typically occurring during the construction period, or long term, usually related to permanent physical changes resulting from the development.

Impacts to the various natural heritage features adjacent to the subject property were considered in the impact analysis (Table 6). Short term impacts are most likely to occur during the construction phase of the development. These impacts are considered transient, and only exist while the perturbation is occurring. Long term impacts are generally the result of land use changes that are permanent, or at least likely to be present in the foreseeable future. Examples of long-term impacts include the removal of natural heritage features, changes to flow regimes within watercourses and changing groundwater tables.

Table 6. Impact Summary

Activity	Potential Impacts	Recommended Mitigation
Short-term Impacts		
Noise from construction activity	Excessive noise could displace breeding birds. Noise may result in the avoidance of the adjacent areas during construction.	Since construction noise is very difficult to mitigate, the most effective measure is to limit construction activities during the breeding bird season when birds are most active, at sunrise and sunset (April 1st to August 31st).
Dust from construction activity	Dust from construction activities could drift into the Significant Woodland and neighboring properties.	Water suppression of dust should occur for all construction activities during site grading when conditions are dry or strong winds are anticipated.
Site clearing/tree removal	32 trees require removal to accommodate the proposed development. These trees are standalone landscape trees and boulevard trees.	Vegetation clearing should not occur between April 1st and August 31st as per the Migratory Birds Convention Act (MBCA, 1994). If clearing is to occur during this time, a nest survey must be completed by a qualified avian biologist to identify any nests that are not to be disturbed until the young have fledged
Grading into 10 m Buffer	Potential impacts to the roots of edge trees within the Significant Woodland.	Grading is proposed to match the existing top of ditch elevations on the south side. It is unlikely the roots of edge trees would be growing where grading is proposed due to the ditch itself. Therefore, minimal impacts are anticipated. Any roots that are severed during grading should be cut cleanly to minimize decay and entry points for disease. If roots will be exposed for more than a few hours, mulch, wet burlap or soil shall be applied

Activity	Potential Impacts	Recommended Mitigation
		as soon as possible and watered regularly to prevent roots from drying out under the supervision of a Certified Arborist. Exposed roots should be backfilled and covered with clean topsoil.
Grading and underground servicing	Erosion, soil compaction, or the potential for sediment release into nearby natural features.	Installation, maintenance, and inspection of sediment control measures throughout the duration of site construction activities is recommended. Residual effects are anticipated to be minor and short termed given appropriate mitigation measures are incorporated to reduce levels of erosion and sedimentation.
Long-term Impacts		
Development	Light pollution from buildings can negatively affect wildlife behavior within remaining natural features.	Lights directed downward will reduce the amount of ambient light issuing from the subject property toward the woodlands. It is recommended that downward casting lighting is used across the site.
Development: Road/ driveway run-off and snow storage	Salts and other chemicals in stormwater runoff and snow melt can alter soil hydrology and hydrogeology and affect plant composition.	Road and driveway runoff will be diverted away from the Significant Woodlands into Catchment 201, so salt runoff is not expected to have any impact either. Snow storage should be located where runoff is into Catchment 201.
Development	Impacts to SOCC: The Eastern Wood-pewee could potentially occur in the study area.	It is recommended that the 10 m buffer on the northern edge of the property is planted with native herbaceous, shrub and tree species that could attract insects/ pollinators. Increasing native plant diversity would improve potential Eastern Wood-pewee habitat.
Development	Impacts to *candidate* SWH: Marsh Breeding Habitat Special Concern and Rare Wildlife Species	It is recommended that landscape areas between property boundaries and the 10 m buffers are planted with dense shrubbery and thorn baring native shrubs that would deter future residents and pets from accessing the *candidate* SWH. Rear backyards should be fenced off and a clause to prevent gated fences should be written into the ownership agreement.

8.1. Direct Impacts and Mitigation Measures

Construction activities that include grading, servicing, and development can cause short-term direct impacts on surrounding habitats and local and migrating wildlife. The following short-term direct impacts were considered in this assessment, and recommendations for mitigation were provided.

8.1.1. Site Grading

As outlined in the Functional Servicing and Stormwater Management Report (WalterFedy 2023), minor grading is proposed throughout the subject property in attempt to match the existing perimeter grades. This involves some grading within the 10 m buffer located north of the subject property to utilize the existing drainage ditch (Map 5). Grading will occur during the construction phase of the project and result in permanent cut/fills and vegetation clearing.

Mitigation

- As per the grading plan prepared, site grading will occur outside of the required buffer with the exception of a minor area in the 10 m buffer located north of the development (WalterFedy 2023). The graded area within the buffer is to be revegetated with a Low Maintenance Retention Basin Native Seed Mixture (Ontario Seed Company 8220 or equivalent) and native shrubs such as Gray Dogwood.

- Prior to beginning any work, clearly mark the areas that will be graded and disturbed with flagging tape, fencing, spray paint, or other signs.

- Install and maintain suitable Erosion and Sediment Control (ESC) measures.

8.1.2. Tree Removal

A total of 61 trees were inventoried within the subject property and 3 m of adjacent lands. The location of these trees was compared to the grading and concept plans to determine the trees required for removal. The proposed development will require the removal of 32 trees (Map 3). This includes trees situated along the grading limit or in close proximity that may incur extensive root damage as a result of grading.

Mitigation

- Trees identified for removal should be clearly marked with paint prior to their removal and felled into the proposed construction area. Impacts to adjacent vegetation should be avoided during the felling process.

- Pruning of low-lying branches may be required within the construction zone to accommodate construction equipment. Additionally, any branches broken during the construction process should be properly pruned by a certified arborist as soon as possible after the damage has occurred.

- Tree protection fencing should be installed where applicable to protect retainable trees during construction and monitored regularly by a qualified person(s) to ensure all tree protection and mitigation measures are implemented as intended.

- Select suitable native trees species in any panting plans that can occur within the Significant Woodland Buffer and available landscape areas.

8.1.3. Wildlife and Wildlife Habitat

The proposed undertaking will result in site grading to the subject property line and vegetation removal and tree removal within the development footprint. As the existing subject property was previously used as a school yard, the habitat on-site is anthropogenic influenced in nature and not in a natural state. The vegetation removal process will therefore primarily focus on removing landscape trees and former school yard.

Environment Canada considers the primary nesting period of breeding birds in southern Ontario to be between April 1st-August 31st. Vegetation clearing should avoid these months. If clearing is to proceed within the breeding bird window, the subject property should be screened by a qualified bird biologist to determine if any migratory birds are nesting within work zone. Nest surveys should be completed within 48 hours of the proposed works. If nesting is found, then vegetation clearing (in an area around the nest) must wait until nesting has concluded.

As a general means to limit the extent of impacts to wildlife habitat during construction, efforts should be made to clearly demarcate the limits of development, including vegetation cutting and grading boundaries, so as to prevent encroachment into the surrounding natural features and their associated buffers. These boundaries should be clearly marked using heavy-duty filter fabric or ESC fencing erected for the purposes of on-site stormwater runoff control.

Mitigation

- Vegetation removal is recommended to occur outside of the breeding and nesting season for migratory birds as established by the Canadian Wildlife Service. The peak breeding period for birds in southern Ontario extends from approximately April 1 through August 31.

- Should vegetation removal be required during the nesting season for migratory birds, surveys for nesting birds in "simple habitats" may be undertaken 48hrs prior to the proposed works to confirm the absence breeding bird.

- ESC fencing is to be erected along the limit of development prior to any on-site works to ensure that construction activities and equipment are maintained outside of the protected areas and their buffers.

8.1.4. Sediment and Erosion

ESC measures are outlined in the Functional Servicing and Stormwater Management Report submitted by WalterFedy. The Contractor will clean the sediment tracked onto the roadway during the course of construction daily. A silt fence will be installed around the development area. This will eliminate sediment leaving the site until landscaping has been completed. A silt fence will also be installed surrounding stockpiles and will be kept a minimum of 2.5 m from the property boundary. Storm structures will be wrapped with filter fabric to prevent silt or sediment-laden water from outletting into surrounding areas. These measures will be inspected periodically.

Accumulated sediment from these controls will be removed once the capture capacity has been decreased by one-third. Visual monitoring after rain events is highly advised to maintain effectiveness of the sediment

and erosion controls that will be installed. Inspections will continue until vegetation has established itself to a density equivalent to 70% of the background native vegetation density.

The contractor is advised schedule construction activities around weather conditions to ensure minimal dust contamination to the surrounding area.

8.1.5. Encroachment into Buffer

A 10 m buffer was applied to the drip lines of the two Significant Woodland features (Map 2). In order to accommodate building and SWM management plans, encroachment from grading is proposed into one of the 10 m buffers. Specifically, the buffer of the FOCM6-2 (Red Pine Naturalized Coniferous Plantation Type) community. Based on the ELC surveys conducted for this community it was determined that plant biodiversity is low and there is an abundance of non-native species. As a result, this woodland provides limited habitat for native fauna, as is typical of plantation communities compared to natural forests. Therefore, it is not expected that a minor grading encroachment into the buffer would impact the integrity of woodland.

Considering that the trees are conifers, no major branch pruning will be required to accommodate grading. Additionally, the woodland edge is separated from the subject property by an approximately 1 m deep ditch, given the shallow root system of conifers (typically within the top 1 m), it unlikely that roots are extending to the south side of the ditch where grading is proposed.

Mitigation

- To ensure that works within the buffer are limited to the required area, heavy-duty Erosion ESC fence should be erected to delineate the exact extent of encroachment required to achieve matching grade.

- Any roots that are severed during grading should be cut cleanly to minimize decay and entry points for disease. If roots will be exposed for more than a few hours, mulch, wet burlap or soil shall be applied as soon as possible and watered regularly to prevent roots from drying out under the supervision of a Certified Arborist. Exposed roots should be backfilled and covered with clean topsoil.

- Once construction activities are complete, any exposed or disturbed soils should be seeded with an appropriate seed mix (i.e. Ontario Seed Company 8220 or equivalent) within approximately 30 days of the area being inactive. The recommended seeding rate is 2kg/100m².

- Any seeded areas should be inspected for establishment by a qualified biologist and the proponent should be notified if additional seeding is recommended.

- ESC measures, including fencing, stakes, waste materials, etc. are to be removed from the site and properly disposed of once the site is stabilized to the satisfaction of a qualified biologist.

8.2. Indirect Impact Assessment

Indirect impacts are those which occur as a secondary result of the proposed activity, and not necessarily as a direct result of the activity. The following indirect impacts were considered in this assessment, and recommendations for mitigation were provided.

8.2.1. **Wildlife Habitat**

Potential indirect impacts to wildlife in the retained natural areas may arise from noise and dust associated with construction activities and unnatural lighting resulting from the development. Noise and dust associated with construction is anticipated to be temporary, therefore significant impacts to wildlife from noise and dust are not expected. Lighting is expected to be a more long-term impact if directed towards the Significant Woodland and can impact the behaviours of nocturnal wildlife species.

The action of clearing and grubbing can release large quantities of dust, which could cause short term impacts to wildlife foraging, insect availability and nesting activity. Dust can also fall into wetland systems, causing adverse effects to plants and or wildlife that are not adapted to high levels of sedimentation. Dust also produces an immediate visual impact.

Mitigation

- In order to suppress dust, areas of bare soil should be moistened with water during construction activities to ensure that the amount of dust produced within the subject property is reduced. Topsoil stockpile locations should be in areas of lesser wind exposure and away from natural features and their buffers.

- Disturbed areas with exposed soils should be kept to a minimum and revegetated with an approved seed mix in a reasonable timeframe in order to stabilize soils and minimize dust.

- Since construction noise is very difficult to mitigate, the most effective measure is to limit construction activities during the breeding bird season (April 1st to August 31st) when birds are most active, at sunrise and sunset.

- Detailed lighting designs will be provided at the detailed design stage. Lighting designs should include directional lighting (i.e. lighting pointed downwards) for buildings that are within 30 m of natural features to eliminate lightwash.

8.2.2. **Stormwater Runoff**

Pre and post development peak flows were modelled for the existing Bellview Boulevard and northeastern outlets (to existing northeast woodlot) using the SWMHYMO hydrologic modelling program for the 2-, 5-, and 100-year (4-hour duration) Fort Erie City design storms. To control the post-development discharge to pre-development rates, on-site SWM controls and related storage will be required. Using these control methods, post-development peak flows are expected to be less than pre-development flows for the total site and to the individual outlets.

After development, runoff into the northeastern woodland is expected to decrease by approximately 25% during large storm events. As a result, there may be a shift in flora species that are more tolerant of dry conditions, but this is not expected to negatively impact the function of the fragmented forest. Road and driveway runoff will be diverted away from the Significant Woodlands into Catchment 201, so salt runoff will not have any impact either. Therefore, the proposed SWM management facilities are sufficient and will not adversely impact the adjacent natural heritage features.

Recommendation

- Implement a post-construction monitoring and maintenance program for the stormwater management system.

Mitigation

- Develop Best Management Practices for salt and snow at the Site Plan Stage and implement post development.

8.3. Induced Impacts

Induced impacts are described as those that are not directly related to the construction or operation of the facilities in question, but rather arise from the use of the natural areas as a result of the development. The simplest example is increased use of a natural area by residents or users of the property, feral domestic wildlife, and unauthorized trail/pathway construction.

Natural areas and wildlife can be affected by the presence of a development and its occupants. As a residential development, the induced impacts are most likely to include the dumping of garbage or yard waste and development of unmarked trails throughout the adjacent natural area. The dumping of yard waste presents the issue of non-native species establishment including aggressive plants such as Periwinkle (*Vinca minor*). While the dumping of yard waste is difficult to control, the establishment of non-native species can be avoided by excluding them from any landscaping which will be installed on site. Direction should be provided to the landscaping maintenance company to ensure that buffer areas are not disturbed and that no landscape material or cuttings are dumped into the natural areas and associated buffers.

Although the 10 m buffer areas are already naturalized with plants, it is recommended that they be enhanced by planting native trees, shrubs, and meadow species. Plantings of trees and shrubs can be established easily in the northern woodland buffer, while mature shrub cover currently exists in the eastern woodland buffer. As a result, efforts should be made to plant outside of the buffer in the available landscaping space. Plantings in and outside of the buffer areas can aid in screening the natural area from encroachment. Species native to Fort Erie or Niagara Region should be chosen. Landscape plantings should also incorporate native species that are tolerant of urban conditions (i.e., drought, salt, compaction, etc.).

Mitigation

- Fencing is located along the limit of the development and the adjacent vegetated buffer. The addition of gates at within the fencing at the rear of lots will not be permitted.

- Use of the natural areas by community residents or other users is difficult to control. Education about neighbouring natural areas' values and implications is one tool that can be employed. Signage should be used to direct community members or other recreational users not to trespass into sensitive natural areas.

- A new homeowner's brochure should be developed to educate new residents on the important natural features in their neighbourhood.

- Incorporate native plantings throughout the natural area buffer to enhance and screen from the adjacent residential development.

8.4. Cumulative Impacts

Cumulative impacts are changes to the environmental due to past, present and the reasonably foreseeable future impacts. The study area and surrounding landscape has experienced on-going disturbance from previous and current land use, and because of on-going recreation use and residential development. The progression of development within the vicinity of the subject property over time has resulted in the isolation of the Significant Woodland due to the transformation of landscape to accommodate low-density development, recreation use, and roads.

Cumulative impacts to adjacent natural areas are difficult to predict as there is a lack of good baseline data for the subject property. The proposed development is occurring within an already disturbed area of land as indicated by a) limited plant diversity; b) high percentage of non-native species (43%); c) low CC score (3.76) and, d) evidence of unmarked trails. Given its fragmented nature, the Significant Woodland appears to support urban tolerant wildlife. By its very nature, the proposed development may result in the continued shift toward an area that supports only those species most adapted to anthropogenic disturbances and stressors.

Recognizing the role that urbanization has on adjacent natural areas, and will continue to have, the proposed development has included mitigation measures to reduce these cumulative impacts, in an effort to limit them as much as possible. The primary mitigation measure being the inclusion of a 10 m buffer, planted with native species reflective of the local area. The purpose of native plantings in the buffer is to mitigate potential impacts from increased human population density. The layout of the development with a combination of fencing along the development limit will likely limit informal encroachment into the adjacent natural features. Due to the relatively small size of the development, and because it does not encroach into or cross (roads) through the Significant Woodland, increased fragmentation of wildlife habitats and interruptions/alterations to wildlife movement through the local landscape is not a concern related to this development.

The adjacent wildlife and plant communities could see a small shift to accommodate the proposed development however, based on the fact the surrounding landscape is already urbanized, major shifts in natural features functions have likely already occurred. In general, since the subject property and adjacent natural heritage features have been part of the urban matrix for some time, large cumulative impacts are not anticipated.

9. Policy Conformity

9.1. Town of Fort Erie

As per the Town of Fort Erie policies, the extent of the developable area will be determined through the approval of the EIS. Having determined that there will be no adverse effects on the adjacent Environmental Conservation Lands, the proposed development is in compliance with the Town's Official Plan.

9.2. Region of Niagara

In accordance with Policy 3.1.9.9.1, the width of an ecologically appropriate buffer is to be determined through an EIS. As such, GeoProcess determined a buffer width of 10 m is sufficient to protect the woodlands

adjacent to the subject property. In the northern buffer, minor site changes are proposed, but no negative impacts are anticipated, and the buffer will continue to perform its ecological function after grading and revegetation. In this respect, the proposed development conforms to Niagara Region policies.

10. Summary and Conclusion

This EIS has provided an analysis of the proposed development as it relates to the surrounding natural heritage features. With implementation of the recommended buffer and mitigation measures, the proposed development is likely to have minimal impacts on the Significant Woodland. In summary, one SOCC, the Eastern Wood-Pewee was identified as potentially occurring in the Significant Woodland and candidate SWH occurs adjacent to the subject property (Marsh Breed Bird Habitat, and Special Concern and Rare Wildlife Species). No SAR or SAR habitat were confirmed in the study area. A 10 m buffer is recommended to reduce impacts to the Significant Woodland and *candidate* SWH. Overall, the EIS concluded that the proposed development conforms with applicable policies, acts and regulations and will not have a net negative impact on the surrounding natural areas.

The following mitigation measures have been recommended:

- Conduct vegetation and tree clearing between September to March to avoid impacts to breeding birds. If clearing is to occur within the breeding bird window, all trees to be cut will need to be screened by a qualified biologist for any active nests.

- Implement Erosion and Sediment Control Plan (ESC). Keep measures in place until construction is completed and disturbed soils have been vegetated.

- Install native tree and shrub enhancement plantings where applicable in the 10 m woodland buffers. Enhance these areas with a native meadow seed mix as well. Refer to Appendix D for a list of options.

- Promote occupant's environmental stewardship awareness through provision of an environmental guide that contains a list of recommendations (e.g. do's /don'ts) to avoid/minimize residual impacts to Significant Woodland. Install, no trespassing or educational signage.

11. References

Alan Macnaughton, Ross Layberry, Rick Cavasin, Bev Edwards and Colin Jones. Ontario Butterfly Atlas Accessed February 2020.

Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier (eds). 2007. Atlas of the Breeding Birds of Ontario 2001- 2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto. 706 pp.

David Kaposi, Alan Macnaughton and Bev Edwards. Ontario Moth Atlas Accessed December 2020.

Fisheries and Oceans Canada. Available from https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html. Accessed December 2020.

iNaturalist. Available from https://www.inaturalist.org. Accessed December 2020.

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. Ecological land classification for Southwestern Ontario: first approximation and its application. Ontario Ministry of Natural Resources, South Central Region, Science Development and Transfer Branch. Technical Manual ELC-005.

MNRF. 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement. Second Edition. Toronto: Queen's Printer for Ontario. 248 pp

OMNRF. January 2009. Working Draft. Significant Wildlife Habitat Ecoregion 7E Criterion Schedule. Addendum to Significant Wildlife Habitat Technical Guide.

OMNRF. 2013. Southern Ontario Vascular Plant Species List 3rd Edition. Southern Science & Information Section.

Ontario Breeding Bird Atlas. 2001. Guide for Participants. Bird Studies Canada.

Ontario Ministry of Natural Resources. 2000. Significant Wildlife Habitat Technical Guide. Fish and Wildlife Branch, Wildlife Section. Science Development and Transfer Branch, Southcentral Sciences Section.

Ontario Ministry of Natural Resources. 2009a. Draft Significant Wildlife Habitat Ecoregion Criteria Schedules. Addendum to Significant Wildlife Habitat Technical Guide.

Ontario, Ministry of Municipal Affairs. (2014). Provincial Policy Statement (Toronto: Ministry of Municipal Affairs, 2014).

Telford, P.G., Hamblin, A.P. Geological series, Paleozoic geology of the Simcoe area, southern Ontario. 1 : 50 000. Charlotteville, Middleton, Oneida, Townsend, Walpole, Windham, Woodhouse: Ministry of Energy, Northern Development and Mines, 1980.

WalterFedy. 2023. Functional Servicing and Stormwater Management Report for 3770 Hazel Street Fort Erie, ON. Grading Plan (C2-1)

Environmental Impact Study
3770 Hazel Street, Fort Erie, ON

Prepared for Schout Group

February 21, 2023

Prepared by:

Meghan Douglas

Meghan Douglas, BSc., ERPG
Wildlife Ecologist, ISA Certified Arborist

Reviewed by:

Ken Glasbergen

Ken Glasbergen, MSc.
Principal, Senior Ecologist

Disclaimer

We certify that the services performed by GeoProcess Research Associates were conducted in a manner consistent with the level of care, skill and diligence to be reasonably exercised by members of the engineering and science professions.

Information obtained during the site investigations or received from third parties does not exhaustively cover all possible environmental conditions or circumstances that may exist in the study area. If a service is not expressly indicated, it should not be assumed that it was provided. Any discussion of the environmental conditions is based upon information provided and available at the time the conclusions were formulated.

This report was prepared exclusively for Schout Group by GeoProcess Research Associates. The report may not be relied upon by any other person or entity without our written consent and that of Schout Group. Any uses of this report or its contents by a third party, or any reliance on decisions made based on it, are the sole responsibility of that party. GeoProcess Research Associates accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this report.
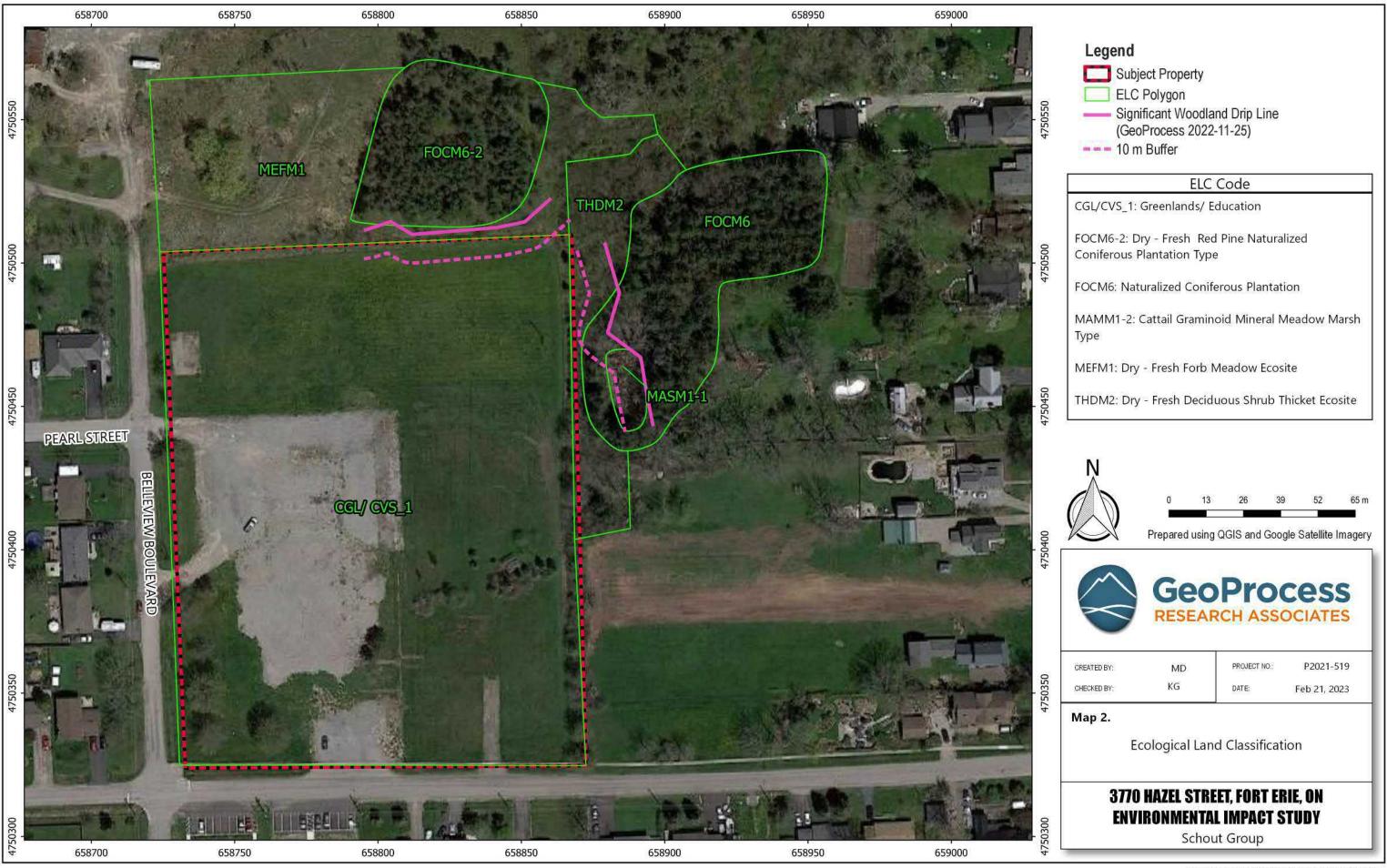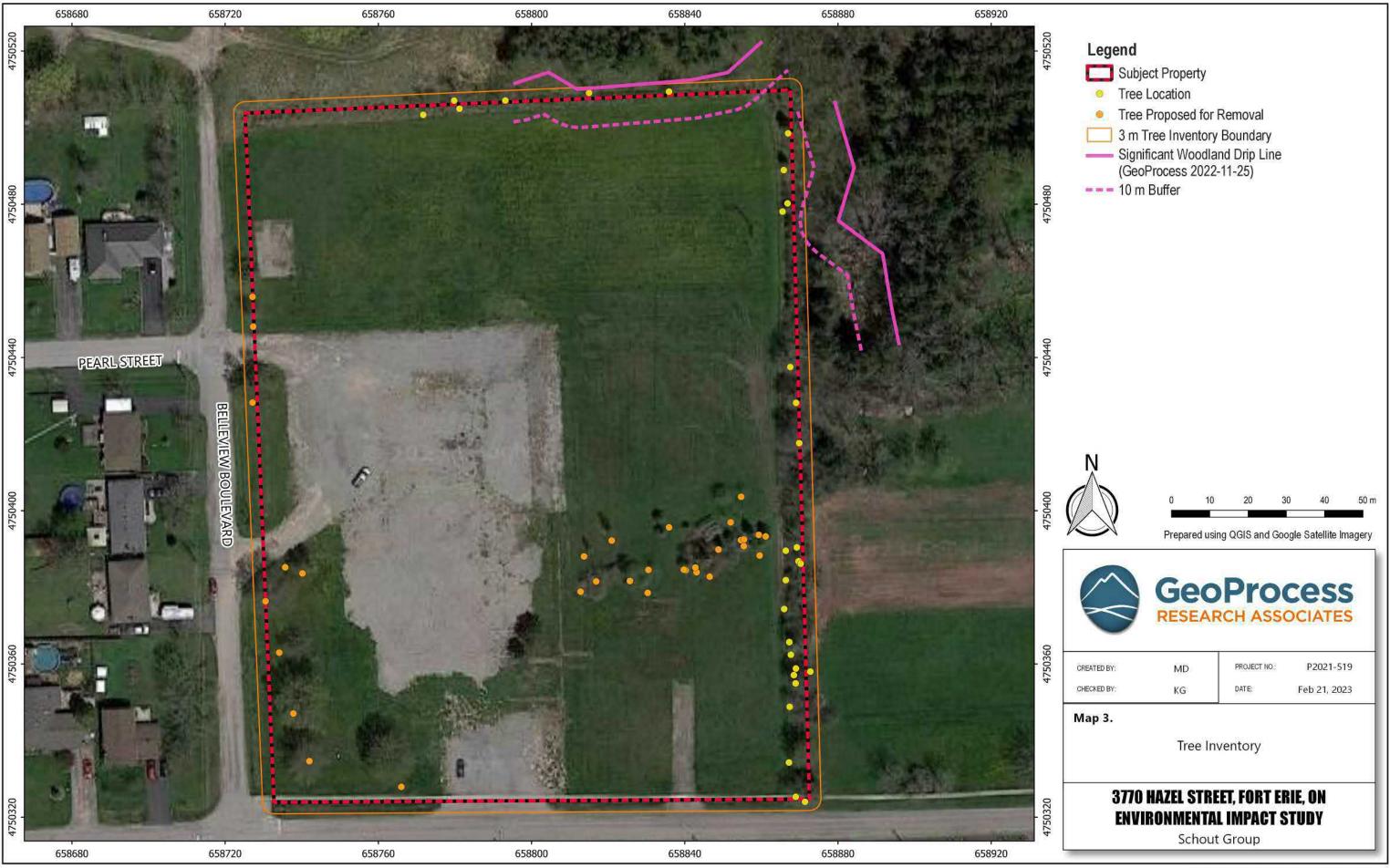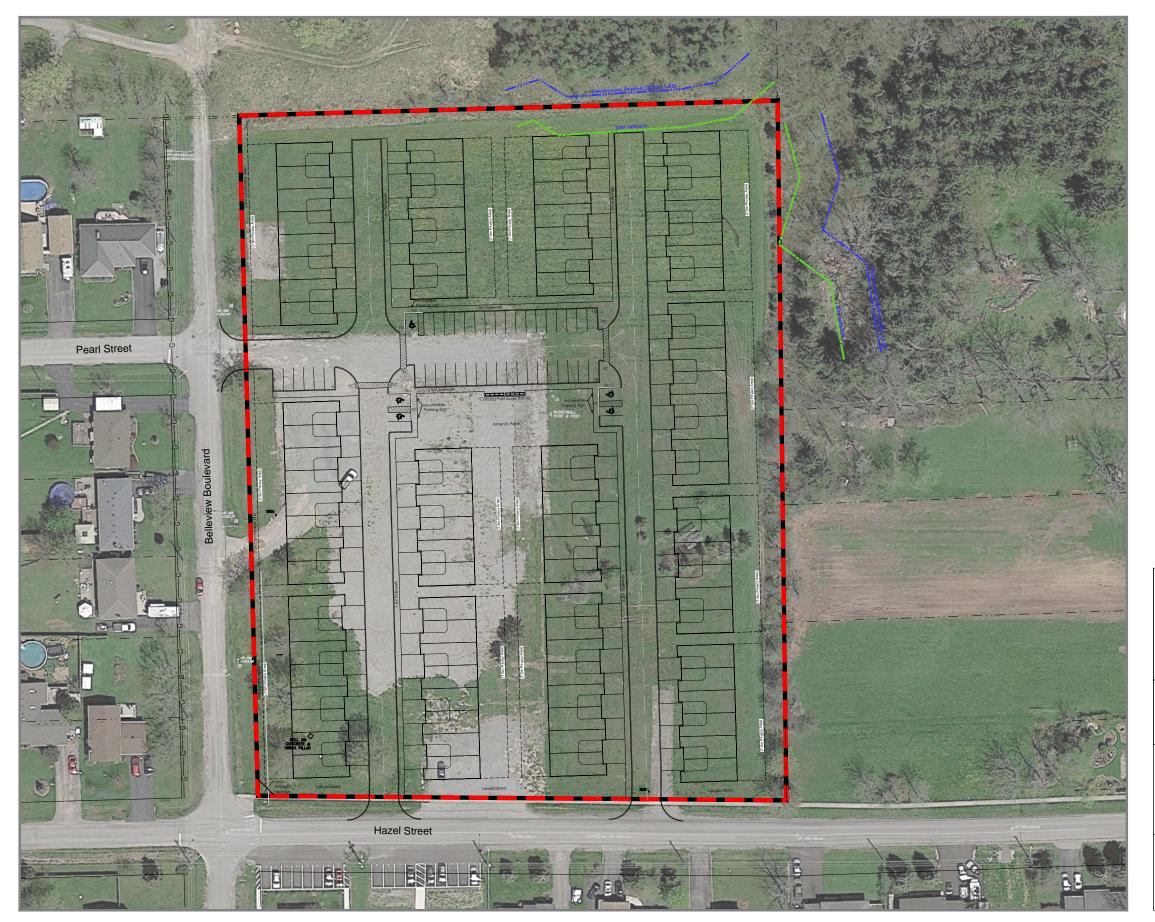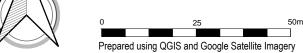
Project Number P2022-688

Maps

Legend
▢ Subject Property
▢ Study Area

NIGH ROAD
CHERRY HILL BOULEVARD NORTH
HAZEL STREET
GORHAM ROAD
RIDGE ROAD NORTH
PROSPECT POINT ROAD NORTH
BURLEIGH ROAD NORTH
BERNARD AVENUE
CENTRALIA AVENUE NORTH
DOMINION ROAD
DISHER STREET
PARK STREET
HIGHLAND DRIVE
FARR AVENUE
HYMAN AVENUE
RISELAY AVENUE
BETHUNE AVENUE
POPLAR AVENUE
EVADERE AVENUE
YOUNG AVENUE
THUNDER BAY ROAD
NICOLAS ROAD
NEVA ROAD
MICHENER ROAD
DERBY ROAD
RIDGEWAY ROAD
RIDGE ROAD SOUTH
PROSPECT POINT ROAD SOUTH
REBSTOCK ROAD
LAKEWOOD AVENUE
BEECHWOOD AVENUE
SCHOOLEY ROAD
ELMWOOD AVENUE
OXFORD AVENUE
HELEN STREET
ERIE ROAD

Lake Erie

N

0 150 300 450 600 750 m

Prepared using QGIS and Google Satellite Imagery

GeoProcess
RESEARCH ASSOCIATES

| CREATED BY: | MD | PROJECT NO.: | P2021-519 |
| CHECKED BY: | JR | DATE: | Feb 21, 2023 |

Map 1.

Key Map

**3770 HAZEL STREET, FORT ERIE, ON
ENVIRONMENTAL IMPACT STUDY**

Schout Group

Map 2. Ecological Land Classification

Legend

- Subject Property
- ELC Polygon
- Significant Woodland Drip Line (GeoProcess 2022-11-25)
- 10 m Buffer

ELC Code

CGL/CVS_1: Greenlands/ Education

FOCM6-2: Dry - Fresh Red Pine Naturalized Coniferous Plantation Type

FOCM6: Naturalized Coniferous Plantation

MAMM1-2: Cattail Graminoid Mineral Meadow Marsh Type

MEFM1: Dry - Fresh Forb Meadow Ecosite

THDM2: Dry - Fresh Deciduous Shrub Thicket Ecosite

Prepared using QGIS and Google Satellite Imagery

GeoProcess RESEARCH ASSOCIATES

| CREATED BY: | MD | PROJECT NO.: | P2021-519 |
| CHECKED BY: | KG | DATE: | Feb 21, 2023 |

Map 2.

Ecological Land Classification

3770 HAZEL STREET, FORT ERIE, ON ENVIRONMENTAL IMPACT STUDY

Schout Group

G:\Shared drives\Projects-2022\P2022-688 3770 Hazel Street\GIS\Projects\BaseMap.qgz

Legend

- ▢ Subject Property
- ● Tree Location
- ● Tree Proposed for Removal
- ▢ 3 m Tree Inventory Boundary
- — Significant Woodland Drip Line (GeoProcess 2022-11-25)
- – – 10 m Buffer

PEARL STREET

BELLEVIEW BOULEVARD

N

0 10 20 30 40 50 m

Prepared using QGIS and Google Satellite Imagery

GeoProcess
RESEARCH ASSOCIATES

CREATED BY:	MD	PROJECT NO.:	P2021-519
CHECKED BY:	KG	DATE:	Feb 21, 2023

Map 3.

Tree Inventory

3770 HAZEL STREET, FORT ERIE, ON
ENVIRONMENTAL IMPACT STUDY
Schout Group

G:\Shared drives\Projects-2022\P 2022-688 3770 Hazel Street\GIS\Project\BaseMap.qgz

Legend

- ▭ Subject Property
- — Dripline
- — 10m Dripline Setback
- — Site Plan

Pearl Street

Belleview Boulevard

Hazel Street

N

0   25   50m

Prepared using QGIS and Google Satellite Imagery

GeoProcess
RESEARCH ASSOCIATES

CREATED BY:	SG	PROJECT NO	P2022-688
CHECKED BY:	KG	DATE:	Feb. 22, 2023

MAP 4.

Site Plan

3770 Hazel Street, Fort Erie, ON
Environmental Impact Study

Schout Group

Legend

Appendix A

Niagara Region Correspondence

![GeoProcess Research Associates logo]

Meghan Douglas <mdouglas@geoprocessresearch.com>

3770 Hazel Street- Map

Boudens, Adam <Adam.Boudens@niagararegion.ca>   Tue, Nov 29, 2022 at 12:58 PM
To: Meghan Douglas <mdouglas@geoprocess.com>
Cc: "Morrison, Alexander" <Alexander.Morrison@niagararegion.ca>, "Lampman, Cara" <Cara.Lampman@niagararegion.ca>, "Karlewicz, Lori" <Lori.Karlewicz@niagararegion.ca>

Hi Meghan,

Environmental Planning staff have reviewed the attached map (prepared by GeoProcess Research Associates, dated November 28, 2022) which delineates the drip line of woodlands located on and adjacent to the subject property, and offer no objections. Please include a copy of this correspondence in the Final Report.

Let me know if you have any questions or concerns.

Thanks,

Adam

Adam Boudens, Msc

Senior Environmental Planner/Ecologist

Planning and Development Services

Niagara Region

1815 Sir Isaac Brock Way, P.O. Box 1042

Thorold, ON L2V 4T7

Phone: **905-980-6000 ext. 3770** Toll-free: 1-800-263-7215

www.niagararegion.ca

![Niagara Region logo]

From: Meghan Douglas <mdouglas@geoprocess.com>
Sent: Monday, November 28, 2022 12:26 PM
To: Boudens, Adam <Adam.Boudens@niagararegion.ca>
Subject: 3770 Hazel Street- Map

Hi Adam, as discussed here is the drip line I staked on Friday November 25, 2022. I used a survey grade GPS with about 5 to 30 cm errors (canopy cover and a cloudy day reduced accuracy). A small wetland pocket fragmented the eastern woodland, therefore I felt the property edge did not represent the drip line extent. You can see from the ELC and aerial imagery that the coniferous woodlands are not connected in the northeast corner.

Thanks for the chat. Let me know if you have questions.

Meghan

Map 2. ELC with Dripline.pdf
333K

Appendix B

Floristic Inventory and ELC

Table C 1. Floristic Inventory Summary

Common Name	Scientific	Provincial Conservation Rank (Srank)	COSSARO Status	COSEWIC Status	Coefficient Conservation	Coefficient Wetness
Hawthorn species	*Crataegus spp.*					
Norway Maple	*Acer platanoides*	SNA				5
Red Maple	*Acer rubrum*	S5			4	0
Silver Maple	*Acer saccharinum*	S5			5	-3
Sugar Maple	*Acer saccharum*	S5			4	3
(Acer rubrum X Acer saccharinum)	*Acer x freemanii*	SNA			6	-5
Hooked Agrimony	*Agrimonia gryposepala*	S5			2	3
Common Wormwood	*Artemisia vulgaris*	SNA				5
Common Milkweed	*Asclepias syriaca*	S5			0	5
Japanese Barberry	*Berberis thunbergii*	SNA				3
Wood's Sedge	*Carex woodii*	S4			6	3
Short-fringed Knapweed	*Centaurea nigrescens*	SNA				5
Canada Thistle	*Cirsium arvense*	SNA				3
European Lily-of-the-valley	*Convallaria majalis*	SNA				5
Grey Dogwood	*Cornus racemosa*	S5			2	0
Red-osier Dogwood	*Cornus sericea*	S5			2	-3
Wild Carrot	*Daucus carota*	SNA				5
Common Teasel	*Dipsacus fullonum*	SNA				3
Grass-leaved Goldenrod	*Euthamia graminifolia*	S5			2	0
Woodland Strawberry	*Fragaria vesca*	S5			4	3
Glossy Buckthorn	*Frangula alnus*	SNA				0
Red Ash	*Fraxinus pennsylvanica*	S4			3	-3
Spotted Geranium	*Geranium maculatum*	S5			6	3
Canada Avens	*Geum canadense*	S5			3	0
Ground-ivy	*Glechoma hederacea*	SNA				3
Common St. John's-wort	*Hypericum perforatum*	SNA				5
Black Walnut	*Juglans nigra*	S4?			5	3
Eastern Red Cedar	*Juniperus virginiana*	S5			4	3
Common Nipplewort	*Lapsana communis*	SNA				3
Tatarian Honeysuckle	*Lonicera tatarica*	SNA				3
Garden Bird's-foot Trefoil	*Lotus corniculatus*	SNA				3
Purple Loosestrife	*Lythrum salicaria*	SNA				-5
True Forget-me-not	*Myosotis scorpioides*	SNA				-5

Common Name	Scientific	Provincial Conservation Rank (Srank)	COSSARO Status	COSEWIC Status	Coefficient Conservation	Coefficient Wetness
Thicket Creeper	*Parthenocissus vitacea*	S5			4	3
Virginia Smartweed	*Persicaria virginiana*	S4			6	0
Reed Canarygrass	*Phalaris arundinacea var. arundinacea*	S5			0	-3
Norway Spruce	*Picea abies*	SNA				5
White Spruce	*Picea glauca*	S5			6	3
Red Pine	*Pinus resinosa*	S5			8	3
Eastern White Pine	*Pinus strobus*	S5			4	3
Scots Pine	*Pinus sylvestris*	SNA				3
Large-toothed Aspen	*Populus grandidentata*	S5			5	5
Creeping Cinquefoil	*Potentilla reptans*	SNA				0
Old-field Cinquefoil	*Potentilla simplex*	S5			3	3
Sweet Cherry	*Prunus avium*	SNA				5
Black Cherry	*Prunus serotina*	S5			3	3
Chokecherry	*Prunus virginiana*	S5			2	3
Northern Red Oak	*Quercus rubra*	S5			6	3
Common Buttercup	*Ranunculus acris*	SNA				0
European Buckthorn	*Rhamnus cathartica*	SNA				0
Swamp Red Currant	*Ribes triste*	S5			6	-5
Multiflora Rose	*Rosa multiflora*	SNA				3
Allegheny Blackberry	*Rubus allegheniensis*	S5			2	3
Black Raspberry	*Rubus occidentalis*	S5			2	5
Curled Dock	*Rumex crispus*	SNA				0
Ashy Willow	*Salix cinerea*	SNA				-3
(Salix alba X Salix euxina)	*Salix x fragilis*	SNA				
Canada Sanicle	*Sanicula canadensis*	S4			7	3
Bittersweet Nightshade	*Solanum dulcamara*	SNA				0
Canada Goldenrod	*Solidago canadensis*	S5			1	3
Heart-leaved Aster	*Symphyotrichum cordifolium*	S5			5	5
Panicled Aster	*Symphyotrichum lanceolatum*	S5			3	-3
Calico Aster	*Symphyotrichum lateriflorum*	S5			3	0
New England Aster	*Symphyotrichum novae-angliae*	S5			2	-3
Arrow-leaved Aster	*Symphyotrichum urophyllum*	S4			6	5

Common Name	Scientific	Provincial Conservation Rank (Srank)	COSSARO Status	COSEWIC Status	Coefficient Conservation	Coefficient Wetness
Common Dandelion	*Taraxacum officinale*	SNA				3
Poison Ivy	*Toxicodendron radicans*	S5			2	0
Broad-leaved Cattail	*Typha latifolia*	S5			1	-5
Slippery Elm	*Ulmus rubra*	S5			6	0
Common Speedwell	*Veronica officinalis*	SNA				5
Downy Arrowwood	*Viburnum rafinesqueanum*	S5			7	5
Tufted Vetch	*Vicia cracca*	SNA				5
Riverbank Grape	*Vitis riparia*	S5			0	0

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:	BERTIE	POLYGON:	
SURVEYOR(S): MD	DATE: 06/01/21	TIME: start 3:30 finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
Ⓖ TERRESTRIAL G WETLAND G AQUATIC	G ORGANIC G MINERAL SOIL Ⓖ PARENT MIN. G ACIDIC BEDRK. G BASIC BEDRK. G CARB. BEDRK.	G LACUSTRINE G RIVERINE G BOTTOMLAND G TERRACE G VALLEY SLOPE Ⓖ TABLELAND G ROLL. UPLAND G CLIFF G TALUS G CREVICE / CAVE G ALVAR G ROCKLAND G BEACH / BAR G SAND DUNE G BLUFF	G NATURAL Ⓖ CULTURAL	G PLANKTON G SUBMERGED G FLOATING-LVD. G GRAMINOID G FORB G LICHEN G BRYOPHYTE G DECIDUOUS Ⓖ CONIFEROUS G MIXED	G LAKE G POND G RIVER G STREAM G MARSH G SWAMP G FEN G BOG G BARREN G MEADOW G PRAIRIE G THICKET G SAVANNAH G WOODLAND G FOREST Ⓖ PLANTATION

SITE		COVER
G OPEN WATER G SHALLOW WATER Ⓖ SURFICIAL DEP. G BEDROCK		G OPEN G SHRUB Ⓖ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	PINURES >> ULMUAME = ACERFRE
2	SUB-CANOPY	3	3	RHAMCAT > CORNRAL = ULMUAME
3	UNDERSTOREY	5	3	RHAMCAT > CORNRAC >> RIBE
4	GRD. LAYER	6	3	RHAMCAT

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m
CVR CODES 0= NONE 1= 0% < CVR ≤ 10% 2= 10 < CVR ≤ 25% 3= 25 < CVR ≤ 60% 4= CVR > 60%

STAND COMPOSITION:
~~PICEGLA~~ PINURES   BA: 48

SIZE CLASS ANALYSIS:		< 10		10 - 24		25 - 50		> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:	O	< 10	O	10 - 24		25 - 50		> 50

ABUNDANCE CODES: N = NONE   R = RARE   O = OCCASIONAL   A = ABUNDANT

COMM. AGE :	PIONEER	YOUNG	X	MID-AGE	MATURE	OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	SC	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:		DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE		DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	FOREST	FO
COMMUNITY SERIES:	Coniferous Forest	FOC
ECOSITE:	Naturalized Coniferous Plantation	FOCM6
VEGETATION TYPE:	Red pine Plantation type	FOCM6-2
INCLUSION		
COMPLEX		

Notes:

ELC
STAND CHARACTERISTICS

SITE:	BERTIE
POLYGON:	1
DATE:	06/01/21
SURVEYOR(S):	

TREE TALLY BY SPECIES:

PRISM FACTOR 2

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
PINURES	⊠ ⊠ ∷					24	
TOTAL	24						100
BASAL AREA (BA)	48						
DEAD	1						

STAND COMPOSITION:

PINURES >>> ULMUAME = ACERFRE

COMMUNITY PROFILE DIAGRAM

Notes:

- Pines have regenerated but are mostly in rows / plantation

- few native deciduous trees < 25% cover

ELC — SOILS ONTARIO

Slope / UTM

	P/A	PP	Dr	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1	A			7	999				17	658817	4756584
2											
3											
4											
5											

SOIL

SOIL	1	2	3	4	5
TEXTURE x HORIZON	VERY HARD SC 55	less compacted			
A TEXTURE	SC				
COURSE FRAGMENTS	FS				
B TEXTURE	SC				
COURSE FRAGMENTS	CS				
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					

DEPTH TO / OF

MOTTLES	>55				
GLEY	>55				
BEDROCK	>55				
WATER TABLE	>55				
CARBONATES	999				
DEPTH OF ORGANICS	0				
PORE SIZE DISC #1	999				
PORE SIZE DISC #2	999				
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

PWP fibi sedge
bind flow

ELC — PLANT SPECIES LIST

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	1	2	3	4	COL.
SOLICME				R	
RANU ACR				O	
SOLADUL				O	
TARAOFF				R	
SYMP COR				R	
AGRIGRY				R	
CIRCCAN				O	
LAPS COM				O	
FRAG VES				O	
CHELWOO				O	
ROTE SIMP				R	
VERBUFF				O	
TOXI RAD				R	
PARTINS				O	
GEUM CAN				R	
VITIRIR				O	
MYOT SCO1				O	

SPECIES CODE	1	2	3	4	COL.
PINURES (PINUSTR)	D	D			PINURES
ULMUAME	R	R	O	O	
ACERFRE	R	R	O	O	
FRAY REN			O	O	
CORNRAC				D	
RHAMCAT				D	
RIBE TRI				A	
FRANALN					
LONITAT				O	
VIBU LAF				O	

Forest edge on back

ELC — MANAGEMENT / DISTURBANCE

SITE: BERTIE
POLYGON: 1
DATE: 06/01/21
SURVEYOR(S): MO

DISTURBANCE / EXTENT	0	1	2	3	SCORE †
TIME SINCE LOGGING	> 30 YRS	15 - 30 YRS	5 - 15 YRS	0 - 5 YEARS	
INTENSITY OF LOGGING	NONE	FUEL WOOD	SELECTIVE	DIAMETER LIMIT	
EXTENT OF LOGGING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
SUGAR BUSH OPERATIONS	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF OPERATIONS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
GAPS IN FOREST CANOPY	NONE	(SMALL)	INTERMEDIATE	LARGE	2
EXTENT OF GAPS	NONE	LOCAL	(WIDESPREAD)	EXTENSIVE	
LIVESTOCK (GRAZING)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF LIVESTOCK	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ALIEN SPECIES	NONE	OCCASIONAL	(ABUNDANT)	DOMINANT	6
EXTENT OF ALIEN SPECIES	NONE	LOCAL	WIDESPREAD	(EXTENSIVE)	
PLANTING (PLANTATION)	NONE	OCCASIONAL	ABUNDANT	(DOMINANT)	6
EXTENT OF PLANTING	NONE	LOCAL	(WIDESPREAD)	EXTENSIVE	
TRACKS AND TRAILS	NONE	(FAINT TRAILS)	WELL MARKED	TRACKS OR	1
EXTENT OF TRACKS/TRAILS	NONE	(LOCAL)	WIDESPREAD	EXTENSIVE	
DUMPING (RUBBISH)	NONE	(LIGHT)	MODERATE	HEAVY	1
EXTENT OF DUMPING	NONE	(LOCAL)	WIDESPREAD	EXTENSIVE	
EARTH DISPLACEMENT	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DISPLACEMENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
RECREATIONAL USE	NONE	(LIGHT)	MODERATE	HEAVY	1
EXTENT OF RECR. USE	NONE	(LOCAL)	WIDESPREAD	EXTENSIVE	
NOISE	NONE	(SLIGHT)	MODERATE	INTENSE	1
EXTENT OF NOISE	NONE	(LOCAL)	WIDESPREAD	EXTENSIVE	
DISEASE/DEATH OF TREES	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DISEASE / DEATH	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
WIND THROW (BLOW DOWN)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF WIND THROW	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BROWSE (e.g. DEER)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF BROWSE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BEAVER ACTIVITY	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF BEAVER	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FLOODING (pools & puddling)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF FLOODING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FIRE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF FIRE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ICE DAMAGE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF ICE DAMAGE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
OTHER	NONE	LIGHT	MODERATE	HEAVY	
EXTENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	

† INTENSITY x EXTENT = SCORE

(margin note: FOOT TRAFFIC)

ELC — WILDLIFE

SITE: BERTIE
POLYGON: 1
DATE: 06/01/21
SURVEYOR(S): MO
START TIME: 3:30 END TIME: 5

TEMP (ºC): 24 CLOUD (10th): 2 WIND: 2 PRECIPITATION: NONE
CONDITIONS: Warm, sunny, slight breeze

POTENTIAL WILDLIFE HABITAT:

VERNAL POOLS			SNAGS
HIBERNACULA		V	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	GCFL			1					
B	BLJA			1					
B	PIWO			1					
B	SOSG			1					
B	AMRO			2					
B	AMCR			2					
B	AMRE			1					
B	AMGO			2					

FAUNAL TYPE CODES (TY):
B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):
BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:
T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:
DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FAECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:
OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS OR YOUNG
TK = TRACKS FE = FEEDING EVIDENCE SC = SCAT
SI = OTHER SIGNS (specify)

Page ..... of ......

Representative Community Photo:

ELC	SITE: 3770 HAZEL ST	POLYGON FOC		
COMMUNITY DESCRIPTION & CLASSIFICATION	SURVEYOR(S): MD, SD	DATE: 10-13-22	TIME: start 14:00 finish 15:00	
	UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
⦿ TERRESTRIAL G WETLAND G AQUATIC	G ORGANIC G MINERAL SOIL ⦿ PARENT MIN. G ACIDIC BEDRK G BASIC BEDRK G CARB. BEDRK.	G LACUSTRINE G RIVERINE G BOTTOMLAND G TERRACE G VALLEY SLOPE G TABLELAND G ROLL. UPLAND G CLIFF G TALUS	G NATURAL ⦿ CULTURAL	G PLANKTON G SUBMERGED G FLOATING-LVD G GRAMINOID G FORB G LICHEN G BRYOPHYTE G DECIDUOUS ⦿ CONIFEROUS G MIXED	G LAKE G POND G RIVER G STREAM G MARSH G SWAMP G FEN G BOG G BARREN G MEADOW G PRARIE
SITE G OPEN WATER G SHALLOW WATER ⦿ SURFICIAL DEP. G BEDROCK		G CREVICE / CAVE G ALVAR G ROCKLAND G BEACH / BAR G SAND DUNE G BLUFF	**COVER** G OPEN G SHRUB ⦿ TREED		G THICKET G SAVANNAH G WOODLAND ⦿ FOREST G PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	PICEABI >> POPUDEL
2	SUB-CANOPY	3	2	FRAXPEN > RHAMCAT > ULMURUB > LONITAT
3	UNDERSTOREY	4	3	PRUNVIR = RHAMCAT > FRAXPEN > PRUNSER
4	GRD. LAYER	5	32	SOLICAN > VITIRIP > TOXIRAD > SOLADUL

HT CODES: 1 = >25 m 2 = 10<HT.25 m 3 = 2<HT.10 m 4 = 1<HT. 2 m 5 = 0.5<HT.1 m 6 = 0.2<HT. 0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR. 10% 2= 10 < CVR. 25% 3= 25 < CVR. 60% 4= CVR. >60%

STAND COMPOSITION:									BA:
PICEABI									

SIZE CLASS ANALYSIS:	O	< 10	A	10 - 24	A	25 - 50	N	> 50

STANDING SNAGS:	O	< 10	O	10 - 24	O	25 - 50	N	> 50
DEADFALL / LOGS:	A	< 10	O	10 - 24	O	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE   R = RARE   O = OCCASIONAL   A = ABUNDANT

COMM. AGE :	PIONEER	YOUNG	MID-AGE	X MATURE	OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION: ELC CODE

COMMUNITY CLASS:	FOREST	FO
COMMUNITY SERIES:	CONIFEROUS	FOC
ECOSITE:	Naturalized Coniferous	FOCM6
VEGETATION TYPE:		
INCLUSION		
COMPLEX		

Notes:

ELC — STAND CHARACTERISTICS

SITE:	3770 HAZEL ST
POLYGON:	FOC
DATE:	10-13-22
SURVEYOR(S):	MO, SD

TREE TALLY BY SPECIES:

PRISM FACTOR: 2

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
PICE ABI	:: ::	:: ::				11	100
ULMURAB							
FRAXPEN							
TOTAL	5	6				11	100
BASAL AREA (BA)	10	12				22	
DEAD						3	

STAND COMPOSITION:

PICEABI

COMMUNITY PROFILE DIAGRAM

Norway Spruce
Red Elm
Buckthorn
chokecherry

25
0

Notes: Small cattail pocket

ELC — PLANT SPECIES LIST

SITE:	3770 HAZEL ST
POLYGON:	FOC
DATE:	10-13-22
SURVEYOR(S):	MO. SD

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	1	2	3	4	COL.
SOLICAN				A	
VITIRIP				A	
SYMPCAN				O	
SYMPURD				O	
(Jumseed)				O	
CAREXSP				O	
VAGEI ARY				O	
HYPEPETS				O	
Creeping Jenn				A	
SOLADUL				A	
TOXIRAD				A	
SANICAN				O	
CONVMAJ				R	

SPECIES CODE	1	2	3	4	COL.
PRUNVIR				A	
RHAMAT		O	A	O	
BERBTHU				O	
PRUNTIVI			R		*
LONITAT			O	O	
FRANALN			A	A	
RUBUOCC				O	
RUBUALL			O		
RIBERUB			O		
ULMURUB			O	O	
FRAXPEN			A	A	
PICEABI	D				
PRUNSER			A	O	
POPUGRA				O	
ACERPLA	O		O		
ACERRUB			O		
ACERFLU			O		

ELC — MANAGEMENT / DISTURBANCE

	SITE:	3770 HAZEL ST
	POLYGON:	FOD
	DATE:	10-13-2022
	SURVEYOR(S):	

DISTURBANCE / EXTENT	0	1	2	3	SCORE †
TIME SINCE LOGGING	> 30 YRS	15 - 30 YRS	5 - 15 YRS	0 - 5 YEARS	
INTENSITY OF LOGGING	NONE	FUEL WOOD	SELECTIVE	DIAMETER LIMIT	0
EXTENT OF LOGGING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
SUGAR BUSH OPERATIONS	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF OPERATIONS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
GAPS IN FOREST CANOPY	NONE	(SMALL)	INTERMEDIATE	LARGE	2
EXTENT OF GAPS	NONE	LOCAL	(WIDESPREAD)	EXTENSIVE	
LIVESTOCK (GRAZING)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF LIVESTOCK	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ALIEN SPECIES	NONE	OCCASIONAL	(ABUNDANT)	DOMINANT	6
EXTENT OF ALIEN SPECIES	NONE	LOCAL	WIDESPREAD	(EXTENSIVE)	
PLANTING (PLANTATION)	NONE	OCCASIONAL	ABUNDANT	(DOMINANT)	9
EXTENT OF PLANTING	NONE	LOCAL	WIDESPREAD	(EXTENSIVE)	
TRACKS AND TRAILS	NONE	FAINT TRAILS	WELL MARKED	TRACKS OR	0
EXTENT OF TRACKS/TRAILS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DUMPING (RUBBISH)	NONE	(LIGHT)	MODERATE	HEAVY	1
EXTENT OF DUMPING	NONE	(LOCAL)	WIDESPREAD	EXTENSIVE	
EARTH DISPLACEMENT	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF DISPLACEMENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
RECREATIONAL USE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF RECR. USE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
NOISE	NONE	(SLIGHT)	MODERATE	INTENSE	1
EXTENT OF NOISE	NONE	(LOCAL)	WIDESPREAD	EXTENSIVE	
DISEASE/DEATH OF TREES	NONE	LIGHT	(MODERATE)	HEAVY	4
EXTENT OF DISEASE / DEATH	NONE	LOCAL	(WIDESPREAD)	EXTENSIVE	
WIND THROW (BLOW DOWN)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF WIND THROW	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BROWSE (e.g. DEER)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF BROWSE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BEAVER ACTIVITY	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF BEAVER	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FLOODING (pools & puddling)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF FLOODING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FIRE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF FIRE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ICE DAMAGE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF ICE DAMAGE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
OTHER	NONE	LIGHT	MODERATE	HEAVY	
EXTENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	

† INTENSITY x EXTENT = SCORE

ELC — WILDLIFE

	SITE:	3770 HAZEL ST
	POLYGON:	FOD
	DATE:	10-13-2022
	SURVEYOR(S):	MD SD
	START TIME: 1300	END TIME: 15:00

TEMP (°C): 12	CLOUD (total):	WIND: 2	PRECIPITATION:

CONDITIONS:

POTENTIAL WILDLIFE HABITAT:

VERNAL POOLS	✓	SNAGS	
HIBERNACULA	✓	FALLEN LOGS	

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	AMRO	1							
M	GRSQ	1							
	BLJA	2							

FAUNAL TYPE CODES (TY):
B = BIRD   M = MAMMAL   H = HERPETOFAUNA   L = LEPIDOPTERA   F = FISH   O = OTHER

EVIDENCE CODES (EV):
BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT   SM = SINGING MALE

BREEDING BIRD - PROBABLE:
T = TERRITORY   D = DISPLAY   P = PAIR
A = ANXIETY BEHAVIOUR   N = NEST BUILDING   V = VISITING NEST

BREEDING BIRD - CONFIRMED:
DD = DISTRACTION   NU = USED NEST   FY = FLEDGED YOUNG
NE = EGGS   NY = YOUNG   FS = FOOD/FAECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:
OB = OBSERVED   VO = VOCALIZATION   CA = CARCASS
DP = DISTINCTIVE PARTS   HO = HOUSE/DEN   FY = EGGS OR YOUNG
TK = TRACKS   FE = FEEDING EVIDENCE   SC = SCAT
SI = OTHER SIGNS (specify)

Representative Community Photo:

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 3770 HAZEL ST	POLYGON: MEM?	
SURVEYOR(S): MD SD	DATE: 10-13-22	TIME: start 13:06 finish 19:00
UTMZ:	UTME:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☒ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK	☐ TERRACE		☒ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK	☐ VALLEY SLOPE		☒ FORB	☐ MARSH
	☐ CARB. BEDRK	☒ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
SITE		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE	COVER	☐ MIXED	☒ MEADOW
☐ OPEN WATER		☐ ALVAR			☐ PRAIRIE
☐ SHALLOW WATER		☐ ROCKLAND	☒ OPEN		☐ THICKET
☒ SURFICIAL DEP.		☐ BEACH / BAR			☐ SAVANNAH
☐ BEDROCK		☐ SAND DUNE	☐ SHRUB		☐ WOODLAND
		☐ BLUFF	☐ TREED		☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	3	2	JUGL NIG > SALI EUX > POPU DENT
2 SUB-CANOPY	4	2	POPU DENT > SALI EUX >> JUGL NIG
3 UNDERSTOREY	5	4	POPU DENT > CORN SER > FRAX PENN > SALI CIN
4 GRD. LAYER	6	4	PHPLA CN > SOLI CAN = CENT NIG > SYMP LAN

HT CODES: 1 = 25 m 2 = 10<HT<25 m 3 = HT<10 m 4 = 1<HT<2 m 5 = 0.5<HT<0.2 m 6 = 0.2<HT<0.5 m 7 = HT<0.2 m
CVR CODES: 0 = NONE 1 = 0% < CVR < 10% 2 = 10 < CVR < 25% 3 = 25 < CVR < 60% 4 = CVR > 60%

STAND COMPOSITION: | | BA:

SIZE CLASS ANALYSIS:	O	< 10	R	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	N	☒ < 10	O	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:		O < 10	O	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE	X PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G =
MOISTURE:	DEPTH OF ORGANICS		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Meadow	ME
COMMUNITY SERIES:	FORB MEADOW	MEF
ECOSITE:	DRY-FRESH	MEFM1
VEGETATION TYPE:	mix btw goldenrods asters	
INCLUSION		
COMPLEX		

Notes:

ELC — PLANT SPECIES LIST

SITE: 3770 HAZEL ST	
POLYGON: MEM	
DATE: 10-13-2022	
SURVEYOR(S): MD SD	

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	1	2	3	4	COL.
DIPS FUL				O	
SOLI CAN				A	
MULT ROS				O	
REED CANARY				A	
LYTH SAL				O	
SYMP LAT				A	
CENT NIGRA				A	
ELYTH GRA				O	
POTE RED				A	
SWEET CLOVER SP				O	
SYMP NOVA				O	
VICI CRA				O	
RUME CRIS				O	
BIRDSFOOT TREFOIL				A	
SALI EUX					
FRAX EXC					
GLEC HED				A	
ARTE VUL				O	
DAUC CARO				O	
ASC SYRI				O	
GERA MAC				O	
CENT NIGRESCENS				A	

SPECIES CODE	1	2	3	4	COL.
SER					
CORN SER		O	O		
SALI CIN			O		
POPU DENT	O	A	O		
SALI EUX	O	D	O		
SA					
FRAX PENN	O	O	O		
JUGL NIG			O		

Page .... of ....

Representative Community Photo:

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 3770 Hazel Street	POLYGON:
SURVEYOR(S): M.D	DATE: 01-06-2021, 13-10-202	TIME: start / finish
UTMZ:	UTME:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
G TERRESTRIAL	G ORGANIC	G LACUSTRINE	■ NATURAL	G PLANKTON	G LAKE
■ WETLAND	G MINERAL SOIL	G RIVERINE	■ CULTURAL	G SUBMERGED	G POND
G AQUATIC	■ PARENT MIN.	G BOTTOMLAND		G FLOATING-LVD.	G RIVER
	G ACIDIC BEDRK.	G TERRACE		■ GRAMINOID	G STREAM
	G BASIC BEDRK.	G VALLEY SLOPE		G FORB	■ MARSH
	G CARB. BEDRK.	G TABLELAND		G LICHEN	G SWAMP
		G ROLL. UPLAND		G BRYOPHYTE	G FEN
		G CLIFF		■ DECIDUOUS	G BOG
		G TALUS		G CONIFEROUS	G BARREN
SITE		G CREVICE / CAVE	**COVER**	G MIXED	G MEADOW
		G ALVAR			G PRAIRIE
G OPEN WATER		G ROCKLAND			G THICKET
G SHALLOW WATER		G BEACH / BAR	■ OPEN		G SAVANNAH
■ SURFICIAL DEP.		G SAND DUNE	■ SHRUB		G WOODLAND
G BEDROCK		G BLUFF	G TREED		G FOREST
					G PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	3	THYPLAT>>CORNSER
2	SUB-CANOPY	5	2	THYPLAT>>IMPACAP
3	UNDERSTOREY			
4	GRD. LAYER			

HT CODES: 1 = >25 m 2 = 10<HT.25 m 3 = 2<HT.10 m 4 = 1<HT.2 m 5 = 0.5<HT.1 m 6 = 0.2<HT.0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR . 10% 2= 10 < CVR . 25% 3= 25 < CVR . 60% 4= CVR > 60%

STAND COMPOSITION: N/A	BA:

SIZE CLASS ANALYSIS:		< 10		10 - 24		25 - 50		> 50

STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE :		PIONEER	x YOUNG	MID-AGE	MATURE	OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION: — ELC CODE

COMMUNITY CLASS:	Marsh	MA
COMMUNITY SERIES:	Shallow Marsh	MAS
ECOSITE:	Graminoid Mineral Shallow Marsh	MASM1
VEGETATION TYPE:	Cattail Mineral Shallow Marsh	MASM1-1
INCLUSION		
COMPLEX		

Notes:

Pickerel Frog and Green Frog observed calling from small standing marsh.

ELC — PLANT SPECIES LIST

SITE: 3770 Hazel Street	
POLYGON:	
DATE: 01-06-2021, 13-10-202	
SURVEYOR(S): M.D	

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	1	2	3	4	COL.	SPECIES CODE	1	2	3	4	COL.
THYPLAT	D										
CORNSER	O										
IMPACAPN		O									

Page .... of ....

Representative Community Photo:

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 3770 Hazel Street		POLYGON:
SURVEYOR(S): M.D	DATE: 01-06-2021, 13-10-202	TIME: start / finish
UTMZ:	UTME:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
■ TERRESTRIAL	G ORGANIC	G LACUSTRINE	■ NATURAL	G PLANKTON	G LAKE
G WETLAND	G MINERAL SOIL	G RIVERINE	■ CULTURAL	G SUBMERGED	G POND
G AQUATIC	■ PARENT MIN.	G BOTTOMLAND		G FLOATING-LVD.	G RIVER
		G TERRACE		G GRAMINOID	G STREAM
	G ACIDIC BEDRK.	G VALLEY SLOPE		G FORB	G MARSH
		■ TABLELAND		G LICHEN	G SWAMP
	G BASIC BEDRK.	G ROLL UPLAND		G BRYOPHYTE	G FEN
		G CLIFF		■ DECIDUOUS	G BOG
	G CARB. BEDRK.	G TALUS		G CONIFEROUS	G BARREN
		G CREVICE / CAVE	COVER	G MIXED	G MEADOW

SITE

G OPEN WATER	
G SHALLOW WATER	
■ SURFICIAL DEP.	
G BEDROCK	

Topographic (cont.): G ALVAR, G ROCKLAND, G BEACH / BAR, G SAND DUNE, G BLUFF

COVER: G OPEN, ■ SHRUB, G TREED

Community (cont.): G PRAIRIE, ■ THICKET, G SAVANNAH, G WOODLAND, G FOREST, G PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY			
3 UNDERSTOREY			
4 GRD. LAYER			

HT CODES: 1 = >25 m 2 = 10<HT.25 m 3 = 2<HT.10 m 4 = 1<HT.2 m 5 = 0.5<HT.1 m 6 = 0.2<HT.0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR . 10% 2= 10 < CVR . 25% 3= 25 < CVR . 60% 4= CVR > 60%

STAND COMPOSITION:		BA:

SIZE CLASS ANALYSIS:		< 10		10 - 24		25 - 50		> 50

STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE :	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION: ELC CODE

COMMUNITY CLASS:	Thicket	TH
COMMUNITY SERIES:	Deciduous Thicket	THD
ECOSITE:	Dry-Fresh Deciduous Shrub Thicket	THDM2
VEGETATION TYPE:		
INCLUSION		
COMPLEX		

Notes:

ELC
PLANT SPECIES LIST

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	1	2	3	4	COL.	SPECIES CODE	1	2	3	4	COL.
ACERXFRE	O	O				SOLICAN			A		
ACERSAC	O	O				VITIRIP			O	O	
FRAXPEN		O	O			PIRSVIR			O		
QUERMAC		R				ALLIPET			A	A	
PICEGLA		O									
PINUSLY		R									
CRAT SPP.		A									
CORNRAC		A									
RHAMCAT		A									
FRANALN		A									

Page .... of ....

Representative Community Photo:

Appendix C

Significant Wildlife Habitat Full Assessment (7E)

Table D 1. Significant Wildlife Habitat Table for Ecoregion 7E

Wildlife Habitat	Wildlife Species	Candidate SWH ELC Ecosite Codes	Habitat Criteria	Confirmed SWH Defining Criteria	Presence of Habitat at 3770 Hazel Street
SEASONAL CONCENTRATION AREAS OF ANIMALS					
Waterfowl Stopover and Staging Areas (Terrestrial)	American Black Duck, Northern Pintail Gadwall, Blue-winged Teal, Green-winged Teal, American Wigeon, Northern Shoveler, Tundra Swan	CUM, CUT1 - plus evidence of annual spring flooding within these ecosites *Fields with seasonal flooding and waste grains in certain areas are specific to Tundra Swan	Fields with sheet water during Spring (mid-March to May) •agricultural fields with waste grain are not SWH unless they have spring sheet water available.	•Any mixed species aggregations of 100+ individuals • the flooded field plus 100-300m radius, dependant on localized site and adjacent land us • Annual Use of Habitat is documented from information sources or field studies •Specific evaluation methods required	No habitat matching criteria identified in Study Area.
Waterfowl Stopover and Staging Areas (Aquatic)	Canada Goose, Cackling Goose, Snow Goose, American Black Duck, Northern Pintail Northern, Shoveler American, Wigeon Gadwall, Green-winged Teal, Blue-winged Teal, Hooded Merganser, Common Merganser, Lesser Scaup, Greater Scaup, Long-tailed Duck, Surf Scoter, White-winged Scoter, Black Scoter, Ring-necked duck, Common Goldeneye, Bufflehead, Redhead, Ruddy Duck, Red-breasted Merganser, Brant Canvasback, Ruddy Duck	MAS1,MAS2,MAS3,SAS1,SAM1,SAF1,SWD1,SWD2,SWD3,SWD4,SWD5,SWD6,SWD7	Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. • Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify.	•Aggregations of 100 + of species listed for 7 days, results in > 700 waterfowl use days. •Areas with annual staging for ruddyducks, canvasbacks and redheads. •The combined area of the ELC ecosites and a 100m radius area. •Wetland area and shorelines associated with sites identified within the SWHTG, Appendix K, are significant wildlife habitat. •Annual Use of Habitat is documented from information sources or field studies • Specific evaluation methods required	No habitat matching criteria identified in Study Area. Small marsh community located east of Subject Property does not meet size criteria.
Shorebird Migratory Stopover Area	Greater Yellowlegs, Lesser Yellowlegs, Marbled Godwit, Hudsonian Godwit Black-bellied Plover, American Golden-Plover, Semipalmated Plover, Solitary Sandpiper, Spotted Sandpiper, Semipalmated Sandpiper, Pectoral Sandpiper, White-rumped Sandpiper, Baird's Sandpiper, Least Sandpiper, Purple Sandpiper, Stilt sandpiper, Short-billed Dowitcher, Red-necked Phalarope. Whimbrel, Ruddy Turnstone, Sanderling, Dunlin	BBO1,BBO2,BBS1,BBS2,BBT1,BBT2,SDO1,SDS2,SDT1,MAM1,MAM2,MAM3,MAM4,MAM5	•Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. •Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores in May to mid-June and early July to October. • No sewage treatment ponds.	•Presence of 3 or more of listed species and > 1000 shorebird use days during spring or fall migration period. •Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. •The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area. •Annual Use of Habitat is documented from information sources or field studies • Specific evaluation methods required	No habitat matching criteria identified in Study Area. Small marsh community located east of the Subject Property is not along the shoreline.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Presence of Habitat at 3770 Hazel Street
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	
Raptor Wintering Area	Rough-legged Hawk, Red-tailed Hawk, Northern Harrier, American Kestrel, Snowy Owl SPECIAL CONCERN: Short-eared Owl, Bald Eagle	Combo of one of each Community Series from Forest (FOD,FOM,FOC) and Upland (CUM,CUT,CUS,CUW). Bald Eagle: Forest on shoreline area adjacent to large rivers and lakes.	A combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. • Need to be > 20 ha. •Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands. • Field area of the habitat is to be wind swept with limited snow depth or accumulation.• Eagle sites have open water and large trees and snags available for roosting .	•One or more Short-eared Owls or; •One of more Bald Eagles or;• At least 10 individuals and two of the listed hawk/owl species. •To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. •for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area.• Specific evaluation methods required	Habitat criteria is met as a FOC habitat is adjacent to a CUM, however the combined habitats are not > 20 ha.
Bat Hibernacula	Big Brown Bat Tri-coloured Bat	CCR1,CCR2,CCA1,CCA2. * buildings are not to be considered SWH	May be found in caves, mine shafts, underground foundations and Karsts. •Active mine sites are not considered SWH.	•All sites with confirmed hibernating bats are SWH. • area includes 200m radius around the entrance of the hibernaculum for most development types and 1000m for wind farms. •Studies are to be conducted during the peak swarming period (Aug. – Sept.). • Specific survey methods required	No habitat matching criteria identified in Study Area.
Bat Maternity Colonies	Big Brown Bat Silver-haired Bat	All Ecosites in: FOD,FOM,SWD,SWM.	Maternity colonies can be found in tree cavities, vegetation and often in building. *Building are not considered SWH. • Not found in caves or mines in ON. •Located in Mature Deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees. •Prefer snags in early stages of decay (class 1-3 or class 1 or class 2). •Silver-haired Bats prefer older mixed or deciduous forests with at least 21 snags/ha.	•Confirmed use by: >10 Big Brown Bats >5 Adult female Silver Haired Bats. •The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies. • Specific evaluation methods required	No habitat matching criteria identified in Study Area. Woodlands are coniferous dominant.
Turtle Wintering Areas	SPECIAL CONCERN: Midland Painted Turtle, Northern Map Turtle, Snapping Turtle	Snapping and Midland Painted: SW,MA,OA,SA and FEO/BOO Series. Northern Map: Open water areas such as deeper rivers or streams and lakes.	Wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. •Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. •Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.	•Presence of 5 over-wintering Midland Painted Turtles is significant, •One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant • The mapped ELC ecosite area with the over wintering turtles is the SWH. • If the hibernaculum in the Study Area is within a stream or river, the deep water pool where the turtles are over wintering is the SWH. • Search for congregations in Basking Areas in spring and fall.	No habitat matching criteria identified in Study Area.
Reptile Hibernaculum	SNAKES: Eastern Gartersnake, Northern Watersnake, Northern Red-bellied Snake, Northern Brownsnake, Smooth Green Snake, Northern Ring-necked Snake SPECIAL CONCERN: Milksnake, Eastern Ribbonsnake	Any ecosite other that very wet. •Talus, Rock Barren, Crevice, Cave, Alvar may be directly related. •Observations of congregations in spring or fall is good indicator.	Sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH.• Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. •Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.	•Presence of snake hibernacula used by - a minimum of five individuals of a snake sp. or;- individuals of two or more snake spp.. •Congregations of -a minimum of five individuals of a snake sp. or; -individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct).• If there are Special Concern Species present, then site is SWH. •The feature in which the hibernacula is located plus a 30 m radius area is the SWH.• Hibernacula are used annually, often by the same individuals (strong site fidelity) and other life processes often take place near by	No habitat matching criteria identified in Study Area.

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Presence of Habitat at 3770 Hazel Street |
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	
Colonially-Nesting Bird Breeding Habitat (Bank and Cliff)	Cliff Swallow, Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles Cliff faces, bridge abutments, silos, barns. CUM1,CUS1,BLS1,CLO1,CLT1,CUT1,BLO1,BLT1,CLS1.	Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area, *does not include man-made structures or licenced Mineral Aggregate Operation.	•Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50m radius habitat area from the peripheral nests. •Field surveys to observe and count swallow nests are to be completed during the breeding season. • Specific evaluation methods required	No habitat matching criteria identified in Study Area.
Colonially-Nesting Bird Breeding Habitat (Tree/Shrub)	Great Blue Heron, Black-crowned Night Heron, Great Egret, Green Heron	SWM2,SWM3,SWM5,SWM6,SWD1,SWD2,SWD3,SWD4,SWD5,SWD6,SWD7,FET1	Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. •Most nests in trees are 11 to 15 m from ground, near the top of the tree.	•Presence of 2 or more active nests of Great Blue Heron or other listed species. •The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH. •Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells.	No habitat matching criteria identified in Study Area.
Colonially-Nesting Bird Breeding Habitat (Ground)	Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) MAM1 – 6; MAS1 – 3; CUM,CUT,CUS	Nesting colonies on islands or peninsulas associated with open water or in marshy areas. Brewers Blackbird colonies found loosely on the ground in or in low bushes in close proximity to streams and irrigation ditches within farmlands.	•Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. •Presence of 5 or more pairs for Brewer's Blackbird. •Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. •The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH. •Studies would be done during May/June when actively nesting. • Specfic evaluation methods required	No habitat matching criteria identified in Study Area.
Migratory Butterfly Stopover Areas	Painted Lady, Red Admiral SPECIAL CONCERN: Monarch	Combo of one of each Field (CUM, CUT, CUS) and Forest (FOC, FOD,FOM,CUP).	Minimum 10 ha in size with combo of field and forest located within 5km of Lake Erie or Lake Ontario. •Should not be disturbed. • Field/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. •Should provide protection from the elements, often spits of land or areas with the shortest distance to cross the Great Lakes.	•Presence of Monarch Use Days (MUD) during Fall migration (Aug/Oct) •Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. •MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant.	FOC habitat is adjacent to CUM and within 5 km of Lake Erie, however size constraint is not met.
Landbird Migratory Stopover Areas	All migratory songbird and raptor species	All Ecosites within: FOC,FOM,FOD,SWC,SWM,SWD	Woodlots >5ha in size and within 5km of Lake Erie and Lake Ontario. • If woodlands are rare in area, smaller size can be considered. • If multiple woodlands located along shore line, those 2km from shoreline are more significant. • Sites have a variety of habitats; forest, grassland and wetland complexes. •The largest sites are more significant. •Woodlots and forest fragments are important habitats to	•Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. •Studies should be completed during spring (Mar to May) and fall (Aug to Oct) migration using standardized assessment techniques. • Specific evaluation methods required	FOC habitat is within 5 km of Lake Erie however the woodlots are not > 5 ha.

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Presence of Habitat at 3770 Hazel Street |
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	
			migrating birds, these features located along the shore and located within 5km of Lake Erie and Lake Ontario are Candidate SWH.		
Deer Winter Congregation Areas	White-tailed Deer	All forested ecosites within: FOC,FOM,FOD,SWC,SWM,SWD + conifer plantations much smaller than 50 ha may be used.	Woodlots >100 ha in size or if large woodlots are rare in a planning area woodlots >50ha. • Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. *Woodlots with high densities of deer due to artificial feeding are not significant.	•Will be mapped by MNRF. • All woodlots exceeding the criteria are significant unless determined to be not by the MNRF. •Studies to be completed during winter when >20 cm of snow is on the ground, using aerial survey or pellet count.	No habitat matching criteria identified in Study Area.

RARE VEGETATION COMMINITIES

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Presence of Habitat at 3770 Hazel Street
Cliffs and Talus Slopes		Any Ecosite within: TAO CLO TAS CLS TAT CLT	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris. Most cliff and talus slopes occur along the Niagara Escarpment.	•Confirm any ELC Vegetation Type for Cliffs or Talus Slopes	No habitat matching criteria identified in Study Area.
Sand Barren		SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicketlike (SBS1), or more closed and treed (SBT1). Tree cover always < 60%	A sand barren area >0.5ha in size. • Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. • Vegetation can vary from patchy and barren to tree covered, but less than 60%.	•Confirm any ELC Vegetation Type for Sand Barrens. •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.	No habitat matching criteria identified in Study Area.
Alvar	FIVE ALVAR INDICATOR SPECIES *Carex crawei* *Panicum philadelphicum* *Eleocharis compressa* *Scutellaria parvula* *Trichostema brachiatum* These indicator species are very specific to Alvars within Ecoregion 7E	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2,	An Alvar site > 0.5 ha in size, only known sites are found in the western islands of Lake Erie. • An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. • Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animals species. • Vegetation cover varies from patchy to barren with a less than 60% tree cover.	•Studies that identify four of the five *Alvar Indicator Species* at a Candidate Alvar site is Significant. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). •The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses.	No habitat matching criteria identified in Study Area
Old Growth Forest		FOD FOC FOM SWD SWC SWM	Woodland area is >0.5ha • Characterized by heavy mortality or turnover of overstorey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	•If dominant trees species of the area are >140 years old, then the area containing these trees is Significant Wildlife Habitat. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities • The area of forest ecosites combined or an eco-element within an ecosite that contain the old growth characteristics is	No habitat matching criteria identified in Study Area. Trees are not > 140 years old.

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Presence of Habitat at 3770 Hazel Street |
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	
				the SWH. • Determine ELC vegetation types for the forest forest area containing the old growth characteristics	
Savannah		TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%. • No minimum size to site. • Site must be restored or a natural site. *Remnant sites such as railway right of ways are not considered to be SWH. • Remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario)	•Field studies confirm one or more of the Savannah indicator species found in Appendix N, Ecoregion 7E of the SWHTG, OMNR (2000). •Entire area of the ELC Ecosite is SWH. •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic species).	No habitat matching criteria identified in Study Area.
Tallgrass Prairie		TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. •An open Tallgrass Prairie habitat has < 25% tree cover. •No minimum size to site. •Site must be restored or a natural site. *Remnant sites such as railway right of ways are not considered to be SWH.	•Field studies confirm one or more of the Prairie indicator species in Appendix N, Ecoregion 7E of The SWHTG, OMNR (2000). •Area of the ELC Ecosite is the SWH. •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.)	No habitat matching criteria identified in Study Area.
Other Rare Vegetation Communities		See the Significant Wildlife Habitat Technical Guide (OMNR, 200), Appendix M for Provincially Rare S1,S2 and S3 ELC Vegetation Types.	May include beaches, fens, forest, marsh, barrens, dunes and swamps. See OMNRF/NHIC for up to date list of rare vegetation communities.	•Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG, OMNR (2000). •Area of the ELC Vegetation Type polygon is the SWH.	ELC did not identify rare vegetation communities.

SPECIALIZED HABITAT FOR WILDLIFE

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Presence of Habitat at 3770 Hazel Street
Waterfowl Nesting Area	American Black Duck, Northern Pintail, Northern Shoveler, Gadwall, Blue-winged Teal, Green-winged Teal, Wood Duck, Hooded Merganser, Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4. * Note: includes adjacency to Provincially Significant Wetlands	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. •Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. • Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests.	•Presence of 3 or more nesting pairs for listed species excluding Mallards OR •Presence of 10 or more nesting pairs for listed species including Mallards. •Any active nesting site of an American Black Duck is considered significant. •Nesting studies should be completed during the spring breeding season (April - June). •Specific evaluation methods required •A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest.	The MASM1-1 community is less than 0.5 ha.

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Presence of Habitat at 3770 Hazel Street |
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Osprey SPECIAL CONCERN: Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. *Nests located on man-made objects are not to be included as SWH. •Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy.	One or more active Osprey or Bald Eagle nests in an area. •Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. •For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH. *with additional requirements•For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. * with additional requirements•To be significant a site must be used annually. •When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. •Observational studies to determine nest site use, perching sites and foraging areas need to be done from early March to mid August. • Specific evaluation methods required	No habitat matching criteria identified in Study Area as the FOC communities are not adjacent to riparian area.
Woodland Raptor Nesting Habitat	Northern Goshawk, Cooper's Hawk, Sharp-shinned Hawk, Red-shouldered Hawk, Barred Owl, Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3.	All natural or conifer plantation woodland/forest stands >30ha with >4ha of interior habitat. • Interior habitat determined with a 200m buffer. •Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest.	Presence of 1 or more active nests from species list is considered significant. •Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH. (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest) •Barred Owl – A 200m radius around the nest is the SWH. •Broad-winged Hawk and Coopers Hawk,– A 100m radius around the nest is the SWH. •Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. • Conduct field investigations from early March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area.	No habitat matching criteria identified in Study Area as the woodlands are too small.
Turtle Nesting Areas	SPECIAL CONCERN: Midland Painted Turtle, Northern Map Turtle, Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. •For an area to function as a turtle nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. *Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.• Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.	Presence of:- 5 or more nesting Midland Painted Turtles OR - One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. •The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH.• Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat. •Field investigations should be conducted in prime nesting season typically late spring to early summer. •Observational studies observing the turtles nesting is a recommended method.	No habitat matching criteria identified in Study Area. MAS1-1 community does not provide sand or gravel for nesting.
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp.	Where ground water comes to the surface. Often, they are found within headwater areas within forested habitats. •Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system.	Presence of a site with 2 or more seeps/springs should be considered SWH. •The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. •The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need	No habitat matching criteria identified in Study Area.

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Presence of Habitat at 3770 Hazel Street |
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	
				to be considered in delineation the habitat.	
Amphibian Breeding Habitat (Woodland)	Eastern Newt, Blue-spotted Salamander, Spotted Salamander Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog	All Ecosites associated with these ELC Community Series: FOC FOM FOD SWC SWM SWD •Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	Presence of a wetland, pond or woodland pool (including vernal pools) >500m^2 (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). • Some small wetlands may not be mapped and may be important breeding pools for amphibians. •Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.	Presence of breeding population of: - 1 or more of the listed newt/salamander species or - 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or - 2 or more of the listed frog species with Call Level Codes of 3. •A combo of observational and call count surveys required during the spring (March-June) . •The habitat is the wetland area plus a 230m radius of woodland area. • If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat.	The small wetland is not greater than 500m^2. Although frogs were heard incidentally near the area, it does not qualify as SWH.
Amphibian Breeding Habitat (Wetlands)	Eastern Newt, American Toad, Spotted Salamander, Four-toed Salamander, Blue-spotted Salamander, Gray Treefrog, Western Chorus Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog, American Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. •Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands.	Wetlands >500m^2 (about 25m diameter), supporting high species diversity are significant; •some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. •Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. • Bullfrogs require permanent water bodies with abundant emergent vegetation.	Presence of breeding population of: -1 or more of the listed newt/salamander species or -2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or -2 or more of the listed frog/toad species with Call Level Codes of 3. or; -Wetland with confirmed breeding Bullfrogs are significant. •The ELC ecosite wetland area and the shoreline are the SWH. •A combo of observational and call count surveys will be required during the spring (March-June). •If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered.	No habitat matching criteria identified in Study Area.
Woodland Area-Sensitive Bird Breeding Habitat	Red-breasted Nuthatch, Veery, Blue-headed Vireo, Northern Parula, Black-throated Green Warbler, Blackburnian Warbler, Black-throated Blue Warbler, Ovenbird, Scarlet Tanager, Winter Wren, Pileated Woodpecker SPECIAL CONCERN: Canada Warbler	All Ecosites withing: FOC FOM FOD SWC SWM SWD	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. •Interior forest habitat is at least 200 m from forest edge habitat.	Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. *any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. • Conduct field investigations in spring and early summer. • Specific evaluation methods required	No habitat matching criteria identified in Study Area as the woodland is too small.

HABITATS OF SPECIES OF CONSERVATION CONCERN

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Presence of Habitat at 3770 Hazel Street |
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	
Marsh Bird Breeding Habitat	American Bittern, Virginia Rail, Sora, Common Gallinule, American Coot, Pied-billed Grebe, Marsh Wren, Sedge Wren, Common Loon, Green Heron, Trumpeter Swan SPECIAL CONCERN: Black Tern, Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites	Nesting occurs in wetlands. All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. •For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water..	Presence of: - 5 or more nesting pairs of Sedge Wren or Marsh Wren or -breeding by any combination of 4 or more of the listed species. •any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. •Area of the ELC ecosite is the SWH. •Breeding surveys should be done in May/June. • Specific evaluation methods required	Habitat matching criteria found in the Study Area. Studies to confirm habitat were not completed. No incidental observations of wildlife species were made.
Open Country Bird Breeding Habitat	Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow SPECIAL CONCERN: Short-eared Owl	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30 ha. •Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years). •Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. •The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species.	Presence of nesting or breeding of: -2 or more of the listed species. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. •The area of SWH is the contiguous ELC ecosite field areas. •Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Specific evaluation methods required.	No habitat matching criteria identified in Study Area.
Shrub/Early Successional Bird Breeding Habitat	INDICATOR SPECIES: Brown Thrasher Clay-coloured Sparrow COMMON SPECIES: Field Sparrow, Black-billed Cuckoo, Eastern Towhee, Willow Flycatcher SPECIAL CONCERN: Golden-winged Warbler	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 •Patches of shrub ecosites can be complexed into a larger habitat for some bird species.	Large field areas succeeding to shrub and thicket habitats>10ha in size. •Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no rowcropping, haying or livestock pasturing in the last 5 years). •Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. •Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands.	Presence of nesting or breeding of - 1 of the indicator species and at least 2 of the common species. •A habitat with breeding Yellowbreasted Chat or Golden-winged Warbler is to be considered as SWH. •The area of the SWH is the contiguous ELC ecosite field/thicket area. •Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Specific evaluation methods required	No habitat matching criteria identified in Study Area.
Terrestrial Crayfish	Chimney or Digger Crayfish Devil Crayfish or Meadow Crayfish	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1-with inclusions of above meadow marsh ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. •Usually the soil is not too moist so that the tunnel is well formed. •Can often be found far from water.	Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. • Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. •Surveys should be done April to August in temporary or permanent water. • Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult.	Habitat matching criteria found in the Study Area. There were no observations of terrestrial crayfish to confirm habitat.

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Presence of Habitat at 3770 Hazel Street |
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	
Special Concern and Rare Wildlife Species	All Special Concern and Provincially Rare (S1, S2, S3, SH) plant and animal species. Lists of these species are tracked by the NHIC	All plant and animal element occurrences (EO) within a 1 or 10km grid.	identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites	Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. •The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat.	Two element occurrences of Special Concern species or rare Wildlife Species identified within 1km of the Study Area - Grass Pickerel (NHIC) - Black Gum (NHIC) Background Atlas and Citizen Science database review identified 9 Special Concern species within 10km of the Study Area - Common Nighthawk (OBBA, eBird) - Eastern Wood-pewee (OBBA, eBird) - Wood Thrush (OBBA, eBird) - Grasshopper Sparrow (OBBA) - Canada Warbler (eBird) - Dense Blazing Star (iNaturalist) - Swamp Rose Mallow (iNaturalist) - Monarch (iNaturalist,OMA) - Snapping Turtle (ORAA)

ANIMAL MOVEMENT CORRIDORS

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Presence of Habitat at 3770 Hazel Street |
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	
Amphibian Movement Corridors	Eastern Newt, American Toad, Spotted Salamander, Four-toed Salamander, Blue-spotted Salamander, Gray Treefrog, Western Chorus Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog, American Bullfrog	Corridors may be found in all ecosites associated with water.	Corridors will be determined based on identifying the significant breeding habitat for these species. Movement corridors between breeding habitat and summer habitat. Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from this Schedule.	Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m. Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat.	Field studies were not completed to confirm if the MASM1-1 polygon provided amphibian breeding habitat. However, the Study Area does not provide 15m of vegetation on both sides of waterway or up to 200m wide of woodland habitat.

SIGNIFICANT WILDLIFE HABITAT EXCEPTIONS FOR ECODISTRICT EITHIN ECOREGION 7E

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Presence of Habitat at 3770 Hazel Street |
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	
Bat Migratory Stopover Area	Hoary Bat Eastern Red Bat Silver-haired Bat	No specific ELC types.	Long distance migratory bats typically migrate during late summer and early fall from summer breeding habitats throughout Ontario to southern wintering areas. Their annual fall migration may concentrate these species of bats at stopover areas.	Only confirmed site is Long Point. Confirmation criteria and habitat areas are still being determined.	No habitat matching criteria identified in Study Area.

Appendix D

Recommended Plant List

Common Name	Scientific Name
Trees	
Tulip Tree	*Liriodendron Tulipifera*
Ironwood	*Ostrya virginiana*
Red Oak	*Quercus rubra*
White Pine	*Pinus strobus*
White Cedar	*Thuja occidentalis*
Basswood	*Tilia americana*
Kentucky Coffee Tree	*Gymnocladus dioicus*
Shrubs	
Downy Arrowwood	*Viburnum rafinesqueanum*
Chokecherry	*Prunus virginiana*
Allegheny Blackberry	*Rubus allegheniensis*
Swamp Red Currant	*Ribes triste*
Gray Dogwood	*Cornus racemosa*
Seed Mixes	
Low Maintenance Retention Basin Native Seed Mixture (Ontario Seed Company 8220)	
Southern Ontario Native Meadow Mix (Sassafras Farms)	
Wildlife Forest Edge Mixture (Sassafras Farms)	