From: Banach, Isaiah
Sent: Thursday, December 16, 2021 10:44 AM
To: 'Stuart Wright' <[redacted]>
Cc: Kira Dolch <kdolch@forterie.ca>; Wayne Redekop <wredekop@forterie.ca>; Insinna, Tom <Tom.Insinna@niagararegion.ca>; Sergi, Michelle <Michelle.Sergi@niagararegion.ca>
Subject: RE: Nigh Road Lands

Hi Stuart –

Thank you for the email below and speaking with us yesterday about your boundary expansion request.

You provided us with a new Environmental Constraints Report. This information was not available before we prepared our boundary recommendations in the December Report PDS 41-2021. Our recommendations were based on the best available information at the time.

As you know, our boundary recommendations were provided for information only, so we could consult further and review any new information. We will closely consider your Environmental Report and schedule a further meeting with you in the new year to discuss. We will do this in advance of any further report on boundary recommendations.

I look forward to our continued dialogue.

Kind regards
Isaiah

Isaiah Banach
Manager, Long Range Planning
905-980-6000 ext. 3485
isaiah.banach@niagararegion.ca

Niagara Region, Planning and Development Services
1815 Sir Isaac Brock Way, P.O. Box 1042
Thorold, ON L2V 4T7

From: Stuart Wright <[redacted]>
Sent: Thursday, December 16, 2021 9:53 AM
To: Banach, Isaiah
Cc: Kira Dolch ; Wayne Redekop ; Insinna, Tom
Subject: Fwd: Nigh Road Lands

Good morning Isaiah,

RE: SABR ID: 1137, 0 Nigh Road

Further to our zoom meeting yesterday i am resending the Comprehensive Environmental Constraints Report prepared by LCA Environmental Consultants along with an email from Lisa Price, Principal of LCA Environmental in support of this property for development potential.

We initiated a comprehensive review with Lisa's firm in the winter of 2021 and in-depth field studies were commenced in April, 2021 to address any potential environmental concerns and/or restraints that may exist. A number of field visits and field studies were completed throughout the Spring and Summer of 2021 that allowed LCA Environmental Consultants to prepare this comprehensive report in support of our request.

The logic behind this report was to illustrate that this rural property was suitable for development within the urban boundary area which could utilise the existing infrastructure already in place on Buffalo Road. As mentioned yesterday this report could not have been provided any sooner due to the timing of required field visits and studies that LCA was required to complete

I am not clear on how your SABR system works as there is no scoring system but based on the attached ECR report i feel the following criteria should be adjusted in support of this request.

Sanitary Servicing, point 3
Municipal Water Supply, point 3
Environmental Protection and Natural Resources, point 1,2,3,4,5,6
Growth Management, point 1

I appreciated your time and consideration and should you have any questions or concerns regarding this report or the email from Lisa please let me know

Best regards

Stuart Wright

---------- Forwarded message ---------
From: **Lisa Price** <[redacted]>
Date: Mon, 13 Dec 2021 at 12:06
Subject: Nigh Road Lands
To: Kira Dolch <[redacted]>
Cc: Anne McDonald <[redacted]>, Stuart Wright
<[redacted]>

Hi Kira

I am writing on behalf of Stewart Wright with regard to the Nigh Roads lands. I understand that these lands were not considered as part of the recommended UBE areas based primarily on the Regional and provincial mapping. We have completed a comprehensive ECR which highlights the potential development areas that have been incorrectly identified as other woodlands and concluded that there is development potential on these lands that could take advantage of the existing infrastructure.

Please let me know if you have any questions or require further details for your review of this additional information.

Regards
Lisa

From: Millar, Chris
To: "Stuart Wright"
Bcc: Banach, Isaiah
Subject: RE: 0 Nigh Road Fort Erie - Settlement Boundary Expansion Request
Date: Saturday, December 4, 2021 9:14:00 PM

Hi Stuart,

Thanks for the e-mail.
Just to be clear on what is happening, this Report PDS 41-2021 will be at PEDC Committee on December 8. We are not asking for Committee and Council's endorsement. It is, however, Planning staff's recommendations for expansion for Committee and public information.

There will be additional public consultation on this together with the draft Niagara Official Plan.

Commenting on the draft settlement expansions will be gathered up until February 7th and of course we will make arrangements to meet with you prior to that.

Sincerely,
Chris

From: Stuart Wright <2282344ontarioinc@gmail.com>
Sent: Saturday, December 4, 2021 5:00 AM
To: Millar, Chris <Chris.Millar@niagararegion.ca>
Subject: Re: 0 Nigh Road Fort Erie - Settlement Boundary Expansion Request

Hi Chris,

Thank you very much for your email yesterday.

I was not aware that there were further consultations and thought this was going to committee next week.

Susan had mentioned that there would be an upcoming meeting and we look forward to meeting with you and your colleagues.

Have a great weekend

Stuart

On Fri, Dec 3, 2021 at 10:56 AM Millar, Chris <Chris.Millar@niagararegion.ca> wrote:

> Hi Stuart,
> Thank you for your e-mail.
>
> Following the requested July 2, 2021 deadline for expansion consideration and the subsequent report to Regional PEDC in August, the SABR review and assessment exercise was undertaking and completed based on fulfilling the identified land need for Fort Erie. Regional staff are advancing it's recommended locations as most appropriate for expansion at this time.
>
> These recommendations remain draft and will be subject to further consultation and public input up until February 7, 2021.
>
> The Report is available now and will be received at the upcoming December 8 PEDC meeting. You can access the report through the agenda or at the following location.
>
> https://www.niagararegion.ca/official-plan/settlement-area-boundary-review-dec-2021.aspx
>
> PEDC and Council are not making any decisions on the boundaries at the upcoming meeting.
>
> An e-mail was sent to Susan Smyth Tuesday or Wednesday (yesterday) advising of the Report's (PDS 41-2021) release with offer to have a meeting arranged to discuss our SABR exercise and your property.
>
> We will be reaching out in the next week or so to make arrangements for a date/time to have a meeting.
>
> Thank you, Stuart.
>
> Sincerely,
> Chris
>
> ---
>
> **From:** Stuart Wright <2282344ontarioinc@gmail.com>
> **Sent:** Friday, December 3, 2021 9:18 AM
> **To:** Millar, Chris <Chris.Millar@niagararegion.ca>
> **Cc:** Susan Smyth <ssmyth@quartekgroup.com>; Kira Dolch <kdolch@forterie.ca>
> **Subject:** 0 Nigh Road Fort Erie - Settlement Boundary Expansion Request
>
>

Good morning Chris,

Further to previous correspondence provided i am pleased to provide you with the complete Environmental Constraints Report prepared by LCA Environmental Consulting for our respective property with roll number 270302001064700.

As you will note in the summary of the report LCA Environmental Consultants has noted the following.

1) *Significant Woodlands* - Only the southeast corner of the property meets the criteria for designation as significant and designated Regional ECA. The rest of the significant woodlands currently on the property do not meet significance criteria and mapping should be updated to reflect existing conditions.

2) *Locally Significant Natural Area* - The cultural thicket and remnant woodland in the northwest corner are identified as a natural area, but do not contribute significant functions for which the natural area was designated as LSNA

3) *Unevaluated Wetland* - The unidentified wetland as designated by NDMNRF in the NHIC mapping does not meet the requirements for designation as a wetland. However an unevaluated wetland was identified in the Freeman's Maple Deciduos Swamp in the southern portion of the subject property

4) *Significant Wildlife Habitat* - NO SWH was identified on the subject property

5) *Corridor* - The surrounding woodland habitat and rural landscape will continue to provide connectivity between natural areas west and south of the subject property

This completes our reporting at this time relating to our request for consideration for the Settlement Boundary Expansion for 0 Nigh Road and to summarize of the reports provided

1) GM Blue Plan Wastewater and Water Modeling
2) Paradigm Transportation - Qualitative Transit and Transportation Assessment
3) LCA Environmental Consultants - Environmental Constraints Analysis
4) Detritus Consulting - Stage I and II Archaeological Assessment

Should you have any questions regarding this report, previously provided information or require further information please do not hesitate to contact me via email or cell phone at 905-651-3242

Thank you for your time and consideration regarding this matter

Stuart Wright
2282344 Ontario Inc.

0 NIGH ROAD, FORT ERIE

ENVIRONMENTAL CONSTRAINTS ANALYSIS

Prepared For: Stuart Wright

Prepared By:
LCA Environmental Consultants

DECEMBER 2021

Table of Contents

APPENDICES

1 INTRODUCTION

LCA Environmental Consultants were retained by Mr. Stuart Wright to complete an Environmental Constraints Analysis for the property located at 0 Nigh Road, Fort Erie. Field studies were completed throughout the 2021 field seasons according to the Terms of Reference submitted to the Region of Niagara and Niagara Peninsula Conservation Authority (NPCA). This Constraints Report provides background information and current field data to inform the landowner of constraints to development associated with the natural heritage features on the subject property and suitability for inclusion in the Urban Area Boundary expansion.

The study area is approximately 10.5 hectares in size and is located outside of the Urban Area Boundary (UAB) according to Schedule A of the Town of Fort Erie Official Plan. The lot is part of the Provincial Natural Heritage System (NHS) and contains Regionally and Municipally designated Environmental Conservation Areas (ECA). The ECA designated lands include Regionally Significant Woodlands and Locally Significant Natural Areas (LSNAs) as defined in the Town of Fort Erie Natural Areas Inventory (Dougan & Associates, 2003).

This report follows the Regional Municipality of Niagara EIS Guidelines for preparation of an Environmental Constraints Report (ECR), assessing natural heritage and ecological features to identify areas of environmental significance which place constraints on development. The constraints analysis is prepared in accordance with the Provincial Policy Statement (2020), Region of Niagara natural heritage policies, and the Town of Fort Erie Official Plan policies.

1.1 Study Objectives

The primary objective of the study is to identify the natural heritage features located on the subject property and assess their ecological or hydrologic significance with regard to existing policies and guidelines. The assessment involves review of existing Provincial, Regional and Municipal policies, as well as current legislation and available guidelines to identify the significance of the natural heritage features.

Significant natural areas which limit development will be identified and mapped based on their significance and degree of restrictions to alteration imposed by existing policies. The constraints map will identify areas which are not suitable for development as high constraint, areas where development should be avoided, or impacts mitigated, as moderate constraint and areas where development can occur without significant impact as low constraint. All proposed development will be subject to agency approval and implementation of recommended mitigation measures. In addition to establishing constraints to development, the assessment will identify areas where there are opportunities for ecological enhancement.

1.2 Study Area

The property exists outside of the urban area boundary (UAB) and is currently zoned as Rural according to Schedule A of the Official Plan for the Town of Fort Erie. The site proposed for consideration in urban expansion is located at 0 Nigh Road, Fort Erie, and is approximately 10.5

hectares in size. It is legally described as ARN: 270302001064700, City of Fort Erie, Regional Municipality of Niagara, and is part of Lot 7 of Concession 2 & 3 on Lake Erie, Bertie Township. The property is located between the rural residential development along Rose Hill Road to the west, and urban residential Crescent Park development immediately east of the property, along Buffalo Road.

The property is located within the Natural Heritage System (NHS) delineated by the province under the Growth Plan for the Greater Golden Horseshoe (GGH) (MOI, 2018). To create continuity across Ontario, the NHS identifies key natural heritage features areas outside of the Greenbelt and Niagara Escarpment plan areas and linkages between them. The NHS policies have been developed to guide local municipalities in policy development to protect important natural heritage features outside of the urban area boundaries.

Existing natural features on the subject property include Regionally Significant Woodlands, which are designated Environmental Conservation Areas (ECAs). The woodlands are also designated as LSNA in the Town of Fort Erie Official Plan for satisfying three or more criteria for significance. Unevaluated wetland has been mapped by the Ministry of Natural Resources and Forestry (MNRF) in the north portion of the property.

The study area and surrounding landscape are shown in Figure 1.

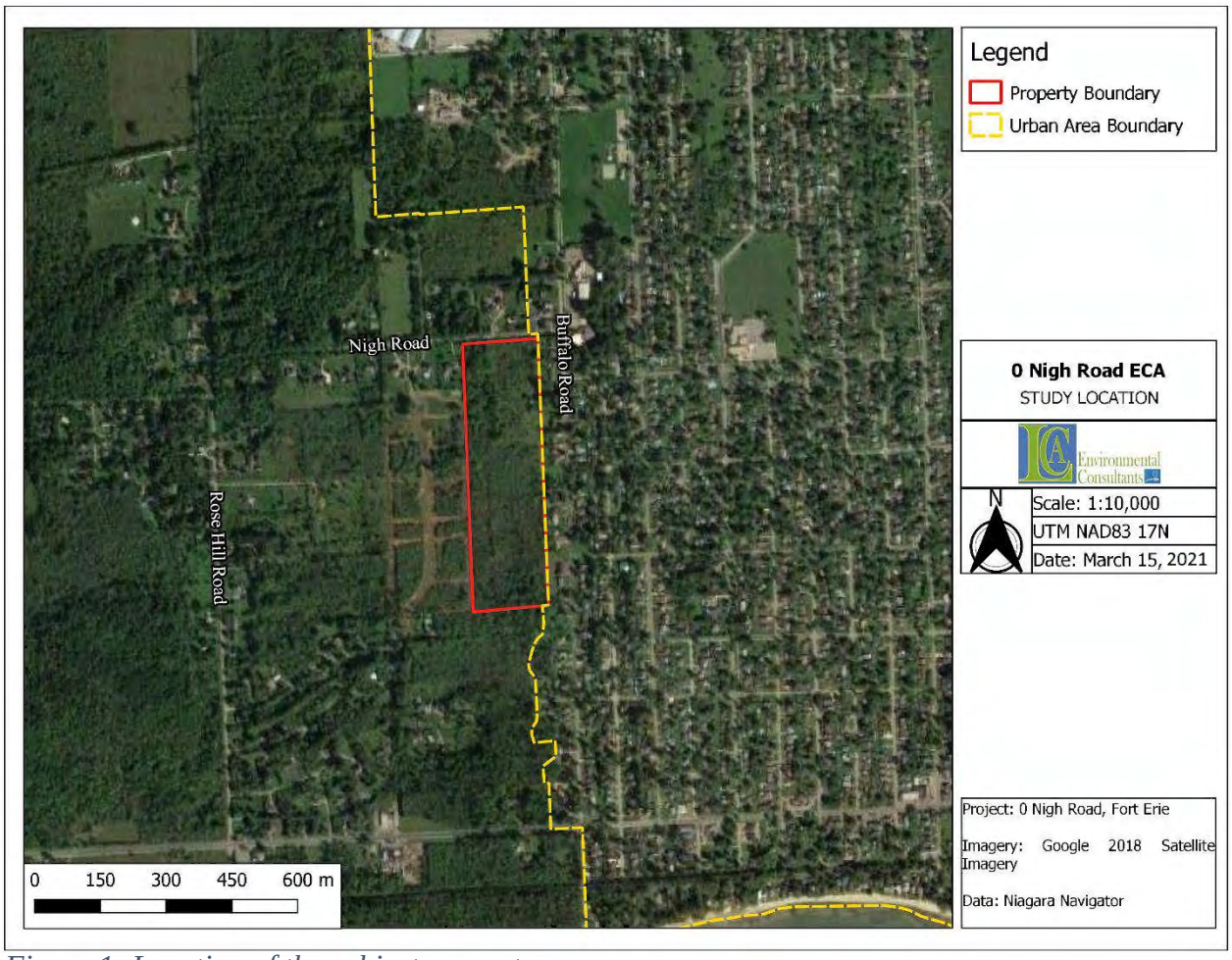

Figure 1: Location of the subject property

1.3 Pre-consultation and Study Scope

Pre-consultation was not completed with the Region of Niagara and Town of Fort Erie staff because there are no plans for development of the site at this point. However, LCA Environmental Consultants (LCA) prepared a Terms of Reference (TORs) for the completion of an Environmental Constraints Analysis and submitted to the Region of Niagara and NPCA on March 15, 2021. The TORs outlined the intended study approach and the proposed work plan.

While the Region and NPCA both received the TORs, neither agency provided comment on the proposed work plan. Although agency review and subsequent approval of TORs is required for an Environmental Impact Study (EIS), the constraints analysis is intended to provide guidance in development of a site plan and can form the basis of the EIS if completed within 5 years of the original data collection. When a development plan has been prepared for the subject property, the Environmental Constraints Report (ECR) can be provided to the agencies to determine if any additional studies are required.

The ECR has been completed because the subject property contains natural heritage features mapped as ECA and their significance must be assessed to identify any constraints to development.

The following studies were completed as proposed in the TORs provided to the Region of Niagara and NPCA:

- Ecological Land Classification and mapping
- Two Season Botanical Inventory
- Breeding Bird Survey
- Reptile / Amphibian visual encounter surveys
- Bat Monitoring
- Woodland Feature Delineation
- Other Species at Risk surveys including incidental observations

The proposed TORs and email correspondence has been included in Appendix B of this report.

2 STUDY BACKGROUND AND SCOPING

2.1 Literature Review

Background studies reviewed for this EIS include:

- Natural Heritage Information Centre database (MNRF)
- Atlas of the Breeding Birds of Ontario (ABBO)
- iNaturalist.org
- Town of Fort Erie Official Plan (2011)
- Growth Plan for the Greater Golden Horseshoe (2020)
- Natural Areas Inventory for the Town of Fort Erie (2003)
- Fort Erie Creeks Watershed Plan (2008)
- Endangered Species Act (2007)
- Consolidated Regional Official Plan (2014)
- Provincial Policy Statement (2020)

Additional references are listed at the end of this report.

The Fort Erie Natural Areas Inventory (NAI) completed by Dougan & Associates in 2003 was prepared to assess the natural areas within the Town of Fort Erie's urban areas. The goal of the NAI was to assist in the development of natural heritage mapping and planning policies for the Town's Official Plan. Natural areas which met three of seven criteria for assessing significance of natural features were designated as Locally Significant Natural Areas (LSNA). Pursuant to Policy 8.3.I of the Official Plan of the Town of Fort Erie, LSNAs are designated ECA on the Town's natural heritage mapping.

The subject property and the associated natural area were included in the NAI and assessed for significance. According to the Fort Erie NAI Vol 2, the study area and surrounding natural areas fulfilled the following significance criteria: presence of designated area (Fort Erie 05 Locally Significant Wetland); hydrologic functions, including stormwater detention, flood control, and erosion protection; and special features, with significant plant and wildlife species identified.

The subject property is located within the Bertie Bay drains subwatershed of the Fort Erie Creeks Watershed. The Bertie Bay drains subwatershed is approximately 8.26 square kilometers and is occupied primarily by natural areas and rural residential development. The Fort Erie Creeks Watershed Plan (NPCA, 2008) provides information on the water resources associated with the subject property including groundwater recharge and discharge areas and aquatic habitat. The NPCA Groundwater Study Susceptibility map indicates that the subject property has high intrinsic susceptibility, likely due to presence of sand and/or a thinner overburden. No fish habitat was identified on or within the vicinity of the study area.

The Natural Heritage Information Centre (NHIC) was also consulted to search for recent and historical records of provincially significant flora, fauna and natural heritage features on, and in proximity to the site.

2.2 Baseline Data Assessment

Species at Risk (SAR) screening was completed for the subject property to verify whether any additional surveys were required. The SAR screening involved cross-referencing the list of species known to occur in the Town of Fort Erie with the habitat that is present on the subject property to determine potential for occurrence. Species tracked by the Natural Heritage Information Centre and identified within the area were also included as having potential to occur. A total of seventeen (17) SARs were identified as having potential to occur on the subject property (Appendix C).

Six of the species identified as having potential to occur within the study area property were avian species and four were mammalian. Breeding Bird Surveys were completed to monitor bird species using the study area and to identify any potential Significant Wildlife Habitat. All four mammalian SAR identified were bats and bat habitat surveys were carried out in accordance with MNRF protocols for surveying SAR bats in treed habitats (2017).

The four botanical SAR were monitored through vegetation inventories while the three insect SAR identified as having potential to occur (Monarch Butterfly, West Virginia White, and Rusty Patched Bumblebee) were monitored through incidental observations. No additional surveys were required to monitor any SAR identified as having potential to occur beyond what was scoped in the Terms of Reference.

Field assessments were completed throughout the spring and summer of 2021 by LCA Environmental staff to assess natural heritage features and their ecological functions, and to identify any constraints to development or enhancement opportunities present on the property. All field surveys were completed according to current standardized protocols as outlined in the Terms of Reference approved by the Region of Niagara. A summary of the field survey dates and protocols has been included in Appendix C.

2.3 Analysis of Significant Features

Biological field data were evaluated to assess the significance of the natural heritage features on the subject property. Provincial status of plants and wildlife was verified according to the Natural Heritage Information Centre (NHIC, 2020) and the status of each species within the Region of

Niagara was also verified (Oldham, 2017). Status rankings for plants and wildlife are primarily based on the number of occurrences provincially and globally.

Potential sensitivity of natural features and functions within the study area was also measured through an assessment of:

- Vegetation communities (habitat quality, degree of disturbance);
- Sensitive species (rare plants or wildlife);
- Significant Wildlife Habitat; and
- Linkage functions and connectivity.

The relative significance of the natural features on the subject property was evaluated with regard to local (Official Plan for the Town of Fort Erie), Regional (Consolidated Regional Official Plan) and Provincial (Provincial Policy Statement) planning documents, Federal and Provincial Species at Risk legislation, and Significant Wildlife Habitat Criteria for Eco-region 7E (MNRF, 2017).

3 POLICY AND LEGISLATIVE FRAMEWORK

Before plans for development are drafted, a constraints analysis must identify the existing conditions of the site, the applicable policies and regulations, and field studies must assess the natural heritage and hydrologic features and their functions. A summary of the policies and guidelines at the Provincial, Regional, and Municipal level has been provided below in accordance with the region of Niagara EIS Guidelines (2018).

Table 1: Summary of the Policies and Legislations which are applicable to the study area and the associated natural features.

Policy Document	Policy Section	Policy Summary	Application
Provincial Policy Statement, 2020	**2.1** Natural Heritage	**2.1.2** Diversity, connectivity, and function of natural systems should be maintained, restored, or improved	The study area contains ECA woodlands and potential unevaluated wetlands. Also contains potential habitat for threatened or endangered species.
		2.1.5 No development in significant wetlands, woodlands, valleylands, wildlife habitat, or ANSIs unless no negative impact is demonstrated	
		2.1.7 Development not permitted in habitat of endangered/threatened species	
		2.1.8 No development on lands adjacent to natural heritage features unless no negative impact is demonstrated.	
A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020)	**4.2.2** Natural Heritage System (NHS)	**4.2.2.3** Development within NHS must demonstrate no negative impacts on key features or connectivity	Significant woodlands mapped as part of the Natural Heritage System. Currently located outside of a settlement area.
		4.2.2.4 Until NHS mapping is incorporated into municipal plans, Regional Official Plan Policies apply.	
	4.2.3 Key Features	**4.2.3.1** No development in key features of NHS outside settlement areas.	
		4.2.3.2 Development may be permitted in hydrologic areas if functions will be protected, enhanced, or restored	
	4.2.4 Land Adjacent to Key Features	**4.2.4.1** Outside settlement areas, minimum 30m vegetation protection zone for development adjacent to key natural heritage or hydrologic features.	
		4.2.4.3 No development within vegetation protection zone	
Endangered Species Act (2007)	Protection and Recovery of Species	**10.1** Prohibits damage or destruction to habitat of endangered, threatened, or extirpated species under SARO.	Seventeen SAR with potential to occur. Eleven listed as threatened or endangered
Migratory Bird Convention Act, 1994	Purpose	**4** Protect and conserve migratory birds and their nests.	Potential nesting habitat for migratory birds
Niagara Region Official Plan, 2014	**7.B** The Core Natural Heritage System	**7.B.1.1** Core Natural Heritage includes: a. Core Natural Area, (EPA or ECA); b. Potential Natural Heritage Corridors; c. Greenbelt Natural Heritage and Water Resources System; and d. Fish Habitat	The study area contains Core Natural Heritage features including Regionally Significant Woodlands
		7.B.1.11 Development not permitted in ECA unless no negative impact on CNH feature or adjacent land.	

		7.B.1.13 Development should be designed to maintain or enhance ecological functions of Potential Corridors.	
NPCA Land Use Policy Document, 2018	**8.2.2** Development within a wetland	**8.2.2.1** no development or site alteration within a wetland	No NPCA regulated features on the property, but Province mapped potential unevaluated wetland on the property.
	8.2 Policies for Planning Regulating Development and Interference with Wetlands	**8.2.3.1** No development within 30m of a wetland	
		8.2.3.4 Lot creation not permitted within 30m of wetland. May be permitted between 15 and 30m.	
Fish and Wildlife Conservation Act, 1997	**7** Nests and Eggs	**7.1** No person shall destroy, take or possess the nest or eggs of a wild bird	Potential nesting habitat during breeding bird season.
Town of Fort Erie Official Plan, 2011	**8.3** Environmental Conservation Areas	**8.3.1** Development within or adjacent to locally significant natural areas only permitted if no negative impact demonstrated	Locally Significant Natural Areas (LSNA) designated as Environmental Conservation present.
	8.3.3 Woodlands, Thickets and Meadowlands	**8.3.3.2** EIS required to ensure retention of important features and functions of woodlands, thickets, or meadows not identified as LSNA by the NAI	

4 DESCRIPTION OF EXISTING CONDITIONS

4.1 Existing Data

4.1.1 Site History

The property has historically been used for agricultural purposes and was surrounded by other agricultural lands, as seen in the 1934 aerial photograph, below (Figure 2). Over the years, parts of the property were left to naturalize, and farming of the property ceased altogether in the early 2000's. The property has never been contained any residential or farm structures. Development of the Crescent Park community, east of the subject property progressed slowly from 1934 to the mid 1960s, with the balance of the urban area being developed prior to 2000. West of the subject property, development has been limited to rural residential development along Nigh Road and Rosehill Road.

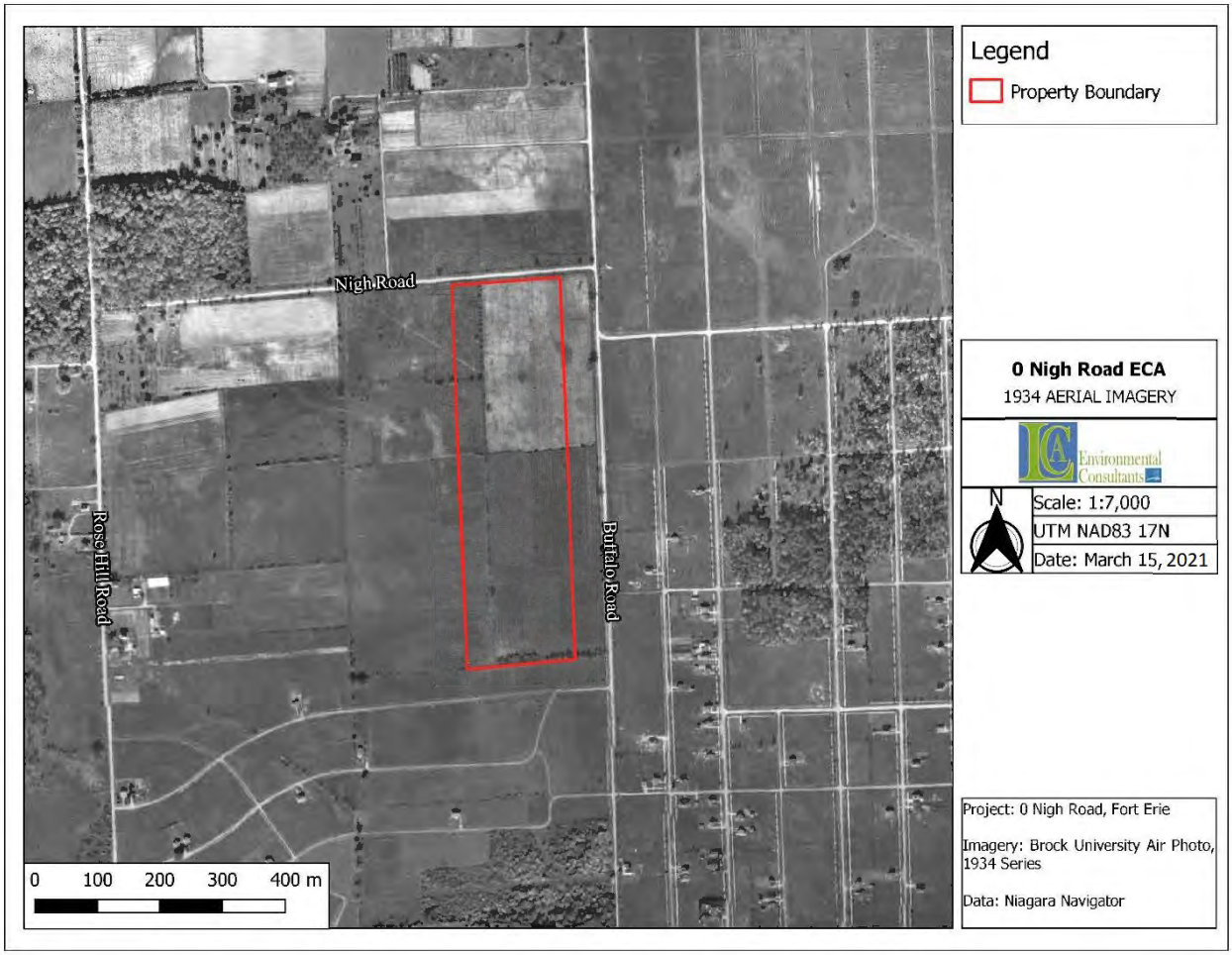

Figure 2: Historical imagery of the study site (1934). Imagery source: Brock University Niagara Air Photo Collection.

4.1.2 Physiography, Soils and Drainage

A preliminary assessment of the soil characteristics and site physiology was conducted by reviewing the Soil Survey Report for the Regional Municipality of Niagara and the associated relevant maps (Ontario Institute of Pedology, 1989). The subject property is situated south of the Onondaga Escarpment and is associated with the Haldimand Clay Plain.

The topography of the site is described as smooth basin to level, with a 0-2% slope. According to the Soils of Fort Erie – Port Colborne mapping, Malton (MAT.R) soils dominate the study area with a small pocket of Welland (WLL) soils in the southeast corner of the property.

MAT soils on the property are of the red phase variety and are comprised of reddish hued lacustrine silty clay or clay loam till. MAT soils are associated with Fort Erie Moraines and are poorly drained and slowly permeably. They are usually saturated by groundwater tables for long periods of the year. MAT soils have a relatively high water-holding capacity with slow surface runoff.

WLL soils on the property are mainly reddish hued lacustrine heavy clay associated with the Haldimand Clay Plain. WLL soils are poorly drained and slowly permeably, except during summer

when surface cracking increases the permeability. Groundwater levels remain close to the surface except during the summer months. WLL soils have a relatively high water-holding capacity with slow to moderate surface runoff.

4.1.3 Existing Natural Heritage

4.1.3.1 Significant Woodland

The Region of Niagara's Core Natural Heritage map identifies the Significant Woodland throughout the property as Environmental Conservation Areas (ECAs). The woodlot has been identified as ECA Woodlands because it satisfies the significance criteria for size at 10 hectares outside the UAB and south of the Niagara Escarpment according to Regional Policy 7.B.1.5.

At the Municipal level, Schedule C of the Official Plan of the Town of Fort Erie identifies the subject property as containing EC overlay. The Official Plan designates Locally Significant Natural Areas (LSNAs), which have been identified through the Natural Areas Inventory (Dougan, 2003), as EC lands. The subject property contains LSNA because the overall natural area, extending from Nigh Road to Dominion Road, met three of the criteria for determining significance according to the 2003 NAI and was therefore identified as an LSNA. The three criteria which were satisfied by the natural area were the presence of a designated area (Fort Erie 05 Locally Significant Wetland), hydrological function (stormwater detention, flood and erosion control), and the presence of significant plant and wildlife species.

The woodlands may also be considered significant if they contain endangered, threatened, or special concern species. However, additional studies are required to determine if any additional criteria for significance are fulfilled by the woodlands in the study area.

4.1.3.2 Natural Heritage System

The Growth Plan for the Greater Golden Horseshoe (GGH, 2017) provides for the identification of a Natural Heritage System (NHS) outside of the Greenbelt Area and offers protection to the NHS within the rural areas of the GGH. The NHS was created and issued by the province in November 2018. Within the newly defined NHS, development and site alteration are to demonstrate that there will be no negative impact to key natural heritage or hydrologic features or their functions, and that connectivity will be maintained or enhanced. The NHS excludes any land that was within settlement area boundaries (urban areas, hamlets, etc.) prior to July 1, 2017.

According to Policy 4.2.2.7, if the settlement area is expanded to include a portion of the NHS in accordance with the applicable Growth Plan policies (Policy section 2.2.8), the portion of the NHS that is within the revised settlement area boundary is no longer subject to Policy 4.2.2.3 of the Growth Plan, which restricts development within the NHS. However, it also requires that the natural features be protected to ensure that connectivity, diversity and significant function is maintained, restored, or enhanced.

4.1.3.3 Unevaluated Wetland

The MNRF Natural Heritage mapping has identified a potential unevaluated wetland feature in the north section of the property. Field studies were conducted to determine whether this wetland feature exists as mapped and to determine the level of significance if present.

Figure 3 below shows the existing natural heritage on the subject property as mapped by the Region of Niagara, the Town of Fort Erie, and the Ministry of Natural Resources and Forestry.

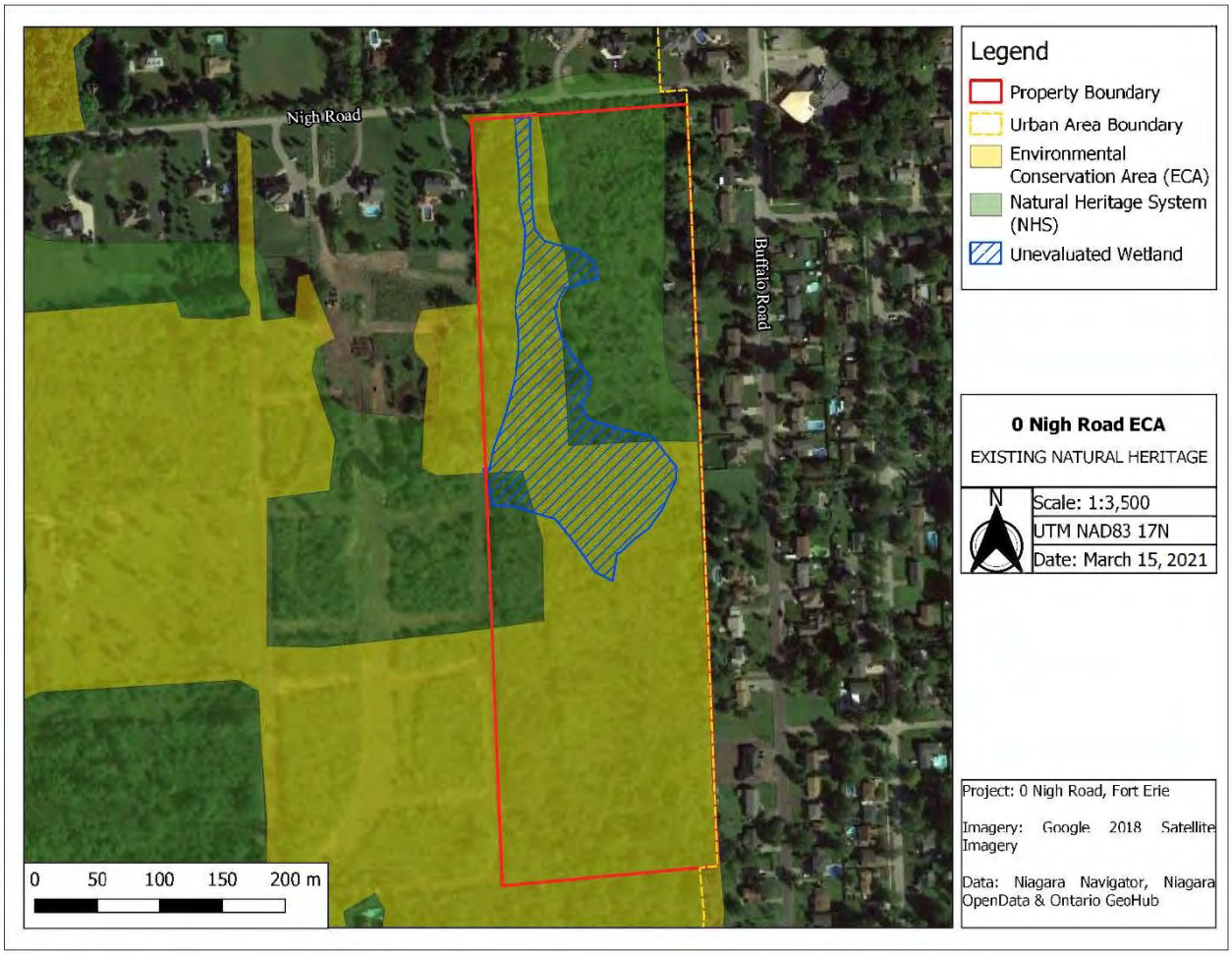

Figure 3: Existing Natural Heritage features on the subject property

4.2 Field Surveys

4.2.1 Ecological Land Classification

The vegetation communities on the subject property were evaluated, inventoried, and classified according to the Ecological Land Classification (ELC) System protocols (Lee et al., 1998) on July 22, 2021. Five polygons were assessed on the subject property (see Figure 4). Table 2 displays the ecosite for each polygon along with its assigned S-rank.

The updated Southern Ontario ELC Vegetation Type List (Lee, 2008) was used to classify the woodland polygon because it provides a wider range of vegetation types and more detailed descriptions of vegetation communities which are common to Southern Ontario. In particular, the

updated ELC Vegetation Type List (Lee, 2008) describes many culturally influenced communities including details about dominant species and soil types.

Table 2: Summary of the Vegetation Communities identified within the subject property

Polygon	Community Class	Ecosite Classification (2008)	Former Classification (1998)	S-Rank
1	Meadow	MEMM4	N/A	N/A
2	Thicket	THDM5-1	CUT1-4	N/A
3	Woodland	WODM4-4	N/A	N/A
4	Thicket	THDM2-6	N/A	N/A
5	Swamp	SWDM3-3	SWD3-3	S5

Polygon 1 was classified as a Fresh-Moist Mixed Meadow ecosite (MEMM4). The polygon is located on the east side of the property where there has been a history of clearing. The ground layer, which is comprised of species such as Knapweed, Goldenrod, and grasses, dominates the polygon. There are some shrubs throughout the polygon such as Silky Dogwood, Smooth Arrowwood, and Pussy Willow with a few Elm trees present in the canopy. The soils in the polygon were moderately well drained, very fresh sandy clay. The MEMM4 habitat is common in the Niagara Region where there is ongoing site disturbance, and it does not yet have an S-Rank in the province of Ontario.

Polygon 2 was classified as a Gray Dogwood Deciduous Thicket (THDM5-1). The polygon is located in the northeast corner of the subject property. The subcanopy is the dominant layer, comprised of Gray Dogwood and invasive European Buckthorn with some Common Pear and dead Ash trees scattered throughout the canopy. The understory also contained Honeysuckle, young Ash, and Meadowsweet. There was a dense ground layer of Goldenrod, grasses, and Agrimony. The soil within the polygon was moderately well drained sandy clay. The THDM5-1 habitat is common in the Niagara Region where there is a history of site disturbance, but it does not yet have an S-Rank in the province of Ontario.

Polygon 3 was classified as a Dry-Fresh Black Walnut Deciduous Woodland (WODM4-4). The polygon is located on the northwest corner of the study area and has a canopy dominated by Black Walnuts with few Freemans Maple, Eastern Cottonwood and old fruit trees. The understory was sparce, creating a cultural savanna type habitat, and it was composed primarily of European Buckthorn, Rose, and Honeysuckle species. The ground layer consisted of predominantly grasses with some goldenrod and Knapweed species. The soil within the polygon was very fresh, moderately well drained sandy clay. The WODM4-4 habitat is also common in the Niagara Region where there is a history of site disturbance, but it does not yet have an S-Rank in the province of Ontario.

Polygon 4 occupied the central portion of the subject property and was classified as a Buckthorn Deciduous Shrub Thicket (THDM2-6), dominated by non-native species. The THDM2-6 habitat

was the largest polygon on the subject property. There were few dead ash trees scattered throughout the canopy; however, the subcanopy was the main layer and was dominated by European Buckthorn with other common shrubs and small trees, including Hawthorn and Gray Dogwood. The ground layer was sparsely vegetated, but included species such as grasses, Goldenrod, Jumpseed, and Poison Ivy. The soil within the polygon was moist sandy clay with imperfect drainage.

Polygon 5, located on the south side of the property, was classified as a Swamp Maple Deciduous Swamp (SWDM3-3). The swamp polygon community had a canopy dominated by Freemans Maple with dead Ash, Elms, and Bur Oaks throughout. Young Ash and Buckthorn were common throughout the understory with the ground layer consisting of facultative wetland species such as Spotted Jewelweed, Sensitive Fern and Goldenrod. The soils within the polygon were moist silty clay with imperfect drainage. According to the NHIC list of Ontario Vegetation Communities, the SWDM3-3 ecosite has an S-Rank of S5 and is secure in the Province of Ontario.

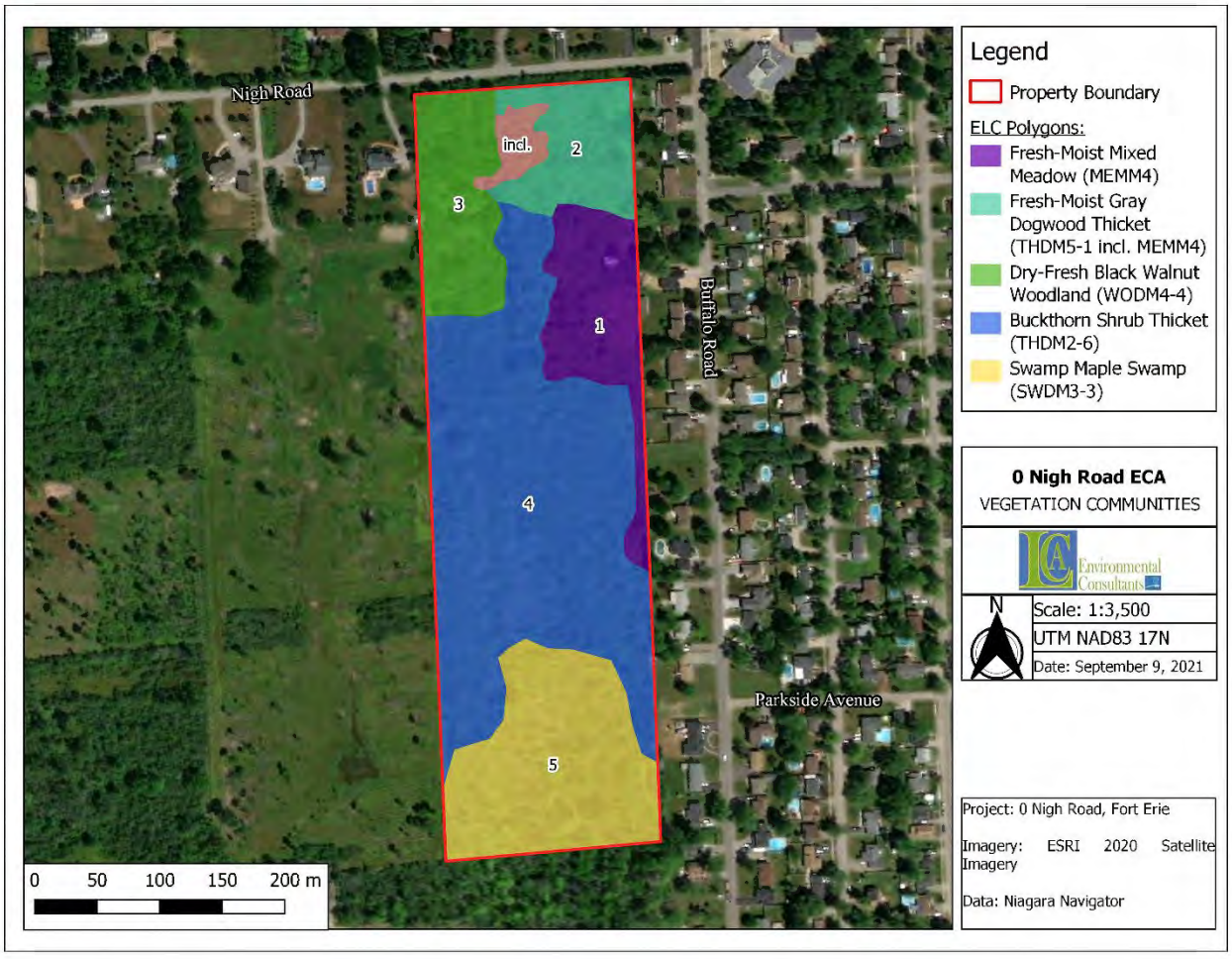

Figure 4: A map of the distribution of community types located on the subject property.

4.2.2 Botanical Inventory

A two-season vegetation inventory was completed for each polygon within the study area. Spring vegetation inventories were completed on May 6, 12 and June 1, 2021, and summer vegetation surveys were completed concurrent with ELC surveys on July 21, 2021. All surveys were carried out as a transect survey, by walking transects through the polygons and identifying all species observed.

A complete list of plant species within the study area was compiled and is included in Appendix D. The provincial status of each species was classified according to NHIC. Status was also assessed for the Region of Niagara (Oldham, 2017).

A total of 114 species were recorded in the study area. Twenty-six (26) of the species identified are non-native, or introduced to the Region, while the rest are considered native. All the species identified had an S-rank of S4 (apparently secure), S5 (secure), or SNA (non-native). All native species were considered common in the Niagara Region, except for Swamp Agrimony (*Agrimonia parviflora*) and Cuckoo Flower (*Cardamine pratensis*) which are rare, and Bur Oak (*Quescus macrocarpa*), Torrey's Rush (*Juncus torreyi*), and Foxglove Beardtongue (*Penstemon digitalis*), which have a status of uncommon in the Niagara Region (Oldham, 2017).

See Appendix D for a full list of species identified on the property.

4.2.3 Reptile and Amphibian Monitoring

Visual searches for reptiles, amphibians and their habitat were completed during site visits and hand searches were completed concurrent with vegetation transect surveys according to Ontario Species at Risk Snakes Survey Protocols. Woody debris and other cover items were inspected during surveys for reptile activity. Eastern Garter snake was the only reptile species observed on the subject property during field surveys.

Based on incidental observations, including amphibian calls recorded during daytime surveys, two species of amphibians were observed within the study area: Western Chorus Frog (*Pseudacris maculata*), and Green Frog (*Rana clamitans*). The species have a status ranking of secure (S5) and 'apparently secure' (S4) in the province of Ontario, respectively. (NHIC, 2018).

4.2.4 Avian Monitoring

Breeding Bird Surveys were carried out across the study area and were completed June 9 and July 5, 2021, using Bird Studies Canada's point count method. A detailed summary of protocols used can be found in Appendix C.

A total of thirty-one (31) species were observed on the subject property. All species observed are listed as secure (S5) or apparently secure (S4) in the province of Ontario, apart from three introduced (SNA) species (House Sparrow, House Finch and European Starling). For the full list of species identified on the property, see Appendix D.

Eastern Screech-Owl (S4) was heard calling from the southwest portion of the site on July 5th, indicating that it was using the study area or adjacent lands for breeding. The Eastern screech-owl

is a cavity nester. Two other cavity nesting birds were observed during breeding bird studies: Tree Swallow (S4B) and Great Crested Flycatcher (S4B). However, it is not clear where these species were nesting.

With the exception of these cavity nesters and Common Yellowthroat (S5B), a species of damp areas, the property was dominated by common backyard species of birds.

The global and provincial status ranking of each species according to NHIC was determined, and status listing under SARO was also noted. No Species at Risk birds were observed during breeding bird surveys.

4.2.5 Mammalian Monitoring

Incidental observations were made during all field visits to identify mammalian species present in the study area. Incidental observations included visual encounters and other signs such as animal tracks, scat, and presence of bones or carcasses. Signs of deer, coyotes, and other small mammals, including rabbits and rodents were common throughout the study area.

Surveys for bat habitat were carried out in accordance with the MNRF approved protocols for SAR bats in treed habitats (included in Appendix C). Snag surveys were completed on March 30, 2021, for the entire property to identify the potential for SAR bats on the property or Significant Wildlife Habitat (SWH). A snag is defined by the MNRF as any standing, live or dead tree with a DBH >10cm, and which has cracks, crevices, hollows, cavities, and/or loose or naturally exfoliating bark (See Appendix E). There were four (4) snags identified with the study area which included one Black Walnut, an Eastern Cottonwood, and two dead Ash trees.

However, the snags were typically considered low quality and due to the low density, no acoustic monitors were installed in the study area. In lieu of acoustic monitoring, mitigation measures should be considered if an EIS is completed to ensure impacts to bats or bat habitat are avoided. The EIS should consider mitigation measures such as timing restrictions on vegetation removal and/or preparation of a tree preservation plan.

A summary of mammalian species identified in the study area during field investigations is provided in Table 3, below.

Table 3: Summary of the mammalian species observed in the study area and their current provincial rank.

Common Name	***Scientific Name***	**S-Rank**
White-tailed Deer	*Odocoileus virginianus*	S5
Coyote	*Canis latrans*	S5
Eastern Cottontail	*Sylvilagus floridanus*	S5
Eastern Gray Squirrel	*Sciurus carolinensis*	S5

4.2.6 Significant Wildlife Habitat

The Significant Wildlife Habitat Technical Guide (MNRF, 2010) provides general information on the identification and assessment of Significant Wildlife Habitat (SWH). The Significant Wildlife

Habitat Criteria Schedules for Ecoregion 7E (MNRF, 2015) provides guidance on identifying candidate SWH within a study area and the criteria which must be met in order to confirm the presence of SWH. Information regarding suitable field studies and timing windows are also provided.

SWH can be classified into four different categories: Seasonal Concentration Areas, Rare Vegetation Communities or Specialized Habitat for Wildlife, Habitat of Species of Conservation Concern, and Animal Movement Corridors.

Presence or absence of the candidate SWH was determined through completion of the required field studies as identified in the SWH screening table included with the proposed Terms of Reference. The studies identified were carried out only in areas where suitable habitat existed. The SWH screening table is provided in Appendix B.

Results of the ELC evaluations, breeding bird surveys, bat monitoring, Species at Risk snake surveys and area searches completed during the 2021 field season were reviewed to confirm the presence or absence of candidate SWH in the study area. Survey results were assessed against the current SWH Criteria Schedules for EcoRegion 7E (2015) and no SWH was identified on the subject property.

5 ASSESSMENT OF NATURAL FEATURES AND FUNCTIONS

The following analysis pertains to the Policy 2.1 of the Provincial Policy Statement (PPS), which aims to protect natural heritage features and areas for the long term. Only those natural heritage features relevant to this study have been summarized.

The Natural Heritage Information Centre (NHIC, 2021) and the COSEWIC database (December 2019) were consulted to verify provincial significance of plant, bird, mammalian, and herpetofauna species. Regional significance of vascular plants was verified through review of the Checklist of the Vascular Plants of Niagara Regional Municipality, Ontario (Oldham, 2017).

5.1 Environmental Conservation Areas

The Region assigns Environmental Conservation Area (ECA) designation to significant woodlands, Significant Wildlife Habitat (SWH), habitat of species of concern, Regionally significant ANSIs, Locally Significant Wetlands (LSWs), significant valleylands, tall grass prairies, savannahs, alvars, and publicly owned conservation lands. At the municipal level, the Town of Fort Erie also assigns ECA designation to Locally Significant Natural Areas (as identified in the Fort Erie NAI), rehabilitation areas, and in some cases, meadows.

The study area contains Significant Woodlands, Locally Significant Wetland, and a portion of a Locally Significant Natural Area, according to the Region of Niagara Core Natural Heritage map and Schedule C of the Official Plan of the Town of Fort Erie.

5.1.1 Significant Woodlands

The Regional Core Natural Heritage map has identified the northwest side and southern portion of the property as Environmental Conservation Area (ECA) Significant Woodlands. Field studies confirmed the presence of small remnant woodland habitat in the northwest corner of the property, which was classified as a Dry-fresh Black Walnut Woodland (WODM4-4). The walnut woodland is a small, isolated woodland, approximately 1.1 hectares, which has an understory that has been cleared and the ground layer is regularly mowed such that it resembles a cultural savannah habitat. No species at risk were identified within this woodland and it does not meet the size criteria (10 hectares) for significance.

The central portion of the property was classified as a Buckthorn Thicket (THDM2-6) and did not meet the definition of a woodland because the canopy cover was less than 25%. The Buckthorn thicket is approximately 5.2 hectares in size and extends from the Black Walnut woodland in the northwest to the deciduous swamp in the southern portion of the woodland. The northwest woodland is therefore isolated from the southern woodlands and does not meet the criteria for significance outlined in the Niagara Region Official Plan Policy 7.B.1.5 for Significant Woodland. Consequently, the Black Walnut Woodland and the Buckthorn Thicket do not satisfy Regional criteria for designation as ECA Significant Woodland.

The southern portion of the property, classified as Swamp Maple deciduous Swamp (SWDM3-3) also meets definition of a woodland, with a canopy density between 35 and 60%. This portion of woodland is connected to a larger natural area to the south of the property, including the Fort Erie 05 Locally Significant Wetland (LSW). The woodland and adjacent LSW are approximately 11 hectares in size, satisfying the size Criteria for Significance, as well containing another natural heritage feature (LSW).

Based on the assessment of the vegetation communities and current policies, the Regional ECA layer should contain the SWDM3-3 polygon and LSW to the south of the subject property and should be updated to exclude the THDM2-6 and WODM4-4 polygons, as do not meet regional criteria for significant woodland.

Pursuant to Policy 7.B.1.11 of the Regional Official Plan, development may be permitted within Environmental Conservation Areas if it has been demonstrated that there will be no significant negative impact to the Core Natural Heritage Feature.

5.1.2 Locally Significant Natural Areas

Schedule C of the Official Plan of the Town of Fort Erie designates the overall natural area as a Locally Significant Natural Area (LSNA), at the recommendation of the NAI completed for the Town of Fort Erie (Dougan & Associates, 2003). The LSNA designation was assigned because the natural area met three criteria prescribed in the NAI for assessing significance.

The subject property is part of ELC unit 248 in the 2003 NAI, which was designated as being a significant natural area for fulfilling the following three criteria: overlap with a designated area (Fort Erie 05 LSW), hydrological functions (stormwater detention, flood control, erosion protection), and special features (significant plant and wildlife species). The overall natural area

(248) extends from Nigh Rd, south to Dominion Road and west to Rosehill Road. It was defined primarily as cultural thicket in the north with two cultural meadow inclusions, and deciduous swamp habitat in the southern portion, which included the LSW. The subject property provides approximately 7 hectares of natural area which is contiguous with the adjacent LSW and the LSNA. However, the Buckthorn Thicket and Black Walnut Woodland in the northwest portion of the study area were not found to have any ecologically significant function and they did not satisfy any criteria for significance beyond what the 2003 NAI (Dougan & Associates) had previously identified for the LSNA. Additionally, outside of the SWDM3-3 polygon, the subject property did not contain any wetlands or other significant features, did not provide habitat for any SARs or species of special concern, and contributed minimally to hydrologic functions identified, as there was little water retention in the northern portion of the property.

According to Policy 8.3.1.2 of the Municipal Official Plan, development is permitted within Locally Significant Natural Areas if it has been demonstrated that there will be no negative impact to the Natural Heritage Feature or its functions. Based on our assessment, removal of the habitat north of the deciduous swamp in the southern portion of the property would result in no change in significance of the remainder of the natural area.

5.2 Unevaluated Wetland

The Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) has identified a potential unevaluated wetland in the north half of the subject property. ELC and vegetation surveys did not confirm the presence of wetland in this location due to the domination of invasive Buckthorn and fruit trees. While some facultative wetland species such as Meadowsweet were documented, the polygon did not meet the OWES definition of a wetland which requires a vegetative cover ≥50% hydrophilic species and soils which favour hydric conditions.

However, the Swamp Maple Deciduous Swamp (SWDM3-3) ecosite that was identified during ELC surveys in the southern quarter of the subject property was identified as containing unevaluated wetland habitat. Given the proximity to adjacent Fort Erie 05 LSW, it is possible that the wetland to the south will require a boundary adjustment to increase the size of the LSW, reflecting the conditions on the subject property. Alternatively, if the wetland units are not connected, they will be complexed and scoring record updated as necessary. The presence of the unevaluated polygon will require an Ontario Wetland Evaluation System (OWES) evaluation be completed as part of the Environmental Impact Study (EIS) to verify boundaries and significance.

5.3 Significant Wildlife Habitat

The Significant Wildlife Habitat Technical Guide (SWHTG), developed by the Ministry of Natural Resources, provides detailed information on the identification, description, and prioritization of Significant Wildlife Habitat (SWH) in accordance with Section 2.3 of the Provincial Policy Statement. There are four broad categories of SWH: seasonal concentration areas, rare or specialized habitat, habitat of species of conservation concern, and animal movement corridors.

5.3.1 Seasonal Concentration Areas

Candidate Seasonal Concentration Areas on or in the vicinity of the subject property, as identified in the Terms of Reference included bat maternity colonies, reptile hibernaculum, Migratory Butterfly Stopover Areas and Landbird Migratory Stopover Areas.

Field studies revealed that the subject property did not meet the criteria for any of the above mentioned SWH because the snag density did not meet density requirements for candidacy, no congregations of snakes were observed, and there was a lack of congregations of migratory birds or butterfly species during spring and fall seasons.

The surveys for the candidate SWH were completed in all areas where suitable habitat existed according to the protocols outlined in the screening table provided in Appendix C.

5.3.2 Rare or Specialized Habitat

The NHIC list of plant communities was reviewed to determine the status of all communities identified through the ELC classification system for the study area. No rare vegetation communities were identified in the study area as SWH.

Candidate Specialized Habitat for Wildlife within the study area as identified in the SWH screening also included Waterfowl Nesting Areas due to the proximity to the LSW. However, the wetland did not suitable habitat and there were no nesting pairs of the listed indicator species to confirm this SWH on the subject property.

No Rare or Specialized Habitat SWH was identified on the subject property.

5.3.3 Habitat of Species of Conservation Concern

The SWH screening identified candidate Shrub/Early Successional Bird Breeding Habitat and Candidate Special Concern and Rare Wildlife species habitat in the study area.

The SWH Criteria Schedules for EcoRegion 7E provide a list of indicator species whose presence satisfies the criteria for confirmation of Shrub/early Successional Breeding Bird Habitat. However, non of the indicator species were observed using the subject property. The Provincial ranking of all species on the subject property was reviewed using the NHIC database to determine their status in Ontario and confirm the presence or absence of habitat for Special Concern and Rare Wildlife Species.

No species of Special Concern were documented on the subject property and no other Rare Wildlife SWH was observed during field studies.

5.4 Corridors and Linkages

Corridors are naturally vegetated parts of the landscape which are often elongated and allow for dispersal from one habitat to another. Corridors can exist along shorelines, riparian zones, woodlands, or manmade structures such as abandoned roads or rail allowances. Policy 2.1.2 of the Provincial Policy Statement recognizes the significance of corridors, stating that connectivity should be maintained, restored, or enhanced where possible.

The Region of Niagara Core Natural Heritage Mapping has not identified any potential corridors on or adjacent to the subject property. It is noted that wildlife will move freely through the natural areas as well as the surrounding rural residential lots.

5.5 Summary

The following provides a summary of the natural heritage features identified on the subject property.

- **Significant Woodlands**: Only the woodland in the southeast corner of the subject property meets the criteria for designation as significant and designation Regional ECA. The rest of the significant woodlands currently on the property do not meet significance criteria and mapping should be updated to reflect existing conditions. The subject property is part of the Natural Heritage System.
- **Locally Significant Natural Area**: The subject property has been identified as a LSNA by the Town of Fort Erie based on findings of the 2003 NAI (Dougan & Associates). The cultural thicket and remnant woodland in the northwest corner are identified as part of the natural area, but do not contribute significant functions for which the natural area was designated as LSNA.
- **Unevaluated Wetland**: The unevaluated wetland as identified by NDMNRF in the NHIC mapping does not meet the requirements for designation as a wetland. However, an unevaluated wetland was identified in the Freeman's Maple Deciduous Swamp in the southern portion of the subject property.
- **Significant Wildlife Habitat**: No SWH was identified on the subject property.
- **Corridor**: The surrounding woodland habitat and rural landscape will continue to provide connectivity between natural areas west and south of the subject property.

6 CONSTRAINTS ANALYSIS

6.1 Development Constraints

The unevaluated wetland in the southern portion of the property places the highest level of developmental constraint on that area. The NPCA regulates wetlands as well as their associated buffers. NPCA Policy 8.2.3.1 requires a minimum setback of 30m from all wetland boundaries. However, a reduction to the size of the wetland buffer to a minimum of 15m may be considered subject to the criteria outlined in Policy 8.2.3.3. The 30m may be reduced at the discretion of the NPCA based on the nature of the proposed development, as well as the existing condition of the buffer zone. The wetland requires further evaluation and delineation which will need to be completed as part of an EIS, should development be proposed for the site. The extent of the high constraints area may change pending the results of the OWES evaluation, which will establish a clear wetland boundary.

The woodlands located in the northwest portion of the subject property are currently designated as ECA within the Regional and Municipal Official Plan, but no longer meet Regional criteria for Significance. Regional Policy 7.B.1.11, does not apply, but the woodland is subject to Regional

Woodland Conservation By-law No. 2020-79. The by-law protects all woodlands over 1 hectare in size and prohibits removal or destruction of trees unless exempt under Section 4 of the by-law. Trees may be removed "*…as part of a Tree Preservation Plan required as a condition of approval in a plan of subdivision that has received draft approval*". This woodland has been identified as a moderate constraint to development.

The portion of the property designated as LSNA and mapped as Municipal ECA is subject to Municipal Environmental Constraint Area policies. Policy 8.3.1.I provides for LSNA boundaries to be refined through draft plan of subdivisions in conjunction with an Environmental Impact Study.

Pursuant to Municipal OP Policy 8.3.1.II, development may be permitted within the boundaries of an existing LSNA if it is demonstrated that the development "*…will not result in degradation that threatens the health or integrity of the natural features or ecological functions for which the area is identified as significant in the Town's Natural Areas Inventory or that are identified as significant through the EIS"*.

The central portion of the subject property, classified as a Buckthorn Deciduous Thicket, did not provide any significant functions, and is dominated by invasive European Buckthorn declared by the Ministry of Agriculture, Food and Rural Affairs as well as the Town of Fort Erie as a noxious weed. While the ECA designation provides some constraints to development, we have identified the constraint associated with the Buckthorn Thicket as low constraint to development due to the poor-quality habitat, as indicated by limited productivity and dominance of invasive species.

6.2 Areas of Low Constraint

Areas where there are no constraints to development include areas which do not contain a Regional or Municipal natural heritage overlay or areas where the criteria for those designations no longer apply. This is limited to the meadow habitat and cultural thicket in the northern portion of the property. However, as described above, the Buckthorn Thicket throughout most of the subject property, does not provide any significant habitat or ecological functions and has therefore been identified as low constraint to development.

The property also contains portions of the Provincial NHS, with the mapped woodlands mapped as Key Natural Heritage Features (KNHF) and the adjacent LSW as a Key Hydrologic Feature (KHF). Outside of the urban area boundary, the Growth Plan for the Greater Golden Horseshoe (2017) prohibits development within KNHF and KHF. Pursuant to Policy 4.2.4.1, the growth plan also requires establishment of a vegetative protection zone (VPZ) with a minimum width of 30m from the feature. Development is also prohibited within the VPZ. However, in accordance with policy 4.2.2.7 of the Growth Plan, if the settlement area boundary is expanded, the portion of the NHS within the new established boundary is no longer subject to the KNHF policies. If the Municipality seeks to expand the urban area boundary to include the subject property, then the NHS will not further constrain development beyond the features described above.

No additional features were identified within the northern thicket, or the adjacent meadow and no significant flora or fauna species were identified on the subject property. Consequently, the meadow and northern thicket are also identified as areas of Low Constraint. The constraints to development as described above are present in Figure 6, below.

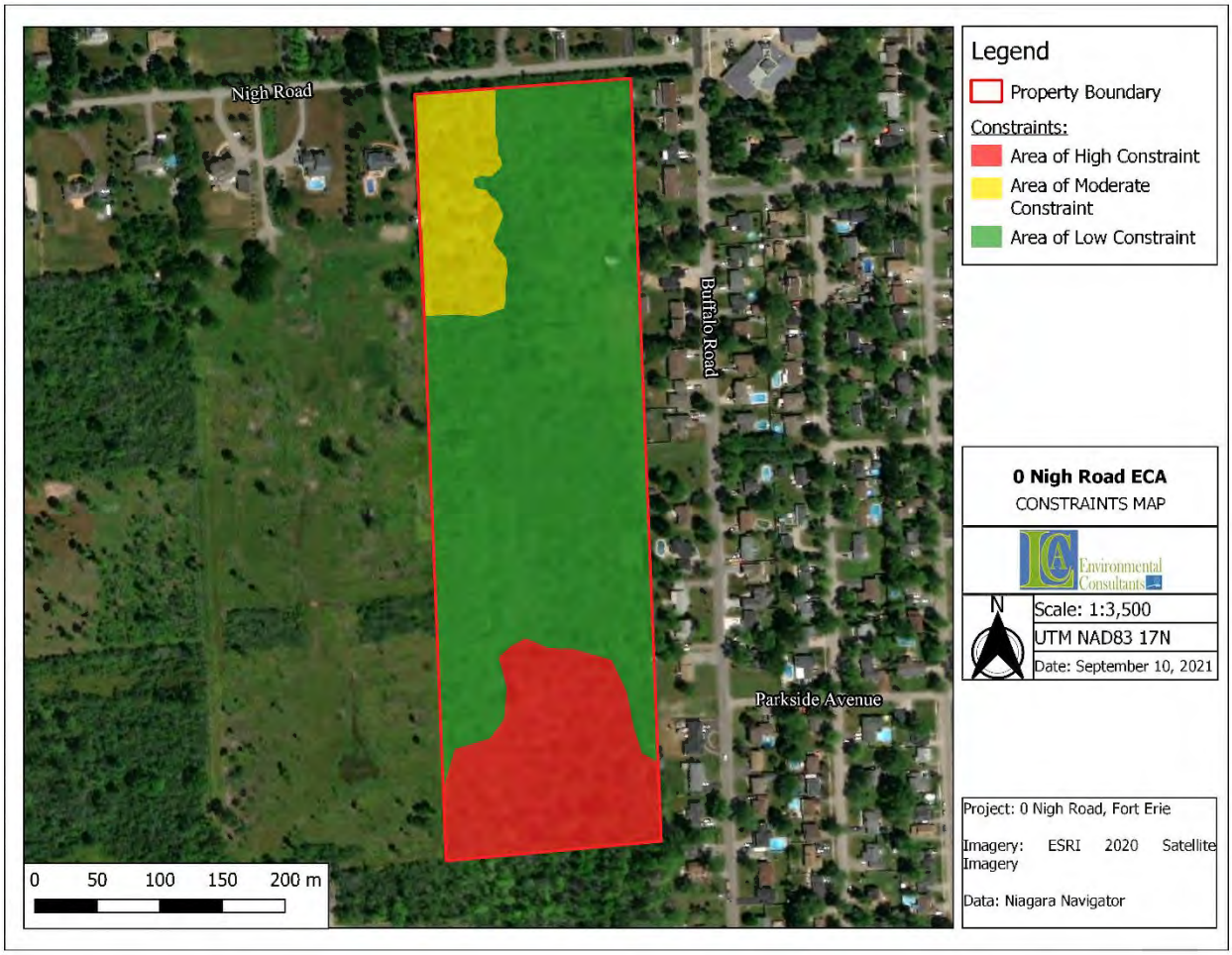

Figure 5: Constraints associated with the subject property

6.3 Enhancement Opportunities

Identification of enhancement opportunities on the property will be subject to future proposed development plans. However, there are opportunities for naturalization and management of invasive species throughout the study area. Any proposed open space or rear lot lines may consider opportunities for tree preservation where appropriate or planting of native species.

7 RECOMMENDATIONS AND CONCLUSION

The natural heritage features within the study area have been assessed in accordance with current policies and guidelines, to inform the potential for urban area expansion and to guide future development plans in a way which protects the integrity of the natural heritage system. Following the completion of proposed site plans, an impact assessment must be completed to identify any

negative impacts to the natural heritage features and identify any mitigation measures necessary to offset impacts.

The completion of the Environmental Constraints Report (ECR) satisfies the first step in submitting an Environmental Impact Study as part of a Planning Application. The ECR has reviewed all of the background data applicable to the study area and has evaluated the significance of the natural heritage features on the property. Based on our assessment, there is an unevaluated wetland in the southern portion of the property which will likely be complexed with the adjacent Fort Erie 05 LSW. However, the polygon will need to undergo an OWES evaluation to confirm the extent and significance of the feature. The unevaluated wetland has been identified as a high constraint to development in accordance with NPCA policies. The remainder of the property was identified as low constraint to development, with the exception of the remnant woodlot in the northwest corner, which is subject to Regional Woodland Conservation By-law No. 2020-79.

This ECR has also provided a summary of the Natural Heritage Policies that will impact future development and has identified the need for future studies to be completed as part of an Environmental Impact Study.

If you have any questions about the information provided above, please contact our office.

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Report reviewed by:

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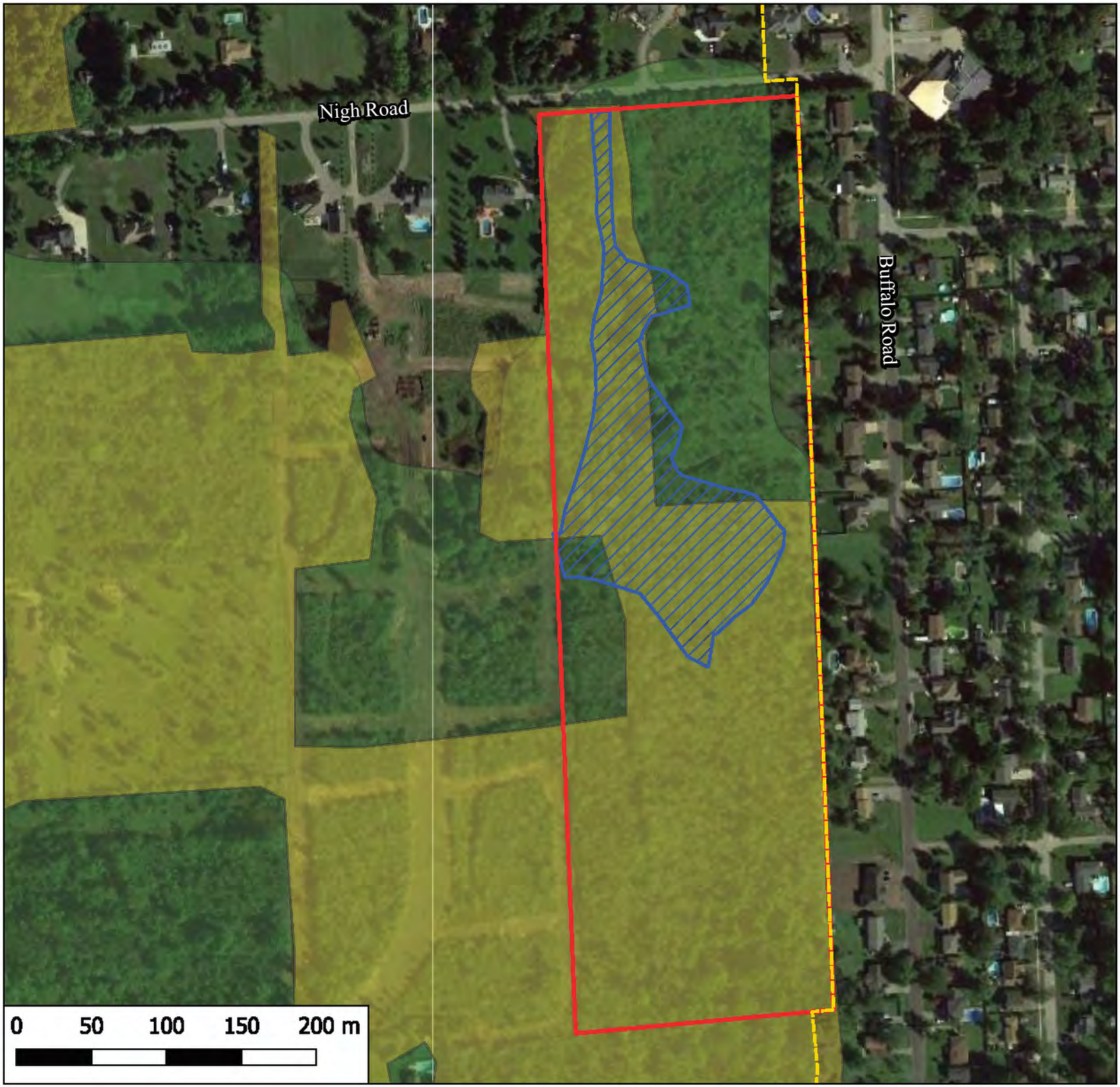
Appendix A

Mapping



Legend

- Property Boundary
- Urban Area Boundary
- Environmental Conservation Area (ECA)
- Natural Heritage System (NHS)
- Unevaluated Wetland

0 Nigh Road ECA

EXISTING NATURAL HERITAGE

N

Scale: 1:3,500

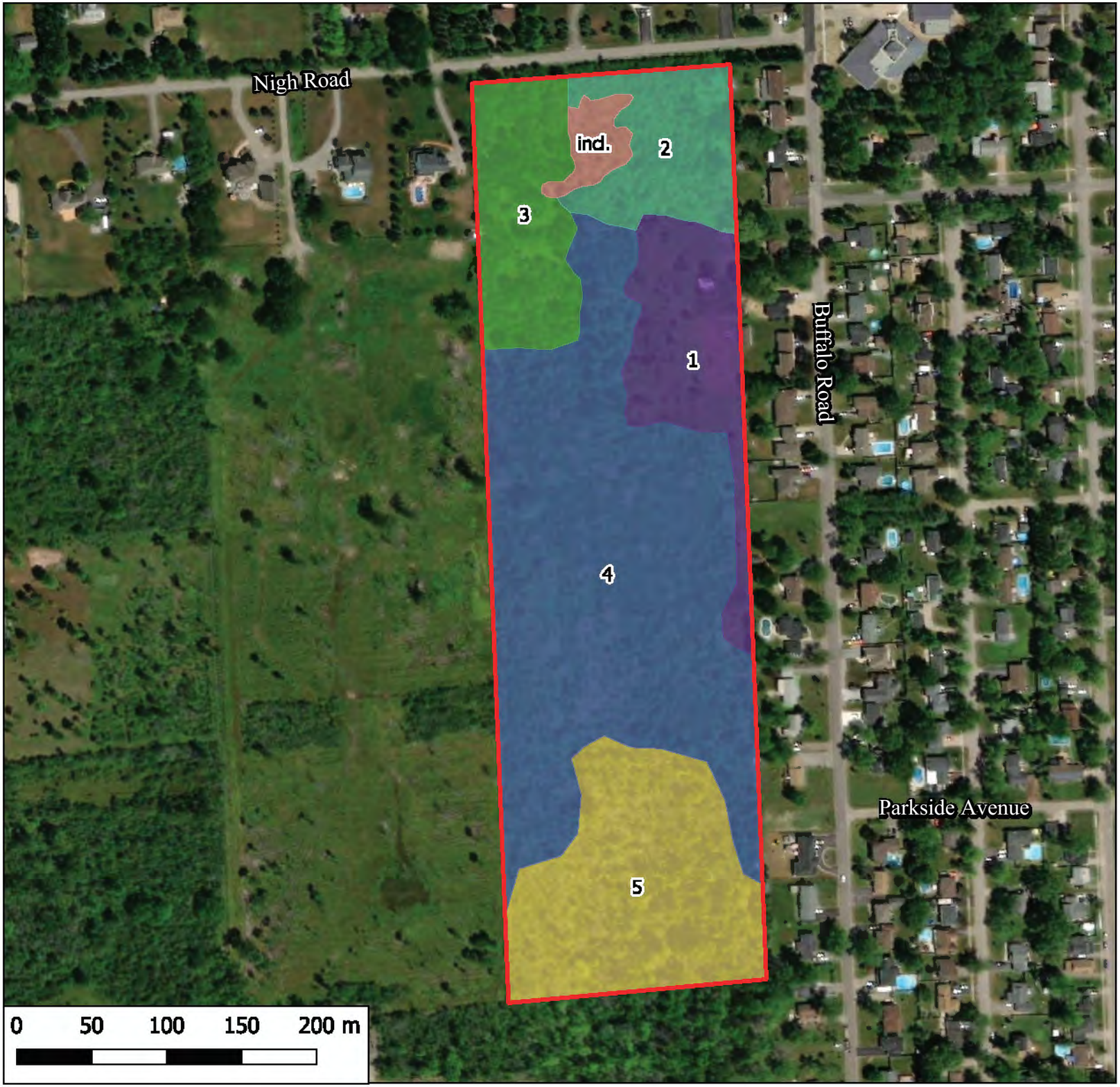
UTM NAD83 17N

Date: March 15, 2020

Project: 0 Nigh Road, Fort Erie

Imagery: Google 2018 Satellite Imagery

Data: Niagara Navigator, Niagara OpenData & Ontario GeoHub



Legend

- Property Boundary

ELC Polygons:

- Fresh-Moist Mixed Meadow (MEMM4)
- Fresh-Moist Gray Dogwood Thicket (THDM5-1 incl. MEMM4)
- Dry-Fresh Black Walnut Woodland (WODM4-4)
- Buckthorn Shrub Thicket (THDM2-6)
- Swamp Maple Swamp (SWDM3-3)

0 Nigh Road ECA

VEGETATION COMMUNITIES

Environmental Consultants

N

Scale: 1:3,500

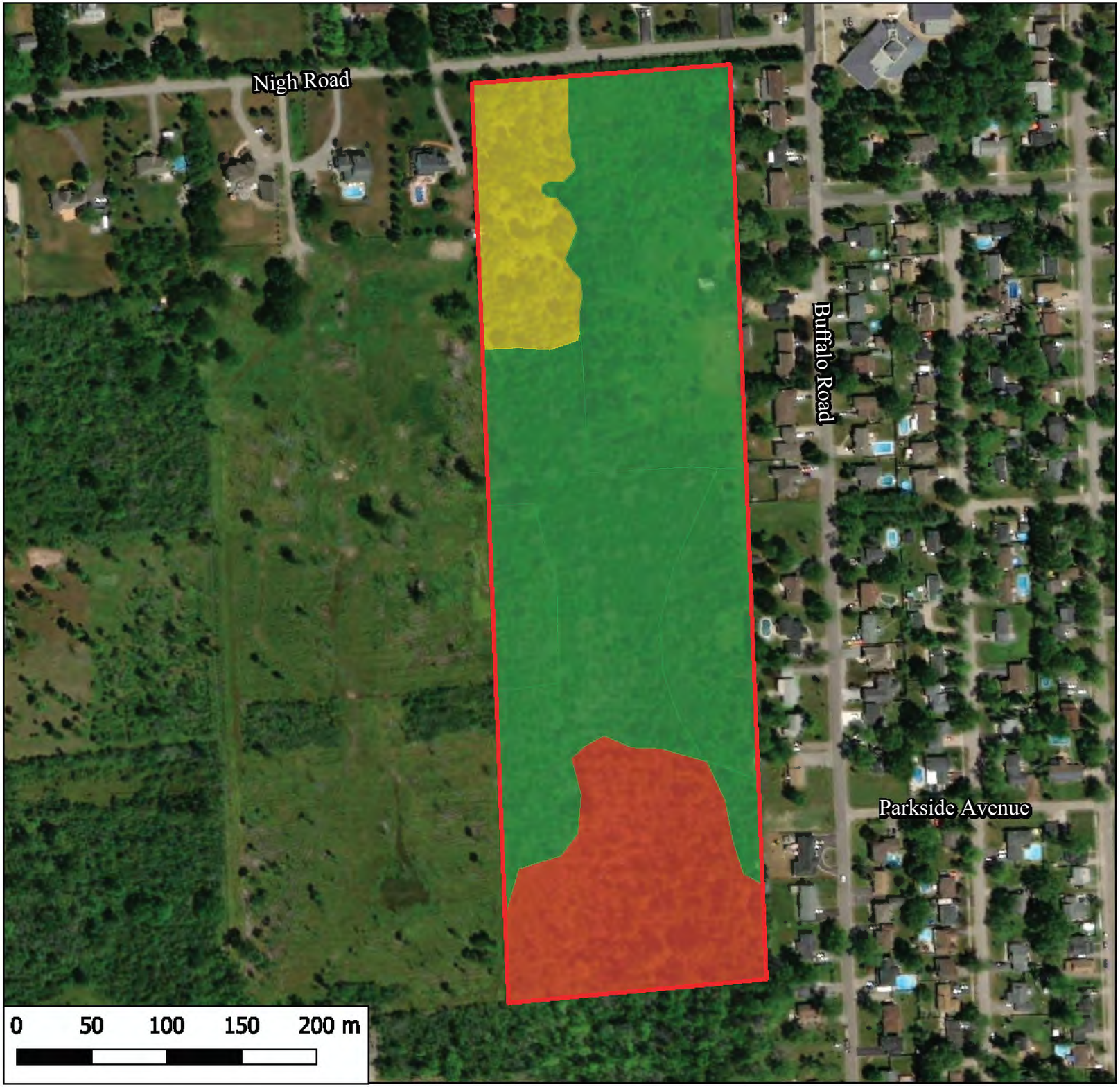
UTM NAD83 17N

Date: September 9, 2021

Project: 0 Nigh Road, Fort Erie

Imagery: ESRI 2020 Satellite Imagery

Data: Niagara Navigator



Legend

- Property Boundary

Constraints:

- Area of High Constraint
- Area of Moderate Constraint
- Area of Low Constraint

0 Nigh Road ECA

CONSTRAINTS MAP

Environmental Consultants

N

Scale: 1:3,500

UTM NAD83 17N

Date: September 10, 2021

Project: 0 Nigh Road, Fort Erie

Imagery: ESRI 2020 Satellite Imagery

Data: Niagara Navigator

Appendix B

Agency Correspondence and EIS Scoping

aemcdonald@lcaenvironmental.ca

From: aemcdonald@lcaenvironmental.ca
Sent: March 15, 2021 12:56 PM
To: 'Cara.Lampman@niagararegion.ca'; 'Sarah Mastroianni'
Cc: 'lprice@lcaenvironmental.ca'
Subject: Terms of Reference for Nigh Road ECA
Attachments: Nigh Road TOR.pdf

Good afternoon,

Please find attached a proposed Terms of Reference for the completion of an Environmental Constraints Analysis for the property located at 0 Nigh Road (ARN: 270302001064700) in the town of Fort Erie. Please review and provide any feedback you have on the proposed work plan.

Thank you,
Anne McDonald

Anne McDonald

From: Anne McDonald
Sent: May 4, 2021 3:49 PM
To: 'SAROntario@ontario.ca'
Subject: Preliminary SAR Screening - 0 Nigh Road, Town of Fort Erie
Attachments: 0 Nigh Rd Map and SAR Screening.pdf

Hello,

We are currently undergoing an EIS study for a property located on Nigh Rd, for potential expansion of the urban boundary within the Town of Fort Erie. Terms of Reference have been submitted and approved by the Region of Niagara, which included our preliminary SAR Screening table. The SAR Screening identified species with the potential to occur in the area based on historical records, species ranges, and suitable habitat availability.

Please see attached for a copy of a map of the property as well as the SAR screening table which was approved by the Region of Niagara and let us know if this list encompasses all potential species and acceptable protocols for monitoring.

Thank you,
Anne McDonald
LCA Environmental

Appendix C

Field Assessments and Survey Protocols

Date	Weather	Survey	Protocol	Surveyors	Findings
March 30, 2021	Temp: 16°C Cloud Cover: 10% Wind: 3	Site Recon	-	A. McDonald & S. Cowherd	Section 1.3
		Amphibian and Reptile Survey	Hand Searches		Section 4.2.3 & Appendix D
		Leaf off Snag Survey	MNRF survey for SAR Bats		Section 4.2.5 & Appendix C
April 13, 2021	Temp: 11°C Cloud Cover: 100% Wind: 1	Amphibian and Reptile Survey	Hand Searches	A. McDonald & S. Cowherd	Section 4.2.3 & Appendix D
April 19, 2021	Temp: 13°C Cloud Cover: 10% Wind: 2	Amphibian and Reptile Survey	Hand Searches	A. McDonald & S. Cowherd	Section 4.2.3 & Appendix D
May 6, 2021	Temp: 10°C Cloud Cover: 25% Wind: 2	Amphibian and Reptile Survey	Hand Searches	A. McDonald & S. Cowherd	Section 4.2.3 & Appendix D
		Spring Vegetation	Transect Survey		Section 4.2.2 & Appendix D
May 12, 2021	Temp: 14°C Cloud Cover: 0% Wind: 2	Amphibian and Reptile Survey	Hand Searches	A. McDonald & S. Cowherd	Section 4.2.3 & Appendix D
		Leaf on Survey	Bat Monitoring		Section 4.2.5 & Appendix C
June 1, 2021	Temp: 18°C Cloud Cover: 10% Wind: 2	Spring Vegetation	Transect Survey	A. McDonald & S. Cowherd	Section 4.2.2 & Appendix D
		Amphibian and Reptile Survey	Hand Searches		Section 4.2.3 & Appendix D
June 9, 2021	Temp: 20°C Cloud Cover: 20% Wind: 1	Breeding Bird Survey	Ontario Breeding Bird Atlas (OBBA) Point Count Method	N. Litwin & A. Brunning	Section 4.2.4 & Appendix D
July 5, 2021	Temp: 22°C Cloud Cover: 50% Wind:2	Breeding Bird Survey	OBBA Point Count Method	N. Litwin & A. Brunning	Section 4.2.4 & Appendix D
July 21, 2021	Temp: 24°C Cloud Cover: 0% Wind: 2	ELC Survey	Lee et al. (1998)	A. McDonald & S. Cowherd	Section 4.2.1 & Appendix C
		Summer Vegetation	Transect Survey		Section 4.2.2 & Appendix D
		Wetland Evaluation	Ontario Wetland Evaluation System		Section 5.2

Ecological Land Classification

The vegetation communities on the subject lands are identified and categorized based on the Ecological Land Classification (ELC) System according to the guidelines in the SCSS Field Guide FG-02 (Lee et al. 1998). Ecological Land Classification is a protocol established for Southern Ontario that considers distribution and abundance of plants in combination with related topography and soil conditions to classify plant communities. It was developed for the purpose of creating a comprehensive and consistent province-wide approach for ecosystem description, inventory and interpretation.

Aerial images are consulted to delineate homogeneous polygons within the site. During site visits to these polygons, vegetation communities are classified according to Community Units, which are identified based on the dominant vegetation species present, soil characteristics, and hydrology. Plant lists for each vegetation layer are compiled and vegetation is ranked according to its abundance. The plants are identified to the species level and vouchers are taken for species whose identity is in unknown to be identified at a later date. Representative soil cores are taken using a soil auger to evaluate texture, moisture regime and drainage values. Prism sweeps are conducted to calculate the basal area cover of trees, which allows for determination of the stand composition within each polygon. Trees are also categorized into size classes and estimates are made for prevalence of standing snags and deadfall. The vegetation community of each ELC polygon is then identified based on the data collected.

ELC Community Description & Classification

Site:	0 Montrose Rd	Polygon:	1
Surveyors:	A. Mcdonald & S. Cowherd	Date:	09-Jul-21
UTME:	653017	UTMN:	4760485

POLYGON DESCRIPTION

SYSTEM
- ☑ TERRESTRIAL
- ☐ WETLAND
- ☐ AQUATIC

SITE
- ☐ OPEN WATER
- ☐ SHALLOW WATER
- ☑ SURFICIAL DEP.
- ☐ BEDROCK

SUBSTRATE
- ☐ ORGANIC
- ☑ MINERAL SOIL
- ☐ PARENT MIN
- ☐ ACIDIC BEDRK
- ☐ BASIC BEDRK
- ☐ CARB. BEDRK

TOPOGRAPHY
- ☐ LACUSTRINE
- ☐ RIVERINE
- ☐ BOTTOMLAND
- ☐ TERRACE
- ☐ VALLEY SLOPE
- ☐ TABLELAND
- ☑ ROLL. UPLAND
- ☐ CLIFF
- ☐ TALUS
- ☐ CREVICE/CAVE
- ☐ ALVAR
- ☐ ROCKLAND
- ☐ BEACH/BAR
- ☐ SAND DUNE
- ☐ BLUFF

HISTORY
- ☐ NATURAL
- ☑ CULTURAL

COVER
- ☐ OPEN
- ☐ SHRUB
- ☑ TREED

PLANT FORM
- ☐ PLANKTON
- ☐ SUBMERGED
- ☐ FLOATING-LVD
- ☐ GRAMINOID
- ☐ FORB
- ☐ LICHEN
- ☐ BRYOPHYTE
- ☑ DECIDUOUS
- ☐ CONIFEROUS
- ☐ MIXED

COMMUNITY
- ☐ LAKE
- ☐ POND
- ☐ STREAM
- ☐ RIVER
- ☐ MARSH
- ☐ SWAMP
- ☐ FEN
- ☐ BOG
- ☐ BARREN
- ☐ MEADOW
- ☐ PRAIRIE
- ☐ THICKET
- ☐ SAVANNAH
- ☐ WOODLAND
- ☑ FOREST
- ☐ PLANTATION

STAND DESCRIPTION

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE
1 CANOPY	1,2	4	QUERUB>QUEALB>ACESACC>CAROVAT
2 SUB-CANOPY	3	3	FRAX_SP>CAROVAT>ULM_SP>CRAT_SP
3 UNDERSTORY	4,5	3	CORRACE>FRAX_SP>RHACATH>ROSA_SP
4 GRD. LAYER	6,7	4	TOXRADI>GEUM_SP>GERMACU>CARE_SP

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

CVR CODES: 1 = 0%<CVR<10%; 2 = 10%<CVR<25%; 3 = 25%<CVR<60% 4 = CVR>60%

STAND COMPOSITION:	$CAROVAT_{67}ACESACC_{22}TILAMER_{11}$	BA:	18

COMMUNITY AGE: ☐ PIONEER ☐ YOUNG ☐ MID-AGE ☑ MATURE ☐ OLD GROWTH

SOIL ANALYSIS

			MOTTLES	GLEY
TEXTURE:	SICL	DEPTH TO MOTTLES / GLEY	20 cm	> 60 cm
MOISTURE:	6	DEPTH OF ORGANICS	2	(cm)
		DEPTH TO BEDROCK	> 60	(cm)

COMMUNITY / CLASSIFICATION

COMMUNITY CLASS	Forest	CODE:	FO
COMMUNITY SERIES	Deciduous Forest	CODE:	FOD
ECOSITE	Fresh-Moist Oak-Maple-Hickory Forest	CODE:	FODM9
VEGETATION TYPE	Fresh-Moist Oak-Sugar Maple Forest	CODE:	FODM9-1
☐ INCLUSION		CODE:	
☐ COMPLEX		CODE:	

ELC Community Description & Classification

Site:	0 Montrose Road	Polygon:	2
Surveyors:	A. Mcdonald & S. Cowherd	Date:	09-Jul-21
UTME:	653019	UTMN:	4760557

POLYGON DESCRIPTION

SYSTEM
- ☐ TERRESTRIAL
- ☑ WETLAND
- ☐ AQUATIC

SITE
- ☐ OPEN WATER
- ☐ SHALLOW
- ☑ SURFICIAL
- ☐ BEDROCK

SUBSTRATE
- ☐ ORGANIC
- ☐ MINERAL SOIL
- ☑ PARENT MIN
- ☐ ACIDIC BEDRK
- ☐ BASIC BEDRK
- ☐ CARB. BEDRK

TOPOGRAPHY
- ☐ LACUSTRINE
- ☐ RIVERINE
- ☐ BOTTOMLAN
- ☐ TERRACE
- ☐ VALLEY SLOPE
- ☐ TABLELAND
- ☑ ROLL. UPLAND
- ☐ CLIFF
- ☐ TALUS
- ☐ CREVICE/CAV
- ☐ ALVAR
- ☐ ROCKLAND
- ☐ BEACH/BAR
- ☐ SAND DUNE
- ☐ BLUFF

HISTORY
- ☐ NATURAL
- ☑ CULTURAL

COVER
- ☐ OPEN
- ☑ SHRUB
- ☐ TREED

PLANT FORM
- ☐ PLANKTON
- ☐ SUBMERGED
- ☐ FLOATING-
- ☐ GRAMINOID
- ☐ FORB
- ☐ LICHEN
- ☐ BRYOPHYTE
- ☑ DECIDUOUS
- ☐ CONIFEROUS
- ☐ MIXED

COMMUNITY
- ☐ LAKE
- ☐ POND
- ☐ STREAM
- ☐ RIVER
- ☐ MARSH
- ☑ SWAMP
- ☐ FEN
- ☐ BOG
- ☐ BARREN
- ☐ MEADOW
- ☐ PRAIRIE
- ☐ THICKET
- ☐ SAVANNAH
- ☐ WOODLAND
- ☐ FOREST
- ☐ PLANTATION

STAND DESCRIPTION

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE
1 CANOPY	2	3	FRAX_SP>ULMU_SP>CAROVAT>>QUEPALU
2 SUB-CANOPY	3	2	FRAX_SP>RHACATH
3 UNDERSTORY	4,5	4	CORAMOM>RHACATH>FRAX_SP
4 GRD. LAYER	6,7	4	IMPCAPE>CARE_SP>SYMLANC>PRUVULG

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

CVR CODES: 1 = 0%<CVR<10%; 2 = 10%<CVR<25%; 3 = 25%<CVR<60% 4 = CVR>60%

STAND COMPOSITION:	$CAROVAT_{50}RHACATH_{50}$	BA:	4
COMMUNITY AGE:	☐ PIONEER ☑ YOUNG ☐ MID-AGE ☐ MATURE ☐ OLD GROWTH		

SOIL ANALYSIS

			MOTTLES	GLEY
TEXTURE:	C	DEPTH TO MOTTLES / GLEY	15 cm	> 50 cm
MOISTURE:	6	DEPTH OF ORGANICS	1	(cm)
WATER TABLE:	15 cm	DEPTH TO BEDROCK	> 50	(cm)

COMMUNITY / CLASSIFICATION

COMMUNITY CLASS	Swamp	CODE:	SW
COMMUNITY SERIES	Thicket Swamp	CODE:	SWT
ECOSITE	Dogwood Mineral Deciduous Thicket	CODE:	SWTM2
VEGETATION TYPE	Silky Dogwood Thicket Swamp	CODE:	SWTM2-2
☐ INCLUSION		CODE:	
☑ COMPLEX	Cattail Graminoid Mineral Meadow Marsh	CODE:	MAMM1-2

Breeding Bird Survey

Breeding Bird Surveys were conducted using the Ontario Breeding Bird Atlas (OBBA) Point Counts method, which involves standing in one place and recording all the species that are seen or heard for a minimum of five minutes. Surveys should be conducted between May 24th and July 10th, with at least 10 days between each survey. Point count surveys are completed early in the morning, with the best time for coverage occurring within the first five hours after dawn.

Variations to the OBBA Point Count methods were adapted from the Marsh Monitoring Program Bird Survey Protocols. Point Count stations were established a minimum of 250m apart, and surveys were conducted for a total of fifteen minutes, using a fixed distance sample area of a 100m circle.

Area searches are also conducted, which occur in a series of three, twenty-minute point counts, according to the OBBA 2001-2005 list in accordance with the American Ornithologists Union (AOU) 7th Edition (42nd-47th supplements).

Amphibian Surveys Overview (Bird Studies Canada)

For decades, scientific studies have shown that amphibian populations have been in steady decline across North America, and particularly in the heavily populated and industrialized Great Lakes region. Amphibians are very sensitive to environmental stresses, such as air and water pollution, thus their decline or disappearance in a region is indicative of environmental degradation. Consequently, the presence or absence of amphibians in marshes is a good indicator of marsh habitat health. The Marsh Monitoring Program (MMP) uses aural (hearing-based) surveys to detect the presence or absence and relative abundance of calling amphibians (frogs and toads). Data collected by MMP volunteers are used to determine relative annual population trend changes for calling amphibians at local, regional, and Great Lakes basin levels.

To conduct amphibian (frog and toad) surveys:

- Survey three times per year between April and July 5th, with at least fifteen days between each survey;
- Begin surveying one half-hour after sunset and end by midnight during evenings with little wind and minimum night air temperatures of 5ºC (50ºF), 10ºC (50ºF) and 17ºC (63ºF) for each of the three respective survey periods. These temperature requirements are in place because amphibian calling intensity is strongly associated with season, time of day, and weather conditions;
- Establish monitoring stations at least 500 meters apart to minimize the possibility of double-counting calls. Unlike marsh bird survey stations, amphibian survey stations can be placed back-to-back because the amphibian survey protocol is entirely passive (i.e. call responses are not elicited through use of a call broadcast tape/CD;
- Conduct surveys using an unlimited distance semi-circular sampling area. However, in order to associate calls heard within the defined 100 meter area surveyed with habitat composition within these same areas, surveyors are asked to ascertain and record whether calls were heard outside the 100 meter radius or within this radius.
- Complete a 3-minute survey at each station. Call level codes are assigned to all calling frog and toad species:
    - Code 1: individual calls do not overlap and calling individuals can be discretely counted;
    - Code 2: calls of individuals sometimes overlap, but numbers of individuals can still be estimated;
    - Code 3: overlap among calls seems continuous (full chorus), and a count estimate is impossible;

Bat Monitoring Protocols

Snag surveys were completed on the subject property to determine the density and location of suitable maternal roosting habitat in accordance with the MNRF's Survey Protocol for Species at Risk Bats within Treed Habitats, which are summarized below. Following completion of the snag survey, locations for acoustic monitors were selected based on the criteria in the survey protocols to select optimal locations for monitoring stations.

Full-spectrum Wildlife Acoustics SongMeter SM4™ monitors were installed during the month of June. Monitors are affixed to trees at a height of four – five meters and microphones are extended approximately three feet away from the unit. Microphones are positioned towards a clearing in the canopy or understory to minimize obstruction of calls and ensure high recording quality. The monitors are set to record for five hours each night, and weather was monitored via Buffalo International Airport data. The scheduling and audio settings used on each monitor are summarized in the Table below.

Table: Settings employed for acoustic monitors.

Setting	
Start Time	20:00 est
End Time	01:00 est
Gain Level	12 dB
Sample Rate	256 kHz
Minimum Duration	1.5 ms
Maximum Duration	none
Minimum Trigger Frequency	16 kHz
Trigger Level	12 dB

Based on consultation with Toby Thorne (Bat Biologist), and studies presented by Tyburec and Chenger (2014), which compared the accuracy and reliability of the leading call analysis software programs, SonoBat 4 software was used to process the data compiled from the SM4 monitors. Version 4.2.0 of the software was installed with the Northeast United States regional suite, which includes call repertoires for all species of bats present within Ontario.

Data files from each monitor were processed through batch analysis and classified to species level. Using the batch data, SonoBat will calculate an estimated likelihood of presence for each species known based on the number of classified species and their known overlap and ambiguity of classification. The likelihood estimate

provides a probabilistic estimate and does not convey certainty. The SonoBat Classification Notes document included in this Appendix provides additional information and interpretation of bat acoustic data (SonoBat, 2017).

Manual vetting of files was completed in addition to using the auto-ID feature due to the limitations of the software that results from the inherent variability of bat calls and the overlap that can occur in frequency characteristics between species. A species with similar call characteristics can occasionally (or often depending on the overlap) produce calls with data on the fringes of its parameter space that intrudes into the parameter space of another species, or even falls at the centroid of the other species' parameter space (SonoBat, 2017).

The summary table produced by SonoBat states the caveat that statistical probability of presence requires a sufficient sample size for reliability. For most species, this requires more than ten accepted decisions. As a rule of thumb, any species decision summary count numbering less than ten should be considered to require manual vetting to establish presence. For each batch of files, species with a probability of > 0.80 and with more than ten accepted decisions were considered present on the subject property. Where fewer than ten species decisions were found, call structure and timestamps of individual files were analyzed to determine if there was overlap with other species which had a higher probability of presence on the site

The MNRF approved protocols for the passive monitoring of bats within treed habitats are summarized below.

Survey Protocol for Species at Risk Bats within Treed Habitats

Phase I: Bat Habitat Suitability Assessment

Little Brown Myotis, Northern Myotis and Tri-colored Bat establish maternity roosts in treed areas consisting of deciduous, coniferous or mixed tree species. The study area should be classified using the Ecological Land Classification (ELC) system. Any wooded ecosite containing deciduous, mixed, or coniferous tree species with a diameter at breast height (DBH) >10cm is considered suitable habitat.

If suitable habitat is to be impacted by a proposed activity, project proponents should proceed to Phase II.

Phase II: Identification of Suitable Maternity Roost Trees

The timing of field visits is important in order for an observer to be able to clearly identify tree attributes that are suitable for the establishment of maternity roosts. Field visits during leaf-on season should be conducted so foliage characteristics can be observed, while leaf-off surveys should be conducted to identify trees with cracks or hollows.

i) Tri-colored Bat
Within each ecosite identified as suitable maternity roost habitat in Phase I, the following trees should be documented on the field data sheet:

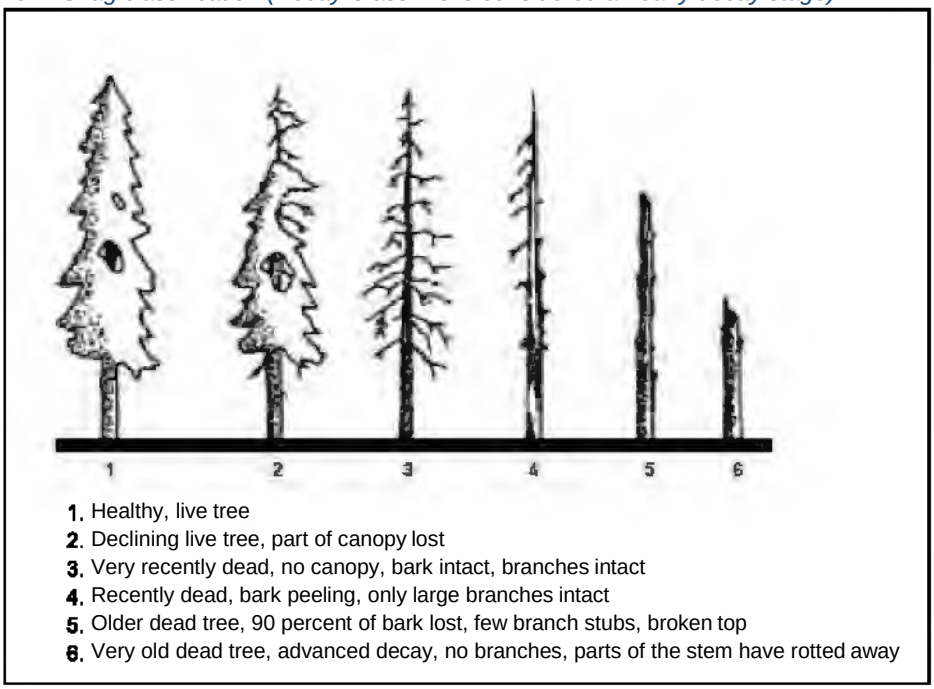
- any oak tree ≥10cm dbh
- any maple tree ≥10cm dbh IF the tree includes dead/dying leaf clusters
- any maple tree ≥25cm dbh

ii) Little Brown Myotis and Northern Myotis
A “snag” is any standing live or dead tree >10cm dbh with cracks, crevices, hollows, cavities, and/or

loose or naturally exfoliating bark. Within each ecosite identified as suitable maternity roost habitat in Phase I, all “snags” should be identified and relevant information recorded on the field data sheet provided

During the field visit, the Decay Class should be noted for each snag (see Figure 1). Snags in an early stage of decay (which also includes healthy, live trees) may be preferred by Little Brown Myotis and Northern Myotis if suitable attributes for roost space are present. However, since SAR bats will also roost in snags outside of Class 1-3, any snag >10cm dbh with suitable roost features should be documented.

Figure 1: Snag classification (Decay Class 1-3 is considered an early decay stage)



Phase III: Acoustic Surveys

Within each ELC ecosite determined to be suitable maternity roost habitat in Phase I, acoustic surveys are recommended to confirm presence/absence of Little Brown Myotis, Northern Myotis and Tri-colored Bat. As described below, acoustic detectors should be placed in the best possible locations in order to maximize the probability of detecting all three SAR bats species. The data collected in Phase II should be used to select optimal locations for monitoring.

To ensure full coverage of each ecosite, four acoustic monitors per hectare are required. Monitors should be set up 10m from the best potential maternity roosts. The best suitable maternity roosts for Tri-colored bat are live oaks with dead/dying leaf clusters, or dead oaks with retained dead leaf clusters. If oaks are absent, then maples with dead/dying leaf clusters are the best suitable maternity roosts. For Little Brown Myotis and Northern Myotis, the best roosts are the tallest snags, snags with cavities or crevices, and the snags with the largest DBH.

Prior to undertaking acoustic surveys, it is recommended that the proponent discuss the proposed location of acoustic monitoring stations with the MNRF. The best potential

Acoustic surveys should take place on evenings between June 1st and June 30th, commencing after dusk and continuing for 5 hours. Surveys should occur on warm/mild nights (i.e., ambient temperature >10°C) with low wind and no precipitation. At least 10 visits on nights that align with the above conditions where no SAR bat activity is detected are required to confirm absence.

Full spectrum acoustic monitors should be used, and the microphone should be situated away from nearby obstacles to allow for maximum range of detection and angled slightly away from prevailing wind to minimize wind noise. Information on the equipment used should be recorded, including information on all adjustable settings (e.g., gain level), the position of the microphones, and dates and times for each station where recording was conducted.

Analytical software should be used to interpret bat calls and process results. Data should be analyzed to the species level (as opposed to the genus level) in order to confirm presence/absence of SAR bats.

Phase IV: Snag Density Survey

The snag density survey involves a qualitative assessment of the ecosite to determine the density of standing snags present. There is no minimum number of snags for the site to be considered potential roosting habitat, however, a site with 10 or more snags can be considered high quality roosting habitat.

Phase V: Complete an Information Gathering Form

If any species at risk are identified within the ecosite, an Information Gathering Form should be completed and submitted to the OMNRF.

Appendix D

Data Summaries

Table 1: Significant Wildlife Habitat Results for 0 Montrose Road, in the City of Niagara Falls.

Significant Wildlife Habitat (SWH) Type	Rationale for Candidate	Studies Completed	SWH Confirmed
1.1 Seasonal Concentration Areas for Wildlife Species			
Bat Maternity Colonies	Mature Oak trees in woodland habitat with potential standing snags	MNRF Survey Protocol for Species at Risk Bats to confirm presence of snags	No
Reptile Hibernaculum	Potential for slopes and burrows	Area Searches	No
Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs)	Potential nesting trees within wetland habitat	Breeding Bird Surveys and area searches	No
1.2 Rare Vegetation Communities or Specialized Habitat for Wildlife			
Other Rare Vegetation Communities	Variable ELC Ecosites present	ELC surveys	No
Waterfowl Nesting Area	Wetland >0.5ha	Area Searches	No
Woodland Raptor Nesting Habitat	Woodland >30ha with >4ha interior habitat	Area Searches	No
Amphibian Breeding Habitat (Woodland)	Wetland habitat within woodland	None –outside of proposed area of disturbance	No
Amphibian Breeding Habitat (Wetlands)	Presence of wetland habitat	None –outside of proposed area of disturbance	No
Woodland Area- Sensitive Bird Breeding Habitat	Woodland feature contains interior habitat	Area Searches	No
1.3 Habitats of Species of Conservation Concern			
Marsh Breeding Bird Habitat	Wetland habitat available	None –outside of proposed area of disturbance	No
Special Concern and Rare Wildlife Species	MNRF known EOs provided (NHIC). See SAR screening below	Area inventories	Yes
1.4 Animal Movement Corridors			
Amphibian Movement Corridor	Candidate amphibian woodland and wetland breeding habitat identified	None –outside of proposed area of disturbance	No

SCIENTIFIC NAME	COMMON NAME	S-RANK	SARO STATUS	NIAGARA	COEFF CONSER	COEFF WETNESS	Polygon 1 (Meadow)	Polygon 2 (Thicket)	Polygon 3 (Woodland)	Polygon 4 (Buckthorn Thicket)	Polygon 5 (Wetland)
TREES											
Acer rubrum	Red Maple	S5		C	4	0			•		
Acer saccharinum	Silver Maple	S5?		C	5	-3				•	
Acer x freemanii	(Acer rubrum X Acer saccharinum)	S5?		hyb	6	-5			•		•
Crataegus sp	Hawthorn species						•	•		•	•
Fraxinus sp.	Ash species						•	•	•	•	•
Juglans nigra	Black Walnut	S4		C	5	3			•		
Malus sp.	Apple species								•		
Pinus sylvestris	Scots Pine	SNA		IC		3				•	
Populus deltoides	Eastern Cottonwood	S5		C	4	0			•		
Prunus avium	Sweet Cherry	SNA		IC		5			•		
Prunus serotina	Black Cherry	S5		C	3	3			•		
Pyrus sp.	Pear species							•	•		
Quercus alba	White Oak	S5		C	6	3					•
Quercus macrocarpa	Bur Oak	S5		U	5	3				•	•
Ulmus sp.	Elm species						•			•	•
SHRUBS											
Cornus amomum	Silky Dogwood	S5		C	2	-3	•				•
Cornus racemosa	Gray Dogwood	S5		C	2	0		•	•	•	
Elaeagnus angustifolia	Russian Olive	SNA		IR		3		•			
Ligustrum vulgare	European Privet	SNA		IC		3			•	•	•
Lonicera sp	Honeysuckle species						•	•	•	•	
Rhamnus cathartica	Common Buckthorn	SNA		IC		0	•	•	•	•	•
Ribes americanum	Wild Black Currant	S5		C	6	-3				•	
Rosa sp.	Rose species						•	•	•	•	•
Rubus idaeus	Common Red Raspberry	S5		C	2	3				•	
Rubus occidentalis	Black Raspberry	S5		C	2	5		•			
Salix discolor	Pussy Willow	S5		C	1	-3	•				
Spiraea alba	Meadowsweet	S5		C	3	-3	•	•			•
Viburnum lentago	Nannyberry	S5		C	4	0				•	
Viburnum opulus	European Highbush Cranberry	S5		C	5	-3				•	•
Viburnum recognitum	Smooth Arrowwood	S4		C	7	0	•	•	•		•
HERBS											
Achillea millefolium	Yarrow	S5		C	1	3	•	•			
Agrimonia gryposepala	Agrimony	S5		C	2	3		•	•	•	
Agrimonia parviflora	Swamp Agrimony	S4		R	4	-3	•	•	•	•	•
Ajuga sp.	Bugleweed species						•				•
Alisma sp.	Water Plantain species										•
Alliaria petiolata	Garlic Mustard	SNA		IC		0			•		
Arctium minus	Common Burdock	SNA		IU		3	•			•	
Arisaema triphyllum	Jack-in-the-pulpit	S5		C	5	0			•	•	
Asclepias incarnata	Swamp Milkweed	S5		C	6	-5	•				•
Asclepias syriaca	Common Milkweed	S5		C	0	5	•				
Asplenium sp.	Fern species								•		
Barbarea vulgaris	Yellow rocketcress	SNA		IC	*	0	•		•	•	
Bidens sp.	Beggar Tick species						•			•	•
Boehmeria cylindrica	False Nettle	S5		C	4	-5					•
Calystegia sepium	Hedge False Bindweed	S5		C	2	0	•				
Cardamine pratensis	Cuckoo Flower	S5		R		-3	•		•	•	•
Carex Crinita	Fringed Sedge	S5		C	6	-5	•				
Carex lupulina	Hop Sedge	S5		C	6	-5					•
Carex sp	Carex species							•	•		
Carex vulpinoidea	Fox Sedge	S5		C	3	-5	•	•	•		
Centaurea sp.	Knapweed species						•		•		
Cicuta maculata	Spotted Water-hemlock	S5		C	6	-5					•
Circaea canadensis	Enchanter's Nightshade	S5		C	2	3			•	•	
Cirsium sp.	Thistle species						•		•	•	
Claytonia sp.	Spring Beauty species								•		
Dactylis glomerata	Orchard Grass	SNA		IC		3			•		
Daucus carota	Wild Carrot	SNA		IC		5	•	•	•		
Dipsacus fullonum	Common Teasel	SNA		IC		3	•				
Equisetum sp	Horsetail species							•		•	
Erigeron philadelphicus	Common Fleabane	S5		C	2	0			•	•	
Eurybia sp.	Wood Aster species								•		
Euthamia graminifolia	Grass-leaved Goldenrod	S5		C	2	0	•	•	•		
Eutrochium maculatum	Spotted Joe-Pye-weed	S5		C	4	-5	•	•	•	•	•
Fragaria sp.	Strawberry species						•		•	•	
Fragaria vesca	Woodland Strawberry	S5		C	2	3		•			
Fragaria virginiana	Wild Strawberry	S5		C	2	3	•				
Galium aparine	Cleavers Bedstraw	S5		C	4	3				•	
Galium palustre	Marsh Bedstraw	S5		C	5	-5					•
Galium sp.	Bedstraw species						•		•		
Geum canadense	White Avens	S5		C	1	0			•		•
Geum laciniatum	Rough Avens	S4		C	2	-3		•			
Geum sp.	Avens species						•				•
Glechoma hederacea	Ground Ivy	SNA		IC		3	•				
Glyceria striata	Fowl Mannagrass	S5		C	3	-5			•	•	•
Hypericum sp.	St. John's-wort species						•		•		
Impatiens capensis	Spotted Jewelweed	S5		C	4	-3				•	•
Inula helenium	Elecampane	SNA		IC		3	•				
Juncus effusus	Soft Rush	S5		C	4	-5	•				•
Juncus sp	Rush species						•				
Juncus tenuis	Path Rush	S5		C	0	0			•		

Juncus torreyi	Torrey's Rush	S5	U	3	-3	•				
Leucanthemum vulgare	Oxeye Daisy	SNA	IC		5	•	•	•		
Lysimachia ciliata	Fringed Loosestrife	S5	C	4	-3					•
Lysimachia nummularia	Creeping Jenny	SNA	IC		-3	•				
Lythrum salicaria	Purple Loosestrife	SNA	IC		-5		•		•	•
Mentha sp.	Mint species								•	•
Myosotis laxa	Small Forget-me-not	S5	C	6	-5					•
Myosotis scorpioides	True Forget-me-not	SNA	IU		-5			•		
Onoclea sensibilis	Sensitive Fern	S5	C	4	-3	•		•	•	•
Oxalis sp.	Wood-sorrel species							•	•	
Parthenocissus quinquefolia	Virginia Creeper	S5	C	6	3			•		
Penstemon digitalis	Foxglove Beardtongue	S4S5	U	6	0	•				
Persicaria virginiana	Jumpseed	S4	C	6	0		•	•	•	•
Phleum pratense	Common Timothy	SNA	IC		3	•	•			
Pilosella caespitosa	Field Hawkweed	SNA	IC		5			•		
Poaceae sp.	Grass species					•	•	•	•	•
Potentilla simplex	Old-field Cinquefoil	S5	C	3	3		•			
Prunella vulgaris	Self-heal	S5	C	0	0	•	•	•	•	
Ranunculus acris	Common Buttercup	SNA	IC		0	•	•	•		
Ranunculus sp.	Buttercup species					•		•		
Rumex crispus	Curly Dock	SNA	IC		0	•	•			
Solanum dulcamara	Bittersweet Nightshade	SNA	IC		0			•		
Solidago rugosa	Rough-stemmed Goldenrod	S5	C	4	0	•	•	•	•	•
Solidago sp.	Goldenrod species					•	•	•		•
Sparganium sp.	Burreed species					•		•		
Symphyotrichum lanceolatum	Panicled Aster	S5	C	3	-3			•	•	•
Symphyotrichum puniceum	Swamp Aster	S5	C	5	-5	•				
Taraxacum officinale	Common Dandelion	SNA	IC		3	•	•			
Toxicodendron radicans	Poison Ivy	S5	C	2	0			•	•	
Trifolium pratense	Red Clover	SNA	IC		3	•				
Trifolium repens	White Clover	SNA	IC		3	•				
Vicia cracca	Tufted Vetch	SNA	IC		5	•	•			
Viola sp.	Violet species								•	
Vitis riparia	Riverbank Grape	S5	C	0	0	•	•	•		•
TOTAL						57	36	58	42	40

EESN Bird Inventory 2021
Nigh Rd
Survey Dates June 9, July 5
Observers N Litwin, A Brunning
 # Species = 30 + 1 overhead
 # Species at Risk = 0

OBBA: Ontario Breeding Bird Atlas (2001-2005, 1981-1985) 10km X 10km S
COSEWIC July 2021: LOW, MID, HIGH = Candidate Priority Status
SARA status current to July 2021
SARO status current to July 2021
OPIF (Ontario Partners in Flight) July 2014
OPIF BCR 13 = Bird Conservation Region 13
OPIF Population Objective M = Maintain, I = Increase, R = Recovery, D = Decrease
Area Sensitivity: (√) = uses edge if forest interior also nearby
List in accordance with the American Ornithologists Union (AOU) 7th edition, 61st supplement
Reference Ontario Field Ornithologists Checklist of the Birds of Ontario
http://www.ofo.ca/site/page/view/checklist.checklist#top

COMMON NAME	SCIENTIFIC NAME	OBSERVED	OBBA 17PH65	COSEWIC	SARA	SARO	S RANK	N RANK	G RANK	OPIF BCR13	HABITAT NOTES	AREA SENSITIVITY
Columbidae												
Mourning Dove	Zenaida macroura	X	CONF				S5	N5	G5			
Charadriidae												
Killdeer	Charadrius vociferus	X	CONF				S5B,S5N	N5B	G5	**I**	open fields	
Ardeidae												
Great Blue Heron	Ardea herodias	X overhead	POSS				S4	N5B	G5	**M**		
Strigidae												
Eastern Screech-Owl	Megascops asio	X	PROB				S4	N5	G5		cavity nester	
Picidae												
Red-bellied Woodpecker	Melanerpes carolinus	X	PROB				S4	N4	G5		woodland; cavity nester	(√)
Downy Woodpecker	Picoides pubescens	X	CONF				S5	N5	G5		urban-tolerant; cavity nester	
Tyrannidae												
Great Crested Flycatcher	Myiarchus crinitus	X	PROB				S4B	N5B	G5		woodland; cavity nester	(√)

Willow Flycatcher	Empidonax traillii	X	PROB	S5B	N5B	G5	riparian and wetland shrub/successional	√
Vireonidae								
Warbling Vireo	Vireo gilvus	X	PROB	S5B	N5B	G5		
Corvidae								
Blue Jay	Cyanocitta cristata	X	CONF	S5	N5	G5		
American Crow	Corvus brachyrhynchos	X	CONF	S5B	N5B,N5N	G5		
Hirundinidae								
Tree Swallow	Tachycineta bicolor	X	CONF	S4B	N5B	G5	aerial insectivore; colonial cavity nester near water; urban tolerant	
Paridae								
Black-capped Chickadee	Poecile atricapillus	X	CONF	S5	N5	G5		
Troglodytidae								
House Wren	Troglodytes aedon	X	CONF	S5B	N5B	G5		
Carolina Wren	Thryothorus ludovicianus	X	CONF	S4	N4	G5		
Turdidae								
American Robin	Turdus migratorius	X	CONF	S5B	N5B,N5N	G5		
Mimidae								
Gray Catbird	Dumetella carolinensis	X	CONF	S4B	N5B	G5	urban-tolerant; fields, shrubby thickets	
Sturnidae								
European Starling	Sturnus vulgaris	X	CONF	SNA	NNA	G5		
Passeridae								
House Sparrow	Passer domesticus	X	CONF	SNA	NNA	G5		
Fringillidae								
House Finch	Carpodacus mexicanus	X	CONF	SNA	N5	G5		
American Goldfinch	Carduelis tristis	X	CONF	S5B	N5B,N5N	G5		
Emberizidae								
Chipping Sparrow	Spizella passerina	X	CONF	S5B	N5B	G5	urban-tolerant	
Song Sparrow	Melospiza melodia	X	CONF	S5B	N5B,N5N	G5		
Icteridae								

Baltimore Oriole	Icterus galbula	X	CONF	S4B	N5B	G5	**M**	urban-tolerant; deciduous trees and park-like areas; susceptible to pesticides, vehicular collisions	
Red-winged Blackbird	Agelaius phoeniceus	X	CONF	S4	N5B,N5N	G5			
Brown-headed Cowbird	Molothrus ater	X	CONF	S4B	N5B	G5			
Common Grackle	Quiscalus quiscula	X	CONF	S5B	N5B	G5			
Parulidae									
Common Yellowthroat	Geothlypis trichas	X	PROB	S5B	N5B	G5			
Yellow Warbler	Setophaga petechia	X	CONF	S5B	N5B	G5			
Cardinalidae									
Northern Cardinal	Cardinalis cardinalis	X	CONF	S5	N5	G5			
Rose-breasted Grosbeak	Pheucticus ludovicianus	X	CONF	S4B	N5B	G5	**M**	woodlands; of conservation concern, may be area-sensitive	(V)

Table D-1: Summary of incidental fauna species observations on the subject property

Latin name	Common name	Date Observed
Thamnophis sirtalis	Gartersnake species	14-Jul-21
Pseudacris triseriata	Western Chorus Frog	30-March-21
Lithobates clamitans	Green Frog	14-Jul-21
Sylvilagus floridanus	Eastern Cottontail	30-March-21
Danaus plexippus	Monarch	14-Jul-21
Canis latrans	Coyote	30-March-21
Odocoileus virginianus	White-tailed Deer	30-March-21

Appendix E

Site Photos

Figure 1: Upland Forest, Polygon 1 (FODM9-4)

Figure 2: Upland Forest, Polygon 1 (FODM9-4)

Figure 3: Soil sample in Polygon 1 (SiCL)

Figure 4: Wetland, Polygon 2 (SWTM2-2) south of the watercourse.

Figure 5: Cattail Marsh (MAMM1-2) inclusion in Polygon 2

Figure 6: Culvert downstream of the Cattail Marsh

Figure 7: looking downstream at the watercourse on the north subject property

Figure 8: In Polygon 2, north of the watercourse

Figure 9: Soil sample in Polygon 2