

8055 MCLEOD ROAD, NIAGARA
FALLS

ENVIRONMENTAL IMPACT STUDY

Prepared For Niagara Falls Non-Profit Housing Corporation

Ecological & Environmental Solutions
SEPTEMBER 2024

Table of Contents

1.0	INTRODUCTION	1
1.1	Study Objectives	1
1.2	Location of Proposed Development	1
1.3	Pre-consultation and Study Scope	2
1.3.1	Habitat Screenings	3
2.0	POLICY CONTEXT	3
2.1	Applicable Policies and Legislation	3
2.1.1	Provincial Policy Statement (2020).....	3
2.1.2	Endangered Species Act (ESA, 2007)	4
2.1.3	Niagara Region Official Plan (2014).....	4
2.1.4	NPCA Land Use Policy Document (2024).....	5
2.1.5	City of Niagara Falls Official Plan (2019).....	6
3.0	BACKGROUND INFORMATION	7
3.1	Literature Review	7
3.2	Site History and Current Conditions.....	7
3.2.1	Physiography, Soils and Drainage.....	9
3.3	Existing Natural Heritage Features.....	10
3.3.1	<i>Environmental Protection Areas</i>	10
3.3.2	<i>Environmental Conservation Areas</i>	10
4.0	BIOPHYSICAL ASSESSMENT.....	11
4.1	Vegetation Communities and Botanical Inventory.....	12
4.1.1	Assessment of Vegetation	14
4.1.2	Woodland Delineation	15
4.2	Wildlife.....	15
4.2.1	Breeding Bird Surveys.....	15
4.2.2	Bat Habitat	16
4.2.3	Amphibian Monitoring.....	17
4.2.4	Reptiles and Reptile Habitat.....	17
4.2.5	Other Fauna.....	18
4.3	Species at Risk	18
4.3.1	Assessment of SAR.....	18
4.4	Significant Wildlife Habitat.....	19
4.4.1	Seasonal Concentration Areas	20
4.4.2	Rare or Specialized Habitat	20
4.4.3	Habitat for Species of Conservation Concern	20
4.4.4	Animal Movement Corridors.....	21
4.5	Wildlife Corridors	21
4.5.1	Assessment of Wildlife Corridors	21
4.6	Wetland Assessment.....	21
4.6.1	Provincially Significant Wetland.....	21
4.6.2	Unevaluated Wetland	23
4.7	Summary.....	23
5.0	CONSTRAINTS ANALYSIS	24

Ecological & Environmental Solutions

5.1	Development Constraints	24
5.2	Areas of No Constraint	25
5.3	Opportunities for Ecological Restoration or Enhancement	25
6.0	IMPACT ASSESSMENT.....	26
6.1	Proposed Development.....	26
6.1.1	Current Proposed Development	26
6.1.2	Previous Design Iterations.....	27
6.2	Direct Impacts	27
6.3	Indirect Impacts	28
6.4	Cumulative Impacts	28
6.5	Mitigation for Anticipated Impacts	28
6.6	Summary of Impacts and Mitigation	29
7.0	RECOMMENDATIONS AND CONCLUSION.....	29
8.0	LITERATURE REVIEWED.....	31

APPENDICES

- Appendix A –Agency Correspondence and EIS Scoping
- Appendix B – Mapping
- Appendix C – Species Lists and Data Summaries
- Appendix D – Habitat Screenings
- Appendix E – Site Photos

1.0 INTRODUCTION

Ecological & Environmental Solutions was retained by Niagara Falls Non-Profit Housing Corporation to evaluate the natural heritage and ecological features on a vacant portion of the property located at 8055-8065 McLeod Road, Niagara Falls in accordance with the Regional Municipality of Niagara EIS Guidelines and the 2014 Consolidated Regional Official Plan.

An Environmental Impact Study (EIS) was conducted to address the effects of a proposed apartment building and associated parking on the natural heritage features on and adjacent to the subject property. The features and their relative functions were assessed through a review of the available information and field studies conducted through 2022.

1.1 Study Objectives

This report includes a summary of the project scoping, relevant background data, and a description of the existing conditions on the subject property including natural heritage features and their functions. An analysis of constraints and opportunities present on the property and an assessment of ecological impacts of the proposed development are also presented.

According to Regional Core Natural Heritage mapping, the subject property contains a portion of the Warren Creek Provincially Significant Wetland (PSW) complex as well as Regionally Significant Woodland overlapping the PSW. In both the Regional and Municipal natural heritage mapping, the PSW and Significant Woodland are designated as Environmental Protection Area (EPA) and Environmental Conservation Area (ECA), respectively.

The primary objectives of this study are to evaluate the existing conditions of the site, assessing the natural heritage features to identify constraints to development, and evaluating the anticipated impacts of the proposed site plan on the existing features. Mitigation measures are recommended with the goal of maintaining the ecological integrity of the natural features and their functions.

1.2 Location of Proposed Development

The property is located within the City of Niagara Falls' urban area and is zoned residential development according to Schedule A of the Official Plan for the City of Niagara Falls. The study area is approximately 2.36 hectares and is legally described as Part of Lot 170, Stamford Township. The site is situated on the north side of McLeod Road, west of Montrose Road, and east of Kalar Road. Currently, the east portion of the site is developed, with a Townhouse complex and a mid-rise building, while the west half of the site is vacant.

The vacant portion of the site is dominated by cultural thicket and woodland habitat with a history of disturbance to the site. Historic and ongoing disturbance is evidenced by the presence of fill material and dumping throughout the property. The site location is shown in Figure 1.

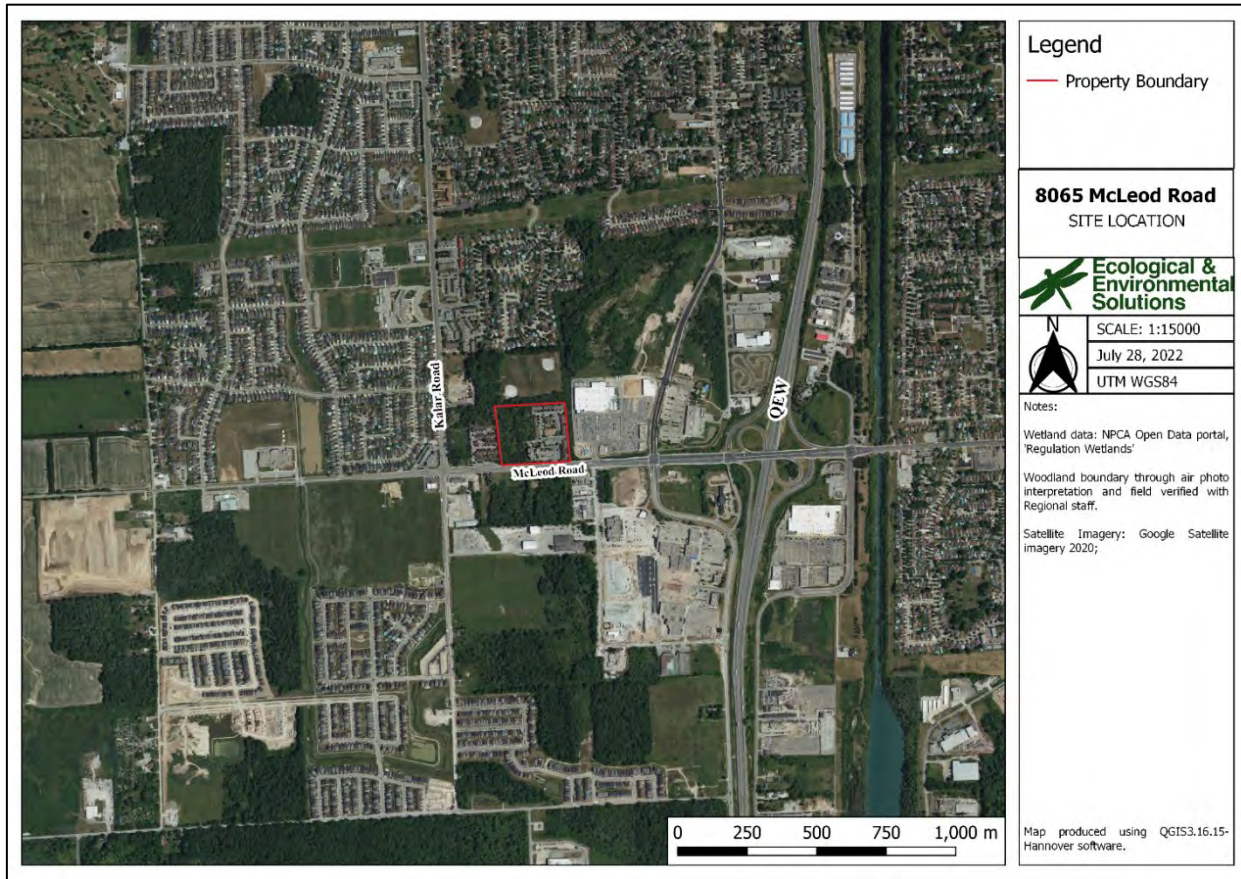


Figure 1: Location of the subject lands.

1.3 Pre-consultation and Study Scope

A site meeting with the Region of Niagara, NPCA was conducted on November 15, 2021, and the region subsequently provided an EIS Scoping Checklist, identifying the required field surveys for the completion of an EIS. The NPCA and Region both noted that the subject lands may contain wetland habitat beyond the existing mapped PSW and recommended that assessments confirm whether there would be suitable area for development.

Terms of Reference (TORs) were submitted to Regional environmental planning staff and the NPCA on June 15, 2022, to outline the proposed work plan for the EIS. In accordance with the EIS Scoping Checklist, the proposed work plan in the TORs included the following studies:

- Two-season botanical inventory,
- Ecological Land Classification (ELC)
- Breeding bird surveys
- Amphibian breeding surveys
- Reptile surveys
- Bat habitat assessment
- Wetland evaluation, and
- Water balance risk assessment.

Region of Niagara staff confirmed via email on June 20, 2022, that they had no objections to the proposed work plan and requested that they be present to stake the woodland boundary on the subject property. The NPCA did not provide any additional comments on the submitted TORs.

The submitted TORs and correspondence with agencies has been included in Appendix A of this report.

1.3.1 Habitat Screenings

Screening tables for candidate Significant Wildlife Habitat (SWH) and Species at Risk (SAR) habitat were completed and submitted with the TORs.

The SWH screening involved cross-referencing the existing habitat on the site with candidate habitat types identified in the Significant Wildlife Habitat Criteria Schedules for EcoRegion 7E (MNR, 2015), while SAR screening cross-referenced existing conditions with preferred habitat for rare species which have been documented within the vicinity of the subject property to determine potential for occurrence. Species tracked by the Natural Heritage Information Centre (NHIC), Ontario Breeding Bird Atlas (OBBA), or those documented on iNaturalist within the vicinity of the property were included as having potential to occur.

Seven categories of candidate SWH were identified for the property and/or adjacent lands.

A total of nine SARs were identified as having potential to occur on or adjacent to the subject property based on habitat availability.

The SWH and SAR screening tables are appended to the TORs (Appendix A). Field surveys were completed according to standardized protocols as outlined in the approved TORs, and the findings were analyzed to confirm whether SWH or habitat for SAR is present on or adjacent to the subject lands. This assessment is included in Appendix D.

2.0 POLICY CONTEXT

2.1 Applicable Policies and Legislation

Prior to impact assessment, a constraints analysis is completed by identifying the existing conditions, reviewing applicable policies, and conducting the necessary field studies to assess the existing features and their functions.

In accordance with the Niagara Regional EIS Guidelines (2018), a summary of applicable policies and regulations has been provided below.

2.1.1 Provincial Policy Statement (2020)

The Natural Heritage policies of the Provincial Policy Statement (PPS, 2020) aim to maintain, restore, or improve the diversity, connectivity and function of natural systems.

In accordance with Policy 2.1.4, development is not permitted within significant wetlands, while Policy 2.1.7 prohibits development and site alteration in habitat of threatened or endangered

species, unless otherwise permitted under provincial and federal legislation.

Pursuant to PPS Policy 2.1.5, unless it has been demonstrated that there will be no negative impacts to the feature or its functions, development is not permitted in significant woodlands, significant valleylands, significant wildlife habitat, or significant Areas of Natural and Scientific Interest (ANSIs).

2.1.2 Endangered Species Act (ESA, 2007)

In the Province of Ontario, Species at Risk are regulated both by federal and provincial legislation. Federally, the Species at Risk Act (SARA, S.C. 2002, c.29) subsection 32(1) protects individual Species at Risk from being killed, harmed or harassed. However, under the Federal SARA, protection of critical habitat of SAR applies only to habitat located on federal lands, or habitat of aquatic SAR.

The Provincial Endangered Species Act (ESA, S.O. 2007, c.6) provides protection for Species at Risk in Ontario as well as their habitat. Section 9(1) states “*No person shall, (a) kill, harm harass, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered, or threatened species.*”

Section 10(1) of the ESA (2007) “*No person shall damage or destroy the habitat of, (a) a species that is listed on the Species at Risk in Ontario List as an endangered or threatened species; or (b) a species that is listed on the Species at Risk in Ontario List as an extirpated species, if the species is prescribed by the regulations for the purpose of this clause.*”

The subject property was screened for SAR, and thirteen species were identified as having the potential to occur on or adjacent to the subject property.

2.1.3 Niagara Region Official Plan (2014)

Regional Official Plan (2014) Policies 7.B.1.3 and 7.B.1.4 identify features designated as Environmental Protection Areas (EPAs) and Environmental Conservation Areas (ECAs), respectively.

Per Policy 7.B.1.3, EPAs include PSWs, Provincially significant ANSIs, and significant habitat of endangered and threatened species. Policy 7.B.1.4 identifies the following as ECAs: Significant Woodlands, SWH, significant habitat of species of concern, Regionally significant ANSIs, other wetlands, significant valleylands, savannahs and tallgrass prairies, alvars, and publicly owned conservation lands.

To be considered Significant, a woodland must meet one or more of the following criteria listed in Policy 7.B.1.5:

- a) Contain threatened or endangered species or species of concern;
- b) In size, be equal to or greater than:
 - i. 2hectares, if located within or overlapping Urban Area Boundaries;

- ii. 4 hectares, if located outside Urban Areas and north of the Niagara Escarpment;
- iii. 10 hectares, if located outside Urban Areas and south of the Escarpment;
- c) Contain interior woodland habitat at least 100 metres in from the woodland boundaries;
- d) Contain older growth forest and be 2 hectares or greater in area;
- e) Overlap or contain one or more of the other significant natural heritage features listed in 7.B.1.3 or 7.B.1.4; or
- f) Abut or be crossed by a watercourse or water body and be 2 or more hectares in area.

Policy 7.B.1.10 prohibits development or site alteration within EPAs, except forest or wildlife management, conservation and flood or erosion projects, and small scale, passive recreational uses.

Pursuant to Policy 7.B.1.11, development and site alteration may be permitted within ECAs, or on lands adjacent to ECAs and EPAs if and EIS has demonstrated no significant negative impact on the Core Natural Heritage System component.

Policy 7.B.1.13 states that where development is proposed within or near a Potential Natural Heritage Corridor, “[d]evelopment should be located, designed and constructed to maintain and, where possible, enhance the ecological functions of the Corridor in linking Core Natural Areas or an alternative corridor should be developed.”

2.1.4 NPCA Land Use Policy Document (2024)

The Province implemented changes to the *Conservation Authorities Act* (CA Act) and associated regulations which came into effect on April 1, 2024. The NPCA has subsequently amended its land use policy document to bring it into conformity with those changes.

Section 1.9 of the NPCA Policy Document provides a summary of the legislative framework that details the roles and responsibilities of the NPCA as set out in Section 21.1 and Section 28 of the CA Act.

Section 21.1 of the CA Act lists the mandatory programs and services of conservation authorities, which are further defined in *O.Reg 686/21: Mandatory Programs and Services*. The regulation (O.Reg 686/21) requires the NPCA to review applications under the *Planning Act* and provide comments or technical support to the decision-making authority that ensure decisions are consistent with Provincial natural hazard policies issued under the *Planning Act*, except those related to hazardous forest or wildfires.

Specifically, the NPCA is required to provide comment with regard to the Natural Hazard section of policy statements issued under Section 3 of the *Planning Act*, which included Section 3.1 of the former Provincial Policy Statement (2020); and Section 5.2 of the updated Provincial Planning Statement (2024).

While authorities may provide additional programs and services to area municipalities under

Section 21.1.1 of the CA Act, Section 1.9.1.2 of the NPCA Policy Document notes that:

Section 21.1.1(1.1) of the Conservation Authorities Act states that a conservation authority shall not provide under subsection (1), within its area of jurisdiction, a municipal program or service related to reviewing and commenting on a proposal, application or other matter made under a prescribed Act. Ontario Regulation 596/22 was made on January 1, 2023 and prescribed the following Acts:

- a) The Aggregate resources Act*
- b) The Condominium Act, 1998*
- c) The Drainage Act*
- d) The Endangered Species Act*
- e) The Environmental Assessment Act*
- f) The Environmental Protection Act*
- g) The Niagara Escarpment Planning and Development Act*
- h) The Ontario Heritage Act*
- i) The Ontario Water Resources Act*
- j) The Planning Act*

This has served to streamline the focus of conservation authorities to natural hazard review only. Other areas of environmental review (e.g. natural heritage, fish habitat, groundwater quantity/quality, etc.) are the responsibility of municipalities.

Section 28 of the CA Act, as detailed in Section 1.9.1.3 of the NPCA Policy Document, identifies activities prohibited within areas regulated by a conservation authority. Notwithstanding Section 28(1) of the CA Act, the NPCA is responsible for the implementation of *O.Reg 41/24: Prohibited Activities, Exemptions and Permits* to decide if an activity may be permitted pursuant to Section 28.1 of the CA Act. However, Section 28(4.1) of the Act states:

Subject to subsection (4.2), the prohibitions in subsection (1) do not apply to an activity within a municipality prescribed by the regulations if,

- a) the activity is part of development authorized under the Planning Act; and*
- b) such conditions and restrictions as may be prescribed for obtaining the exception and on carrying out the activity are satisfied. 2022, c. 21, Sched. 2, s. 7 (2).*

Therefore, according to Section 28(4.1) of the Act, where a development approval has been issued under the *Planning Act*, activities which are carried out in accordance with the conditions of that approval are exempt from the prohibitions under Section 28(1), do not require authorization under Section 28.1, and are thus not subject to O.Reg 41/24.

The policies issued under *Part C: NPCA Permitting & Administration of Ontario Regulation 41/24* of the NPCA Policy Document are not applicable to applications made under the *Planning Act*.

2.1.5 City of Niagara Falls Official Plan (2019)

Part 2, Section 11 of the City of Niagara Falls Official Plan (2019) provides land use policies related to the Natural Heritage System as detailed in Schedule A-1 and Appendix III to III E. Policy 11.1.5 directs that development proposed within or adjacent to a natural heritage feature should

be designed to avoid significant negative impacts to the feature and that mitigation should be undertaken for any unavoidable impacts.

Policy 11.1.25 promotes the protection of ecological corridors, noting development should be designed to maintain and, where possible, enhance the ecological functions of existing linkages. Creation of alternative corridors may be approved if supported by an EIS.

Land use policy 11.2.14 prohibits development within designated Environmental Protection Areas (EPA) within the Niagara Falls Natural Heritage System (including PSWs), except for forest, fish and wildlife management, conservation and flooding or erosion works, and small-scale recreational uses.

Within Environmental Conservation Areas (ECAs), including Significant Woodlands, permitted uses pursuant to Policy 11.2.23 include forest, fish and wildlife management, conservation and flooding or erosion works, small-scale recreational uses, and ancillary uses such as parking, conservation area shelters, or other uses compatible with ECA designation.

3.0 BACKGROUND INFORMATION

3.1 Literature Review

Background studies and information databases reviewed for this EIS include, but are not limited to:

- Natural Heritage Information Centre database (MNR)
- Atlas of the Breeding Birds of Ontario (ABBO)
- iNaturalist.org
- Official Plan for the City of Niagara Falls (April 2019)
- Niagara Region Natural Areas Inventory (NPCA, 2009)
- Consolidated Regional Official Plan (2014)
- Provincial Policy Statement (2020)

The study area is located within the Chippawa Creek Power Canal subwatershed area. It is part of the Haldimand Clay Plain and lies just south of the Niagara Falls Moraine. The moraine is subtle compared to the Vinemount and Fort Erie moraines being visible only around Lundy's Lane where it is topped with gravel deposits from the recession of Lake Warren approximately 13,000 years ago (NAI Vol 1, 2009).

The history of disturbance on the subject property can be connected to the construction of the Chippawa Power Canal, when material from the widening of the canal circa 1934 was transported and stored in the vicinity of the subject property. Piles of fill located on the property have interrupted the natural southern drainage, resulting in the development of wetland habitat in the northern portion of the site.

3.2 Site History and Current Conditions

Ecological & Environmental Solutions

The subject property was stripped of vegetation circa 1934, during the construction of the Chippawa hydro canal (Figure 2). While some natural regeneration can be seen in the 1954 and 1965 aerial imagery, debris and disturbed soils are visible throughout the property and on adjacent lands. An east-west hedgerow along the northern property boundary bordered an agricultural field north of the site, which is now the location of John N Allen Park.

The existing development on the east portion of the property and the townhome development immediately west of the subject property (8175 McLeod Road) were both constructed prior to 2000. The lands north of John N Allen Park were also converted to urban residential development prior to 2000.

Commercial development east of the subject property, and residential development of the lands west of Kalar Road began between 2000 and 2006 and has continued to expand. Currently, the land east of the property and west of the QEW contains commercial development.

A storm drain originates in the north part of Charnwood Park, along the rear yards of the homes on Charnwood Drive, continues south along the boundary between Charnwood Park and John N Allen Park and between the subject property and the adjacent commercial development. The drain continues in a roadside ditch along the north side of McLeod Road, flowing east and crossing McLeod Road before eventually being piped under the QEW to the Chippawa hydro canal.



Figure 2: 1934 aerial imagery of the subject property, showing historic agricultural land use.

3.2.1 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 relevant maps (Ontario Institute of Pedology, 1989). The subject property is situated south of the Niagara Falls moraine and is associated with the Haldimand Clay Plains.

According to the Soils of Niagara Falls Mapping (Map 5 of *The Soils of the Regional Municipality of Niagara*), soil characteristics for the subject property are not mapped, while the area to the east of the property is identified as waste area. West of the property, beyond Kalar Road, the soils are dominated by Peel (PEL) soils, and south of McLeod, Niagara (NGR) soils are present.

Peel soils are characterized by 40-100cm of lacustrine silty clay loam or silty clay soils overlying silty clay textures. The PEL soils are imperfectly drained, slowly permeable, and have perched groundwater tables due to soil compaction resulting from tillage.

NGR soils are imperfectly drained and moderately to slowly permeable. The soil texture tends to be clay loam to clay, and groundwater usually remains close to the surface until late spring. In Niagara, the NGR soils are primarily associated with the Haldimand Clay and Iroquois plains.

3.3 Existing Natural Heritage Features

3.3.1 *Environmental Protection Areas*

A portion of the Warren Creek Provincially Significant Wetland (PSW) Complex is located in the northern portion of the subject property and is mapped as an Environmental Protection Area (EPA) in the Regional Core Natural Heritage Map in accordance with Regional Official Plan policy 7.B.1.3. According to Schedule A of the City of Niagara Falls Official Plan, the PSW is also designated as EPA.

No other EPAs (Provincially Significant ANSI, habitat of endangered or threatened species, etc.) have been identified within the vicinity of the study area.

Regional Policy 7.B.1.6 prohibits development within EPA designated areas, while Policy 7.B.1.11 requires that any development adjacent to EPA lands demonstrate no negative impact to the features.

3.3.2 *Environmental Conservation Areas*

The Region of Niagara's Core Natural Heritage Map identifies the woodland north of the subject property as Environmental Conservation Area (ECA). A portion of the woodland extends onto the property, overlapping the EPA-designated wetland. The woodland meets size criteria for significance, and may contain SAR, according to the Niagara Region NAI (2009), which lists one endangered species and two provincially rare species in study site NF-02 based on assessments completed in 1980 and 1998.

The City of Niagara Falls Official Plan also identifies the adjacent woodland as an ECA Significant Woodland, using the same criteria for designation as the 2014 Regional Official Plan. Policy 7.B.1.11 of the Regional OP states that development may be permitted within or adjacent to ECA designated lands where an EIS demonstrates that there will be no negative impact on the feature or its functions. However, Policy 11.2.23 of the City of Niagara Falls OP only permits conservation and small-scale passive uses within ECA designated lands.

The natural heritage features are shown in Figure 3, below.



Figure 3: Existing Natural Heritage features present on and adjacent to the Subject Lands

4.0 BIOPHYSICAL ASSESSMENT

The following field studies have been completed to inventory and assess the existing conditions of the study area. All studies were conducted in accordance with standardized protocols, as outlined in the approved Terms of Reference.

Ecological Land Classification and Botanical Inventory

Vegetation communities in the study area were evaluated using the protocols detailed in the *Ecological Land Classification for Southern Ontario Manual* (Lee et al., 1998) on July 13, 2022. By reviewing aerial imagery and verifying in the field, polygons were delineated and assessed to determine soil type, vegetation structure and dominant species.

All vascular plants observed in the study area were documented during ELC evaluations, and additional botanical surveys were completed to create a list of species present. ELC summaries and full botanical inventory can be found in Appendix C.

Breeding Bird Surveys

In accordance with the *Ontario Breeding Bird Atlas – Guide for Participants* (2001) a minimum of two surveys were conducted during the breeding period (May 24 – July 10) between dawn and 5 hours after dawn. A total of three breeding bird survey visits were completed for the subject property, occurring on June 8, June 12, and June 25, 2022. Surveys were conducted on mornings

with low wind and no precipitation, and all species heard or observed were documented.

Results are summarized in Section 4.2.1 and a full inventory of species identified is included in Appendix C.

Bat Habitat Assessment

Assessment of bat habitat was carried out following the Ministry of Natural Resources and Forestry's *Survey Protocol for Species at Risk Bats in Treed Habitats* (MNRF, 2017). The study area was evaluated for candidate bat roosting habitat during leaf off conditions on March 24, 2022. However, based on the existing conditions, candidate SWH was not present, and acoustic monitoring was not carried out. Additional details are provided in Section 4.2.2.

Amphibian Breeding Surveys

Anuran call surveys were conducted according to the *Marsh Monitoring Program Participant's Handbook for Surveying Amphibians* (Environment Canada, 2008). Three surveys were conducted according to weather conditions and recommended timelines. Survey dates were April 6, May 12, and June 15, 2022. Two survey stations were established and monitored on each of the survey dates for a period of 3 minutes. Species heard calling from the study area and their relative abundance were documented. Details are provided in Section 4.2.3, and results for each survey are included in Appendix C.

Reptile and Amphibian Searches

Active hand searches were completed during all site visits to search for reptiles and amphibians on the subject property. Incidental observations and potential reptile habitat within the study area were. A summary of the survey results is provided in Section 4.2.3, below.

4.1 Vegetation Communities and Botanical Inventory

Four vegetation communities were identified in the study area and assessed to classify existing habitat. The polygons and their associated classifications are presented in Figure 3.

Mineral Cultural Woodland (CUW1)

The first polygon was classified as a mineral cultural woodland based primarily on the anthropogenic disturbance and soils present.

Review of vegetation alone may suggest classification as a Poplar-dominant Mineral Deciduous Swamp Ecosite (SWD4) with a canopy dominated by Trembling Aspen and Cottonwood, and understory dominated by Grey Dogwood, Green Ash, and European Buckthorn. The polygon holds standing water into the summer months, there is a noted lack of vegetation in the ground layer.

The dominance of facultative species and lack of wetland obligates suggested that despite being saturated, the soils may not be suitable for the area to be classified as a wetland. Soil samples revealed a shallow layer of loam soils over coarse gravel material and did not contain hydric soils.

NPCA staff visited the site on June 15, 2022 to confirm that the polygon did not contain hydric soils and is therefore not designated as a regulated wetland feature. Correspondence following

the site visit has been included in Appendix C.

Red Cedar Cultural Woodland/Grey Dogwood Cultural Thicket (CUW1-1 c.CUT1-4)

The second polygon was classified as Red Cedar Mineral Cultural Woodland and Grey Dogwood Cultural Thicket complex (CUW1-1 c.CUT1-4). The understory layer dominated the polygon with Gray Dogwood and European Buckthorn as the dominant species. Regeneration Ash and other invasives such as Privet and Glossy Buckthorn were present through most of the polygon. The soil throughout the polygon was highly disturbed and rocky, which limited the ability to sample. The vegetation community established because of regeneration on the disturbed site and is considered a culturally influenced community.

Swamp Maple Mineral Deciduous Swamp (SWD3-3)

The third polygon, which represents the extent of the PSW, is also a culturally influenced polygon, with the boundaries of the wetland being defined along the southern limit by piles of fill material, creating large pockets of water and low-lying areas that have naturalized to create wetland habitat. The canopy throughout is dominated by Eastern Cottonwood and Swamp Maple and contains a variety of other wetland associated species, including Pin Oak, Willows, Grey Dogwood, and Silky Dogwood.

The soil is variable, with 10 – 20cm of organic soils developing over compacted and gravel substrate in the low-lying areas. The low-lying pockets are defined by fill piles, which also contain non-native gravel substrates. Based on the Generalized Soil Map of Niagara (Ontario Institute of Pedology), these non-native substrates are likely sitting atop lacustrine silty clay or heavy clay soils, resulting in temporary pooling in wet conditions.

The polygon has been classified as a Swamp Maple Mineral Deciduous Swamp Type (SWD3-3). While much of the woody vegetation is wetland facultative, the presence of indicator species sporadically located in the low-lying areas confirm the polygon meets wetland criteria. Indicator species include Fowl Mannagrass, Soft Rush, and sedges. Additionally, in the northeast portion of the polygon, there is a Duckweed Mixed Shallow Aquatic Ecosite (SAM1-2). The shallow water is dominated by floating Duckweed, while other emergent wetland species including Reed Canarygrass, Common Boneset, and Water Plantain are present along the outer margins of the inclusion.

Upland Forest (FOD9)

A fourth polygon was identified at the northwest limit of the site. The polygon represents a transition from the deciduous swamp to an upland forest community that extends north onto the John N Allen Park property. It has been identified as a Fresh – Moist Oak – Maple – Hickory Deciduous Forest Ecosite (FOD9).

The forest community was included in the assessment of John N. Allan Park for the *City of Niagara Falls Woodland Management Plan* in 2013. It was generally described as a healthy, mature forest with an open understory. The dominant canopy species identified in the upland community were Bur Oak, Pin Oak, Red Oak, and Shagbark Hickory. Other canopy species

included Norway Maple, Silver Maple, Sugar Maple, and Common Pear. It was noted, however, that the understory has been invaded by European Buckthorn, and removal was recommended as part of the assessment.



Figure 4: Vegetation community of the subject property, identified using the MNRF’s Ecological Land Classification System (map included in Appendix B).

A total of 63 herbaceous and woody plant species were identified within the study area. Twenty-two of the species identified are non-native species that have been introduced to the Region, while the rest are considered native.

4.1.1 Assessment of Vegetation

The provincial status of each vegetation community observed on the property and individual vascular plants was assessed against NHIC status rankings, and the local status of plants was assessed for the Region of Niagara (Oldham, 2017).

According to the MNRF Significant Wildlife Habitat (SWH) Criteria Schedules for EcoRegion 7E, a plant community is rare if it has a status rank of S1, S2, or S3 in the Province of Ontario. The SWD3-3 community has a status ranking of S5, and the other vegetation communities identified in the study area are cultural communities resulting from anthropogenic disturbances. Cultural communities are not assigned Provincial status rankings since they are not naturally occurring.

All plant species identified on the property have a provincial S-Rank of S4 (apparently secure), S5 (secure), or SNA (non-native). No SAR plants were observed in the study area during field investigations.

4.1.2 Woodland Delineation

The woodland boundary was delineated during the leaf-on period in cooperation with Region of Niagara environmental planning staff on July 27, 2022. The dripline was delineated through a combination of field assessments and a review of aerial imagery.

The following woodland boundary map was provided to Regional staff subsequent to their site visit for review. On July 28, 2022, the Region confirmed that the woodland boundary shown in Figure 5 accurately represents the conditions observed on site.

All correspondence from the Region is included in Appendix A.

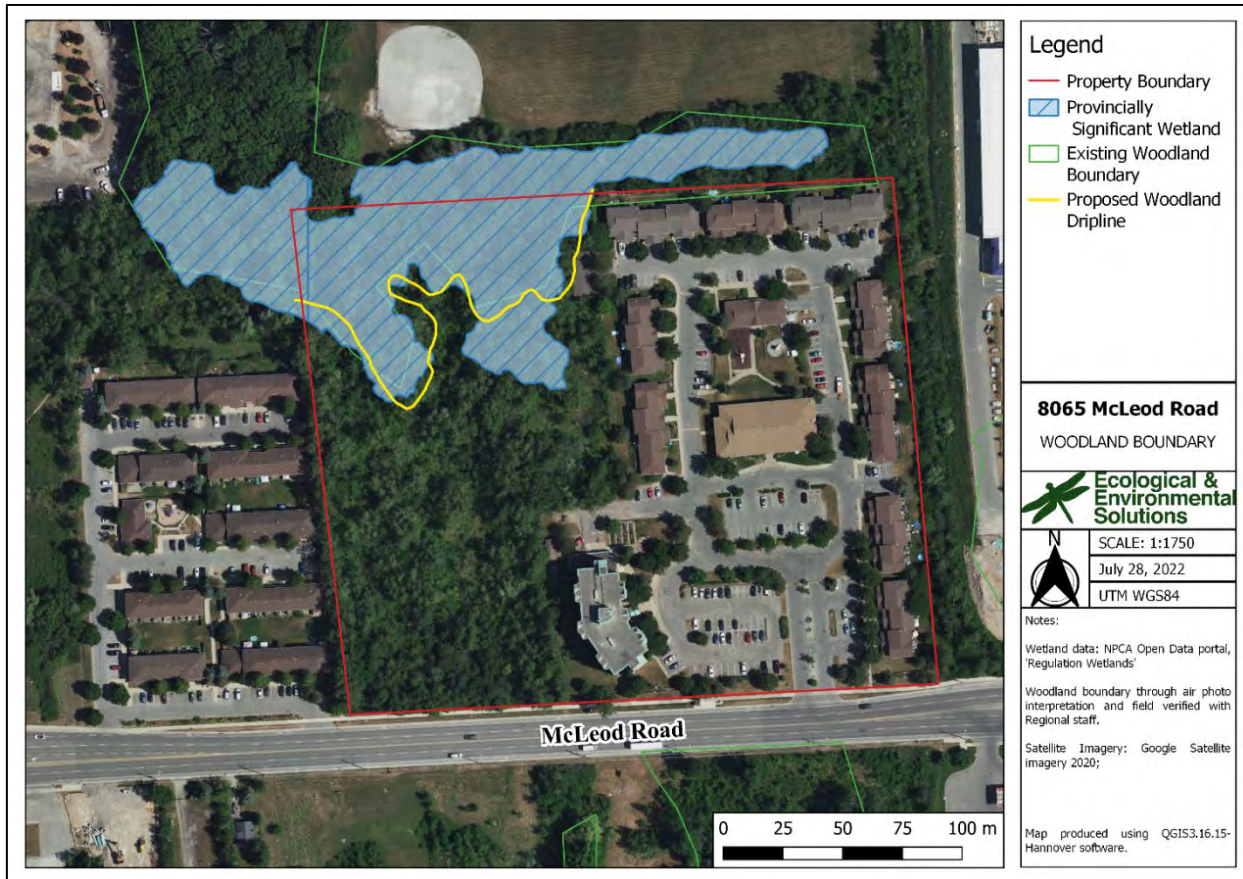


Figure 5: Refined Woodland Boundary field verified and approved by Regional staff.

4.2 Wildlife

4.2.1 Breeding Bird Surveys

A total of twenty-four species were observed on the subject property, two of which were observed overhead only. All species observed are listed as secure (S5) or apparently secure (S4) in the province of Ontario, except one introduced (SNA) species (European Starling) and the Great Egret

(S2B) which was observed flying overhead only.

For the full list of species identified on the property, see Appendix C.

4.2.1.1 *Assessment of Breeding Bird Surveys*

The Provincial status ranking of each species according to NHIC was determined, and status listing under SARO was also noted. Two of the species observed are designated under SARO. Barn Swallow and Eastern Wood-pewee, which are both listed as Special Concern (SC) in the Province of Ontario were observed during field investigations.

Barn Swallow was observed flying overhead, while Eastern Wood-pewee was heard calling from the northern edge of the property, where the Woodland abuts the clearing in John N Allen Park. Further assessment of SAR habitat is provided in Section 4.5.1, below.

Bird activity during surveys was concentrated along the north edge of the site, indicating use of northern part of the woodland/wetland as a corridor between the forested habitat on John N Allen Park, between the parking lot and the baseball diamonds, and the habitat in Charnwood Park, located northeast of the study area.

4.2.2 **Bat Habitat**

Snag assessments were carried out to identify potential habitat for SAR bats and to determine whether acoustic monitoring was necessary to confirm if bat maternity roost SWH was present within the study area. 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.

The site was assessed during the leaf-off period, on March 24, 2022, to identify potential habitat for bat maternity roosting. The southern part of the site is a cultural community dominated by tall shrubs and young, regenerating trees, supporting a few low-quality snags, such as Green Ash damaged by Emerald Ash Borer, Willows, and Cottonwood.

Potential snags are primarily located within the wetland and forest community, which have larger native trees and some where decay has set in due to the abundance of water. Mature Oak and Maple trees are concentrated at the northwest corner of the site where the wetland transitions to upland forest and continues onto the John N Allen Park property. Standing pools of water within the PSW boundary contribute to food sources for bats and other aerial insectivores.

4.2.2.1 *Assessment of Bat Habitat*

The cultural woodland/thicket community in the southern part of the site represents a young regenerating community, with few trees large enough to provide suitable roost habitat. The SWD and FOD communities associated with the natural heritage features may provide suitable habitat for bats.

With the Municipal and Regional policy constraints for both the Significant Woodland and PSW features, potential roosting habitat located within the features will also be protected. In lieu of

acoustic monitoring, the constraints analysis for the property will take into consideration that the natural features in the northern part of the study area may provide potential roosting habitat for bats.

4.2.3 Amphibian Monitoring

Amphibian call surveys were conducted from two amphibian monitoring stations on April 6, 2022, May 12, 2022, and June 15, 2022. Western Chorus Frogs was observed in full chorus during the April survey, but no calls were heard during the May 12 survey or the June 15 survey.

During ELC evaluations, in July adult Western Chorus Frogs were observed in the shallow water aquatic inclusion in the northeast portion of the site.

The 2013 *City of Niagara Falls Woodland Management Plan* included an assessment of the polygons within John N. Allan Park, including a linear polygon along the south edge of the park, contiguous with the SWD3-3 wetland community. It was noted in the management plan that the area was wet on the day of the survey and that a large number of frogs were observed, including Northern Leopard Frog and Green Frog.

4.2.3.1 Assessment of Amphibian Monitoring

Based on the combined results of the amphibian surveys and incidental observations, including amphibian observations during daytime surveys, only Western Chorus Frog (*Pseudacris maculata*), was documented in the study area. However, it is likely that Green Frog (*Lithobates clamitans*) and Leopard Frog (*Lithobates pipens*) would use the area for breeding, based on the presence of potential breeding and dispersal habitat, and the historic observations of both species in the *City of Niagara Falls Woodland Management Plan*.

Western Chorus Frog has a status ranking of S4 in the province of Ontario and is considered ‘apparently secure’, while Green Frog and Leopard Frog both have a status ranking of S5 and are considered ‘secure’ in the province (NHIC, 2022).

4.2.4 Reptiles and Reptile Habitat

Hand searches for reptiles and amphibians or potential hibernacula were conducted on sunny days when temperature exceeded 15 degrees Celsius, and during all other site visits. Active searches included lifting rocks and debris and inspecting grasses as appropriate.

No snakes were observed on the property, and no reptile hibernacula were observed.

Large pools of water were observed in the PSW and identified as potential habitat for turtles. Area searches were completed concurrent with active hand searches to look for turtles or evidence of turtle nesting. No turtles or nesting activity was observed.

Given the shallow soils and compacted gravel throughout the subject property potential for reptile hibernacula was limited. No snakes have been observed on the property to date.

4.2.4.1 *Assessment of Reptiles and Reptile Habitat*

Much of the study area contains soils that are compacted with gravel and will not provide suitable conditions for reptile hibernaculum. Additionally, the substrate in the PSW pools is characterized as a thin layer of organic soil over compacted gravel/rocky substrate, and do not provide suitable overwintering habitat for turtles.

The property does not provide sensitive habitat for reptiles but would provide suitable summer habitat and food sources for common species of snakes, such as Eastern Garter Snake or DeKay's Brownsnake.

4.2.5 *Other Fauna*

Incidental observations were made during all field visits to document all species observed in the study area. Incidental observations included visual encounters and other signs such as animal tracks, scat, and presence of bones or carcasses. Eastern Cottontails were observed regularly throughout the property but use by other animals was limited.

4.2.5.1 *Assessment of Other Fauna*

No signs of rare species were noted in the study area. The property has a history of disturbance and is located within an urbanized area. Wildlife activity is likely to occur primarily along the north edge of the property where it abuts John N Allen Park.

4.3 Species at Risk

A Species at Risk (SAR) screening was prepared for the subject property and submitted with the Terms of Reference. It identified the following species with the potential to occur, based on species range and habitat availability:

- Wood Thrush
- Yellow-breasted Chat,
- Monarch
- Eastern Small-footed Bat
- Little Brown Bat
- Northern Bat
- Tricolored Bat
- Eastern Ribbon Snake
- Snapping Turtle

Of the species identified above, suitable habitat was primarily associated with Significant Woodland and PSW features, except for Monarch habitat and aerial foraging habitat. Surveys completed to confirm the presence or absence of the above species included area searches and inventory, and breeding bird surveys.

Barn Swallow and Eastern Wood-pewee, which are both listed as Special Concern in Ontario, were observed during breeding bird surveys. Barn Swallow was observed flying overhead, while Eastern Wood-pewee was heard calling along the north edge of the property.

4.3.1 *Assessment of SAR*

4.3.1.1 *Barn Swallow*

The status of Barn Swallow in Ontario has been downlisted from Threatened to Special Concern.

Consequently, Barn Swallow habitat is no longer protected under the ESA (2007), but under local and Regional policies protecting habitat of species of Special Concern, or Significant Wildlife Habitat.

General habitat descriptions for Barn Swallow identifies three categories based on nest location. The nest site is identified as Category 1 habitat; Category 2 habitat includes the area within 5m of the nest; and Category 3 includes the area between 5m and 200m from the nest.

Barn Swallows exhibit nest site fidelity, and Category 1 nest sites are the most sensitive to changes. Residential and commercial buildings along McLeod Road could provide potential nest sites, but no nests were observed. Category 2 habitat represents the area defended during breeding season, and Category 3 habitat represents foraging and resting areas. Barn Swallows are urban tolerant aerial foragers who are tolerant of development within Category 3 habitat.

Development of the study area is not expected to preclude continued foraging by Barn Swallow over the PSW or in the open park spaces north of the study area. Standing water within the PSW will continue to contribute to insect populations

4.3.1.2 Eastern Wood-pewee

Eastern Wood-pewee is also an aerial insectivore that perches near woodland edges or in forest clearings. It lives in intermediate to mature forests with little understory vegetation. While it will nest near woodland edges, it is considered an area sensitive species, because it prefers to nest on the edge of large woodlands with interior habitat to which it can easily retreat.

The upland forest north of the property may provide suitable canopy conditions but the lack of interior habitat and proximity to urban residential development makes it unlikely to be selected as a nest site. However, it is one of a series of woodlots that continue south of McLeod Road toward Heartland Forest and provide foraging opportunities.

4.4 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) is defined by the Ministry of Natural Resources and Forestry (MNRF) under four broad categories. Candidate SWH identified in the habitat screening table included:

- ***Seasonal Concentration Areas:***
 - Bat Maternity Colonies
 - Reptile hibernacula
- ***Rare Vegetation Communities or Specialized Habitat for Wildlife***
 - Turtle Nesting Areas
 - Amphibian Breeding Habitat (Woodland and Wetland)
- ***Habitats of Species of Conservation concern:***
 - Special concern and rare wildlife species
- ***Animal Movement Corridors***
 - Amphibian Movement Corridor

Presence or absence of the candidate SWH was determined through completion of the required field studies as identified in the approved Terms of Reference. The SWH screening table is included in Appendix A.

4.4.1 Seasonal Concentration Areas

Two types of Seasonal Concentrations, including bat maternity colonies and reptile hibernaculum were identified as candidate habitat for the study area during screening.

Candidate bat maternity colonies were identified based on presence of Significant Woodland and treed habitat on the site. However, the successional areas did not provide sufficient potential snags to provide SWH.

Hand searches were conducted during the spring and summer to search for reptile and amphibian activity. Reptile hibernaculum SWH is confirmed where five or more individual snakes, or two more species are observed in the vicinity of a potential hibernaculum. No snakes were observed during field investigations.

Based on the findings of the field assessments, no Seasonal Concentration Area SWH was identified in the study area.

4.4.2 Rare or Specialized Habitat

Candidate rare and specialized habitat identified in the SWH screening includes turtle nesting areas and amphibian breeding habitat.

Area searches did not identify any potential turtle nesting areas. The substrate within the study area, including wetland pools contain compacted gravel and concrete, which does not support nesting or overwintering.

Amphibian Breeding SWH is confirmed where two or more species are observed in full chorus during breeding surveys. Western Chorus Frog was in full chorus during the April survey, but no other species were observed at either station.

No Rare or Specialized SWH was confirmed in the study area.

4.4.3 Habitat for Species of Conservation Concern

This category includes any habitat of special concern or rare wildlife species documented during field investigations.

Eastern Wood-pewee and Barn Swallow are both listed as Special Concern and were observed during breeding bird surveys. However, Barn Swallow was observed foraging overhead, and Eastern Wood-pewee was heard calling from the north edge of the property.

Barn Swallow habitat is based on nest location, and no nests were observed on the adjacent residential buildings. The woodland north of the property, which does not contain interior habitat and is located within an urban area, is unlikely to support Eastern Wood-pewee nesting.

Both species are foraging on or adjacent to the site, but SWH has not been confirmed.

4.4.4 Animal Movement Corridors

Animal movement corridors as defined by the Criteria Schedules for EcoRegion 7E are limited to amphibian movement corridors that allow amphibians to move between breeding habitat and summer habitat.

No amphibian breeding habitat was documented on site and no SWH animal movement corridors have been identified.

4.5 Wildlife Corridors

Wildlife corridors are naturally vegetated parts of the landscape that are often elongated and allow for dispersal from one habitat to another. Corridors can exist along hedgerows, riparian zones, woodlands, or manmade structures, such as abandoned roads or rail allowances. Open areas can also be used as corridors, as some agricultural fields will be used by large animals to move from one habitat to another.

The Region of Niagara Core Natural Heritage mapping has not identified any potential Natural Heritage Corridors on or in the vicinity of the subject property. Field studies have indicated that the southern portion of the site (CUW1 c.CUT1-4) is not readily used by a diverse community of wildlife.

4.5.1 Assessment of Wildlife Corridors

There are natural areas, including PSW, located south of McLeod Road that create a natural corridor south toward Heartland Forest and Chippawa Creek for highly mobile species such as birds and bats. However, the presence of a four-lane road creates a significant impediment to movement for land animals between the study area and any natural areas south of McLeod.

The PSW backs onto John N Allen Park, with a 30m wide hedgerow with mature trees providing connectivity between the woodland within John N Allen Park and the open area in Charnwood Park, northeast of the property.

4.6 Wetland Assessment

4.6.1 Provincially Significant Wetland

A portion of the Warren Creek PSW complex is located in the northern part of the study area. PSWs are designated and mapped by the Ministry of Natural Resources and Forestry (MNRF) and are regulated by the NPCA in accordance with Section 21.1 of the CA Act and *O.Reg 686/21: Mandatory Programs and Services*.

The southern limit of the existing PSW is defined by the presence of fill material and debris piles, resulting from historical alteration of the site. The altered microtopography limits the movement of surface water on the site, creating pooling in low-lying areas. Wetland indicator species are also present including Swamp Maple and Pin Oak, sedges and rushes. However, the dominant canopy species is Eastern Cottonwood, which is a pioneer species and was likely one of the first species to establish after the site had been cleared.

Ecological & Environmental Solutions

The existing 30m buffer is part of the regenerating thicket polygon and contains invasive species such as European Buckthorn, Common Privet, Glossy Buckthorn, and European Alder. Surface drainage of the site tends to move south towards McLeod Road, but drainage from the PSW is impeded by compacted fill.

NPCA staff visited the site on June 15, 2022, and confirmed that the existing PSW mapping represents the existing conditions.

4.6.1.3 Water Balance Risk Evaluation

A water balance risk evaluation considers hydrological change expected to result from the proposal, and the ecological sensitivity of the wetland. Ecological sensitivity of the wetland is evaluated based on the hydrological sensitivity of vegetation, habitat features, and fauna present within the wetland. Appendix 2 and Appendix 3 of the *Wetland Water Balance Risk Evaluation* (TRCA, 2017) include lists of vegetation communities, fauna, and flora and identifies their respective hydrological sensitivity. The following evaluation is based on Table 3 of the *Wetland Water Balance Risk Evaluation* (TRCA, 2017).

Table 1: Assessment of Ecological sensitivity of wetland using TRCA wetland water balance risk assessment protocol (2017).

Criteria	High Sensitivity	Medium Sensitivity	Low Sensitivity
Vegetation Community	High sensitivity vegetation community	Medium sensitivity vegetation community (<i>SWD3-3, SAM1-2</i>)	No medium or high criteria satisfied
Fauna Species	High sensitivity species (<i>Western Chorus Frog</i>)	Medium sensitivity species	No medium or high criteria satisfied
Flora Species	Multiple high sensitivity species	Multiple medium sensitivity species OR one high sensitivity species (<i>Cornus amomum, Asclepias incarnata</i>)	No medium or high criteria satisfied
Significant Wildlife Habitat (SWH)	Presence of SWH	N/A	No SWH
Hydrological Classification considering ecology	Isolated/palustrine wetland AND medium or high sensitivity community or species	Isolated/palustrine wetland AND no medium or high sensitivity community or species	Riverine/lacustrine

Based on the evaluation of ecological sensitivity shown in Table 1, the Warren Creek PSW demonstrates high sensitivity to ecological change. However, the wetland risk evaluation tree

(Figure 3, *Wetland Water Balance Risk Evaluation*, TRCA 2017) does not require a water balance report where there is no change to the impervious area within the wetland catchment or the size of the catchment proposed, regardless of ecological sensitivity.

Observations during field studies indicated that the gradient along the southern boundary of the study area was lower than the gradient at the PSW, with fill piles impeding southern drainage of water. The topographic survey completed by J.D. Barnes Limited (May 30, 2023) and the Functional Servicing Design Brief prepared by Hallex Civil Engineering Ltd. (July 3, 2024) confirm that the site drains south from the PSW to McLeod Road.

The proposed development is located downgradient of the wetland and will not result in a change to the catchment size or imperviousness. In accordance with TRCA Wetland Water Balance Risk Evaluation (2017), a water balance is not required.

4.6.2 Unevaluated Wetland

The small CUW1 polygon at the southern boundary of the study area was identified by the review agencies as a potential unevaluated wetland. Assessment of the vegetative species present represented a facultative community and could not confirm the presence of a wetland on its own. To determine whether the feature was a wetland as defined by the Provincial Ontario Wetland Evaluation System (OWES) protocol and the Conservation Authorities Act, an assessment of the soils was completed. The soil sample revealed a shallow layer of loamy soil over coarse gravel.

According to the Conservation Authorities Act, a wetland must meet four criteria including being seasonally or permanently covered by shallow water, presence of water tolerant vegetation, connectivity to a surface watercourse, and the presence of hydric soils.

Based on the soil conditions, the southern CUW1 does not meet the definition of a wetland and is not a regulated feature. During the June 15, 2022 site visit, the NPCA verified the soil conditions.

A memo summarizing the conditions of the polygon was provided to the NPCA on June 23, 2022 and on June 28, 2022, the NPCA confirmed via email that they are in agreement with the assessment of Polygon 1 (Appendix A).

4.7 Summary

The study area contains PSW and Significant Woodland habitat, which are designated as EPA and ECA, respectively. The features have been identified in both the Regional Core Natural Heritage Map, and Municipal natural heritage mapping. The woodland, which was verified by Regional staff overlaps with the PSW but does not extend beyond its southern boundary.

The PSW contains breeding habitat for Western Chorus Frog and provides suitable foraging habitat for aerial insectivores such as Eastern Wood-pewee and Barn Swallow, which are both Special Concern Species. Neither species was nesting on site but benefited from woodland edge habitat.

No other SARs or SWH was documented within the Significant Woodland or PSW.

South of the wetland, the study area represents a successional community that has established on a site with a history of extensive anthropogenic disturbance. There is compacted gravel and concrete throughout the successional habitat, which has allowed many invasive species to establish.

No SWH or SAR were observed in the southern portion of the site, and the limited wildlife diversity is indicative of historic and current adjacent land uses.

5.0 CONSTRAINTS ANALYSIS

5.1 Development Constraints

The Warren Creek PSW and its associated buffer represent the highest constraint to development within the study area. Regional Policy 7.B.1.10 and City of Niagara Falls Official Plan policy 11.2.14 prohibit development within Environmental Protection Areas (EPAs), including PSWs. Pursuant to Regional Policy 7.B.1.11, development adjacent to the PSW will be subject to the findings of an Environmental Impact Study (EIS).

Wetlands in Niagara are regulated by the Niagara Peninsula Conservation Authority (NPCA) pursuant to the Mandatory Programs and Services prescribed under Ontario Regulation 686/21. In accordance with O.Reg 686/21, the NPCA provides comments on applications made under the Planning Act that ensure applications are consistent with natural hazard policies under the Provincial Policy Statement (PPS, 2020) and the Planning Act.

A reduction in the 30m regulated buffer to a minimum of 15m is supported by the findings of the EIS, based on the existing conditions of both the wetland and the buffer. The existing buffer is dominated by a dense thicket dominated by invasive shrubs, and no SAR or SWH have been identified on the property.

Additionally, based on the existing topography within the study area, the wetland is upgradient of the remainder of the site. The southern boundary of the PSW is defined by the fill piles and debris which create an impediment to drainage, maintaining the hydrology of the wetland. Provided the catchment of the wetland is maintained and no storm water is directed north and inputted to the wetland, there will be no change to the wetland hydrology, and no risk of flooding or erosion.

Pursuant to Regional Official Plan 7.B.1.11, development may be permitted within ECAs if it has been demonstrated that there will be no significant impact over the long term to that feature. However, Niagara Falls Policy 11.2.23 places higher constraint on ECA lands, prohibiting development, except for small scale passive recreational uses. There is no minimum buffer required for an ECA Significant Woodland within the urban area.

The Regional-approved woodland boundary does not extend beyond the existing PSW boundary. Consequently, the minimum buffer to the Significant Woodland will be consistent with or exceed the recommended PSW buffer.

5.2 Areas of No Constraint

The southern portion of the study area contains culturally influenced regenerating thicket and woodland habitat. Assessments of the subject property have not identified the presence of any SAR habitat, or SWH. Beyond the PSW and associated regulation areas, there are no regulated features within the southern portion of the subject property which provide constraints to development.

A proposed reduction to the PSW buffer should demonstrate no negative impacts to the ecological and hydrologic functions of the wetland, in accordance with Regional and Municipal policies for development adjacent to EPAs. Maintaining existing grade within 15m of the wetland will prevent changes to the existing drainage patterns of the site, protecting the hydrology of the wetland.

There are no significant ecological functions associated with the PSW or its setbacks and a reduction to the buffer is not expected to impact existing ecological functions of the PSW or Significant Woodland, including habitat for common urban-tolerant species, foraging habitat for aerial insectivores, and breeding habitat for the Western Chorus Frog and other amphibians.

Figure 6 presents the constraints identified for the subject property based on field assessments and review of applicable policies.

5.3 Opportunities for Ecological Restoration or Enhancement

The greatest potential for restoration of the study area is through removal and/or management of the invasive species. Removal of the invasive species followed by additional native plantings can keep the invasive species from further altering the habitat structure in the adjacent wetland and woodland habitat.



Figure 6: Map of constraints on the subject property

6.0 IMPACT ASSESSMENT

6.1 Proposed Development

6.1.1 Current Proposed Development

The final development plan proposes construction of a single high-rise apartment building for seniors and associated parking. The proposed building is 10-storeys with 112 and 129 parking spaces. There will be two additional access driveways from McLeod Road, and a fire truck route connection to the existing development immediately east of the study area. Bicycle parking and snow storage have also been identified in the study area.

A reduction to the wetland buffer is proposed in two locations, with a minimum setback of 21m between the wetland boundary and proposed parking lot and a maximum setback of 35m.

According to the Functional Servicing Report (Hallex Civil Engineering Ltd.), the site will be graded to maintain pre-development catchment areas, directing runoff from the developed area to an existing 1200mm concrete municipal storm sewer at McLeod Road.

The proposed site plan has been overlain on the existing aerial imagery and constraints mapping as seen in Figure 7, below. Development is proposed within part of the regulated PSW setback identified as a moderate constraint. The proposed interference will result in a reduction of the

PSW buffer to a minimum of 21m from the boundary.

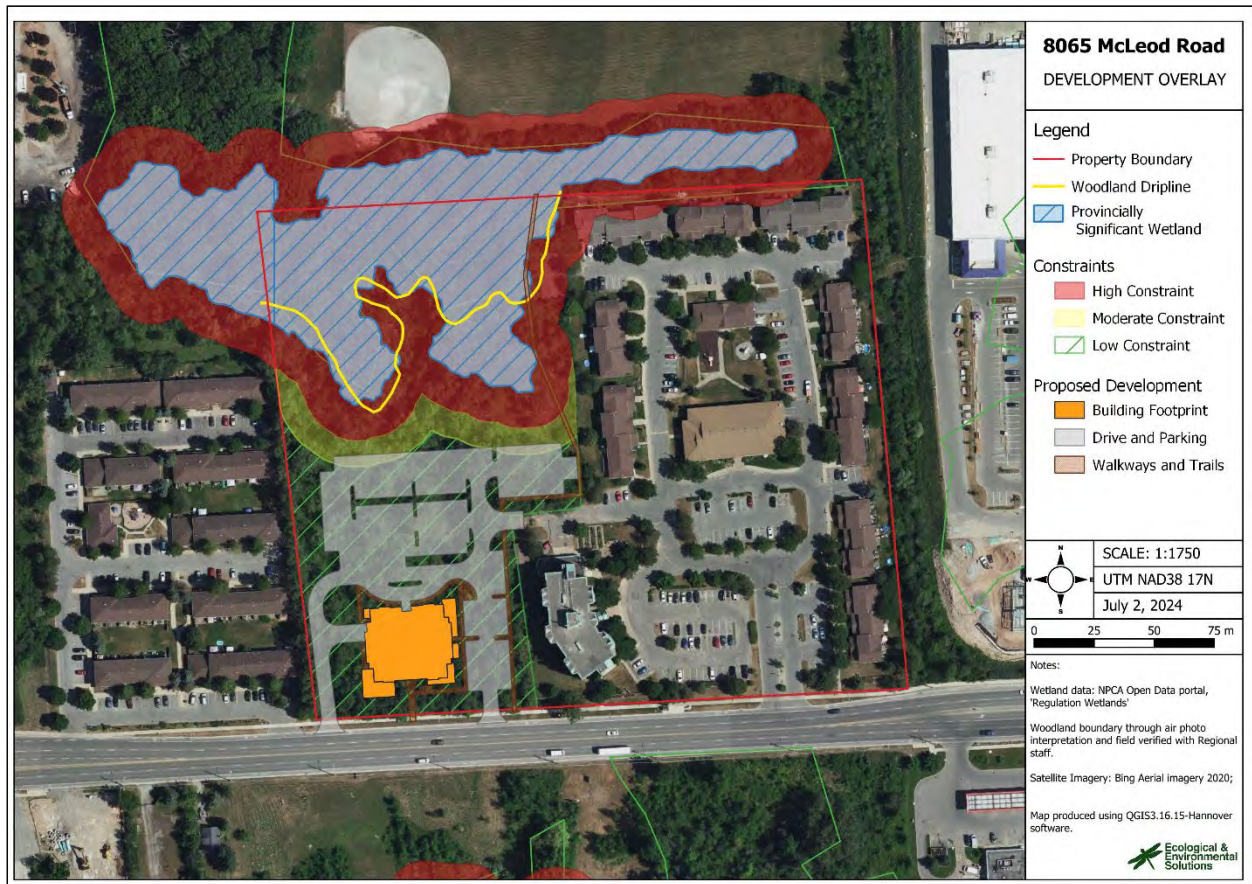


Figure 7: Development overlay for the proposed site plan.

6.1.2 Previous Design Iterations

Early concept plans for the site were developed prior to the Ministry of Natural Resources and Forestry (MNRF) wetland mapping was updated to identify the PSW on the property and included a combination of townhomes and apartment buildings.

Upon review of the study area and confirmation of the presence of the wetland habitat, the site plan evolved to incorporate a single high-rise senior’s building in the current application.

6.2 Direct Impacts

The direct impacts of the proposed development include the following:

- Removal of existing vegetation communities, including 0.18ha of Cultural Woodland (CUW1) and 0.95ha of Gray Dogwood Thicket (CUW1 c.CUT1).
- Removal of non-significant habitat for breeding birds and other small animals.
- Increased impervious area, total area of 0.72ha.

6.3 Indirect Impacts

The following indirect impacts are anticipated as a result of the proposed development:

- Changes to quantity, quality, timing, and direction of flow of stormwater runoff may impact storm drain outlets.
- Potential for increased bird-building collisions.
- Noise levels during construction may cause some disruption to local wildlife.
- Exterior lighting and parking lot lighting may disrupt local wildlife.
- Increased potential for litter to enter the PSW (windthrow or dumping) during construction.

6.4 Cumulative Impacts

Cumulative impacts which may occur as a result of the proposed development include decreased use of the PSW by wildlife, and disruption of the wetland habitat resulting from increased human occupancy.

6.5 Mitigation for Anticipated Impacts

The following design changes have been implemented to mitigate anticipated impacts of development:

- The site plan has been designed to place the parking lot between the PSW and the building, minimizing exterior lighting impacting the PSW.
- Stormwater management and site grading are designed to maintain existing catchment areas, preventing changes to the hydrology of the PSW.

The following mitigation measures may also be considered to reduce the anticipated direct, indirect, and cumulative impacts:

- Vegetation removal should be timed to avoid impacts to breeding birds. No removals should take place between April 1 – September 30.
- Detailed grading plan should identify the location of the sediment and erosion control fencing and limit of disturbance fencing, which should be installed prior to earth works.
- Building design should consider bird-friendly design options, including minimizing the size of reflective surfaces and use of exterior lighting which directs light downward.
- Preparation of a Tree Preservation Plan to identify trees for preservation along the retained PSW buffer and along the perimeter of the proposed development.
- Use of native trees and shrubs in landscaping to enhance foraging for insects and birds.
- Lighting within the parking lot should include shields to direct light downward.
- Landscaping along north edge of parking lot to deter access to the PSW.

6.6 Summary of Impacts and Mitigation

The following table provides a summary of the anticipated impacts of development and the efficacy of proposed mitigation measures in preventing or minimizing the impacts.

Table 2: Summary of anticipated impacts of development, proposed mitigation measures and any residual impacts to natural features of their functions.

Potential Impact	Development/ site alteration, activity or condition creating impact	Description of impacts by feature and/or function	Mitigation Measures	Efficacy
Loss of habitat	Vegetation clearing	Direct impact: cultural woodland and gray dogwood thicket habitat to be removed	Avoid vegetation removal during active breeding seasons. Tree Preservation Plan; Native landscaping.	No impact to wildlife during critical life stages. No significant species or vegetation communities present.
Changes to flow patterns	Vegetation clearing and increased impervious area.	Indirect Impact: reduced infiltration and increased surface runoff increases flow contributions to downstream channels.	Quantity and quality controls for stormwater runoff. Use of existing municipal infrastructure.	Post-construction quantity and quality control exceed requirements. No change to storm drain flows.
Disruption of local wildlife	Building design and post-construction.	Indirect, Cumulative: Changes in noise levels and site lighting. Increased bird-building collisions.	Avoid/minimize exterior lighting facing the feature; minimize size of reflective surfaces.	Bird friendly design measures effectively mitigate building collisions.
Increased disturbance to natural areas.	Post-construction	Indirect, Cumulative: human occupancy and potential for increase litter in wetland.	Ensure sufficient waste bins are available for all units; maintenance by property management.	Impacts of occupancy are pre-existing with adjacent residential and commercial. Proposed mitigation will limit further impacts.

7.0 RECOMMENDATIONS AND CONCLUSION

The natural heritage features within the study area have been assessed in accordance with current policies and guidelines, to inform development of a site plans which protects the integrity of the natural heritage system. The proposed development has been reviewed and an impact assessment has identified a variety of potential direct, indirect, and cumulative impacts to the natural heritage features as well as associated mitigation measures.

Ecological & Environmental Solutions

The study area contains a portion of the Warren Creek PSW and a Significant Woodland which are designated as EPA and ECA, respectively. A minimum 15m buffer from the PSW was recommended to preserve the existing topography and hydrology of the wetland and provide a buffer which will protect the integrity of the Significant Woodland.

The PSW did not provide significant ecological functions and is located upgradient of the proposed development. Hydrologic functions included storage, and maintenance of local water balance through limited groundwater recharge and evaporation. The primary ecological function was provision of habitat to flora and fauna. No SWH or SAR habitat was identified.

The proposed site plan includes a single 10-storey building and above-grade parking which reduces the PSW buffer in two locations to a minimum 21m. Maintaining catchment areas and directing the stormwater runoff from the developed area to an existing Municipal storm drain on McLeod Road will control quantity and quality of stormwater leaving the site.

The proposed site plan conforms with Regional policies 7.B.1.10 and 7.B.1.11; and City of Niagara Falls Official Plan Policies 11.2.14 and 11.2.23, by avoiding development within EPA and ECA designated features. Results of the water balance risk assessment confirmed that a water balance is not required based on the location of the proposed development downgradient of the wetland. There will be no change to the wetland hydrology.

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

Sincerely,



Anne McDonald, B.Sc., EP
Principal
Ecological & Environmental Solutions

8.0 LITERATURE REVIEWED

- Bird Studies Canada. 2005. The Atlas of the Breeding Birds of Ontario, 2001 – 2005. Published by Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, OMNRF, and Ontario Nature. 728p.
- Bradly, D.J. 2013. Southern Ontario Vascular Plant Species List – 3rd Edition. Ontario Ministry of Natural Resources Peterborough. Queen’s Printer for Ontario. 97 pp.
- Chapman, L.J. and D.F. Putman. 1984. The Physiography of Southern Ontario – Third edition. Ministry of Natural Resources.
- City of Niagara Falls. Official Plan of the City of Niagara Falls. Planning & Development Office Consolidation Amended to April 2019.
- COSEWIC. 2012. COSEWIC assessment and status report on the Eastern Wood-pewee *Contopus virens* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp. (www.registrelep-sararegistry.gc.ca/default_e.cfm).
- Endangered Species Act (ESA), 2007, S.O. 2007, c. 6
- Fish and Wildlife Conservation Act, 1997, S.O. 1997, c. 41.
- iNaturalist: Observations for the City of Niagara Falls online mapping.
- Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig, and S. McMurray. 1998. Ecological Land Classification for southern Ontario: first approximation and its application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Department and Transfer Branch. SCSS Field Guide FG-02.
- Migratory Birds Convention Act (MBCA), 1994 (S.C. 1994, c. 22).
- Natural Heritage Information Centre (NHIC). 2018. Species Lists.
- Niagara Air Photo Digital Images, 1965 Series]. St. Catharines, ON: Brock University Maps, Data & GIS, 2016. Available: <https://library.brocku.ca/MDG/1965/JPEG/18932-039.jpg> (Accessed 12/07/2022)
- Niagara Peninsula Conservation Authority (NPCA). 2010. Natural Areas Inventory Volume 2.
- Niagara Peninsula Conservation Authority (NPCA). 2018. NPCA Policy Document: Policies for the Administration of Ontario Regulation 155/06 and the Planning Act.
- Oldham, M.J. 2010. Checklist of the Vascular Plants of Niagara Regional Municipality Ontario. Natural Heritage Information Centre Ministry of Natural Resources. Peterborough, Ontario.
- Ontario Institute of Pedology. 1985. Field manual for describing soils, Third edition. Ontario Institute of Pedology, Guelph, Ontario.

Ecological & Environmental Solutions

- Ontario Institute of Pedology. 1989. Soils of the Regional Municipality of Niagara - Volume 1 – Report No.60. Guelph, Ontario.
- Ontario Ministry of Natural Resources and Forestry (MNRF). 2011. Birds and Bird Habitats: Guidelines for Wind Power Projects. OMNRF, Peterborough, Ontario.
- Ontario Ministry of Natural Resources. March 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition. Toronto: Queen's Printer for Ontario. 248 pp.
- Ontario Ministry of Natural Resources and Forestry. Make a Map: Natural Heritage Areas. Online Tool.
- Ontario Ministry of Natural Resources and Forestry (MNRF). 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E. OMNRF, Peterborough, Ontario.
- Ontario Ministry of Natural Resources and Forestry (MNRF). 2014. Significant Wildlife Habitat Mitigation Support Tool. OMNRF, Peterborough, Ontario.
- Ontario Ministry of Natural Resources (MNRF). 2000. Significant Wildlife Habitat Technical Guide. OMNRF, Peterborough, Ontario. Queen's Printer for Ontario. 151 pp.
- Ontario Ministry of Natural Resources and Forestry (MNRF). 2013. Ontario Wetland Evaluation System Southern Manual. 3rd Edition, Version 3.2. Toronto: Queen's Printer for Ontario. 294 pp.
- Ontario Ministry of Natural Resources and Forestry (MNRF). 2017. Survey Protocol for Species at Risk Bats within Treed Habitats: Little Brown Myotis, Northern Myotis & Tri-Colored Bat. MNRF, Guelph District. April 2017.
- Provincial Policy Statement. 2020. Province of Ontario. Issued under Section 3 of the Planning Act. Came into effect April 30, 2014.
- Region of Niagara. 2017. Consolidated Niagara Region Official Plan. Approved by Niagara Region in 2014.
- Region of Niagara. 2018. Environmental Impact Study Guidelines. Approved January 2018.
- Regional Municipality of Niagara. 2008. Amendment 187 to the Official Plan for the Niagara Planning Area. Approved by the Ontario Municipal Board April 16, 2008.
- Regional Municipality of Niagara. 2013. Core Natural Heritage Map: A Framework for Development and Conservation. Integrated Community Planning

Appendix A
Agency Correspondence and EIS Scoping

From: [Boudens, Adam](#)
To: [Anne McDonald](#); [Adam Aldworth](#)
Cc: [Lampman, Cara](#); [Sarah Mastroianni](#); [Morrison, Alexander](#); [Szaszi, Gordon](#)
Subject: RE: Terms of Reference - 8065 McLeod Road
Date: June 20, 2022 11:27:51 AM
Attachments: [8065 McLeod Road TOR.pdf](#)

Hi Anne,

Regional Environmental Planning staff have reviewed the proposed TOR (attached) and offer no objection. Please contact me when you are ready to schedule a time to stake the extent of Significant Woodland.

Please do not hesitate to reach out with any questions.

Thanks,
Adam

Adam Boudens
Senior Environmental Planner/Ecologist

Planning and Development Services, Niagara Region
1815 Sir Isaac Brock Way, P.O. Box 1042
Thorold, ON L2V 4T7
Phone: **905-980-6000 ext. 3770** Toll-free: 1-800-263-7215
Adam.Boudens@niagararegion.ca

From: Anne McDonald <amcdonald@eesn.ca>
Sent: Wednesday, June 15, 2022 5:44 PM
To: Boudens, Adam <Adam.Boudens@niagararegion.ca>; Adam Aldworth <aaldworth@npca.ca>
Cc: Lampman, Cara <Cara.Lampman@niagararegion.ca>; Sarah Mastroianni <smastroianni@npca.ca>
Subject: Terms of Reference - 8065 McLeod Road

CAUTION EXTERNAL EMAIL: This email originated from outside of the Niagara Region email system. Use caution when clicking links or opening attachments unless you recognize the sender and know the content is safe.

Hi all,

See attached Terms of Reference for the property located at 8065 McLeod Road. Note that surveys are underway (amphibian, spring veg, bats and birds) as identified in the proposed scope to adhere to appropriate timing windows. Please let me know if you have any questions or comments.

Thank you,
Anne McDonald

Ecological and Environmental Solutions

June 15, 2022

Adam Boudens

Senior Environmental Planner/Ecologist

Region of Niagara

1815 Sir Isaac Brock Way

P.O. Box 1042

Thorold, ON L2V 4T7

Dear Mr. Boudens,

**Re: Environmental Impact Study Terms of Reference
8055-8065 McLeod Road, Niagara Falls, ON**

Ecological and Environmental Solutions (EES) is pleased to provide the Region of Niagara and the Niagara Peninsula Conservation Authority the following proposed Terms of Reference to outline the intended approach of the Environmental Impact Study (EIS) for the development of part of lot 8055-8065 McLeod Road in the City of Niagara Falls. The property is located within the urban area boundary forms part of Lot 170 Plan 59R7560, Part 1 (Figure 1). It lies on the north side of McLeod Road, between Kalar Road and Pin Oak Drive.



Ecological and Environmental Solutions



FIGURE 1: EXISTING NATURAL HERITAGE MAPPING OF THE SUBJECT PROPERTY. IMAGE: NPCA WATERSHED EXPLORER

The following Terms of Reference have been prepared in accordance with the EIS Project Scoping checklist provided by the Niagara Region, dated November 15, 2021 (Appendix B), and the Niagara Region’s Environmental Impact Study Guidelines (2018). The proposed work will be carried out as part of an Environmental Impact Study (EIS), which will provide an analysis of constraints associated with the existing natural heritage features and site conditions. The constraints will inform development plans and provide the basis for assessment of impacts of the proposed development.

1.0 Background Information and Literature Review

A background review will be completed for the study in accordance with Sections 3.1 and 3.2 of the Niagara Region EIS Guidelines. This review will include a summary of existing studies and information on the property, as well as a discussion of all policies and regulations applicable to the study area.

The subject property is located within the urban area boundary and is currently zoned for urban residential development. The site is impacted by a Provincially Significant Wetland (PSW) and



Ecological and Environmental Solutions

Regionally Significant Woodland to the north, which are zoned Environmental Protection Area (EPA) and Environmental Conservation Area (ECA), respectively.

The study area has also been screened for Significant Wildlife Habitat (SWH) and Species at Risk (SAR) to identify the need for additional field studies. Screening involved a review of the Natural Heritage Information Center (NHIC) database, 'Herps of Ontario' (inaturalist.org), and the Atlas of the Breeding Birds of Ontario. The complete SWH and SAR screenings are included in Appendix B.

Resources and databases consulted to obtain relevant natural heritage and policy information will include, but are not limited to:

- Natural Heritage Information Centre database (MNRF)
- Official Plan for the City of Niagara Falls (2019)
- SWH Criteria Schedules for EcoRegion 7E (2015)
- Endangered Species Act (2007)
- Consolidated Regional Official Plan (2014)
- Provincial Policy Statement (2020)

2.0 Description of Existing Environment and Analysis of Natural Features

To assess constraints in the study area, a scoped EIS has been proposed in consultation Regional and NPCA staff. All surveys will be completed according to standardized protocols as identified in Table 1 below. Results of survey work will be analyzed to confirm presence / absence of the SAR and SWH identified. The proposed schedule of field assessments has been summarized in Table 1.



Ecological and Environmental Solutions

TABLE 1: WORK PLAN FOR 8065 MCLEOD ROAD, IN THE CITY OF NIAGARA FALLS

Survey	Protocol/Method	Timing	Notes
Vegetation Surveys			
Ecological Land Classification	ELC for Southern Ontario, Lee et al. (1998)	June through August	Including verification of woodland boundary
Two season Flora Inventory	Transect surveys and area searches	Summer vegetation surveys June-August	Concurrent with SAR and/or ELC surveys.
Wetland evaluation	Ontario Wetland Evaluation System for Southern Ontario (MNRF, 2014)	June/July	If wetland habitat is identified through ELC surveys, it will be delineated and assessed
Fauna Surveys			
Breeding Bird Surveys	Ontario Breeding Bird Atlas – Guide for Participants (2001)	Two surveys between May 24 th and July 10 th , 2022	
Amphibian Surveys	Marsh Monitoring Program Participant’s Handbook for Surveying Amphibians (2008)	Three surveys between April 15 th and June 30 th , 2022	
Reptile Surveys	Active searches. Survey Protocol for Ontario’s SAR Snakes (2016)	April – July 2022	
Bat habitat surveys	MNRF protocol for SAR bats in treed habitats (2017)	Two habitat surveys April and May 2022.	Acoustic monitoring in June 2022 if habitat is present.
Wetland Surveys			
Wetland evaluation	Ontario Wetland Evaluation System – Southern Manual (2013)	July 2022	To be completed if changes to MNRF boundary are required, or if additional wetland units are identified
Water Balance	Characterization based on all field surveys and in consultation with engineering consultant.	April – June 2022	

3.0 Assessment of Features and Functions

All data collected through background review and field studies will be summarized and reviewed in the context of current Regional and Provincial policy and legislation for significance. Site constraints and recommended feature setbacks will be discussed with any opportunities for enhancement of natural features. The Constraints Analysis will inform the development of a site plan and will provide the context for the assessment of impacts from the proposed development of the property.



Ecological and Environmental Solutions

4.0 Mapping

The data collected will be compiled and results will be presented in the following maps:

- Vegetation Community Map
- Natural Heritage Features including any identified Significant Wildlife Habitat
- Location of all Threatened or Endangered SAR and Associated Habitat
- Constraints Map
- Proposed development overlay

The above Terms of Reference outline the basis of the Environmental Impact Study to be completed for future development at 8065 McLeod Road. We trust that these meet the requirements of the Region of Niagara EIS Guidelines and address the natural heritage features on and adjacent to the site as they appear on Regional and Municipal mapping.

Sincerely,



Anne McDonald, B.Sc.
Principal

Cc: Cara Lampman
Sarah Mastroianni
Adam Aaldworth



From: [Boudens, Adam](#)
To: [Anne McDonald](#)
Cc: [Morreale, Diana](#); [Szaszi, Gordon](#); [Lampman, Cara](#); [Morrison, Alexander](#)
Subject: RE: 8065 McLeod - Proposed Woodland boundary
Date: July 28, 2022 1:57:35 PM
Attachments: [image001.png](#)
[Woodland Boundary.pdf](#)

Hi Anne,

Regional environmental planning staff have reviewed the proposed woodland boundary mapping for the subject lands located at 8065 McLeod Rd, NF and confirm that the boundary shown on the attached figure accurately represents what we agreed to on-site.

Thanks for circulating so quickly.

Please let me know if you have any questions.

Thanks and have a nice long weekend,
Adam

Adam Boudens, Msc

Senior Environmental Planner/Ecologist

Planning and Development Services

Niagara Region

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

Thorold, ON L2V 4T7

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

www.niagararegion.ca



From: Anne McDonald <amcdonald@eesn.ca>
Sent: Thursday, July 28, 2022 12:28 PM
To: Boudens, Adam <Adam.Boudens@niagararegion.ca>
Cc: Morreale, Diana <Diana.Morreale@niagararegion.ca>
Subject: 8065 McLeod - Proposed Woodland boundary

CAUTION EXTERNAL EMAIL: This email originated from outside of the Niagara Region email system. Use caution when clicking links or opening attachments unless you recognize the sender and know the content is safe.

Hi Adam,

See attached for a map of the revised woodland boundary, as discussed. Although I can't pull them into my mapping system, the base maps available on Navigator were used to help delineate as well as the google imagery available on QGIS. The leaf-off imagery from 2020 on Niagara Navigator is the same as what we looked at in the field yesterday during our discussions.

Please review the proposed boundary and let me know if you have any concerns/comments, or if you agree with the delineation provided.

Thank you,
Anne McDonald

The Regional Municipality of Niagara Confidentiality Notice The information contained in this communication including any attachments may be confidential, is intended only for the use of the recipient(s) named above, and may be legally privileged. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, disclosure, or copying of this communication, or any of its contents, is strictly prohibited. If you have received this communication in error, please re-send this communication to the sender and permanently delete the original and any copy of it from your computer system. Thank you.

From: [Adam Aldworth](#)
To: [Anne McDonald](#)
Cc: [Nikolas Wensing](#)
Subject: RE: 8065 McLeod summary
Date: June 28, 2022 11:13:58 AM

Perfect, thanks for confirming. We're in agreement with the conclusions of your MEMO that the areas identified in November as potential unevaluated wetlands do not satisfy the criteria of the CA Act definition of wetlands as they lack wetland vegetation, hydric soils and connection with a surface watercourse.

Kind regards,
Adam

Adam Aldworth, BSc, EP
Planning Ecologist | Planning & Regulations
Niagara Peninsula Conservation Authority (NPCA)
250 Thorold Road West, 3rd Floor, Welland, ON, L3C 3W2
905-788-3135, ext. 248
aaldworth@npca.ca
www.npca.ca

From: Anne McDonald <amcdonald@eesn.ca>
Sent: June 28, 2022 9:47 AM
To: Adam Aldworth <aaldworth@npca.ca>
Cc: Nikolas Wensing <nwensing@npca.ca>
Subject: Re: 8065 McLeod summary

Oh goodness, yes that is in fact a typo. The lack of indicators suggests that it does not provide wetland habitat, which was confirmed through soil sampling.

Thanks, Adam!

Anne

Thanks

Get [Outlook for Android](#)

From: Adam Aldworth <aaldworth@npca.ca>
Sent: Tuesday, June 28, 2022 9:28:29 AM
To: Anne McDonald <amcdonald@eesn.ca>
Cc: Nikolas Wensing <nwensing@npca.ca>
Subject: RE: 8065 McLeod summary

Hi Anne,

Thanks for providing a detailed description of the site. Can you confirm that the highlighted section is a typo and that the lack of wetland indicators in the ground layer suggest that the feature does NOT meet the definition of a wetland?

*The vegetation in the southern portion of the subject property is dominated by Trembling Aspen and Elm in the canopy and Gray Dogwood, Common Reed, and European Buckthorn in the understory. All five species are facultative species which can occur in wetlands or uplands, and are therefore not indicators of wetland habitat. **There are no indicators in the ground layer such as sedges or rushes which suggest that the feature meets the definition of a wetland.** Given the ambiguity of the vegetation community, three soil samples were taken to determine if the presence of standing water had led to the development of hydric soils.*

Thanks!
Adam

Adam Aldworth, BSc, EP
Planning Ecologist | Planning & Regulations
Niagara Peninsula Conservation Authority (NPCA)
250 Thorold Road West, 3rd Floor, Welland, ON, L3C 3W2
905-788-3135, ext. 248
aaldworth@npca.ca
www.npca.ca

From: Anne McDonald <amcdonald@eesn.ca>
Sent: June 23, 2022 5:55 PM
To: Adam Aldworth <aaldworth@npca.ca>
Subject: 8065 McLeod summary

Hi Adam,

See attached for a summary of existing conditions at 8065 McLeod Road, as discussed during our site visit on June 15. I will detail all of this in the EIS report, but if you can review the attached and confirm that it is consistent with our discussions, that would be wonderful.

Thanks,
Anne

The information contained in this communication, including any attachment(s), may be confidential, is intended only for the use of the recipient(s) named above. If the reader of this message is not the intended recipient, you are hereby notified that any disclosure of this communication, or any of its contents, is prohibited. If you have received this communication in error, please notify the sender and permanently delete the original and any copy from your computer system. Thank-you. Niagara Peninsula Conservation Authority.

Ecological & Environmental Solutions

June 23, 2022

Adam Aldworth, B.Sc, EP
Planning Ecologist, Planning & Regulations
Niagara Peninsula Conservation Authority
250 Thorold Road West, 3rd Floor
Welland, ON, L3C 3W2

Dear Mr. Aldworth,

**Re: Assessment of Existing Conditions and to define potential wetland habitat
8065 McLeod Road, in the City of Niagara Falls**

Ecological & Environmental Solutions (EES) has been retained by the Niagara Falls Non-profit Housing Corporation to complete an EIS for the subject lands. The property contains Provincially Significant Wetland in the northern portion of the site. During a preliminary field site visit in November 2021, it is my understanding that Regional environmental planning staff and NPCA staff noted that the subject property may support additional unmapped wetland habitat along the southern limit which would further constrain development.

A review of the historical air photos available on the Regional online mapping tool (Niagara Navigator) reveals that the site was heavily disturbed between 1934 and 1965. It appears that the area may have been used to stockpile material during construction of the hydro canal. Evidence of disturbance remains on the site with large fill piles present throughout, altering site drainage. In addition to this historical disturbance, it is suspected that construction completed between 2006 and 2010 and between 2013 and 2015 to widen McLeod Road has further inhibited drainage of the southern portion of the site, resulting in large local ponding at the southern boundary. Aerial imagery shows a roadside ditch in 2006 along the north side of McLeod Road in front of the subject property, which has been removed as a result of the road widening.

Despite the historic disturbance to the site, suitable surveys must be carried out to determine if the ponding is providing wetland habitat or any other significant habitat functions.

Amphibian breeding surveys have been completed to determine whether the pooling in the southern portion of the property provides a significant habitat function. Western Chorus frog was heard calling (full chorus) during the first survey, which was completed in April. Surveys completed on May 12 and June 20, 2022 confirmed there were no other species breeding in the pool. For habitat to be considered significant, a minimum of 20 individuals of two different frog or toad species must be observed. Based on the surveys completed, the pool does not provide significant habitat for amphibians.



Ecological & Environmental Solutions

In order to determine whether the pooling in the southern portion of the site is wetland, two definitions of a wetland must be considered. The Provincial protocol for identifying wetlands is based on whether the area supports a vegetation community dominated by hydrophilic plant species (at least 51% coverage). However, when the species that dominate an area can occur in both wetland and upland areas, as is the case for the subject property, the substrate can provide further guidance.

The NPCA regulates areas which are identified as Provincially evaluated wetland, as well as other wetlands which may not meet the Provincial significance criteria. For an area to be regulated by the NPCA as other non-provincially significant wetland, it must satisfy four criteria under the Conservation Authorities Act. Under the Act, a wetland is defined as land that:

- (a) is seasonally or permanently covered by shallow water or has a water table close to or at its surface,
- (b) directly contributes to the hydrological function of a watershed through connection with a surface watercourse,
- (c) has hydric soils, the formation of which has been caused by the presence of abundant water;
and
- (d) has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which has been favoured by the presence of abundant water,

The vegetation in the southern portion of the subject property is dominated by Trembling Aspen and Elm in the canopy and Gray Dogwood, Common Reed, and European Buckthorn in the understory. All five species are facultative species which can occur in wetlands or uplands, and are therefore not indicators of wetland habitat. There are no indicators in the ground layer such as sedges or rushes which suggest that the feature does not meet the definition of a wetland. Given the ambiguity of the vegetation community, three soil samples were taken to determine if the presence of standing water had led to the development of hydric soils.

All three soil samples confirmed that the substrate throughout the wet area is gravel with a thin layer (<10cm) of loam above and, therefore, does not support hydric soil conditions. Though the water table was high, there were no mottles or gley observed in any of the layers. Photos of 2 soil samples are attached. A proper sample could not be taken at the third location because the gravel particles were too large for the hand auger to penetrate beyond the first 5cm.

In reviewing the definition of a wetland under the Conservation Authorities Act, the southern portion of the site does contain shallow water, satisfying the first criterion, and while the vegetation could be considered hydrophytic, the pooling in the southern portion of the site does not meet the definition of a wetland. It occurs in an isolated depression on the site and therefore does not directly contribute to the hydrological function of the watershed through connection with a surface watercourse (b), and more significantly, it does not contain hydric soils (c).



Ecological & Environmental Solutions

EES met on site with NPCA staff on June 15, 2022, to review soil conditions and the disturbance evident throughout the site. NPCA staff agreed with the above descriptions of the vegetation community and soils to confirm that the site does not support wetland habitat beyond the existing Provincially Significant Wetland and is a highly disturbed site with an abundance of invasive species.

I trust that the above information is reflective of the information obtained during our site visit on June 15, 2022. If you have any further questions, please contact me directly.

Sincerely,



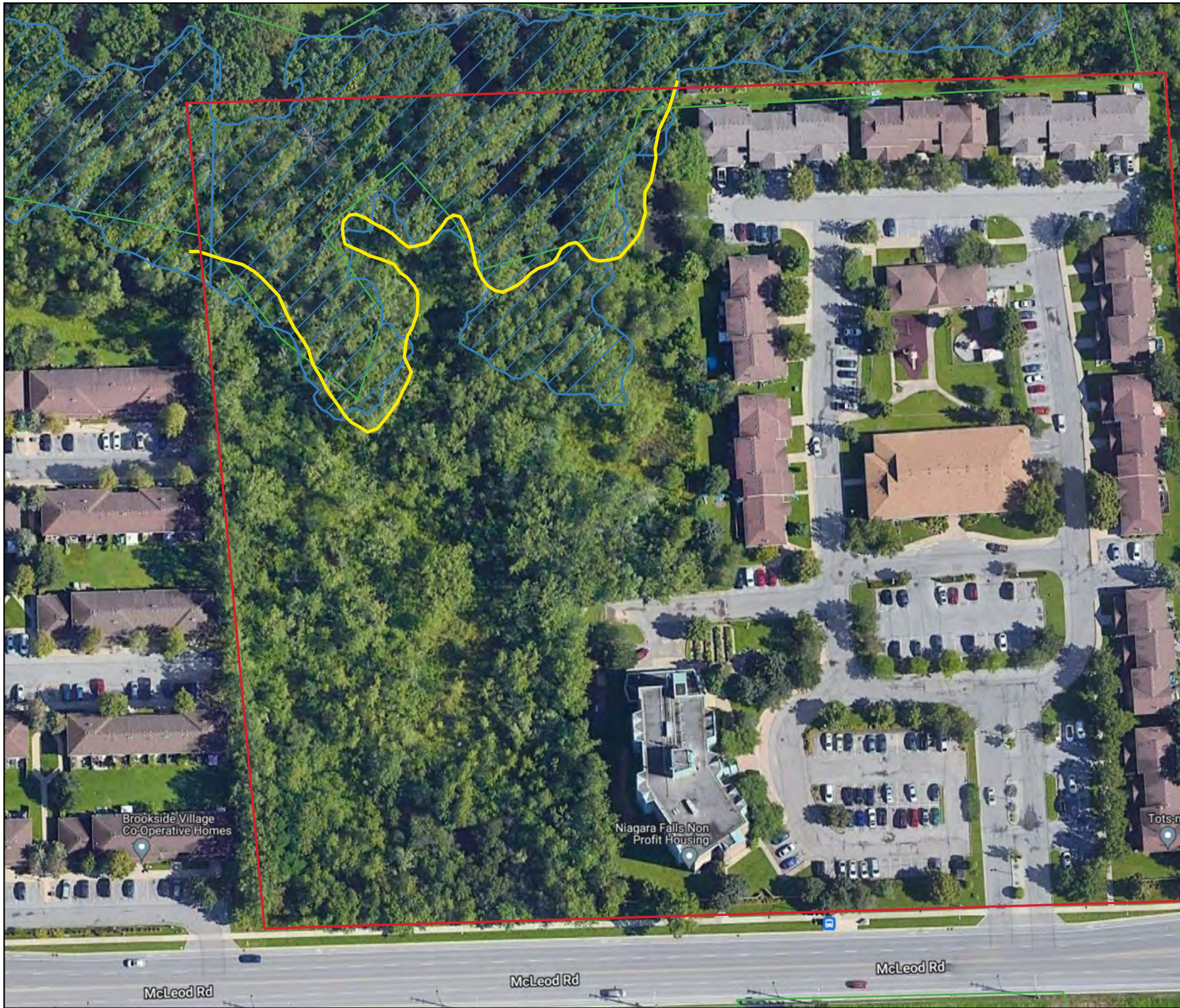
Anne McDonald, B.Sc.

amcdonald@eesn.ca







Appendix B

Mapping



Legend

-  Property Boundary
-  Provincially Significant Wetland
-  Existing Woodland Boundary
-  Proposed Woodland Dripline

8055 McLeod Road

Woodland Boundary



SCALE: 1:1750

July 28, 2022

UTM WGS84

Notes:

Wetland data: NPCA Open Data portal, 'Regulation Wetlands'

Woodland boundary through air photo interpretation and field verified with Regional staff.

Satellite Imagery: Google Satellite imagery 2020;

Map produced using QGIS3.16.15-Hannover software.


8055 McLeod Road


VEGETATION COMMUNITIES


Legend


 Property Boundary


Vegetation Communities

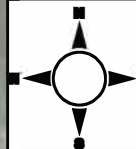
 Cultural Woodland (CUW1)

 Swamp Maple Deciduous Swamp (SWD3-3)

 Duckweed Shallow Marsh (SAM1-2)

 Cultural Woodland c. Grey Dogwood Thicket (CUW1 cCUT1-4)

 Upland Forest (FOD)



July 2, 2024

UTM NAD83 17T

Scale: 1:1500

25 50 75 m

Notes:

Imagery: Bing Satellite Imagery 2023.



8055 McLeod Road

DEVELOPMENT OVERLAY

Legend

- Property Boundary
- Woodland Dripline
- ▨ Provincially Significant Wetland

Constraints

- High Constraint
- Moderate Constraint
- ▨ Low Constraint

Proposed Development

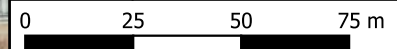
- Building Footprint
- Drive and Parking
- Pedestrian Walkways



SCALE: 1:1750

UTM NAD38 17N

July 2, 2024



Notes:

Wetland data: NPCA Open Data portal, 'Regulation Wetlands'

Woodland boundary through air photo interpretation and field verified with Regional staff.

Satellite Imagery: Bing Aerial imagery 2020;

Map produced using QGIS3.16.15-Hannover software.



Appendix C

Species Lists and Data Summaries

ELC Community Description & Classification

Site: 8055 McLeod Road, Niagara Falls
 Surveyors: A. McDonald, L. Warren
 UTME: 652070

Polygon: 1
 Date: 13-Jul-22
 UTMN: 4770314

POLYGON DESCRIPTION

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

STAND DESCRIPTION

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE
1 CANOPY	2	3	POPDEL>>FRAPENN>QUEPALU=POPTREM
2 SUB-CANOPY	3	3	RHACATH=FRAPENN>ULMAMER>>QUEMACR
3 UNDERSTORY	4	2	CORRACE>RHACATH=FRAPENN>PHRAUST
4 GRD. LAYER	5,6,7	1	CORRACE>VITRIPA>LIGVULG>PARINSE

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:		BA:	
COMMUNITY AGE:	<input checked="" type="checkbox"/> PIONEER	<input type="checkbox"/> YOUNG	<input type="checkbox"/> MID-AGE
	<input type="checkbox"/> MATURE	<input type="checkbox"/> OLD GROWTH	

SOIL ANALYSIS

	Non-native	DEPTH TO MOTTLES / GLEY	MOTTLES	GLEY
TEXTURE:			-	-
MOISTURE:	-	DEPTH OF ORGANICS	-	(cm)
WATER TABLE:	-	DEPTH TO BEDROCK	-	(cm)

COMMUNITY / CLASSIFICATION

COMMUNITY CLASS	CULTURAL	CODE:	CU
COMMUNITY SERIES	CULTURAL MEADOW	CODE:	CUW
ECOSITE	MINERAL CULTURAL MEADOW	CODE:	CUW1
VEGETATION TYPE		CODE:	
<input type="checkbox"/> INCLUSION		CODE:	
<input type="checkbox"/> COMPLEX		CODE:	

ELC Community Description & Classification

Site: 8055 McLeod Road, Niagara Falls
 Surveyors: A. McDonald, L. Warren
 UTME: 652070

Polygon: 2
 Date: 13-Jul-22
 UTMN: 4770372

POLYGON DESCRIPTION

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

STAND DESCRIPTION

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE
1 CANOPY	1	2	POPDEL>>POPTREM>QUEPALU=JUGNIGR
2 SUB-CANOPY	2	2	FRAPENN=JUNVIRG=RHACATH>ULMAMER
3 UNDERSTORY	3,4	4	RHACATH>CORRACE=FRAPENN>LIGVULG
4 GRD. LAYER	5,6,7	3	SOLCANA=GRASS>FRAVIRG=LEUVULG

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:		BA:	
COMMUNITY AGE:	<input checked="" type="checkbox"/> PIONEER	<input type="checkbox"/> YOUNG	<input type="checkbox"/> MID-AGE <input type="checkbox"/> MATURE <input type="checkbox"/> OLD GROWTH

SOIL ANALYSIS

	Non-native	DEPTH TO MOTTLES / GLEY	MOTTLES	GLEY
TEXTURE:			-	-
MOISTURE:	-	DEPTH OF ORGANICS	0	(cm)
WATER TABLE:	-	DEPTH TO BEDROCK	-	(cm)

COMMUNITY / CLASSIFICATION

COMMUNITY CLASS	CULTURAL	CODE:	CU
COMMUNITY SERIES	CULTURAL WOODLAND	CODE:	CUW1
ECOSITE	MINERAL CULTURAL WOODLAND	CODE:	CUW1
VEGETATION TYPE	RED CEDAR CULTURAL WOODLAND	CODE:	CUW1-1
<input type="checkbox"/> INCLUSION		CODE:	
<input checked="" type="checkbox"/> COMPLEX	GREY DOGWOOD CULTURAL THICKET	CODE:	CUT1-4

ELC Community Description & Classification

Site: 8055 McLeod Road, Niagara Falls
 Surveyors: A. McDonald, L. Warren
 UTME: 652088

Polygon: 3
 Date: 13-Jul-22
 UTMN: 4770461

POLYGON DESCRIPTION

- | | | | | | |
|---|---|--|--|---|---|
| SYSTEM | SUBSTRATE | TOPOGRAPHY | HISTORY | PLANT FORM | COMMUNITY |
| <input type="checkbox"/> TERRESTRIAL | <input type="checkbox"/> ORGANIC | <input type="checkbox"/> LACUSTRINE | <input type="checkbox"/> NATURAL | <input type="checkbox"/> PLANKTON | <input type="checkbox"/> LAKE |
| <input checked="" type="checkbox"/> WETLAND | <input checked="" type="checkbox"/> MINERAL | <input type="checkbox"/> RIVERINE | <input checked="" type="checkbox"/> CULTURAL | <input type="checkbox"/> SUBMERGED | <input type="checkbox"/> POND |
| <input type="checkbox"/> AQUATIC | <input type="checkbox"/> PARENT | <input type="checkbox"/> BOTTOMLAND | | <input type="checkbox"/> FLOATING-LVD | <input type="checkbox"/> STREAM |
| SITE | <input type="checkbox"/> ACIDIC | <input type="checkbox"/> TERRACE | | <input type="checkbox"/> GRAMINOID | <input type="checkbox"/> RIVER |
| <input type="checkbox"/> OPEN | <input type="checkbox"/> BASIC | <input type="checkbox"/> VALLEY | | <input type="checkbox"/> FORB | <input type="checkbox"/> MARSH |
| <input type="checkbox"/> SHALLOW | <input type="checkbox"/> CARB. | <input type="checkbox"/> TABLELAND | | <input type="checkbox"/> LICHEN | <input checked="" type="checkbox"/> SWAMP |
| <input checked="" type="checkbox"/> SURFICIAL | | <input checked="" type="checkbox"/> ROLL. UPLAND | | <input type="checkbox"/> BRYOPHYTE | <input type="checkbox"/> FEN |
| <input type="checkbox"/> BEDROCK | | <input type="checkbox"/> CLIFF | COVER | <input checked="" type="checkbox"/> DECIDUOUS | <input type="checkbox"/> BOG |
| | | <input type="checkbox"/> TALUS | <input type="checkbox"/> OPEN | <input type="checkbox"/> CONIFEROUS | <input type="checkbox"/> BARREN |
| | | <input type="checkbox"/> CREVICE/CAVE | <input type="checkbox"/> SHRUB | <input type="checkbox"/> MIXED | <input type="checkbox"/> MEADOW |
| | | <input type="checkbox"/> ALVAR | <input checked="" type="checkbox"/> TREED | | <input type="checkbox"/> PRAIRIE |
| | | <input type="checkbox"/> ROCKLAND | | | <input type="checkbox"/> THICKET |
| | | <input type="checkbox"/> BEACH/BAR | | | <input type="checkbox"/> SAVANNAH |
| | | <input type="checkbox"/> SAND DUNE | | | <input type="checkbox"/> WOODLAND |
| | | <input type="checkbox"/> BLUFF | | | <input type="checkbox"/> FOREST |
| | | | | | <input type="checkbox"/> PLANTATION |

STAND DESCRIPTION

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE
1 CANOPY	1,2	3	POPELTA==ACEFREE>QUEPALU>QUEMACR
2 SUB-CANOPY	3	4	FRAPENN>ULMAMER>RHACATH>>CRATAEGUS
3 UNDERSTORY	4, 5	2	CORRACE=FRAPENN>ALNGLUT>CORAMOM
4 GRD. LAYER	6,7	1	FRAPENN>>PARINSER>>CAREX>GLYSTRI

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:				
COMMUNITY AGE:	<input type="checkbox"/> PIONEER	<input checked="" type="checkbox"/> YOUNG	<input type="checkbox"/> MID-AGE	<input type="checkbox"/> MATURE <input type="checkbox"/> OLD

SOIL ANALYSIS

			MOTTLES	GLEYS
TEXTURE:	-	DEPTH TO MOTTLES / GLEYS	-	-
MOISTURE:	-	DEPTH OF ORGANICS	10	(cm)
WATER TABLE:	-	DEPTH TO BEDROCK	-	(cm)

COMMUNITY / CLASSIFICATION

COMMUNITY CLASS	SWAMP	CODE:	SW
COMMUNITY SERIES	DECIDUOUS SWAMP	CODE:	SWD
ECOSITE	MAPLE MINERAL DECIDUOUS SWAMP	CODE:	SWD3
VEGETATION TYPE	SWAMP MAPLE MINERAL SWAMP	CODE:	SWD3-3
<input checked="" type="checkbox"/> INCLUSION	Duckweed Mixed Shallow Aquatic Ecosite	CODE:	SAM1-2
<input type="checkbox"/> COMPLEX		CODE:	

Botanical Species Inventories for 8055 McLeod Road

Common Name	Scientific name	SARO Status	Niagara Status	S-Rank	Coeff. Wetness	Poly. 1 (CUW1)	Poly. 2 (CUT1-4)	Poly. 3 (SWD3-3)	Poly. 4 (FOD)
TREES									
Manitoba Maple	<i>Acer negundo</i>		C	S5	0		X	X	
Swamp Maple	<i>Acer x freemani</i>		hyb	SNA	-5			X	
Silver Maple	<i>Acer saccharinum</i>		C	S5	-3			X	
Sugar Maple	<i>Acer saccharum</i>		C	S5	3				X
Green Ash	<i>Fraxinus pennsylvanica</i>		C	S4	-3	X	X	X	X
Black Walnut	<i>Juglans nigra</i>		C	S4	3		X		
Eastern Red Cedar	<i>Juniperus virginiana</i>		C	S5	3		X		
Apple	<i>Malus pumila</i>		IC	SNA	5		X		
Scots Pine	<i>Pinus sylvestris</i>		IC	SNA	3		X		
Cottonwood	<i>Populus deltoides</i>		C	S5	0	X	X		
Trembling Aspen	<i>Populus tremuloides</i>		C	S5	0	X	X		
Sweet Cherry	<i>Prunus avium</i>		IC	SNA	5		X		
Common Pear	<i>Pyrus communis</i>		IC	SNA	5		X		
Bur Oak	<i>Quercus macrocarpa</i>		U	S5	3	X	X	X	X
Pin Oak	<i>Quercus palustris</i>		C	S4	-3	X	X	X	
Red Oak	<i>Quercus rubra</i>		C	S5	3		X		X
Black Locust	<i>Robinia pseudoacacia</i>		IC	SNA	3		X	X	
Basswood	<i>Tilia americana</i>		C	S5	3		X		X
Black Willow	<i>Salix nigra</i>		C	S4	-5		X	X	
American Elm	<i>Ulmus americana</i>		C	S5	-3	X	X		X
SHRUBS									
European Black Alder	<i>Alnus glutinosa</i>		IU	SNA	-3		X	X	
Silky Dogwood	<i>Cornus amomum</i>			S5	-3	X	X	X	
Grey Dogwood	<i>Cornus racemosa</i>		C	S5	0	X	X	X	X
Hawthorn sp.	<i>Crataegus sp.</i>		C		0		X	X	
Glossy Buckthorn	<i>Frangula alnus</i>		IC	SNA	0		X		
Wild Privet	<i>Ligustrum vulgare</i>		IC	SNA	0	X	X	X	
Choke Cherry	<i>Prunus virginiana</i>		C	S5	3		X		X
Honeysuckle sp.	<i>Lonicera sp.</i>							X	
European Buckthorn	<i>Rhamnus cathartica</i>		IC	SNA	0	X	X	X	X
Staghorn Sumac	<i>Rhus typhina</i>		C	S5	3		X		
Multiflora Rose	<i>Rosa multiflora</i>		IC	SNA	3		X	X	X
Bebb's Willow	<i>Salix bebbiana</i>		C	S5	-3		X		
Pussy Willow	<i>Salix discolor</i>		C	S5	-3	X	X	X	
HERBACEOUS									
Woodland Agrimony	<i>Agrimonia striata</i>		C	S4	3		X		
Northern Water-plantain	<i>Alisma triviale</i>		DD	S5	-5			X	
Hemp Dogbane	<i>Apocynum cannabinum</i>		C	S5	0		X		
Sedge sp.	<i>Carex sp.</i>							X	
Brown Knapweed	<i>Centaurea jacea</i>		IU	SNA	5		X		
Wild Carrot	<i>Daucus carota</i>		IC	SNA	5		X		
Annual Fleabane	<i>Erigeron annuus</i>		C	S5	-3		X		
Common Boneset	<i>Eupatorium perfoliatum</i>		C	S5	-3			X	
Wild Strawberry	<i>Fragaria virginiana</i>		C	S5	3		X		
Fowl Mannagrass	<i>Glyceria striata</i>		C	S5	-5			X	
St. John's Wort	<i>Hypericum perforatum</i>		IC	SNA	5		X		
Soft Rush	<i>Juncus effusus</i>		C	S5	-5			X	
Small Duckweed	<i>Lemna minor</i>		C	S5	-5			X	
Oxeye Daisy	<i>Leucanthemum vulgare</i>		IC	SNA	5		X		
Bird's-foot Trefoil	<i>Lotus corniculatus</i>		IC	SNA	3		X		
Pineappleweed	<i>Matricaria discoidea</i>		IR	SNA	3		X		
White Sweet-clover	<i>Melilotus albus</i>		IC	SNA	3		X		
Virginia Creeper	<i>Parthenocissus inserta</i>		C	S5	3	X	X	X	X
Reed Canarygrass	<i>Phalaris arundinacea</i>		C	S5	-3			X	
May-apple	<i>Podophyllum peltatum</i>		C	S5	3				X
Phragmites	<i>Phragmites australis ssp. australis</i>		IC	SNA	-3	X	X	X	
Common Self-heal	<i>Prunella vulgaris</i>		C	S5	0		X		

Common Name	Scientific name	SARO Status	Niagara Status	Status Ranking	Coeff. Wetness	Poly. 1 (CUW1)	Poly. 2 (CUT1-4)	Poly. 3 (SWD3-3)	Poly. 4 (FOD)
HERBACEOUS Cont'd									
Common Buttercup	<i>Ranunculus acris</i>		IC	SNA	0		X		
Curled Dock	<i>Rumex crispus</i>		IC	SNA	0		X		
Soft-stemmed Bulrush	<i>Schoenoplectus tabernaemontani</i>		C	S5	-5			X	
Purple Crown-Vetch	<i>Securigera varia</i>		IU	SNA	5		X		
Tall Goldenrod	<i>Solidago altissima</i>		C	S5	3		X		
Canada Goldenrod	<i>Solidago canadensis</i>		C	S5	3		X	X	X
Early Goldenrod	<i>Solidago juncea</i>		C	S5	5		X		
Wild Grape	<i>Vitis riparia</i>		C	S5	0	X	X		
TOTAL # SPECIES						14	49	26	13

8055 MCLEOD ROAD, NIAGARA FALLS

Breeding Bird Inventory

Dates Visited: June 8, 12, 25

Species Observed: 24 including 'overhead'

Observers: Nadine Litwin, Amy Brunning

SARs: 2

COMMON NAME	SCIENTIFIC NAME	OBSERVED	OBBA17PH57	COSEWIC	SARA	SARO	S RANK	HABITAT NOTES	AREA SENSITIVE	EXOTIC
			2nd Atlas	NHIC						
Columbidae										
Rock Pigeon	Columba livia		CONF				SNA			SE
Mourning Dove	Zenaida macroura	X	CONF				S5			
Apodidae										
Chimney Swift	Chaetura pelagica		CONF	THR	THR	THR	S4B,S4N	Urban areas; nests in hollow trees; chimneys, silos; feeds over open water.		
Trochilidae										
Ruby-throated Hummingbird	Archilochus colubris		PROB				S5B			
Charadriidae										
Killdeer	Charadrius vociferus	X	CONF				S5B,S5N	open fields		
Ardeidae										
Great Blue Heron	Ardea herodias	overhead					S4			
Great Egret	Ardea alba	overhead					S2B			
Picidae										
Red-bellied Woodpecker	Melanerpes carolinus	X	CONF				S4	woodland; cavity nester		(v)
Downy Woodpecker	Picoides pubescens	X	CONF				S5	urban-tolerant; cavity nester		
Hairy Woodpecker	Picoides villosus	X	CONF				S5	woodland; cavity nester, primary excavator		v
Northern Flicker	Colaptes auratus	X	CONF				S4B	urban-tolerant; cavity nester, primary excavator requiring snags >30cm dbh;		
Tyrannidae										
Great Crested Flycatcher	Myiarchus crinitus		PROB				S4B	woodland; cavity nester		(v)
Eastern Wood-Pewee	Contopus virens	X	CONF		SC	SC	S4B	aerial insectivore; closed-canopy woodlands; does not nest near development		(v)
Eastern Phoebe	Sayornis phoebe		PROB				S5B	urban-tolerant		

COMMON NAME	SCIENTIFIC NAME	OBSERVED	OBBA17PH57	COSEWIC	SARA	SARO	S RANK	HABITAT NOTES	AREA SENSITIVE	EXOTIC
Vireonidae										
Red-eyed Vireo	Vireo olivaceus	X	CONF				S5B		(v)	
Corvidae										
Blue Jay	Cyanocitta cristata	X	CONF				S5			
American Crow	Corvus brachyrhynchos	X	CONF				S5B			
Hirundinidae										
Tree Swallow	Tachycineta bicolor		CONF				S4B	aerial insectivore; colonial cavity nester near water; urban tolerant		
Northern Rough-winged Swallow	Stelgidopteryx serripennis		PROB				S4B	aerial insectivore; semi-colonial		
Purple Martin	Progne subis		CONF	LOW			S4B	aerial insectivore; colonial nester		
Barn Swallow	Hirundo rustica	X	CONF	SC	THR	SC	S4B	aerial insectivore; colonial; urban tolerant		
Cliff Swallow	Petrochelidon pyrrhonota		CONF				S4B	aerial insectivore; colonial; urban tolerant		
Paridae										
Black-capped Chickadee	Poecile atricapillus	X	CONF				S5			
Sittidae										
Red-breasted Nuthatch	Sitta canadensis		CONF				S5		v	
White-breasted Nuthatch	Sitta carolinensis		PROB				S5		v	
Troglodytidae										
House Wren	Troglodytes aedon	X	CONF				S5B			
Carolina Wren	Thryothorus ludovicianus		PROB				S4			
Turdidae										
American Robin	Turdus migratorius	X	CONF				S5B			
Mimidae										
Gray Catbird	Dumetella carolinensis	X	CONF				S4B	urban-tolerant; fields, shrubby thickets		

COMMON NAME	SCIENTIFIC NAME	OBSERVED	OBBA17PH57 2nd Atlas	COSEWIC	SARA	SARO	S RANK	HABITAT NOTES	AREA SENSITIVE	EXOTIC
Sturnidae										
European Starling	<i>Sturnus vulgaris</i>	X	CONF				SNA			SE
Passeridae										
House Sparrow	<i>Passer domesticus</i>		CONF				SNA			SE
Fringillidae										
American Goldfinch	<i>Carduelis tristis</i>	X	CONF				S5B			
Emberizidae										
Chipping Sparrow	<i>Spizella passerina</i>		CONF				S5B	urban-tolerant		
Song Sparrow	<i>Melospiza melodia</i>		CONF				S5B			
Icteridae										
Baltimore Oriole	<i>Icterus galbula</i>						S4B	urban-tolerant; deciduous trees and parks; susceptible to pesticides, vehicle collisions		
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	X	CONF				S4			
Brown-headed Cowbird	<i>Molothrus ater</i>		PROB				S4B			
Common Grackle	<i>Quiscalus quiscula</i>	X	CONF				S5B			
Parulidae										
Common Yellowthroat	<i>Geothlypis trichas</i>		PROB				S5B			
Yellow Warbler	<i>Setophaga petechia</i>		CONF				S5B			
Cardinalidae										
Northern Cardinal	<i>Cardinalis cardinalis</i>	X	CONF				S5			
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	X	CONF				S4B	woodlands; may be area-sensitive	(v)	

OBBA: Ontario Breeding Bird Atlas (2021, 2001-2005, 1981-1985) 10km X 10km Squares
COSEWIC June 2024: LOW, MID, HIGH = Candidate Priority Status
SARA and SARO status current to September 2024

Area Sensitivity: (v) = uses edge if forest interior also nearby
List in accordance with American Ornithologists Union (AOU) 7th edition, 62nd supp.
Reference Ontario Field Ornithologists Checklist of the Birds of Ontario
<http://www.ofo.ca/site/page/view/checklist.checklist#top>

AMPHIBIAN MONITORING RESULTS

Table 1A: Survey dates and weather conditions

Survey #	Date	Temperature (C)	Beaufort Scale	Precipitation
1	April 6, 2022	12	2	Light rain
2	May 12, 2022	15	2	Clear
3	June 15, 2022	18	2	Overcast

Table 2A: Results of first survey (April 6, 2022)

Species		Station 1		Station 2	
		Code	Number	Code	Number
American Toad	<i>Anaxyrus americanus</i>	-	-	-	-
Gray Treefrog	<i>Hyla versicolor</i>	-	-	-	-
Spring Peeper	<i>Pseudacris crucifer</i>	-	-	-	-
Western Chorus Frog	<i>Pseudacris triseriata</i>	3	FC	3	FC
American Bullfrog	<i>Lithobates catesbeianus</i>	-	-	-	-
Green Frog	<i>Lithobates clamitans</i>	-	-	-	-
Pickerel Frog	<i>Lithobates palustris</i>	-	-	-	-
N. Leopard Frog	<i>Lithobates pipiens</i>	-	-	-	-
Mink Frog	<i>Lithobates septentrionalis</i>	-	-	-	-
Wood Frog	<i>Lithobates sylvaticus</i>	-	-	-	-

Table 3A: Results of second survey (May 12, 2022)

Species		Station 1		Station 2	
		Code	Number	Code	Number
American Toad	<i>Anaxyrus americanus</i>	-	-	-	-
Gray Treefrog	<i>Hyla versicolor</i>	-	-	-	-
Spring Peeper	<i>Pseudacris crucifer</i>	-	-	-	-
Western Chorus Frog	<i>Pseudacris triseriata</i>	-	-	-	-
American Bullfrog	<i>Lithobates catesbeianus</i>	-	-	-	-
Green Frog	<i>Lithobates clamitans</i>	-	-	-	-
Pickerel Frog	<i>Lithobates palustris</i>	-	-	-	-
N. Leopard Frog	<i>Lithobates pipiens</i>	-	-	-	-
Mink Frog	<i>Lithobates septentrionalis</i>	-	-	-	-
Wood Frog	<i>Lithobates sylvaticus</i>	-	-	-	-

Table 4A: Results of third survey (June 15, 2022)

Species		Station 1		Station 2	
		Code	Number	Code	Number
American Toad	<i>Anaxyrus americanus</i>	-	-	-	-
Gray Treefrog	<i>Hyla versicolor</i>	-	-	-	-
Spring Peeper	<i>Pseudacris crucifer</i>	-	-	-	-
Western Chorus Frog	<i>Pseudacris triseriata</i>	-	-	-	-
American Bullfrog	<i>Lithobates catesbeianus</i>	-	-	-	-
Green Frog	<i>Lithobates clamitans</i>	-	-	-	-
Pickerel Frog	<i>Lithobates palustris</i>	-	-	-	-
N. Leopard Frog	<i>Lithobates pipiens</i>	-	-	-	-
Mink Frog	<i>Lithobates septentrionalis</i>	-	-	-	-
Wood Frog	<i>Lithobates sylvaticus</i>	-	-	-	-

Call Codes: 1 = no overlap in individual calls;
 2 = some overlap in calls but can estimate number of individuals;
 3 = substantial overlap with no distinction between individual calls
 FC = full chorus.

AMPHIBIAN MONITORING RESULTS



Figure A: Marsh Monitoring survey station map

Appendix D

Habitat Screenings

Table 1: Significant Wildlife Habitat Assessment for 8055 McLeod Road, in the City of Niagara Falls.

Significant Wildlife Habitat (SWH) Type	Known/Candidate SWH present	Rationale	Field Studies Required
1.1 Seasonal Concentration Areas for Wildlife Species			
Waterfowl Stopover and Staging Areas (Terrestrial)	No	Lack of suitable habitat	N/A
Waterfowl Stopover and Staging Areas (Aquatic)	No	Isolated urban environment not used during migration period. No suitable habitat.	N/A
Shorebird Migratory Stopover Area	No	Lack of shoreline habitat	N/A
Raptor Wintering Area	No	Habitat not available.	N/A
Bat Hibernacula	No	Habitat not available (caves, mines, Karsts)	N/A
Bat Maternity Colonies	Yes	Treed habitat provides candidate roosting habitat	Not confirmed. Limited habitat within protected features.
Turtle Wintering Areas	No	Standing water on site not conducive to overwintering. Too shallow with hard (debris) substrate.	N/A
Reptile Hibernaculum	Yes	Large rocks and debris throughout site	Not confirmed. Substrate heavily compacted.
Colonially-Nesting Bird Breeding Habitat (Bank and Cliff)	No	Lack of exposed banks or cliffs	N/A
Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs)	No	Lack of suitable nesting habitat within wetland.	N/A
Colonially-Nesting Bird Breeding Habitat (Ground)	No	Lack of suitable habitat	N/A
Migratory Butterfly Stopover Areas	No	Lack of suitable habitat (>5km from Lake)	N/A
Landbird Migratory Stopover Areas	No	Lack of suitable habitat (>5km from Lake)	N/A
Deer Winter Congregation Areas	No	Habitat not available	N/A
1.2 Rare Vegetation Communities or Specialized Habitat for Wildlife			
Cliffs and Talus Slopes	No	Not Applicable	N/A
Sand Barren	No	Not Applicable	N/A
Alvar	No	Not Applicable	N/A
Old Growth Forest	No	Lack of Habitat	N/A
Savannah	No	Not Applicable	N/A
Tall Grass Prairie	No	Not Applicable	N/A
Other Rare Vegetation Communities	No	No variation in ELC Ecosites present. Highly disturbed site.	N/A
Waterfowl Nesting Area	No	Not typical habitat and sufficient upland areas not available.	N/A
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	No	Wetland community not associated with a shoreline or island	N/A
Woodland Raptor Nesting Habitat	No	Lack of interior habitat	N/A

Table 1: Significant Wildlife Habitat Assessment for 8055 McLeod Road, in the City of Niagara Falls.

Significant Wildlife Habitat (SWH) Type	Known/Candidate SWH present	Rationale	Field Studies Results
Turtle Nesting Areas	Yes	Shallow standing water present within PSW, but substrate not conducive to nesting (large concrete debris or clay soil)	Not confirmed. No turtles or potential nest activity documented.
Seeps and Springs	No	Lack of forested headwaters	N/A
Amphibian Breeding Habitat (Woodland)	Yes	Treed wetlands present	Not confirmed. Single species calling.
Amphibian Breeding Habitat (Wetlands)	Yes	Treed wetlands present	Not confirmed. Single species calling.
Woodland Area- Sensitive Bird Breeding Habitat	No	No interior habitat available	N/A
1.3 Habitats of Species of Conservation Concern			
Marsh Breeding Bird Habitat	No	Lack of emergent vegetation within wetlands or marsh habitat.	N/A
Open Country Bird Breeding Habitat	No	Lack of grassland habitat	N/A
Shrub/Early Successional Bird Breeding Habitat	No	Successional habitat <10ha	Not confirmed. No indicator or common species nesting on site.
Terrestrial Crayfish	No	Lack of marsh habitat	N/A
Special Concern and Rare Wildlife Species	Yes	MNRF known EOs provided (NHIC). See SAR screening below	Not confirmed. Two SC species (EAWP&BASW) observed but site does not support habitat.
1.4 Animal Movement Corridors			
Amphibian Movement Corridor	Yes	Candidate amphibian woodland and wetland breeding habitat not identified	N/A. SWH Amphibian Breeding Habitat not confirmed on site.

Table 2: Species at Risk Assessment for 8055 McLeod Road, in the City of Niagara Falls.

Common Name (<i>Scientific Name</i>)	SARO Status	Key Habitat	Potential to occur	Rationale	Survey Results
BIRDS					
Acadian Flycatcher (<i>Empidonax vireescens</i>)	END	Large mature forest with interior habitat	No	Lack of mature forest	N/A
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	SC	Deciduous/mixed forest close to lakes or rivers	No	Lack of suitable habitat	N/A
Bank Swallow (<i>Riparia riparia</i>)	THR	Natural or man-made vertical banks	No	Lack of suitable bank habitat	N/A
Barn Swallow (<i>Hirundo rustica</i>)	THR	Farmland or urban areas; nest in or outside buildings, on bridges or in culverts	No	Lack of Suitable breeding habitat	N/A
Bobolink (<i>Dolichonyx oryzivorus</i>)	THR	Open grasslands and hayfields	No	Lack of suitable breeding habitat	N/A
Chimney Swift (<i>Chaetura pelagica</i>)	THR	Historically preferred wet forest with well developed understory. Now typically nests in uncapped chimneys in urban areas	No	Breeding Bird Atlas, lack of breeding habitat	N/A
Common Nighthawk (<i>Chordeiles minor</i>)	SC	Generally prefer open habitats including dunes, beaches, logged areas, rocky outcrops or barrens, marshes and water edges. Can nest on rooftops in urban areas	No	Lack of suitable breeding habitat	N/A
Eastern Meadowlark (<i>Sturnella magna</i>)	THR	Grassy pastures, meadows, hay fields. Nests on ground.	No	Lack of suitable breeding habitat	N/A
Eastern Whip-poor-will (<i>Camprimulgus vociferus</i>)	THR	Semi-open deciduous forests with little ground cover.	No	Lack of Suitable breeding habitat	N/A
Eastern Wood-Pewee (<i>Contopus virens</i>)	SC	Deciduous and mixed forests. Usually in mature and intermediate stands with little understory, or near forest edges	No	Breeding Bird Atlas, Forest habitat present	Confirmed - Foraging only
Golden-winged Warbler (<i>Vermivora chrysoptera</i>)	SC	Early successional vegetation primarily on field edges, hydro or utility right of ways, or recently logged areas	No	Lack of suitable breeding habitat	N/A
Henslow's Sparrow (<i>Ammodramus henslowii</i>)	END	Old fields, pastures, and wet meadows. Dense tall grasses	No	Lack of suitable breeding habitat	N/A
Least Bittern (<i>Ixobrychus exilis</i>)	THR	Near pools of open water in large marshes and swamps dominated by cattails or other robust emergent	No	Lack of suitable breeding habitat. No emergent vegetation	N/A
Northern Bobwhite (<i>Colinus virginianus</i>)	END	Edge and grassland habitats including farmed agricultural lands	No	Lack of suitable breeding habitat	N/A
Peregrine Falcon (<i>Falco peregrinus</i>)	SC	Tall, steep cliff ledges adjacent to large waterbodies. Can be found in urban environment nesting on ledges of tall buildings	No	Lack of suitable breeding habitat	N/A
Red-Headed Woodpecker <i>Melanerpes erythrocephalus</i>	END	Open oak and beech forests, grasslands, forest edges, orchards, pastures, roadsides, urban parks, golf courses, cemeteries and beaver ponds	No	Lack of suitable breeding habitat	N/A

Wood Thrush (<i>Hylocichla mustelina</i>)	SC	Second growth and mature deciduous/mixed forests with well-developed understory. Area sensitive	Yes	Habitat availability	Not observed
Yellow-breasted Chat (<i>Icteria virens</i>)	END	Dense thickets around wood edges, riparian areas and overgrown clearings	Yes	Potential breeding habitat	Not observed
INSECTS					
Monarch Butterfly (<i>Danaus plexippus</i>)	SC	Wherever Milkweed and wildflowers are present	Yes	Potential habitat present	Not observed
Rusty-patched Bumble Bee (<i>Bombus affinis</i>)	END	Large range of diverse habitats, including farmland, marshes, urban and wooded areas.	No	Potential habitat present	None
West Virginia White (<i>Pieris virginiensis</i>)	SC	Moist deciduous woodlands. Larvae feed on two-leaved toothwort which blooms in spring	No	Lack of suitable habitat	None
MAMMALS					
Gray Fox (<i>Urocyon cinereoargenteus</i>)	THR	Deciduous forests, marshes, swamps, and urban areas	No	Lack of suitable habitat	None
Eastern small-footed myotis (<i>Myotis leibii</i>)	END	Roosts under loose rocks, and occasionally in buildings	Yes	Potential habitat to be assessed	Not confirmed. Limited habitat available within protected features
Little Brown Myotis (<i>Myotis lucifugus</i>)	END	Often roosts in buildings, but occasionally in trees >25cm DBH	Yes	Potential habitat to be assessed	
Northern Myotis (<i>Myotis septentrionalis</i>)	END	Roosts in cavities of large diameter trees and occasionally in structures	Yes	Potential habitat to be assessed	
Tri-colored Bat (<i>Perimyotis subflavus</i>)	END	Roosts in dead clusters of leaves on trees or in structures	Yes	Potential habitat to be assessed	
FISH					
American Eel (<i>Anguilla rostrata</i>)	END	Fresh water, estuaries and coastal marine waters accessible to Atlantic Ocean (12MC and Lake Ontario)	No	Lack of habitat	N/A
Grass Pickerel (<i>Esox americanus vermiculatus</i>)	SC	Wetlands with warm, shallow water and abundant aquatic plants	No	Lack of habitat	N/A
Lake Chubsucker (<i>Erimyzon sucetta</i>)	THR	Marshes, wetlands and lakes with still water and abundant aquatic plants	No	Lack of habitat	N/A
Lake Sturgeon (<i>Acipenser fulvescens</i>)	THR	Bottom of shallow areas of large freshwater lakes and rivers	No	Lack of habitat	N/A
PLANTS					
American Chestnut (<i>Castanea dentata</i>)	END	Deciduous forests with sandy soils	No	Lack of suitable habitat	N/A
American Ginseng (<i>Panax quinquefolius</i>)	END	Rich, moist, undisturbed, and mature forests.	No	Lack of suitable habitat	N/A
American Water-willow (<i>Justicia americana</i>)	SC	Shorelines and nearby wetlands as well as streams where bottom is gravel, sand or organic.	No	Lack of suitable habitat	N/A
Butternut (<i>Juglans cinerea</i>)	END	Rich, moist and well-drained soils. Often found along streams or in small groups in deciduous forests and hedgerowa	No	Lack of suitable habitat	N/A
Common Hoptree (<i>Ptelea trifoliata</i>)	THR	Sandy soils in areas with a lot of natural disturbance (ie. Shoreline)	No	Lack of suitable habitat	N/A
Deerberry (<i>Vaccinium stamineum</i>)	THR	Sandy well-drained soil, often in open, dry woodlands	No	Lack of suitable habitat	N/A
Drooping Trillium (<i>Trillium flexipes</i>)	END	Deciduous and mixed forests, and occasionally in moist environments.	No	Lack of suitable habitat	N/A

		Grows on edges or in hedgerows			
Eastern Flowering Dogwood (<i>Cornus florida</i>)	END	Deciduous and mixed forests, and occasionally in moist environments. Grows on edges or in hedgerows	No	Lack of habitat	N/A
Red Mulberry (<i>Morus rubra</i>)	END	Moist forest habitats, including slopes of ravines, sand spits and bottom lands. Can grow in open areas.	No	Lack of suitable habitat	N/A
Round-leaved Greenbrier (<i>Smilax rotundifolia</i>)	THR	Open moist to wet woodlands, often in sandy soils	No	Lack of suitable habitat	N/A
Shumard Oak (<i>Quercus shumardii</i>)	SC	Deciduous forests with poorly drained clay soil. Requires full sunlight	No	Lack of suitable habitat	N/A
Swamp Rose-mallow (<i>Hibiscus moscheutos</i>)	SC	Open coastal marshes, and sometimes in wet woods, thickets and drainage ditches	No	Lack of suitable habitat	N/A
White Wood Aster (<i>Eurybia divaricate</i>)	THR	Open, dry, deciduous forests, often growing along trails, or disturbed areas	No	Lack of habitat	N/A
REPTILES AND AMPHIBIANS					
Allegheny Mountain Dusky Salamander (<i>Desmognathus ochrophaeus</i>)	END	Forested brooks, springs or seeps.	No	Lack of suitable habitat	N/A
Northern Dusky Salamander (<i>Desmognathus fuscus</i>)	END	Rocky woodland streams, seeps, and springs with running water	No	Lack of suitable habitat	N/A
Blanding's Turtle (<i>Emydoidea blandingii</i>)	THR	Freshwater lakes, permanent or temporary pools, slow-flow streams, marshes and swamps. Shallow water with organic soil and dense vegetation	No	Lack of suitable habitat	N/A
Eastern Musk Turtle (<i>Sternotherus odoratus</i>)	SC	Sandy, well-drained soil and open vegetative cover such as open woods, brushland, fields, forest edges and disturbed sites. Often near water	No	Lack of suitable habitat	N/A
Eastern Ribbonsnake (<i>Thamnophis sauritus</i>)	SC	Edges of shallow ponds, streams marshes, swamps, or bogs bordered by dense vegetation that provides cover. Abundant sunlight exposure required.	Yes	Potential habitat	Not observed
Snapping Turtle (<i>Chelydra serpentine</i>)	SC	Shallow water with soft mud and leaf litter. Nesting on gravel or sandy areas along streams or man-made structures	Yes	Potential habitat	Not observed

		Grows on edges or in hedgerows			
Eastern Flowering Dogwood (<i>Cornus florida</i>)	END	Deciduous and mixed forests, and occasionally in moist environments. Grows on edges or in hedgerows	No	Lack of habitat	N/A
Red Mulberry (<i>Morus rubra</i>)	END	Moist forest habitats, including slopes of ravines, sand spits and bottom lands. Can grow in open areas.	No	Lack of suitable habitat	N/A
Round-leaved Greenbrier (<i>Smilax rotundifolia</i>)	THR	Open moist to wet woodlands, often in sandy soils	No	Lack of suitable habitat	N/A
Shumard Oak (<i>Quercus shumardii</i>)	SC	Deciduous forests with poorly drained clay soil. Requires full sunlight	No	Lack of suitable habitat	N/A
Swamp Rose-mallow (<i>Hibiscus moscheutos</i>)	SC	Open coastal marshes, and sometimes in wet woods, thickets and drainage ditches	No	Lack of suitable habitat	N/A
White Wood Aster (<i>Eurybia divaricate</i>)	THR	Open, dry, deciduous forests, often growing along trails, or disturbed areas	No	Lack of habitat	N/A
REPTILES AND AMPHIBIANS					
Allegheny Mountain Dusky Salamander (<i>Desmognathus ochrophaeus</i>)	END	Forested brooks, springs or seeps.	No	Lack of suitable habitat	N/A
Northern Dusky Salamander (<i>Desmognathus fuscus</i>)	END	Rocky woodland streams, seeps, and springs with running water	No	Lack of suitable habitat	N/A
Blanding's Turtle (<i>Emydoidea blandingii</i>)	THR	Freshwater lakes, permanent or temporary pools, slow-flow streams, marshes and swamps. Shallow water with organic soil and dense vegetation	No	Lack of suitable habitat	N/A
Eastern Musk Turtle (<i>Sternotherus odoratus</i>)	SC	Sandy, well-drained soil and open vegetative cover such as open woods, brushland, fields, forest edges and disturbed sites. Often near water	No	Lack of suitable habitat	N/A
Eastern Ribbonsnake (<i>Thamnophis sauritus</i>)	SC	Edges of shallow ponds, streams marshes, swamps, or bogs bordered by dense vegetation that provides cover. Abundant sunlight exposure required.	Yes	Potential habitat	Not observed
Snapping Turtle (<i>Chelydra serpentina</i>)	SC	Shallow water with soft mud and leaf litter. Nesting on gravel or sandy areas along streams or man-made structures	Yes	Potential habitat	Not observed

Appendix E

Site Photos

Site Photos for 8055 McLeod Road, Niagara Falls



Photo 1: Polygon 1 (CUWI). Area of standing water in fall/winter (July 13, 2022).



Photo 2: Phragmites patch at south edge of Polygon 1 (CUWI).



Photo 3: Polygon 1 (CUWI), July 13, 2022.



Photo 4: Soil sampled in Polygon 1 (CUWI).

Site Photos for 8055 McLeod Road, Niagara Falls



Photo 5: Typical substrate in Polygon 2 (CUWI-1c.CUT1-4). Unable to sample soil via auger.



Photo 6: Polygon 2 (CUWI-1c.CUT1-4) July 13, 2022.



Photo 7: Polygon 2 (CUWI-1c.CUT1-4) July 13, 2022.

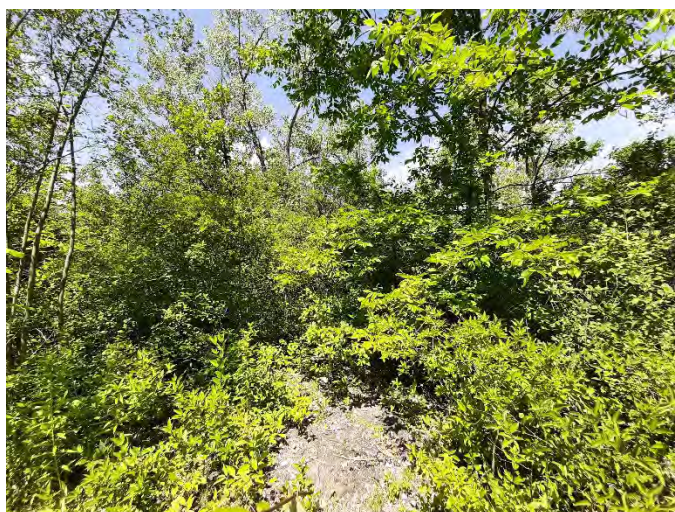


Photo 8: Polygon 2 (CUWI-1 c.CUT1-4), July 13, 2022 with visible fill pile in foreground.

Site Photos for 8055 McLeod Road, Niagara Falls



Photo 9: North-facing transition between Polygon 2 and Polygon 3 increased shrub density.



Photo 10: North-facing transition between Polygon 2 and Polygon 3 increased shrub density.



Photo 11: Polygon 3 (SWD3-3)



Photo 12: Polygon 4 (FOD9) in northwest part of study area. Forest community extends north to John N. Allan Park.

Site Photos for 8055 McLeod Road, Niagara Falls



Photo 13: Deciduous Swamp (SWD3-3) community, July 13, 2022.



Photo 14: Low-lying area where water pools in Polygon 3 (SWD3-3), July 13, 2022.



Photo 15: Low-lying area where water pools in Polygon 3 (SWD3-3), July 13, 2022.



Photo 16: Duckweed Mixed Shallow aquatic ecosite (SAM1-2) inclusion in northeast part of study area, July 13, 2022.

Site Photos for 8055 McLeod Road, Niagara Falls



Photo 17: Duckweed Mixed Shallow aquatic ecosite (SAMI-2) inclusion in northeast part of study area, July 13, 2022.



Photo 18: Duckweed Mixed Shallow aquatic ecosite (SAMI-2) inclusion in northeast part of study area, July 13, 2022.



Photo 19: Waste material and concrete structure within Deciduous Swamp community (SWD3-3).



Photo 20: South-facing transition from Polygon 3 (SWD3-3) to Polygon 2 (CUWI-1 c.CUT1-4).