Environmental Impact Study
469 & 509 Rice Road
Plan of Subdivision
City of Welland, Niagara Region

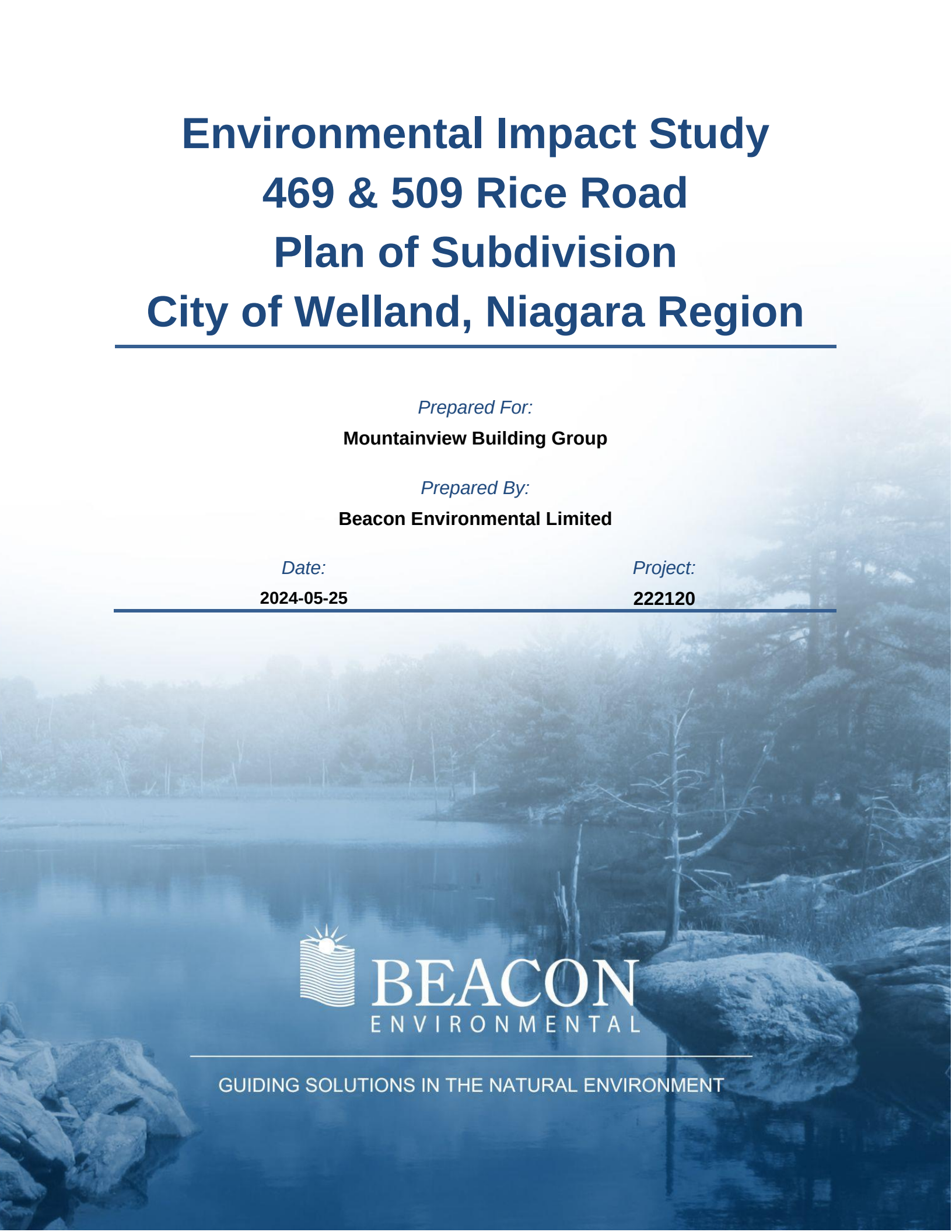
Prepared For:

Mountainview Building Group

Prepared By:

Beacon Environmental Limited

Date:	*Project:*
2024-05-25	**222120**



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1. Introduction

Beacon Environmental Limited (Beacon) was retained by Mountainview Building Group (the Proponent) in March 2022 to undertake an Environmental Impact Study (EIS) for a draft plan of subdivision to be located on two properties, 469 and 509 Rice Road, in the City of Welland, here after referred to as the subject lands (**Figure 1**).

This EIS has been prepared following the requirements of the Environmental Impact Guidelines of the Niagara Region (2018) and the Niagara Peninsula Conservation Authority (NPCA 2022). A term of reference for conducting the EIS was provided to the Niagara Region and Niagara Peninsula Conservation Authority (NPCA) in April for review, and approvals were provided in May in (**Appendix A**). For the subject lands, and adjacent lands, a background review, field investigations, and assessment of natural heritage features and functions were undertaken by Beacon in 2022.

1.1 Overview of Study Area

Over 95% of the subject lands represents abandon grass soccer fields and active agricultural field (**Photographs 1 & 2**). Rice Road is located along the eastern boundary, and signal family residential homes occur along the western and southern boundary. The Rosewood subdivision is located to the north of the subject lands. The western limit of the Towpath Drain flows west to east through the central portion of the subject lands and exists via a culvert crossing under Rice Road. As can been seen on **Figure 1**, the only natural features within the subject lands are a narrow woodland corridor associated with the Towpath Drian and a small woodland and narrow hedgerows along the western boundary.

The subject lands lie within the built-up area of north-west Welland with residential development found directly to the north, west and south. The City completed the Northwest Secondary Plan Area (NWSPA), Official Plan Amendment 29 (OPA 29, 2021), which is an area that includes the subject lands. For the development of the secondary plan an assessment of the natural heritage features and functions within the plan area was undertaken by Aquafor Beech Limit (2019) and detailed in Appendix F in a report titled Rationale for Urban Growth in Northwest Welland (SGL 2019). The Aquafor Beech report identifies significant natural heritage features within the plan area as Environmental Protection Area (EPA), Environmental Conservation Area (ECA) and wildlife corridor (see report Figure 7.4 in **Appendix B**). The subject lands are located within Area A of the Aquafor Beech NWSPA study area. Based on the Aquafor Beech study, Schedule G Land Use Structure of OPA No 29 identifies the natural heritage features within the plan area (**Appendix B**).

A small mature woodland along the west boundary is identified as EPA (**Photograph 3**), as this area supports three species at risk (SAR), the endangered Butternut (*Juglans cinerea*) and Eastern Flowering Dogwood (*Cornus florida*) and the threatened White Wood Aster (*Eurybia divaricata*). The Towpath Drain corridor and narrow hedgerow trees that extent to the north and south of this woodland are identified as ECA (**Photographs 4 & 5**). The Towpath Drain watercourse is identified as regulated by the NPCA (NPCA 2023) and as ECA in Schedule G of the secondary plan.

Photograph 1. Grass Soccer Fields of 469 Rice Road; Looking Northwest from Rice Road in June

Photograph 2. Active Farm Field of 509 Rice Road; Looking Southeast to Rice Road in May

Site Location	Figure 1
469-509 Rice Road EIS	
BEACON ENVIRONMENTAL	Project: 222120 Last Revised: January 2024
Client: Mountainview Building Group.	Prepared by: BD Checked by: RH
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Photograph 3. EPA Woodlands Along the Western Boundary of the Subject Lands Looking Northwest from the Soccer Fields in June

Photograph 4. Narrow Tree Hedgerow Identified as ECA Woodland Along the West Boundary of the Subject Lands - Looking South in June

Photograph 5. Narrow Band of ECA Woodland Along the Towpath Drain Corridor That Flows Through the Subject Lands; Looking East to Rice Road in June

2. Planning Setting and Development Regulation

2.1 Provincial

The subject lands are located within the Urban Boundary of the City of Welland and lie outside of the jurisdiction of the Niagara Escarpment Plan (2017), Greenbelt Plan (2022a) and the Growth Plan for the Greater Golden Horseshoe (2022b).

2.1.1 Provincial Policy Statement (2020)

The 2020 version of the *Provincial Policy Statement* (PPS) replaced the 2014 PPS as of May 1, 2020.

Section 2.1 of the PPS provides direction to regional and local municipalities regarding planning policies specifically for the protection and management of natural heritage features and resources.

Section 2.1.4 states that development and site alteration shall not be permitted in:

- *significant wetlands in Ecoregions 5E, 6E and 7E1; and*
- *significant coastal wetlands.*

Section 2.1. 5 details that development and site alteration shall not be permitted in the following features unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions:

- *significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E1;*
- *significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)1;*
- *significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)1;*
- *significant wildlife habitat;*
- *significant areas of natural and scientific interest; and*
- *coastal wetlands in Ecoregions 5E, 6E and 7E1 that are not subject to policy 2.1.4(b).*

Section 2.1.6 states that development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

Section 2.1.7 states that development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

With respect to development on lands that lie adjacent to natural heritage features, Section 2.1.8 states that development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

2.2 Niagara Region Official Plan (2022)

The natural heritage polices of the Niagara Region 2022 Official Plan are detailed in *Section 3-Sustainable Region.* Section 3.1.30.4 Ongoing and Approved Secondary Plans details what policies apply for the submission of a draft plan of subdivision. Section 3.1.30.4.1 states that where a secondary plan has been approved after July 1, 2012, those portions that are not subject to a draft approved plan of subdivision or plan of condominium shall be approved in accordance with the approved mapping and policies of the secondary plan. The subject lands lie within the City of Welland Northwest Secondary Plan Area, Official Plan Amendment No. OPA 29, 2021.

2.3 City of Welland NWSPA

Environmental development polices for the NWSPA are detailed in Section 7.3.1.6 Land Use Structure of the OPA No. 29 and natural heritage features are identified on Schedule G. Section 7.3.1.6 identifies that lands designated EPA or ECA on Schedule G shall be subject to the polices of Section 6.1 Environment of City's Official Plan (OP 2019).

Section 6.1.2.3.C states that development and site alteration within an EPA is prohibited.

Section 6.1.2.3.C states development and site alteration may be permitted without an amendment to this Plan in ECA, Natural Heritage Corridors, and on all adjacent lands if it has been demonstrated that,

there will be no negative impact on the natural features or their ecological functions. The proponent shall be required to prepare an EIS in accordance with the policies of the plan.

With respect to drainage features Section 7.3.1.6 of the OPA states that a headwater drainage feature assessment shall be required to the satisfaction of the City and the Conservation Authority prior to approval of development adjacent to those drainage features. The assessment shall evaluate and classify the drainage feature status based on criteria established by the Conservation Authority and shall determine if the drainage features are to be maintained in-situ, can be relocated or can be removed. In addition, the OPA states that where drainage features are to be maintained or moved, applications for development shall use natural channel design techniques to maintain or enhance the overall productivity of the reach.

2.4 NPCA Policies for Planning and Development

The NPCA November 2022 planning document Policies for Planning and Development in the Watersheds of the Niagara Peninsula Conservation Authority provides the principles, objectives, and policies for the administration of the NPCA's mandate under Ontario Regulation 155/06, Regulation of Development, Interference with Wetland, and Alterations to Shorelines and Watercourses. For the for the subject lands, development polices that apply are those for wetlands and watercourses and are detailed below.

2.4.1 Wetlands

Development policies for wetlands are detailed in Section 8 of the policy document. The policy framework within this document recognizes several classes of wetlands: Provincially Significant Wetlands (PSW); b) Non-Provincially Significant Wetlands (non-PSW); and c) Unevaluated wetlands. The wetland area associated with the subject lands is evaluated as PSW.

Policy 8.2.2.1 states that unless otherwise stated, no development and/or interference shall be permitted within PSWs and any other wetland greater than 0.5 hectares in size. Policy 8.2.3 (1) identifies that with respect to development on adjacent lands that development or site alteration within 120 metres of a PSW or wetland greater than 2 hectares in size and 30 metres of a non-PSW between 0.5 hectares and 2 hectares in size shall not be permitted. However, Policy 8.2.3 (5) states that site alterations may be permitted within 120 metres of a PSW or wetland greater than 2 hectares in size and 30 metres of a non-PSW between 0.5 hectares and 2 hectares in size are permitted subject to the following:

- A buffer is provided in accordance with Section 8.2.3.1;
- Disturbances to natural vegetation communities contributing to the hydrologic function of the wetland are avoided;
- The overall existing drainage patterns will be maintained;
- Disturbed area and soil compaction is minimized;
- Impervious areas are minimized;
- The area between the proposed development and the wetland is or will be comprised of dense;
- Vegetation; and
- Best management practices are used to:
    - Maintain water balance;
    - Control sediment and erosion;

- Buffer wetlands; and
- Limit impact of development on wildlife species.

Policy 8.2.3.1 (1) states that where development is proposed adjacent to a wetland, a minimum 30 metre buffer shall be provided. However, Policy 8.2.3.1 (2) states that notwithstanding Section 8.2.3.1 (1), a reduction to a non-PSW buffer shall only be considered where:

- There is no other reasonable alternative; and
- Where supported by an EIS in accordance with NPCA Procedural Manual.

2.4.2 Watercourses

Development policies for watercourses are detailed in Section 9. Policy 9.2.2 Interference with a Watercourse states that interference with a watercourse shall not be permitted, except in accordance with other policies. Section 9.2.3.1 Watercourse Alterations details policies with respect to alterations to a watercourse and states that the NPCA may allow the alteration of a watercourse for the following works:

- Channel realignments;
- Vegetation alteration/spot removal of sediment accumulation;
- Full or partial diversions;
- Retaining walls;
- Revetments;
- Bridges;
- Culverts;
- Docks;
- Erosion control measures;
- Storm sewer outlets; and
- Enclosures greater than 20 metres.

With respect to buffer requirements Section 9.2.5.1 states the following buffer requirements apply to development and site alteration adjacent to a watercourse:

- A 30 metre buffer shall be provided where the watercourse contains permanent flow, cool water or coldwater systems or specialized aquatic or riparian habitat (such as but not limited to fish spawning areas, habitat of species at risk or species of concern, forested riparian areas or Type 1 Critical Fish. Habitat). Notwithstanding this requirement, the buffer may be reduced where supported by an EIS in accordance with the NPCA Procedural Manual, but in no case shall the buffer be reduced below 15 metres; and
- A 15 metre buffer shall be provided for watercourses containing intermittent flow, warmwater systems or general/impacts aquatic or riparian habitat, or Type 2 Important Fish Habitat or Type 3 Marginal Fish Habitat. Notwithstanding this requirement, the buffer may be reduced where supported by an EIS in accordance with the NPCA Procedural Manual.

2.5 *Endangered Species Act* (2007)

The Ontario's *Endangered Species Act* (ESA, 2007) came into effect on June 30, 2008, and replaced the former 1971 Act.

Endangered or threatened species and their habitats receive protection under the regulations of the ESA. Specifically, Section 9 of the ESA prohibits the killing, harming, harassing, possession, collection, buying and selling of extirpated, endangered, and threatened species on the Species at Risk in Ontario (SARO) List; and Section 10 prohibits the damage or destruction of protected habitat of species listed as extirpated, endangered or threatened on the SARO List.

Authorization from the Ministry of the Environment, Conservation, and Parks (MECP) is required for any activity that could harm a threatened or endangered species or negatively impact their habitat.

2.6 *Fisheries Act* (1985)

The Federal *Fisheries Act* protects fish and fish habitat in Canadian Waters. Section 34 details Fish and Fish Habitat Protection. Section 34.4 (1) states that no person shall carry on any work, undertaking or activity, other than fishing, that results in the death of fish. Section 35 (1) states that no person shall carry on any work, undertaking or activity that results in the harmful alteration, disruption, or destruction of fish habitat.

Authorization from the Department of Fisheries and Oceans (DFO) is required for any activity that could harm fish or impact on fish habitat.

3. EIS Scope and Assessment Methodology

3.1 Scope of EIS

On April 27, 2022, Beacon provided the Niagara Region and NPCA with a Terms of Reference (ToR) which detailed the scope of work for undertaking the EIS. The scope as detailed in the approved ToR was completed and documented in this EIS.

3.2 Background Review

For this EIS a background review of the following documents was undertaken:

- Provincial Policy Statement (2020);
- City of Welland NWSPA, (2021);
- City of Welland Official Plan 2019;
- Niagara Region Official Plan 2022;
- Niagara Region Natural Environment Online Mapping. https://www.niagararegion.ca/offical plan;

- Niagara Region Environmental Impact Study Guidelines, Version 2, January 2018;
- NPCA Policy Document: Policies for the Planning and Development in the Watersheds of the Niagara Peninsula (2022);
- NPCA Interim Environmental Impact Study Guideline (2022);
- NPCA Watershed Explorer - https://camaps.maps.arcgis.com/;
- MNRF List of Species at Risk (SAR) for the City of Welland;
- Natural Heritage Information Centre https://www.ontario.ca/page/get-natural-heritage-information; and
- Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 7E (MNRF 2015).

3.3 Field Surveys

Beacon ecologists undertook seasonal field investigations from March through September 2022. Seasonal surveys included headwater drainage features assessment, floral inventory, vegetation community classification, breeding bird and amphibian surveys, and bat habitat assessment. Incidental wildlife observations were also noted. A summary of the seasonal field visits and survey dates is presented in **Table 1.** More detailed survey descriptions are provided in the subsections that follow.

Table 1. 2022 Field Survey Dates for the Subject Lands

Field Investigation	Dates
Headwater Features Assessment	March 17, May 26, and July 6
Amphibian Breeding Surveys	April 11, May 24, and June 12
Breeding Bird Surveys	May 24 and June 15
Night Whip-poor-will/Night Hawk Survey	June 13
Ecological Land Classification and Flora	May 24, June 15, July 6, and September 5
Leaf Off Bat Habitat Assessment	March 14
Bat Acoustic Monitoring habitat assessment	June 1 through 12
Woodlands Assessment with Niagara Region Staff	August 24

3.3.1 Headwater Drainage Features Assessment

A headwater drainage features assessment was undertaken following the assessment protocol, *Evaluation, Classification and Management of Headwater Drainage Features Guidelines* (HDFG) (TRCA/CVC 2014).

3.3.2 Vegetation

Vegetation communities associated with the subject lands were mapped and described following the protocols of the Ecological Land Classification (ELC) system for Southern Ontario (Lee *et al.* 1998). This involved delineating vegetation communities on aerial photos of the property and recording pertinent information on the community structure and composition.

A three season (spring, summer, fall) floral inventory was undertaken throughout the subject lands and a list of all species observed was complied.

3.3.3 Wildlife Habitat

3.3.3.1 Amphibian Breeding Surveys

Amphibian night surveys were undertaken at two survey locations during suitable weather conditions to confirm the presence or absence of breeding frogs and toads following the Bird Studies Canada protocol (BSC 2009). **Table 2** summarizes survey start times and weather conditions.

Table 2. 2022 Amphibian Breeding Field Survey Dates and Conditions

Date	Start Time (pm)	Temp °C	Wind (Beaufort Scale)	Cloud Cover
April 11	10:03	8	Light Air (1)	8/8
May 24	8:40	12	Light Air (1)	4/8
June 12h	10:30	20	Light Air (1-2)	6/8

For the surveys, species were identified by call, and an abundance code for each species heard calling was assessed by the following the Amphibian Monitoring protocol:

- Code 0 - No calls heard;
- Code 1 - Calls not overlapping or simultaneous, number of individual frogs can be counted;
- Code 2 - Calls overlapping or simultaneous, number of individuals can still be distinguished, number of individual frogs cannot be counted, but a reliable estimate of numbers can be made based on location and call voices; or
- Code 3 - Full chorus, calls simultaneous and overlapping, numbers of calling males cannot be reasonably counted or estimated.

Using this code method, areas that support a Code 1 for a species indicate very low population numbers in the local area, and/or low-quality breeding habitat. Code 2 indicates a moderate population and/or moderate quality breeding habitat. Code 3 for species indicates a healthy population and high-quality breeding habitat.

3.3.3.2 Breeding Bird Surveys

Two breeding bird surveys were conducted in June 2023. Surveys were conducted in the morning on days with low winds (0 to 1 on the Beaufort scale), with temperatures within 5°C of normal and no precipitation. For each survey a foot walk of the subject lands was conducted, and all birds seen or heard were recorded, including birds in the adjacent lands. Point count or transect survey methods were not undertaken, as these survey methods are typically only required for collecting statistically valid data sets for long term studies, or for the survey of large (>100 ha) areas of land. A night survey was undertaken during full moon conditions on June 13th following the MNRF survey protocol for Eastern Whip-poor-will (Caprimulgus vociferous) and Common Nighthawk (Chordeiles minor) (MNRF 2015).

Table 3. Breeding Bird Field Survey Dates and Conditions

Date	Start Time (am)	Temp °C	Wind (Beaufort Scale)	Cloud Cover
May 24	7:02	12	Light (1)	1/8
June 15	6:06	15	Light Air (1)	2/8
Night Survey June 13	10:30	16	Light Air (1)	1/8

3.3.3.3 Bat Habitat Assessment

Several bat species are listed as endangered in Ontario: including Eastern Small-footed Myotis (*Myotis leibii*), Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and Tri-colored Bat (*Perimyotis subflavus*). These species over-winter in caves and mines. Maternal roosts are often associated with cavity trees and sometimes buildings.

A bat habitat assessment was undertaken in accordance with the MECP updated 'Bat Survey Standards' guideline (undated). As per Step 1 of the protocol (Treed Habitats, Maternity and Day Roosts), any coniferous, deciduous or mixed wooded ecosite that include trees at least 10 cm diameter at breast height (DBH) are considered candidate maternity roost habitat.

Based on ELC mapping, woodlands along the drain and western boundary of the subject lands had the potential to provide bat maternity/roost habitat. A snag survey was conducted within these wooded areas on March 14th during leaf off conditions.

Acoustic monitoring was completed from June 1 - June 12, 2022, to determine what species of bats, if any, inhabit the woodlands. Five SM4BAT passive monitors, equipped with a SMM-U1 ultrasonic, omni-directional, microphone were installed in the woodlands. The microphones were deployed at least 2.5 m above the ground and was oriented to optimize echolocation detections. The monitor was programmed to record during triggered events each night for a period of six hours beginning at half an hour before sunset. A 12dB gain setting was used based on the SMM-U1 microphone, the surrounding habitat and proximity to potential roost trees. The unit was programmed to record with a 256 kHz sample rate and the high pass filter was set to 16 kHz to eliminate low frequency noise but to still capture the lowest frequency bat calls (e.g., Hoary Bat for the study area). All files were recorded as full spectrum in .WAV format.

Recordings from the detectors were analyzed using Kaleidoscope software.

3.3.3.4 Incidental Wildlife

Incidental observations for the presence of mammals (including direct observation, tracks, scat, and other signs), reptiles and insects were recorded during all other field surveys.

3.3.4 Feature Staking

A site survey was conducted with staff of the Niagara Region on August 24th to survey the dripline edge of the woodlands.

3.3.5 Assigned Beacon Staff

Project Manager Mr. Ron Huizer, B.Sc.
Principal, Senior Ecologist/EA Specialist
Mr. Ron Huizer conducted all field investigations and is the author of this EIS report. Mr. Huizer is a Senior Ecologist/EA Specialist with over 25 years' experience undertaking field assessment of terrestrial and aquatic environments. His experience includes undertaking detailed bio-inventories of flora and fauna and environmental impact assessments as both project manager and as part of a multi-disciplinary team. He is a recognized wetlands expert in Ontario and has been a technical advisor to the MNRF WETT Committee and been retained by the Ministry of Municipal Affairs and Housing on a number of occasions as an expert witness for wetland-development issues before the Ontario Municipal Board. Ron has completed numerous Environment Impact Studies (EIS) that address protection of Natural Heritage in support of plan of subdivision developments throughout south Ontario. He has completed Class EAs for a variety of projects following several EA processes, including: the *Canadian Environmental Assessment Act* (CEAA), both screenings and comprehensive studies; Municipal Class EA for Water and Road Projects; and Ministry of Transportation's Provincial Highways Class EAs for Provincial Transportation Facilities.

4. Description and Assessment of Existing Environment

The following provides a description and assessment of the natural heritage features and functions associated with the subject lands. **Figure 2** presents the features that are detailed in the following sections of the report.

4.1 Headwater Drainage Features

The Towpath Drain was found to be the only drainage feature associated with the subject lands. At the western limit of the drain there is a constructed small on-line stormwater pond. The pond supports standing water in March through June but is dry by July (**Photographs 6 & 7).** The stormwater pond flows enter into a culvert which conveys flows under the soccer fields for a distance of 170 m where it outlets to the drain (**Photographs 8 & 9**).

Existing Vegetation Communities

Figure 2

469-509 Rice Road EIS

Legend

- Subject Property
- Ecological Communities
- Watercourse (MNRF 2023)
- Culvert
- Wetland Limit
- Stormwater Pond
- Amphibian Survey Stations
- Acoustic Monitoring Locations

Endangered Species

- Eastern Flowering Dogwood
- White Wood Aster
- Butternut Tree

Code	Wetland Communities
MAS2-1	Cattail Mineral Shallow Marsh
SWT2	Mineral Thicket Swamp
	Aquatic Communities
OAO	Open Aquatic
	Forest Communities
FOD5	Dry - Fresh Sugar Maple Deciduous Forests
FOD6-5	Fresh - Moist Sugar Maple - Hardwood Deciduous Forest
	Cultural Communities
CUW1	Mineral Cultural Woodland
	Other Communities
HE	Hedgerow
ANT	Anthropogenic

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Project: 222120
Last Revised: January 2024

Client: Mountainview Building Group.

Prepared by: BD
Checked by: RH

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Photograph 6. Towpath Drain Small Online Stromwater Pond at the Western Limit of the Subject Lands; Looking West in March

Photograph 7. Dry Stromwater Pond in July; Looking West

Photograph 8. Stormwater Pond Outfall Culvert in March

Photograph 9. Soccer Field 170 Piped Section Outfall to the Channel of the Drain in March

Downstream of the piped section the drain flows through a 20-30 m wide 175 m long cultural woodland corridor to a culvert crossing at Rice Road (**Photographs 10 & 11**). Within this section of the drain there is a small ephemeral pond (**Photograph 12**) located just upstream of Rice Road that is dry by the end of May (**Photograph 13**).

Photograph 10. Drain Flowing Through Woodland Corridor Upstream of Rice Road; March

Photograph 11. Drain at Rice Road Culvert Crossing; Looking South Downstream to Rice Road in March

The drain supports an ephemeral flow regime which is dependant on precipitation surface flows, primarily spring freshet snow melt and rains, with flow ending by the end of May. No ground water base flows occur to maintain post freshet flows. Summer periodic short term flows (days) can occur following heavy and/or prolonged rain events.

The morphology of the watercourse is primarily a straight ditch, with a bank full flow width of 1 to 2 m, and maximum water depth of 20 -30 cm. Substrate within the flow channel is clay, with some pockets supporting a shallow accumulation of silt and organic debris over the clay substrate. No gravel or cobble beds are present.

Photograph 12. Small ephemeral Pond in the Drian Located Just Upstream of Rice Road; March

Photograph 13. Dry Ephemeral Pond in June

4.2 Aquatic Resources and Fish Habitat

This upstream end of the drain supports an ephemeral flow regime and does not support fish habitat.

4.3 Vegetation Communities

The vegetation communities were assessed and mapped following the ELC for Southern Ontario (Lee et al 1998) and are shown on **Figure 2**. The ELC groups vegetation communities into two broad categories, naturally occurring communities, and cultural communities. Cultural communities represent vegetated areas that support a plant community that has been strongly influenced by human activities, both past and present, for example pine plantations or the naturalization of a fallow agricultural field. Over 95% of the subject lands are anthropogenic, comprised of farm and soccer fields.

4.3.1 Natural Vegetation Communities

Fresh-Moist Sugar Maple – Hardwood Deciduous Forest (FOD6-5)

This small hardwood stand is located to the north of the small stormwater pond located at the western limit of the drain. The area is a remnant of the hardwood forests that historically occurred in this area. The trees are of mixed aged, with Sugar Maple (*Acer saccharum*) as the dominate tree of the canopy. Other species include American Beech (*Fagus grandifolia*), Black Cherry (*Prunus serotina*), and Bitternut Hickory (*Carya cordiformis*) (**Photographs 14 & 15**). The shrub layer is sparse and includes Alternate-leaved Dogwood (*Cornus alternifolia*) and whip Maple,Beech and Ash. Ground cover is patchy, and includes May Apple (*Podophyllum peltatum*), White Trillium (*Trillium grandiflorum*), Jack-in-the- Pulpit (*Arisaema triphyllum*), False Soloman's Seal (*Maianthemum racemosum*) and White Wood Aster (*Eurybia divaricata*).

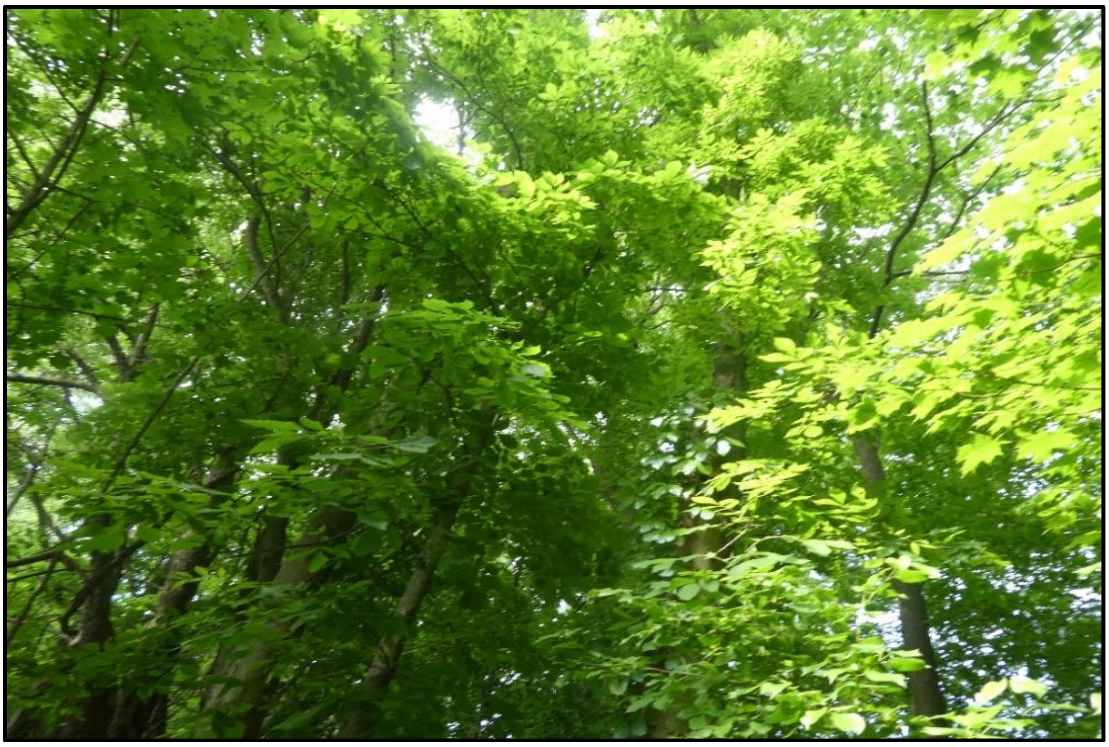
Photograph 14. FOD6-5 Sugar Maple Forest

Photograph 15. FOD6-5 Sugar Maple Forest

Dry-Fresh- Sugar Maple Deciduous Forest (FOD5)

A narrow (20-30m) stand of trees extends northward from the FOD6-5 community along the western boundary of the subject lands (**Photograph 16**). The canopy supports of mix of species including Sugar Maple, Bitternut Hickory, Black Cherry (*Prunus serotina*), Red Oak (*Quercus rubra*), Basswood (*Tilia americana*) and Eastern Cottonwood (*Populus deltoides*). Within the community is a small cluster of mature Bitternut Hickory trees that dominate the canopy (**Photograph 17**). The edge of the community supports support non-native species including Common Buckthorn (*Rhamnus cathartica*), European Euonymus (*Euonymus europaea*), Tartarian Honeysuckle (*Lonicera tatarica*), Ground Ivy (*Glechoma hederacea*), and Northern Catalpa (*Catalpa speciosa*).

Photograph 16. FOD5 Community along the West Boundary of the Subject lands; Looking West - June



Photograph 17. Cluster of Mature Bitternut Hickory in the Canopy of the FOD5 Community; June

Fresh-Moist Deciduous Forest (FOD7)

This narrow 10 -15 m band of woodland is found around the southern edge of the of the small stormwater pond. This disturbed community does not support a natural forest community but is a mix of species including Black Walnut (*Juglans nigra*), Red Maple (*Acer rubrum*), Basswood, Black Cherry, Eastern Cottonwood, Manitoba Maple (*Acer negundo*), and Northern Catalpa. The shrub layer is dense comprised of a mix of species including Dogwoods (*Cornus foemina, C. stolonifera*), Rambler Rose (*Rosa multiflora*) and Staghorn Sumac (*Rhus typhina*) along the outer edge of the stand.

4.3.2 Wetland Communities

Open Aquatic (OAO)

A small 0.06 ha online ephemeral pond is located in the drain upstream of Rice Road (**Photographs 12 & 13**). The pond dries down by late May and supports sparse vegetation, with scattered Rice Cut Grass (*Leersia oryzoides*) and Common Water-plantain (*Alisma triviale*).

Naturalized Stormwater Pond

Though an anthropogenic feature, a small stormwater pond at the western limit of the drain has become naturalized over time (**Photograph 18**). The edge of the pond supports shrubs of Dogwood (*Cornus foemina, C. stolonifera*) and Rambler Rose, and scattered Cattail (*Typha angustifolia*) and Sensitive Ferm (*Onoclea sensibilis*). The surface of the pond is completely covered by floating Lesser Duckweed (*Lemna minor*).

Photograph 18. Naturalized Stormwater Pond at the Western Limit of the Towpath Drain; June

4.3.3 Cultural Vegetation Communities

Mineral Cultural Woodland (CUW1)

This riparian woodland is associated with the drain corridor. The woodland has an open canopy and supports a variety of trees species of various age, including Black Locust (*Robinia pseudo-acacia*), Eastern Cottonwood, White Pine (*Pinus strobus*), Weeping Willow (*Salix babylonica*), and Maple (Acer *rubrum*, A. *negundo*) (**Photographs 19 & 20**).

Photograph 19. Cultural Woodland (CUW1) Associated with the Towpath Drain Corridor; June

Photograph 20. Cultural Woodland (CUW1) Associated with the Towpath Drain Corridor; Looking East to Rice Road – March

Hedgerow (HE)

A narrow (10-15 m) single tree hedgerow is found along the west boundary south of the drain stormwater pond (**Photograph 21**). Hedgerow trees include Red Maple, Silver Maple (*Acer saccharinum*), Black Walnut and Ash (*Fraxinus americana*, F. *pennsylvanica*). The understory is a dense growth of Common Buckthorn, Rambler Rose, Grape (*Vitis riparia*) and Virgina Creeper (*Parthenocissus quinquefolia*). The edge ground cover is a mix of field weeds and grasses.

Photograph 21. Narrow Single Tree Hedgerow Along the Western Boundary of the Subject Lands; Looking South to the South Boundary - June

4.3.4 Rare Vegetation Communities

No vegetation community was identified to be rare for the province (a NHIC S-rank of S1, S2 or S3).

For the NWSPA study the Aquafor Beech report identifies a provincially rare (S3/S4) FOD9-5 Bitternut Hickory community located in the narrow woodland in the northwest corner of the subject lands. For this EIS this woodland area is identified as FOD5 Sugar Maple Deciduous Forest. As noted in Section 4.3.1 above, a small cluster of Bitternut Hickory was identified within the FOD5 community (see **Photograph 14 & 15**), however, this does not represent a stand alone FOD9-5 community. Therefore, the Aquafor Beech rare ELC community designation is not supported by this EIS.

4.4 Flora

A total of one hundred and sixty-seven (167) species of vascular of plants were recorded and are listed in **Appendix C**. No unique or rare plant communities such as prairie elements, savannah, alvar or fen

species were found to occur. The majority of the species were associated with the hedgerow and woodland edges and grass fields. Of the species present, sixty-four (64) are non-native species, representing 38% of the plant community. In Niagara Region vegetation communities typically support a floristic composition that is 65% native species and 35% non-native/introduced species (Oldham 1995). Only two species having a Coefficient of Conservatism of 6 or greater were found to occur (with a total range of low 0 to a high of 10 - Oldham 1995), White Wood Aster (10) and Eastern Flowing Dogwood (7). These species as discussed below.

4.4.1 Rare Flora Species

Three flora species were recorded that are listed as endangered or threatened, the White Wood Aster, Eastern Flowering Dogwood (*Cornus florida*) and Butternut (J*uglans cinerea*). All three species were found to occur in the FOD6-5 woodland. Their location is provided in **Figure 2.** No flora species listed as special concern was identified. No flora species that are provincially rare (NHIC S1, S2, S3) or rare for the Niagara Region (Oldham 2010) were found to occur.

The Eastern Flowering Dogwood has a range that is restricted to with the Carolinian Zone of southern Ontario and is listed as endangered. Decline of the species was initially due habitat lost, however, more recently the dogwood anthracnose fungus is the primary threat to the species. This fungus first attacks the leaves of the tree, and then spreads through the twigs and trunk. One tree was found to occur in FOD6-5 woodland (**Photograph 22**) and is heavily impacted by the fungus and may soon die from the disease.

Photograph 22. Endangered Eastern Flowering Dogwood in the FOD6-5 Woodland Along Western Boundary of the Subject Lands; June

The Butternut tree occurs in less shaded areas in woodlands and along forest edges and hedgerows. The species is listed as endangered as it has had significant declines in Ontario over the past decades due to the rapid spread Butternut Canker which can kill a tree within a few years. One mature tree was found and is assessed to be a relatively healthy tree (**Photograph 23**).

Photograph 23. Endangered Butternut in the FOD6-5 Woodland; June

The White Wood Aster is a woodland species with a limited range in the Ontario Carolinian Zone and is listed as threatened. A small patch of the aster is located in the FOD6-5 forest (**Photograph 24**).

Photograph 24. Patch of the Threatened White Wood Aster in the 6-5 Woodland; June

4.5 Birds

Thirty-six (36) bird species were recorded during the field surveys of the subject lands and are presented in **Table 4.** Six of the species that were observed are not considered to be breeding within the subject lands. A moderate diversity of bird species was recorded, the majority of which are common urban/rural tolerant species inhabiting small woodlands, hedgerows, fields. Species that occur in the Niagara area that are associated with stands of larger forest, such as Hairy Woodpecker (*Picoides villosus*), Pileated Woodpecker (*Dryocopus pileatus*), Wood Thrush (*Hylocichla mustelina*) and wood warblers were absent. No area sensitive species was recorded.

Table 4. Birds Documented for the Subject Lands

Common Name	Scientific Name
Turkey Vulture*	*Cathartes aura*
Red-tailed Hawk*	*Buteo jamaicensis*
Wild Turkey*	*Meleagris gallopavo*
Killdeer	*Charadrius vociferus*
Spotted Sandpipper	*Actitis macularius*
Ring-billed Gull*	*Larus delawarensis*
Mourning Dove	*Zenaida macroura*
Red-bellied Woodpecker	*Melanerpes carolinus*
Downy Woodpecker	*Picoides pubescens*
Eastern Kingbird	*Tyrannus tyrannus*
Great Crested Flycatcher	*Myiarchus crinitus*
Willow Flycatcher	*Empidonax traillii*

Common Name	Scientific Name
Barn Swallow*	*Hirundo rustica*
American Crow	*Corvus brachyrhynchos*
Blue Jay	*Cyanocitta cristata*
Black-capped Chickadee	*Poecile atricapillus*
House Wren	*Troglodytes aedon*
Carolina Wren	*Thryothorus ludovicianus*
American Robin	*Turdus migratorius*
Grey Catbird	*Dumetella carolinensis*
European Starling	*Sturnus vulgaris*
House Sparrow*	*Passer domesticus*
Warbling Vireo	*Vireo gilvus*
Yellow Warbler	*Dendroica petechia*
Common Yellowthroat	*Geothlyphis trichas*
Northern Cardinal	*Cardinalis cardinalis*
Rose-breasted Grosbeak	*Pheucticus ludovicianus*
Indigo Bunting	*Passerina cyanea*
Chipping Sparrow	*Spizella passerina*
Song Sparrow	*Melospiza melodia*
Savannah Sparrow	*Passerculus sandwichensis*
Common Grackle	*Quiscalus quiscula*
Red-winged Blackbird	*Agelaius phoeniceus*
Baltimore Oriole	*Icterus galbula*
House Finch	*Haemorhous mexicanus*
American Goldfinch	*Cardeulis tristis*

* Species not breeding within Subject lands

4.5.1 Rare Bird Species

No bird species that are listed as endangered, threatened, or special concern were found to occur. The Barn Swallow (*Hirundo rustica*), which is listed as special concern, was observed conducting feeding flights over the grass fields of the subject lands, however, no structures that could be used as a nesting site are present. The night survey conducted on June 13th during full moon conditions did not detect the calls of the threatened Eastern Whip-poor-will or special concern Common Nighthawk. None of the species recorded are provincially rare (NHIC S1, S2, S3). No species that are rare for the Niagara Region were found to occur.

4.6 Amphibians and Reptiles

4.6.1 Amphibians

Monitoring for breeding amphibians was undertaken at two locations (see **Figure 2) Table 5** provides a summary of the monitoring.

A total of four species were recorded. Typical for the Niagara Region (Yagi et al. 2009), the Chorus Frog (*Pseudacris triseriata*) and Spring Peeper (*Hyla crucifer*) are the most common species and were recorded at both survey sites. For these two species the stormwater pond (site 1) had highest breeding code, code 3, and code 2 calls were recorded at survey Site 2 for the small ephemeral pond (OAO)

upstream of Rice Road. American Toad (*Bufo americanus*) and Northern Leopard Frog (*Rana pipiens*) were recorded in low numbers in the stormwater pond. The more aquatic Green Frog (*Rana clamitans*) and Bull Frog (*Rana catesbeiana*) were not recorded at the survey sites. The survey data indicate that the ponds in the drain which only support short hydro periods for standing is a limiting factor for amphibian diversity and abundance.

Table 5. Amphibian Breeding Survey

Survey Site	Highest Calling Code Recorded for Species	
Site 1	Chorus Frog	3
	Spring Peeper	3
	American Toad	1
	Northern Leopard Frog	1
Site 2	Chorus Frog	2
	Spring Peeper	2

4.6.2 Reptiles

One species of snake was encountered, the Common Garter Snake (*Thamnophis sirtalis*). The Dekay's Brownsnake (*Storeria dekayi*) has also been documented to occur in the local area (Beacon 2023). No bedrock crevices, stone/lumber piles, or foundations that could provide hibernacula for snakes were found to occur within the subject lands.

No habitat that could support turtles is associated with the subject lands.

4.7 Mammals

Surveys targeting mammals were not undertaken as part of this study. However, several common mammal species were observed incidentally during field surveys, either directly or by other sign (e.g., tracks, scat, etc.), these included: Eastern Grey Squirrel (*Sciurus carolinensis*), Northern Raccoon (*Procyon lotor*), Coyote (*Canis latrans*), and White-tailed Deer. Other species that can be expected to occur include Eastern Cottontail (*Sylvilagus floridanus*), Virginia Opossum (*Didelphis virginiana*), Striped Skunk (*Mephitis mephitis*), and Red Fox (*Vulpes vulpes*). All species are common to the urban/rural areas of Niagara.

4.7.1 Endangered Bats

In Niagara four species of bats occur that are listed as provincially endangered and receive species and general habitat protection under the ESA, the Little Brown Myotis, Northern Myotis, Eastern Small-footed Myotis and Tri-colored Bat.

For these species summer roost and maternity sites are associated with trees that support cracks, crevices, holes and cavities, as well as loose bark and clusters of old leaves, including squirrel leaf nests that are used by Tri-colored Bat. To determine the potential for the trees to provide maternity or roosting habitat, the MECP bat habitat survey protocol was undertaken within the woodlands and hedgerow. Two snag trees were found that could potentially provide roosting or maternity habitat (**Figure 2).**

For acoustic monitoring, the woodland corridor along the drain was identified in the NWSPA study as potential bat habitat and therefore two acoustic monitors were located in this area. The snag trees that were identified were located in the hedgerow along the western boundary of the subject lands and three monitors were located along the western boundary, including in the FOD6-5 woodland. The location of the monitors are shown in **Figure 2.** The monitors recorded bat activity for 12 nights from June 1st to June 12th. The acoustic monitoring detected six bat species, including: Big Brown Bat (*Eptesicus fuscus*), Eastern Red Bat (*Lasiurus borealis*), Hoary Bat (*Lasiurus cinereus*), Silver-haired Bat (*Lasionycteris noctivagans*), Little Brown Myotis (*Myotis lucifugus*) and Tri-colored Bat (*Perimyotis subflavus*). **Appendix D** provides a summary of the bat calls detected.

Detectors 37 and 38 were located in the cultural woodland associated within the drain. Over the 12 days of monitoring detector 37 recorded only 60 calls that could be confirmed for five species, including Big Brown Bat, Eastern Red Bat, Hoary Bat, Silver-haired Bat and one recorded call for the endangered Little Brown Myotis. No calls were recorded for the endangered Tri-colored Bat. For detector 38 a total of 75 call were recorded that could be confirmed to species, including Big Brown Bat, Hoary Bat and Silver-haired Bat. No calls of the Little Brown Myotis or Tri-colored Bat were recorded. Based the data recorded, the cultural woodland along the drain does not provide roosting or maternity habitat for the endangered Little Brown Myotis or Tri-colored Bat. In addition, the low number of total calls for all species for the two detectors, with only 135 calls over 12 days of monitoring, indicates that the woodland does not support significant bat roosting or maternity habitat.

Detectors 39 located in the narrow hedgerow south of the stormwater pond recorded 4 species, including Big Brown Bat, Eastern Red Bat, Hoary Bat and Silver-haired Bat. Combined only 424 calls were recorded. No endangered species were recorded. Detectors 40 and 41 that were located in the mature hardwoods to the north of the stormwater pond recorded higher numbers of total bat calls, with over 3 thousand calls for four species over the 12 days of monitoring. Detector 40 recorded 23 calls of the Little Brown Myotis on one night and Detector 41 recorded one call of the Tri-colored Bat. Based on the timing of the calls they are considered to represent calls made during night feeding flights.

4.8 Provincially Significant Wetlands or ANSIs

The MNRF has not identified Provincially Significant Wetland (PSW) to occur within or adjacent to the subject lands.

No Areas of Natural Scientific Interest (ANSI) at the provincial or regional level are identified by the MNRF to occur within or adjacent to the subject lands.

4.9 City of Welland NWSPA EPA and ECA

The City's NWSPA identifies the FOD6-5 woodland within the subject lands as EPA as it provides habitat for endangered and threatened species. The Towpath Drain corridor is identified as ECA as it supports a corridor function. The FOD5 woodland to the north of the EPA woodlands is also identified as ECA. This FOD5 woodland is part of a larger woodland 16+ ha in size that is located directly to the north and therefore this contiguous woodland area qualifies as a Significant Woodland. Based on the findings of this EIS, these ECA designations are supported.

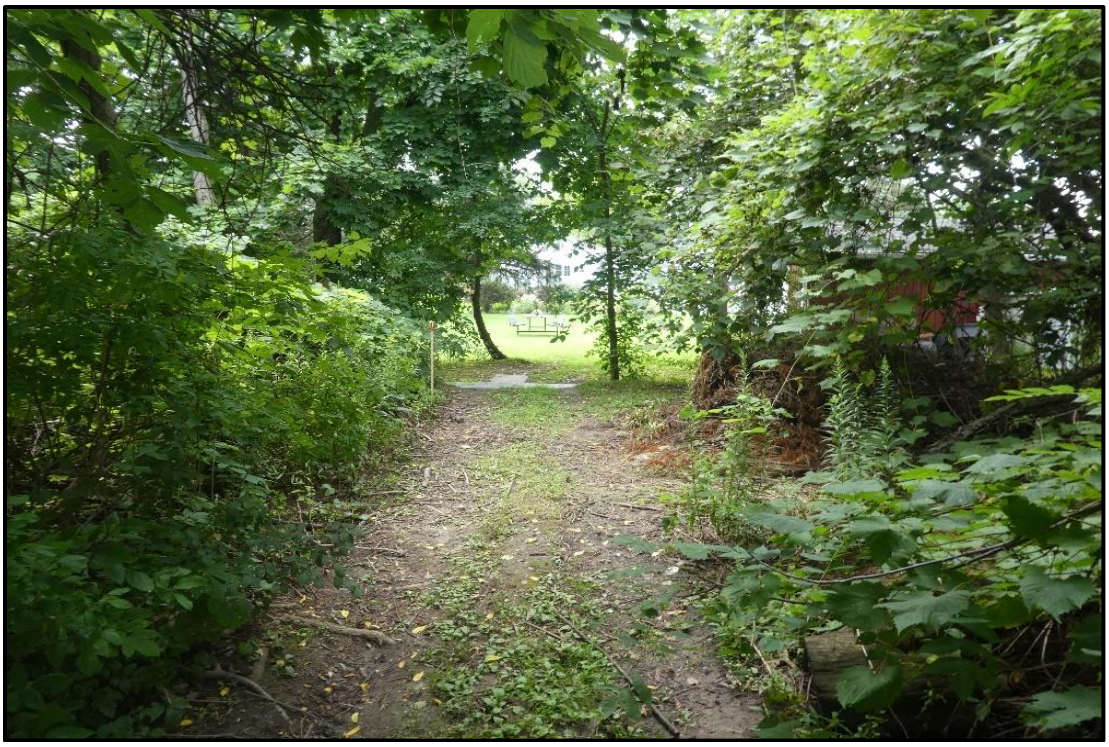
The NWSPA also identifies the narrow single tree hedgerow that runs along the west boundary of the subject lands south of the FOD6-5 woodland as ECA. This hedgerow was assessed by Aquafor Beech

(community A2 in the report) and in Section 7.1, Table 7-1 of the report for the identification of ECA it states “It must be noted that a portion of polygon A2 falls on lands that are part of the residential lots fronting on Montgomery Road, which are zoned Residential and cannot be reclassified at this time as part of the NHS. Protection of natural features on residential properties is solely at the discretion of the landowners. NHS designation would apply solely to portions of the polygon which fall within the proposed future development area, **but assessment of the polygon and application of NHS criteria was based on the feature as a whole.**” The hedgerow has a tree canopy width of only 15 - 20 m, and the Regions minimum width for a tree area to be considered as a potential woodland is 40 m. Half of the hedgerow west boundary lies within rear lot of the adjacent landowners. As identified by Aquafor Beech the hedgerow is heavily impacted by the residences adjacent to the west boundary (see Photographs **25, 26, 27, & 28** for examples). Given that the hedgerow does not support the ecological function of a woodland, and is heavily impacted by human activity, the EAC designation is not supported by this EIS.

Photograph 25. Human Impact on Hedgerow Along the West Boundary of the Subject Land; August

Photograph 26. Human Impact on Hedgerow Along the West Boundary of the Subject Land; August

Photograph 27. Human Impact on Hedgerow Along the West Boundary of the Subject Land; August



Photograph 28. ATV Trail Cut Through the Hedgerow Along the West Boundary of the Subject Land; August

4.10 Species at Risk (SAR)

Appendix E provides a screening for SAR for the City of Welland area. As noted, the mature Sugar Maple woodland (FOD6-5) supports the endangered Eastern Flowering Dogwood (*Cornus florida*) and Butternut, and the threatened the White Wood Aster. (*Juglans cinerea*). One species listed as special concern was observed, the Barn Swallow, however the subject lands do not provide nesting structures for the swallow, and the observations represented aerial feeding flights over the subject lands.

4.11 Significant Wildlife Habitat

Under the PPS the identification of Significant Wildlife Habitat (SWH) is the responsibility of Regional and local planning authorities. The schedules of the City of Welland Official Plan do not specifically identify areas that are considered to represent SWH. However, the Region's environmental staff support the MNRF SWH criteria for Ecoregion 7E (MNRF 2015). For the subject lands a SWH screening was undertaken following the MNRF SWH habitat criteria for Ecoregion 7E and is provided in **Appendix E**.

The following are identified to have the potential to be considered SWH for the City of Welland:

- The naturalized stormwater pond and ephemeral pond associated with the Towpath Drain could represent SWH as woodland amphibian breeding;
- The FOD 6-5 and FOD5 woodlands have the potential to provide bat maternity roosting habitat; and

- The Towpath Drain corridor represents SWH as an amphibian movement corridor.

4.12 Wildlife Corridor

Wildlife corridors within the City's natural heritage system provide linkages between the core natural areas designated EPA or ECA and include naturally vegetated stream corridors, valleylands, shorelines, woodlands, wetlands, and natural vegetation communities. The Towpath Drain corridor provides an direct east-west linkage to EPA and ECA within the NWSPA. The FOD6-5 and FOD5 woodlands provide a contiguous north-south linkage to EPA wetland and ECA woodlands located directly to the north.

The single tree hedgerow that runs along the west boundary of the subject lands south of the EPA woodlands is currently not connected by natural vegetation to another area to the south that is designated as either EPA or ECA. Landscape lawn associated with residences along Quaker Road are found at the south end of the hedgerow (**Photographs 29 and 30**). Within the Secondary Plan area, the nearest EPA/ECA is located to the south of Quaker Road. At this location Quaker Road has residential development along both sides (**Photograph 31 & 32**) and is a major roadway within the City. Combined these conditions represent a significant barrier to the movement of wildlife (except for birds), and this hedgerow is not considered to support a north-south wildlife corridor function linking to other EPA or ECA areas.

Photograph 29. Residential Yard (Left) at the End of the Hedgerow (Right); Looking South to Quaker Road - August

Photograph 30. Residential Yard at the End of the Hedgerow; Looking North from Quaker Road to the South Boundary of the Subject Lands; August

Photograph 31. Quaker Road a Major Traffic Corridor Located Directly to the South of the Subject lands. Looking East. The White Residence on the left is the Residence in Photograph 28 above

Photograph 32. Residential Development Along Quaker Road Located South of the Subject lands Looking North. The White Residence on the Right is the Residence in Photograph 28 above

4.13 Significant Valleylands

Generally Significant Valleylands are defined as distinctive landforms that have a degree of naturalness, importance of ecological functions, potential for restoration, or historical and cultural values. No valleylands are associated with subject lands or the adjacent lands.

5. Proposed Draft Plan of Subdivision

Detailed plans are provided in **Appendix F** and should be reviewed in conjunction with the following text.

The draft plan proposes a mix of single family and townhouse residential units. Sixty single family residential lots will be located along the southern boundary and southern half of the western boundary, south of EPA Block 131. Eight townhouses will be in southeast corner along Rice Road in Blocks 61 and 62. Seventy-eight back-to-back townhouses will be located along an internal street network in Blocks 63 through 72. A total of one hundred and six one street townhouses will be along an internal street network in Block 73 through 124. The street network will be accessed via two intersections with Rice Road.

A 0.578 ha park will be located along Rice Road in Block 125. The EPA and ECA woodlands along the northern portion of the west boundary will be retained in a 1.175 ha EPA Block 131. This Block includes

buffer lands that represent a 10m or greater setback from the surveyed dripline of the edge trees of the woodlands.

The hedgerow found along the southern section of the west boundary south of EPA Block 131 will be located in Park Block 126 which represents a 6 m wide park/trail. This Block will link to a 3 m wide gravel trail that will run along the northern portion of the west boundary of the development. This trail will be located along the edge of the 10 m setback to the EPA/ECA woodland edge dripline located within EPA Block 131.

Stormwater will be directed to two stormwater ponds (Blocks 129 and 130) via a curb and gutter collection system. The ponds will discharge to the Towpath Drain. As part of the stormwater control design the existing Towpath Drain will be realigned in a 30 m wide corridor located in Blocks 127 and 128. One 20 m wide north-south street crossing of the new drain alignment is proposed, Street C. Water and sanitary will link to infrastructure to be constructed along Rice Road and Quaker Road as part road improvement works. An extension of a watermain along Summerlea Avenue to the west boundary is proposed which will enter the subdivision at Block 103.

6. Environmental Impact Assessment and Mitigation

The following section details the potential impacts of the proposed development to the natural heritage features and function associated with the subject lands. Mitigation measures are identified that will reduce the potential impacts.

6.1 Assessment of Potential Direct Impacts and Mitigation

Over 95% of the proposed development will occur in areas that currently supports grass soccer fields and active farm field. EPA Block 131, which includes 10 m buffer lands, will protect the EPA and ECA woodlands along the west boundary of the subject lands. For the develop, direct impacts on natural areas include the Towpath Drian woodland corridor, a narrow single tree hedgerow along the southern portion of the west boundary of the subject lands and a proposed watermain crossing through the EPA Block 131 .

6.1.1 Towpath Drian Corridor

Following the completion of the NWSPA study, a landowner group retained Upper Canada Consultants (UCC) to undertake design for stormwater control within the NWSPA. The UCC study identified that the realignment of the Towpath Drain was required to facilitate stormwater control for future residential subdivision development. The section of the drain to be realigned is located north of Quaker Road, from the Niagara Street crossing, upstream (west) to Montgomery Road, a straight-line distance of 2 km. The drain and associated headwater drainage features are regulated by the Niagara Peninsula Conservation Authority (NPCA) pursuant to Ontario Regulation 155/06 under the provisions of Section 28 (1) of the *Conservation Authorities Act***,** and therefor a permit from the NPCA was required to conduct realignment works. A design for the drain realignment was developed by UCC which was submitted to the NPCA as part of the permit application (NPCA file No. 202201368). The realignment will include a 30 m wide naturalized corridor in which the new watercourse will be located. Details of the proposed design for the realignment of the section of the drain within the subject lands is provide in **Appendix G**.

For the design no works will be undertaken in the EPA woodlands and the current naturalized stormwater pond will be retained as is.

In support of the NPCA permit application for the realignment of the Towpath Drain, UCC retained Beacon to undertake an EIS. As required by the NPCA, Beacon provided a Terms of Reference, dated April 26, 2023, to undertake the EIS. The Towpath Drain Realignment EIS (Beacon 2023) assessed the natural heritage features and functions associated with the drain corridor based on field investigations undertaken for the landowners in 2021, 2022 and 2023. The EIS provides the details regarding the field surveys completed, description of the existing natural heritage features and functions associated with the drain corridor, and details mitigation measures. ***The Beacon EIS for the realignment of the Towpath Drain is provided as separate documentation and must be reviewed as part of this EIS.*** The permit application was approved by the NPCA on April 15, 2024.

6.1.2 Hedgerow

For the proposed draft plan, the single tree hedgerow south of EPA Block 131 lies along the rear lot lines of lots 37 through 54. As discussed in Section 4.9 above, the NWSPA identified this hedgerow as ECA, however, this designation is not supported based on the findings of this EIS. In addition, as discussed in Section 4.12, the hedgerow does not support a wildlife corridor function. Therefore, retention of the hedgerow is not identified as required.

However, a 6 m wide park will be located in Block 126 that will be located along the rear of the lots which includes a portion of the hedgerow trees. A trail is proposed to be located with the Block. For trail in Block 126 a tree preservation plan should be undertaken, and a landscape enhancement plan should be developed as part of the trail design. At this time, it is not known if the trees located within the rear of the lots will be retained by individual landowners following purchase.

Though this EIS has established the wildlife corridor function of the hedgerow along the western boundary of the subject lands south of EPA Block 131 is greatly impaired, the retention of hedgerow trees within Park Bock 126 will continue to provide limited wildlife corridor functions to EPA Block 131.

6.1.3 Proposed Watermain Crossing Through EPA Block 131

An extension of an existing watermain along Summerlea Avenue is proposed to service the subdivision. The crossing has the potential to impact the EPA Woodland. At the location of the crossing, the woodland has a width of 37m (this includes portions of the woodland outside of the west boundary of the property that is within the Summerlea Ave Right-of-Way). An open trench installation would be approximately 10 – 15 m in width.

The FOD6-5 woodland represents an EPA. Section 6.1.2.3.C of the City's OP states that development and site alteration within an EPA is prohibited. To mitigate site alteration two options have been identified. For open trench construction, following completion of the works, the disturbed areas will be naturalized with plantings of trees and shrubs. Tree species to be planted should be those that currently occur in the location of the proposed crossing.

The second option is to undertake underground directional drilling construction. This method is preferred as it will limit direct physical removal of trees at the crossing location. Following completion of the works, the crossing should be monitored for two years to assess if any trees have been impacted. Where trees have been identified as dead or dying as a result of the works, they should be replaced at a ratio of 1:3.

6.2 Mitigation for Potential Indirect Impacts

Based on the proposed development and site conditions the following indirect impacts have the potential to occur:

- Post development removal of vegetation and composting and dumping of yard waste into the EPA/ECA woodlands retained in EPA Block 131;
- Construction impacts to the EPA/ECA woodlands retained in EPA Block131;
- Post development visual, noise and light impacts on wildlife use of the EPA/ ECA woodlands;
- Transport of sediment during construction works into the woodlands and newly realigned Towpath Drain corridor; and
- Street crossing Impairment of the wildlife corridor function of the Towpath Drian.

These potential impacts can be mitigated by standard design and construction mitigation measures which are detailed below.

6.2.1 Design Mitigation

Buffer Enhancement Planting Plan in EPA Block 131

At this time grasses field is located within the 10 m setback to the dripline of the existing edge of the FOD6-5 and FOD5 woodlands that will be located in EPA Block 131. A 3 m gravel trail is proposed to be located within the outer edge of the 10 m setback to the dripline. A To increase the protective function of the buffer lands, an enhancement planting plan should be prepared and implemented as part of a trail design. The plan should create areas of dense vegetation intermixed with open meadow habitat to provide habitat diversity.

Towpath Drain Street Crossing

A primary function of the drain corridor will be to provide a terrestrial and aquatic movement corridor. The proposed draft plan has been designed to have only one street crossing. The design for the culvert at the crossing is to ensure that an aquatic corridor and movement corridor for small mammals is maintained. The NPCA is to be consulted with respect to design requirements to ensure that a movement corridor is maintained, and the final design is to be approved by the NPCA.

Permanent Fencing

To prevent post development impacts on EPA Block 131 and the newly realigned Towpath Drian corridor in Blocks 129 and 130, a 1.5 m High Chain link fence should be constructed along their perimeter. Fencing is to be included along the rear of lots 37 through 54 adjacent to Park Block 126. In addition, fencing should be installed along the outer edge of 3 m trail around EPA Block 131 (Blocks 65-60, Block 96 and Blocks 103-105).

The location of the fencing should be detailed in final plans for subdivision. In addition, “a no gate” condition should be identified by the City.

6.2.2 Construction Mitigation

Site Grading

As a general mitigation measure, to the extent possible grading of rear lots along the limit of the EPA Block 131 should not alter existing surface waterflows associated with the woodland edge.

Construction Exclusion Filter Fabric and Paige Wire Fencing

To help ensure that site clearing and grading, or movement of heavy equipment does not impose on the EPA Block 131, and the newly realigned Towpath Drian corridor in Blocks 129 and 130 for the duration of the construction phases paige wire fencing with filter fabric for the first 1 m should be installed along their perimeter. Fencing should be installed prior to the start of construction and maintained during the entire development process. The fencing should be removed only when development work is completed, and the soils are stabilized.

Sediment and Erosion Control

For the protection against erosion and sediment transport into EPA Block 131, and the newly realigned Towpath Drian corridor in Blocks 129 and 130 during construction an Erosion and Sediment Control Plan is required which is to be approved by the NPCA. The plan should be developed based on the Erosion & Sediment Control Guidelines for Urban Construction (2006) for the Greater Golden Horseshoe Area Conservation Authorities.

Material Storage and Fueling

Storage of equipment and materials and the fueling of equipment should not be permitted within 30 m of the boundary of EPA Block 131 and Towpath Drian corridor in Blocks 129 and 130 ECA. Ontario Provincial Standard Specification 180 is to be followed for the management of excess materials.

Timing of Site Clearing

Where required the removal of trees and shrubs should be undertaken to avoid impacts on breeding birds and other wildlife. Reemoval of vegetation should be conducted between October 1 and March 31.

6.2.3 Assessment of Residual Impacts to Natural Heritage

6.2.3.1 EPA/ECA – Significant Woodlands

The woodlands located in the northwest portion of the subject lands have been designated as EPA/ECA-Significant Woodland within the NWSPA. In addition, the Towpath Drain corridor is identified as ECA. These represent the only natural heritage feature associated with the subject lands. T

The proposed development identifies a proposed watermain extension that has the potential to impact a 37 m long, 15 m wide corridor through the EPA woodland. To address this potential impact,

underground directional drilling construction has been identified as the preferred construction method. The construction method will not impact on the woodland's vegetation.

A minimum 10 m setback to the woodlands dripline edge has been identified and the setback and woodlands will be retained in EPA Block 131. In addition, a requirement for the implantation of a buffer enhancement planting plan and permanent fencing along the limit of the EPA Block has been identified to limit post development impacts.

With respect to the realignment of the Towpath Drain corridor, as detailed in the Beacon 2023 EIS, and approved by the NPCA, the proposed naturalization of the new corridor will ensure that there will be no residual negative impact.

Based on the proposed draft plan and identified mitigation measures, no long term significant residual impacts will occur the EPA/ECA features that are found within the subject lands.

6.3 Cumulative Impacts

The cumulative impact of development on the natural heritage within the City of Welland is beyond the scope of this EIS. At the local level the subject lands lie within the City's urban boundary, and within the NWSPA. Protection of the natural heritage features and functions that have been identified in Secondary Plan for the lands where development is proposed have been addressed by this EIS. Existing development occurs directly to the south and west and future development to the east will required conformity with development polices to protect the natural heritage features that have been identified for the Secondary Plan.

7. Natural Heritage Policy Conformity

7.1 Provincial Policy Statement

The development policies of the current Official Plans of the Niagara Region and City of Welland are in conformity with Section 2.1 Natural Heritage of the Provincial Policy Statement (PPS, 2020), which is directed at a province wide protection and management of natural heritage resources. Therefore, conformity with these Official Plans ensures conformity with the PPS.

7.2 Niagara Region OP Natural Heritage Policies

Section 3.1.30.4.1 of the Niagara Region Official Plan states that where a secondary plan has been approved after July 1, 2012, those portions that are not subject to a draft approved plan of subdivision or plan of condominium shall be approved in accordance with the approved mapping and policies of the secondary plan. The subject lands lie within the City of Welland Northwest Secondary Plan Area, OPA 29, 2021. Therefore, conformity with the Secondary Plan is required by the Region.

7.3 City of Welland OP Natural Heritage Policies

7.3.1 EPA

The FOD6-5 woodland represents an EPA within the subject lands. Section 6.1.2.3.C states that development and site alteration within an EPA is prohibited. A watermain crossing though 37 m of the woodland is proposed. This EIS has identified that underground directional drilling constructs to insure no alteration to the woodland will occur. A minimum 10m buffer to the dripline along the edge of the woodland has been identified included in the draft plan. Both the woodland and buffer lands will be retained in EPA Block 131, therefore the development plan for the subject lands is in conformity with the development polices of the Secondary Plan with respect to EPA.

7.3.2 ECA-Significant Woodlands

The FOD5 woodland located in the northern of the FOD6-5 woodland is designated ECA. Section 6.1.2.3.C of the City's Official Plan states development and site alteration may be permitted without an amendment to this Plan in ECA, and on the adjacent lands if it has been demonstrated that there will be no negative impact on the natural features or their ecological functions. No development will occur in the FOD5 woodland and a 10m buffer to the dripline along the edge of the woodland has been identified included in the draft plan and both the buffer and woodland will be located in EPA Block 131. Based on existing conditions, this EIS has determined that with EPA Block 131, the features and functions of ECA-Significant Woodlands will not be negatively impacted over the long term.

The Towpath Drain is also identified as an ECA. The development will require the realignment of existing drain corridor. An EIS was completed in 2023 by Beacon to address the potential impact of the realignment in support of a permit from the NPCA. The realignment design, including naturalization of the 30 m wide new corridor was approved by the NPCA April 15, 2024.

In summary the development plan for the subject lands is in conformity with the development polices of the Secondary Plan with respect to ECA.

7.3.3 Fish Habitat

No fish habitat occurs within the subject lands, therefore the development plan for the subject lands is in conformity with the Secondary Plan's policies for the protection of fish habitat and the regulations of the *federal Fisheries Act*.

7.3.4 Endangered and Threatened Species

As discussed in Section 4.4.1 three species of flora occur that are listed as endangered or threatened and are afforded protection under the Ontario *Endangered Species Act* (ESA 2007), the Butternut, Eastern Flowering Dogwood, and White Wood Aster. The three species are located in one local area directly along the western boundary of the property within the FOD6-5 woodland (**Figure 2).** The FOD6-5 woodland will be protected within EPA Block 131.

With respect to specific species protection regulations under the ESA the following is provided. Under the ESA if a species is listed as endangered or threatened, it receives protection under section 9 of the

ESA and its habitat also receives protection under section 10 of the ESA. Section 9 (1) (a) states that no person shall, kill, harm, harass, capture or take a living member of a species that is listed as an endangered or threatened species. For the three species that occur within the FOD6-5 woodland, there is only one Butternut Tree, one Flowering Dogwood and one localized patch of White Wood Aster. The area where they occur will be located within EPA Block 131 and they will not be directly harmed.

With respect to indirect harm, for individual Butternut Trees, Ontario Regulation 830/21 provides regulation for protection. Section 31 (1) (3) of the Regulation states that in order to prevent disturbance, compaction and erosion of soil in the root harm prevention zone and harm to the roots of the butternut tree, construction activities shall not take place within a five-metre buffer area that surrounds the perimeter of the butternut tree's root harm prevention zone. Section 31(2) details the root harm prevention zone based on the tree stem diameter. The individual tree has a diameter category of 30 to 50 cm and the root harm prevention zone is identified as 18 m from the stem of the tree. No development activity will occur within 30 m of the tree. For Eastern Flowering Dogwood, Ontario Regulation 832/21, Section 8 (2) (1) identifies that for an individual tree the protected habitat area is 20 m from the stem of the tree. No development activity will occur in this area. No specific Regulation is provided for the protection zone of an individual patch of White Wood Aster.

With respect to habitat protection Section 10 of the ESA prohibits activities that damage or destroy the habitat of an endangered or threatened species. Habitat is either an area that meets the general definition in Section 2 of the ESA or that is specifically prescribed in Regulation. No specific habitat regulation is in place for the Butternut or White Wood Aster and the general definition for habitat applies. Section 2 (1) (b) defines habitat as an area on which the species depends, directly or indirectly, to carry on its life processes, including life processes such as reproduction, rearing, hibernation, migration or feeding, and includes places in the area that are used by members of the species as dens, nests, hibernacula or other residences. In this case the FOD6-5 woodland is identified as the habitat for these two species. For the Flowering Dogwood, specific regulated habitat is defined in Ontario Regulation 832/21, Section 8 (2) as the naturally occurring ELC community in which the species is located, which in this case, is the ELC community FOD6-5. As noted, the FOD6-5 woodland will be protected in EPA Block 131.

In summary, the development plan for the subject lands is in conformity with the regulations of the ESA.

7.3.5 Natural Heritage Corridor

Section 6.1.2.3.C identifies that potential impact to natural heritage corridors are to be addressed by an EIS to demonstrate that there will be no negative impact on their ecological functions. This EIS has identified an east-west corridor to be associated with the Towpath Drain, and a North-South corridor that is support by the FOD6-5 and FOD5 woodlands. The woodlands will be retained in their entirety and will be protected in EPA Block 131.

The existing Towpath Drain will be realigned and will be located with a new 30 m wide naturalized corridor that will link to the FOD6-5 and FOD5 woodlands. Only one street crossing of the new corridor is proposed, and the need for the crossing design requirements to protect the movement corridor function has been identified.

Though this EIS has established the wildlife corridor function of the hedgerow along the western boundary of the subject lands south EPA Block 131 is greatly impaired, the retention of hedgerow trees within Park Bock 126 will continue to provide the limited wildlife corridor functions to EPA Block 131.

In summary, the development plan for the subject lands is in conformity with the with the development polices of the Secondary Plan.

7.3.6 Watercourses

With respect to drainage features Section 7.3.1.6 states that a headwater drainage feature assessment shall evaluate and classify the drainage feature status based on criteria established by the Conservation Authority and shall determine if the drainage features are to be maintained in-situ, can be relocated or can be removed. In addition, that where drainage features are to be maintained or moved, applications for development shall use natural channel design techniques to maintain or enhance the overall productivity of the reach. These requirements were addressed by the 2023 EIS completed for the NPCA permit application for the realignment of the Towpath Drain. The NPCA provided permit approval for the realignment on April 15, 2024.

7.4 Niagara Peninsula Conservation Authority

7.4.1 Wetlands

No wetland area that is regulated by the NPCA occurs within or directly adjacent to the subject lands. Therefor the development plan for the subject lands is in conformity with the development polices of the NPCA with respect to development polices for wetlands.

7.4.2 Watercourses

Development policies for watercourses are detailed in Section 9. Policy 9.2.2 Interference with a Watercourse states that interference with a watercourse shall not be permitted, except in accordance with other policies. Section 9.2.3.1 Watercourse Alterations details policies with respect to alterations to a watercourse and states that the NPCA may allow the alteration of a watercourse. The Towpath Drain is the only watercourse within the subject lands. For the development plant the drain will be realigned and located in Blocks 132 and 133. These proposed works were approved by the NPCA April 15, 2024.

In summary the development plan for the subject lands is in conformity with the development polices of the NPCA with respect to watercourses.

8. Summary

This EIS has identified that the proposed draft plan of subdivision to be located on two properties, 469 and 509 Rice Road, with the identified mitigations measures, will be protective of the Northwest South Secondary Plan Area natural heritage features and functions. This EIS has demonstrated that the proposed plan of subdivision is in conformity with the Official Plans and Natural Heritage System development policies of the City of Welland, the Niagara Region and the Niagara Peninsula Conservation Authority.

9. Recommendation

This EIS concludes that with the implementation of the recommended construction mitigation measures the proposed plan of subdivision is supported with respect to maintaining the natural heritage system of the City of Welland, the Niagara Region and the Province.

Prepared by:
Beacon Environmental Ltd.

Ron Huizer, B. Sc.
Principal, Senior Ecologist

Reviewed by:
Beacon Environmental Ltd.

Lindsey Waterworth, B.Sc.
Senior Ecologist

10. Literature and References

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Appendix A

Agency Consultation

From: Taran Lennard <tlennard@npca.ca>
Sent: May 26, 2022 3:20 PM
To: William Heikoop <WHeikoop@ucc.com>
Subject: RE: Terms of Reference NW Welland Lands - 450,469,509 Rice Road

Hi Will,
Following up with you on the ToR details following NPCA's review of the *EIS Terms of Reference; Plan of Subdivision, 450, 469, 509 Rice Road; City of Welland, Niagara Region* prepared by Beacon Environmental, dated April 27, 2022.

1. Please include review of citizen science databases (ie. eBird, iNaturalist etc) in the background review section.

2. Please ensure the 2018 EIS Guidelines are utilized when preparing the EIS as opposed to the 2012 version. The 2018 EIS Guidelines are available from https://www.niagararegion.ca/culture-and-environment/pdf/environmental-impact-study-guidelines.pdf

3. NPCA staff understand that breeding bird surveys are not proposed to include point count of transit methodology due to the small area to be surveyed. Given that the subject lands encompass approximately 20 hectares further rational is requested to ensure the proposed survey methodology will accurately characterize the subject lands.

4. Please confirm the number of bat acoustic monitors to be deployed. The ToR states 'A total of four (6) monitoring stations will be required.'

5. The ToR has not identified snake and turtle surveys as these species were not detected by Aquafor Beech at the Secondary Planning stage. The Aquafor Beech report identifies that Eastern Ribbonsnake may be present within the study area given the presence of open riparian areas and potential wetlands, particularly on 450 Rice Road. Please revise the ToR to incorporate consideration for this species.

6. Should unevaluated wetlands be confirmed on the subject property a wetland staking exercise may be required. Please note that should unevaluated wetlands be proposed for removal correspondence with MNDMNRF will be required to verify that the wetlands are not Provincially Significant and/or complexed with the nearby (within 750 m) Provincially Significant Niagara Street Cataract Road Wetland Complex.

Thank you,

Taran Lennard

Watershed Planner

Niagara Peninsula Conservation Authority (NPCA)

250 Thorold Road West, 3rd Floor | Welland, ON L3C 3W2

Tel: 905-788-3135 | extension 277
email: tlennard@npca.ca

Sent: Thursday, August 25, 2022 3:41 PM
To: Ron Huizer <rhuizer@beaconenviro.com>
Cc: Lampman, Cara <Cara.Lampman@niagararegion.ca>; 'Sarah Mastroianni' <smastroianni@npca.ca>; Matt Vartanian <MattV@mountainview.com>; William Heikoop <WHeikoop@ucc.com>; Young, Katie <Katie.Young@niagararegion.ca>
Subject: RE: Terms of Reference NW Welland Lands - 450,469,509 Rice Road

Hi Ron,

Thanks for meeting with me on-site yesterday.

As a follow-up to our site visit, I've attached an electronic copy of both the Subwatershed Study and Secondary Plan Recommendation Report prepared for the Northwest Welland Secondary Plan Area, which include the subject lands. Both documents provide information and outline requirements related to natural heritage, including the location of corridor linkages. Please ensure that the final EIS Report sufficiently addresses the information included in both documents.

Please feel free to reach out if you have any questions as you complete the EIS.

Thanks,

Adam

Adam Boudens, Msc

Senior Environmental Planner/Ecologist

Planning and Development Services

Niagara Region

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

Thorold, ON L2V 4T7

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

www.niagararegion.ca

From: Boudens, Adam
Sent: Tuesday, May 31, 2022 11:55 AM
To: 'William Heikoop' <WHeikoop@ucc.com>
Cc: Lampman, Cara <Cara.Lampman@niagararegion.ca>; Karlewicz, Lori <Lori.Karlewicz@niagararegion.ca>; 'Sarah Mastroianni' <smastroianni@npca.ca>; Matt Vartanian <MattV@mountainview.com>
Subject: RE: Terms of Reference NW Welland Lands - 450,469,509 Rice Road

Hi William,

Regional Environmental Planning staff have reviewed the proposed Terms of Reference (TOR) prepared by Beacon Environmental (dated April 27, 2022) for the subject lands located at 450, 469 & 509 Rice Road, in the City of Welland. While the TOR is generally acceptable, we offer the following comments for your consideration:

The TOR states that an assessment of fish habitat will not be completed as the Aquafor Beech Report for Northwest Welland Secondary Plan Area 2019 established that fish do not occur within the section of the Drain traversing the subject lands. Staff have reviewed the Aquafor Beech report which states that fish community surveys were only conducted at the most downstream site (east of the subject lands) and as such recommends that further assessment be completed to determine the extent and significance of fish habitat. Therefore, staff recommend that an assessment of the watercourse be completed in accordance with an appropriate survey protocol (e.g., Headwater Drainage Feature Assessment, Ontario Stream Protocol, etc.) to characterize the watercourse (e.g., permanent, intermittent, etc.), unless the watercourse is assumed to be providing Fish Habitat.

As it relates to reptile surveys, staff require that at a minimum visual encounter surveys be conducted. Additional survey effort should be considered should potential habitat be identified on the subject lands.

Significant woodland boundaries must be staked in the field with Regional Environmental Planning staff. Please contact Adam Boudens, Senior Environmental Planner, adam.boudens@nigararegion.ca to coordinate a date/time.

As it relates to potential corridors on the subject lands, the Aquafor Beech report identified the preliminary location of 2 corridors, one running east-west and the other adjacent to the wooded feature that straddles the westerly property boundary. Consistent with Amendment No. 29 to the City of Welland's Official Plan, specifically Policy 7.3.1.6, "any development or site alteration within a Corridor shall require the completion of an EIS which shall demonstrate how development can be located, designed and constructed to maintain and, where possible, enhance the ecological functions of the natural heritage corridor in linking the natural heritage system or where an alternative corridor can be accommodated". This policy goes on to state that the following uses are permitted within natural heritage corridors:

Trails,

Stormwater management facilities, including Low Impact Development, if it can be demonstrated that these elements do not result in a negative impact on the natural heritage system, and;

Streets, if they are designed with special features to facilitate safe movement of wildlife through the linkage. These features may include, but are not limited to, traffic calming measures, eco-passages, minimized road widths, naturalized zones along the road, reduced speed limits and speed humps, and special signage. Street design will be in accordance with urban design direction and the recommendations of supporting EIS work.

As such, the EIS will be required to identify an appropriate location for the two corridors on the subject lands and address how the intent of this specific policy will be achieved. Preliminary corridor design details should be provided in the EIS.

Please include all relevant field survey data sheets (e.g., ELC Data Cards) as an appendix in the EIS.

The above comments are provided in effort to ensure that the development application will include all information needed to address the Core Natural Heritage System (CNHS) policies of the Region's Official Plan (ROP). Staff will review the completed EIS against the requirements in the proposed TOR and outlined above. Should Beacon Environmental be of the opinion that one or more of the requirements outlined above should not be included within the EIS scope; Regional staff may entertain a reduced scope if sufficient rationale is provided. Should the comments above be acceptable, staff will accept the Beacon Environmental proposed EIS TOR along with this email as the final EIS TOR, with both appended to the EIS.

Please do not hesitate to contact me if you have any questions or require additional information.

Thanks,

Adam

Adam Boudens
Senior Environmental Planner/Ecologist

Planning and Development Services, Niagara Region

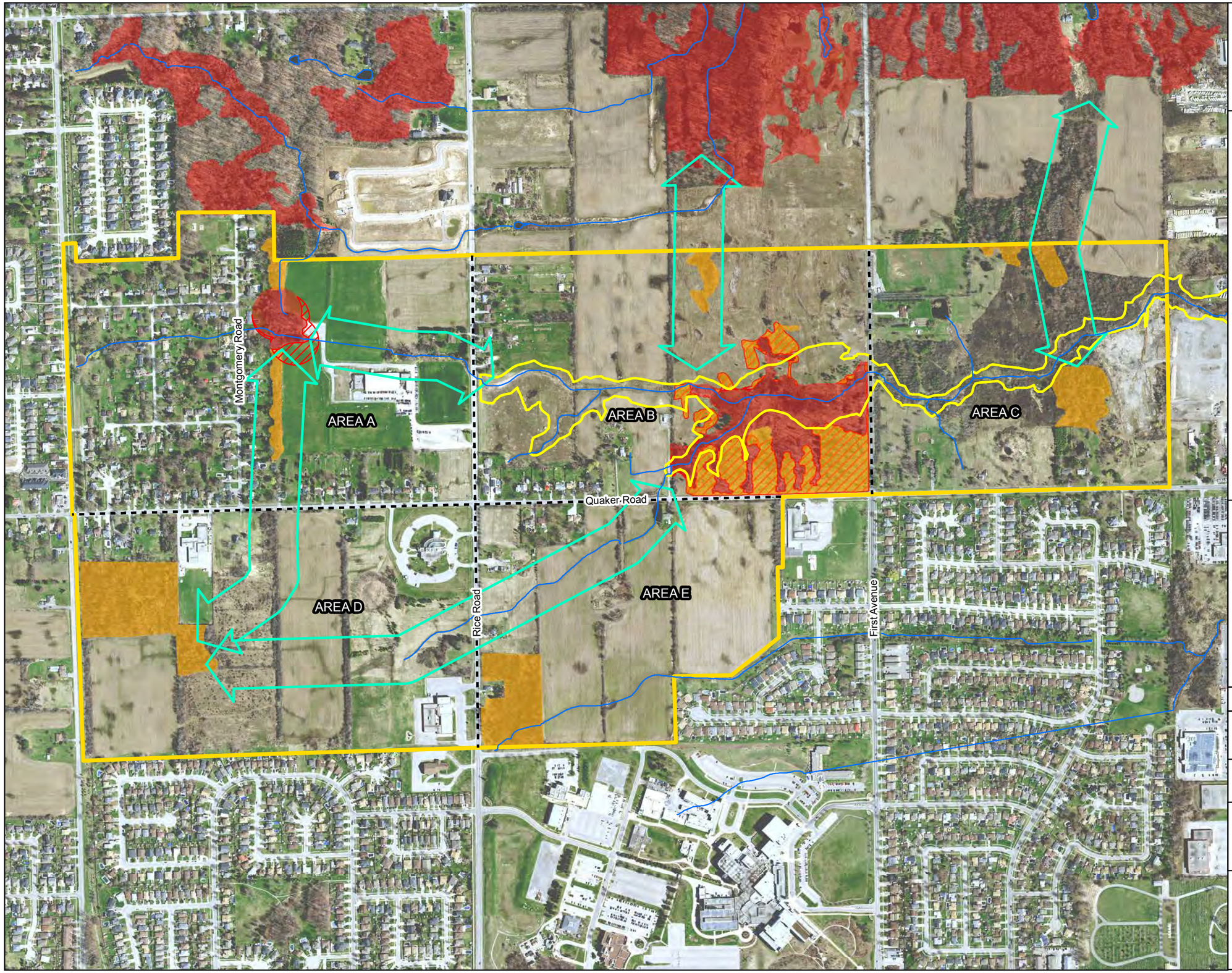
1815 Sir Isaac Brock Way, P.O. Box 1042

Thorold, ON L2V 4T7
Phone: 905-980-6000 ext. 3770 Toll-free: 1-800-263-7215

Adam.Boudens@niagararegion.ca

Appendix B

Natural Heritage of the NWSPA



Welland
ONTARIO · CANADA

Legend

- Watercourse (NPCA)
- Vegetation Survey Area Divisions
- Environmental Protection Area
- *Potential Environmental Protection Area
- Environmental Conservation Area
- Potential Corridor
- NPCA Advisory Floodplain
- Secondary Plan Boundary

(*) NOTE: Pending Further Assessment

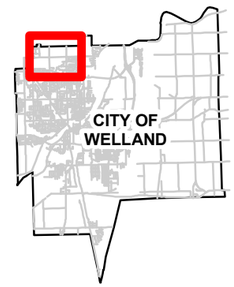


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Figure 7.4

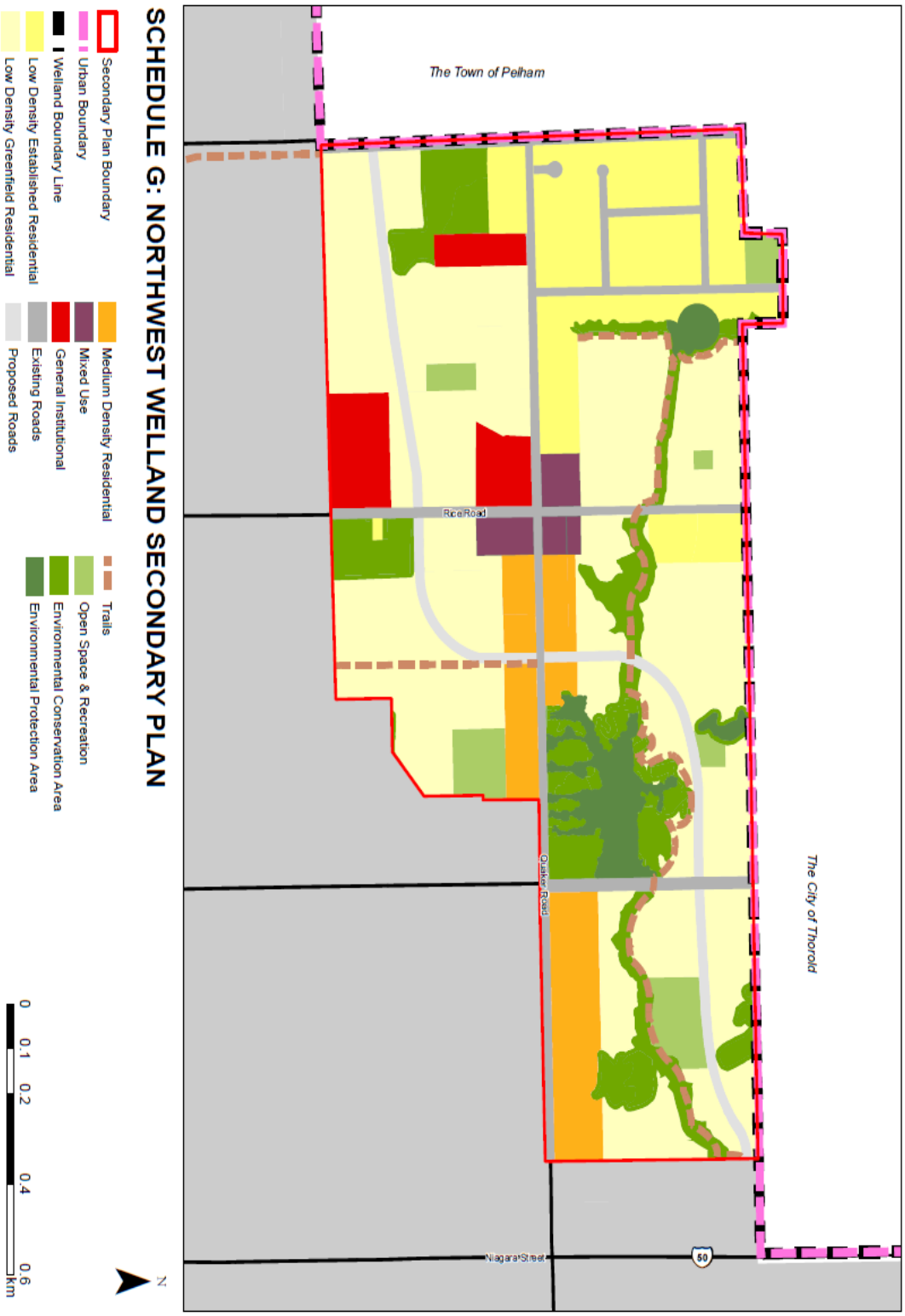
Potential Landscape Connections

Date: January 2019
Projection: NAD83_UTM_Zone_17N
Data Source: Niagara Peninsula Conservation Authority,
City of Welland

0 0.2 0.4
Kilometers

N

Aquafor Beech Limited


SCHEDULE G: NORTHWEST WELLAND SECONDARY PLAN
Secondary Plan Boundary
Urban Boundary
Welland Boundary Line
Low Density Established Residential
Low Density Greenfield Residential
Medium Density Residential
Mixed Use
General Institutional
Existing Roads
Proposed Roads
Trails
Open Space & Recreation
Environmental Conservation Area
Environmental Protection Area
The Town of Pelham
The City of Thorold
Rice Road
Quaker Road
Niagara Street
50
N
0
0.1
0.2
0.4
0.6
km

Appendix C

List of Vascular Plants for Subject Lands

Appendix c

List of Vascular Plants for the Subject Lands

Scientific Name	English Name	Srank	COSEWIC	COSSARO	Niagara
Equisetum arvense	Field Horsetail	S5			
Onoclea sensibilis	Sensitive Fern	S5			
Picea abies	Norway Spruce	SE3			
Picea glauca	White Spruce	S5			
Pinus banksiana	Jack Pine	S5			
Pinus strobus	Eastern White Pine	S5			
Typha angustifolia	Narrow-leaved Cattail	S5			
Typha latifolia	Broad-leaf Cattail	S5			
Agrostis gigantea	Black Bentgrass	SE5			
Agrostis perennans	Perenial Bentgrass	S5			
Agrostis stolonifera	Spreading Bentgrass	S5			
Bromus ciliatus	Fringed Brome	S5			
Bromus inermis	Brome Grass	SE5			
Bromus tectorum	Cheat Grass	SE5			
Calamagrostis canadensis	Blue-joint Reedgrass	S5			
Dactylis glomerata	Orchard Grass	SE5			
Digitaria ischaemum	Smooth Crabgrass	SE5			
Digitaria sanguinalis	Hairy Crabgrass	SE5			
Elymus repens	Quack Grass	SE5			
Elymus virginicus	Virginia Wild Rye	S5			
Festuca rubra	Red Fescue	S5			
Glyceria grandis	American Mannagrass	S4S5			
Glyceria striata	Fowl Manna-grass	S4S5			
Hordeum jubatum	Foxtail Barley	SE5			
Muhlenbergia mexicana	Mexican Muhly	S5			
Panicum acuminatum var. fasciculatum		S5			
Panicum capillare	Old Witch Panic-grass	S5			
Phleum pratense	Meadow Timothy	SE5			
Poa compressa	Canada Bluegrass	S5			
Poa pratensis	Kentucky Bluegrass	S5			
Carex bebbii	Bebb's Sedge	S5			

Scientific Name	English Name	Srank	COSEWIC	COSSARO	Niagara
Carex blanda	Woodland Sedge	S5			
Carex crinita	Fringed Sedge	S5			
Carex cristatella	Crested Sedge	S5			
Carex gracillima	Graceful Sedge	S5			
Carex granularis	Meadow Sedge	S5			
Carex hystericina	Porcupine Sedge	S5			
Carex lupulina	Hop Sedge	S5			
Carex stipata	Stalk-grain Sedge	S5			
Carex vulpinoidea	Fox Sedge	S5			
Arisaema triphyllum	Jack-in-the-pulpit	S5			
Lemna minor	Lesser Duckweed	S5			
Juncus bufonius	Toad Rush	S5			
Juncus effusus	Soft Rush	S5			
Juncus tenuis	Path Rush	S5			
Maianthemum racemosum	False Solomon's-Seal	S5			
Trillium grandiflorum	White Trillium	S5			
Smilax herbacea	Smooth Greenbrier	S4			
Epipactis helleborine	Eastern Helleborine	SE5			
Populus deltoides	Eastern Cottonwood	SU			
Populus grandidentata	Large-tooth Aspen	S5			
Populus tremuloides	Trembling Aspen	S5			
Salix alba	White Willow	SE4			
Salix bebbiana	Bebb's Willow	S5			
Salix fragilis	Crack Willow	SE5			
Salix purpurea	Basket Willow	SE4			
Carya cordiformis	Bitter-nut Hickory	S5			
Carya ovata	Shag-bark Hickory	S5			
Juglans cinerea	Butternut	S3?	END	END	
Juglans nigra	Black Walnut	S4			
Juglans regia	English Walnut	SE1			
Betula papyrifera	Paper Birch	S5			
Carpinus caroliniana	American Hornbeam	S5			
Ostrya virginiana	Ironwood	S5			
Fagus grandifolia	American Beech	S5			
Quercus macrocarpa	Bur Oak	S5			
Quercus rubra	Northern Red Oak	S5			
Ulmus americana	American Elm	S5			
Morus alba	White Mulberry	SE5			

Scientific Name	English Name	Srank	COSEWIC	COSSARO	Niagara
Laportea canadensis	Wood Nettle	S5			
Polygonum lapathifolium	Dock-leaf Smartweed	S5			
Polygonum virginianum	Virginia Knotweed	S4			
Rumex crispus	Curly Dock	SE5			
Cerastium fontanum	Mouse-ear Chickweed	SE5			
Ranunculus acris	Tall Butter-cup	SE5			
Berberis vulgaris	European Barberry	SE5			
Podophyllum peltatum	May Apple	S5			
Chelidonium majus	Greater Celandine	SE5			
Alliaria petiolata	Garlic Mustard	SE5			
Barbarea vulgaris	Yellow Rocket	SE5			
Brassica nigra	Black Mustard	SE5			
Hesperis matronalis	Dame's Rocket	SE5			
Lepidium campestre	Field Pepper-grass	SE5			
Ribes americanum	Wild Black Currant	S5			
Ribes cynosbati	Prickly Gooseberry	S5			
Agrimonia gryposepala	Tall Hairy Groovebur	S5			
Amelanchier arborea	Downy Serviceberry	S5			
Crataegus crus-galli	Cockspur Hawthorn	S5			
Crataegus punctata	Dotted Hawthorn	S5			
Fragaria virginiana	Virginia Strawberry	S5			
Geum aleppicum	Yellow Avens	S5			
Malus pumila	Common Apple	SE5			
Potentilla norvegica	Norwegian Cinquefoil	S5			
Potentilla recta	Rough-fruited Cinquefoil	SE5			
Prunus avium	Sweet Cherry	SE4			
Prunus serotina	Wild Black Cherry	S5			
Prunus virginiana	Choke Cherry	S5			
Pyrus communis	Common Pear	SE4			
Rosa multiflora	Rambler Rose	SE4			
Rubus allegheniensis	Common Blackberry	S5			
Rubus odoratus	Purple Flowering Raspberry	S5			
Lotus corniculatus	Birds-foot Trefoil	SE5			
Medicago lupulina	Black Medic	SE5			
Melilotus alba	White Sweet Clover	SE5			
Robinia pseudo-acacia	Black Locust	SE5			
Trifolium pratense	Red Clover	SE5			
Trifolium repens	White Clover	SE5			

Scientific Name	English Name	Srank	COSEWIC	COSSARO	Niagara
Vicia cracca	Tufted Vetch	SE5			
Oxalis dillenii	Dillen's Woodsorrel	S5?			
Rhus radicans	Poison Ivy	S5			
Rhus typhina	Staghorn Sumac	S5			
Acer negundo	Manitoba Maple	S5			
Acer rubrum	Red Maple	S5			
Acer saccharum	Sugar Maple	S5			
Impatiens capensis	Spotted Jewel-weed	S5			
Rhamnus cathartica	Buckthorn	SE5			
Rhamnus frangula	Glossy Buckthorn	SE5			
Parthenocissus quinquefolia	Virginia Creeper	S4?			
Vitis riparia	Riverbank Grape	S5			
Tilia americana	American Basswood	S5			
Hypericum perforatum	Common St. John's-wort	SE5			
Lythrum salicaria	Purple Loosestrife	SE5			
Circaea alpina	Small Enchanter's Nightshade	S5			
Epilobium ciliatum	Hairy Willow-herb	S5			
Oenothera parviflora	Northen Evening-primrose	S5?			
Daucus carota	Queen Anne's Lace	SE5			
Cornus alternifolia	Alternate-leaf Dogwood	S5			
Cornus amomum	Silky Dogwood	S5			
Cornus florida	Flowering Dogwood	S4	END	END	
Cornus foemina	Gray Dogwood	S5			
Cornus stolonifera	Red-osier Dogwood	S5			
Lysimachia nummularia	Creeping Jennie	SE5			
Fraxinus americana	White Ash	S5			
Fraxinus pennsylvanica	Green Ash	S5			
Asclepias incarnata	Swamp Milkweed	S5			
Asclepias syriaca	Common Milkweed	S5			
Convolvulus arvensis	Field Bindweed	SE5			
Echium vulgare	Common Viper's-bugloss	SE5			
Glechoma hederacea	Ground Ivy	SE5			
Lamium amplexicaule	Common Deadnettle	SE3			
Prunella vulgaris	Self-heal	S5			
Solanum dulcamara	Climbing Nightshade	SE5			
Verbascum thapsus	Common Mullein	SE5			
Veronica officinalis	Common Speedwell	SE5			
Catalpa speciosa	Northern Catalpa	SE1			

Scientific Name	English Name	Srank	COSEWIC	COSSARO	Niagara
Plantago lanceolata	English Plantain	SE5			
Plantago major	Common Plantain	SE5			
Galium aparine	Catchweed Bedstraw	S5			
Lonicera tatarica	Tartarian Honeysuckle	SE5			
Sambucus canadensis	Common Elderberry	S5			
Viburnum acerifolium	Maple-leaf Viburnum	S5			
Dipsacus fullonum	Fuller's Teasel	SE5			
Achillea millefolium	Yarrow	S5			
Ambrosia artemisiifolia	Annual Ragweed	S5			
Ambrosia trifida	Great Ragweed	S5			
Arctium lappa	Greater Burdock	SE5			
Bidens frondosa	Devil's Beggar-ticks	S5			
Bidens tripartita	Beggar-ticks	S5			
Cichorium intybus	Chicory	SE5			
Cirsium arvense	Canada Thistle	SE5			
Cirsium vulgare	Bull Thistle	SE5			
Eurybia divaricata	White Wood Aster	S1	THR	THR	
Hieracium aurantiacum	Orange Hawkweed	SE5			
Hieracium caespitosum	Yellow Hawkweed	SE5			
Taraxacum officinale	Brown-seed Dandelion	SE5			
Tragopogon pratensis	Meadow Goat's-beard	SE5			
Tussilago farfara	Colt's Foot	SE5			

KEY
COSEWIC = Committee on the Status of Endangered Wildlife in Canada
COSSARO = Committee on the Status of Species at Risk in Ontario
END = Endangered, THR = Threatened, SC = Special Concern

BEACON ENVIRONMENTAL

Appendix D

Bat Data

Appendix D

Summary of Bat Calls Recorded at Five Acoustic Monitors

Table 1. Total Calls Recorded for All Species by Detector

Count of ID Detector	Big Brown Bat	Big Brown Bat/Silver-haired Bat	Eastern Red Bat	Hoary Bat	Little Brown Myotis	Myotis species	NoID	Silver-haired Bat	Tri-colored Bat	Grand Total
Detector 37	36		1	10	1		10	12		70
Detector 38	65			6			20	4		95
Detector 39	215		2	58			131	18		424
Detector 40	248	2			23		130	14	1	418
Detector 41	2141	2	40	51		1	487	82		2804
Grand Total	**2705**	**4**	**43**	**125**	**24**	**1**	**778**	**130**	**1**	**3811**

Table 2. Call Summary for Little Brown Myotis at the Two Monitors where the Species was Recorded

Count of ID Detector	Date	ID Little Brown Myotis
Detector 37	2022-06-11	1
Detector 37 Total		**1**
Detector 40	2022-06-03	23
Detector 40 Total		**23**
Grand Total		**24**

Table 3. Date and Time of Little Brown Myotis Calls at Monitor 40

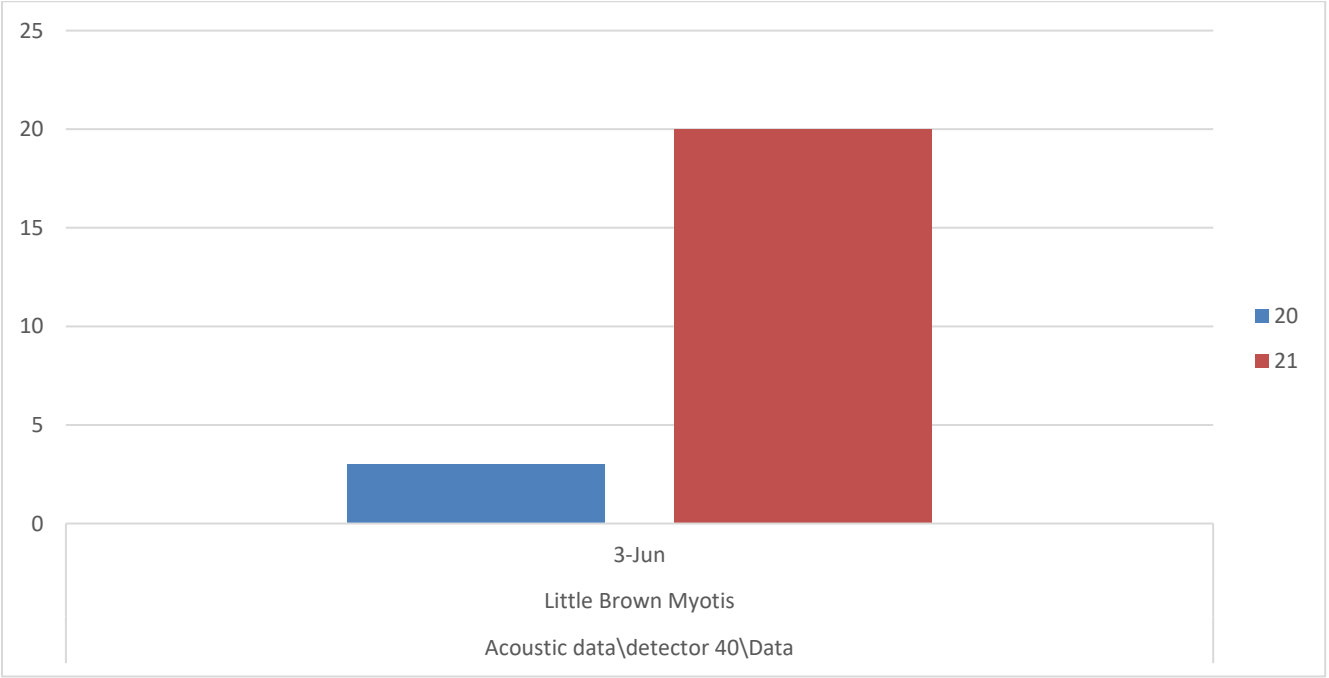


Table 4. Call Summary for unidentified Myotis species at the One Monitor where the Species was Recorded

Count of ID	Date	ID
Detector		Myotis species
Detector 41	2022-06-01	1
Detector 41 Total		**1**
Grand Total		**1**

Table 5. Call Summary for Tri-colored Bat species at the One Monitor where the Species was Recorded

Count of ID	Date	ID
Detector		Tri-colored Bat
Detector 40	2022-06-12	1
Detector 40 Total		**1**
Grand Total		**1**

Table 6. Total Bat Calls Recorded at Each Monitor by Date

Count of ID	Date	Big Brown Bat	Big Brown Bat/Silver-haired Bat	Eastern Red Bat	Hoary Bat	Little Brown Myotis	Myotis species	NoID	Silver-haired Bat	Tri-colored Bat	Grand Total
Detector											
Detector 37	1-Jun	3			1			1			5
	3-Jun	6			2						8
	4-Jun	2			1			1			4
	5-Jun	5		1	1				2		9
	6-Jun	1						1	1		3
	8-Jun	4						1	2		7
	9-Jun	1						2	1		4
	10-Jun	1							2		3
	11-Jun	8				1		3	2		14
	12-Jun	3			5			1	2		11
	13-Jun	2									2
Detector 37 Total		**36**		**1**	**10**	**1**		**10**	**12**		**70**
Detector 38	1-Jun				1						1
	2-Jun							1			1
	3-Jun	13						3			16
	4-Jun	3						1	3		7
	5-Jun	5						2	1		8
	6-Jun	15						2			17

Count of ID Detector	Date	Big Brown Bat	Big Brown Bat/Silver-haired Bat	Eastern Red Bat	Hoary Bat	Little Brown Myotis	Myotis species	NoID	Silver-haired Bat	Tri-colored Bat	Grand Total
	8-Jun	14			1			3			18
	9-Jun	2						2			4
	10-Jun	2			1			2			5
	11-Jun	3			1			2			6
	12-Jun	8			2			2			12
Detector 38 Total		**65**			**6**			**20**	**4**		**95**
Detector 39	1-Jun	48			1			7	3		59
	2-Jun	3			3			7	1		14
	3-Jun	13			7			7			27
	4-Jun	9			5			6			20
	5-Jun	5			3			5	2		15
	6-Jun	4						3			7
	7-Jun				1						1
	8-Jun	8		2	2			3	3		18
	9-Jun	19			4			12	2		37
	10-Jun	28			8			36	4		76
	11-Jun	12			5			14	1		32
	12-Jun	61			17			29	2		109
	13-Jun	5			2			2			9
Detector 39 Total		**215**		**2**	**58**			**131**	**18**		**424**
Detector 40	1-Jun	6									6
	3-Jun	114				23		31	1		169
	5-Jun	17						19	3		39
	6-Jun	7	1					3	1		12
	7-Jun	46	1					7			54
	8-Jun	44						65	9		118
	9-Jun	6						1			7
	10-Jun	3						1			4
	11-Jun	2						3			5

Count of ID Detector	Date	Big Brown Bat	Big Brown Bat/Silver-haired Bat	Eastern Red Bat	Hoary Bat	Little Brown Myotis	Myotis species	NoID	Silver-haired Bat	Tri-colored Bat	Grand Total
	12-Jun	2								1	3
	13-Jun	1									1
Detector 40 Total		**248**	**2**			**23**		**130**	**14**	**1**	**418**
Detector 41	31-May							1			1
	1-Jun	643		1			1	38	6		689
	2-Jun	13		6	1			12	1		33
	3-Jun	111		7	2			38	3		161
	4-Jun	24			3			16	7		50
	5-Jun	41			4			32	5		82
	6-Jun	62			1			18	3		84
	7-Jun	25	2					2			29
	8-Jun	97						19	2		118
	9-Jun	78						7	2		87
	10-Jun	176		4	9			25	4		218
	11-Jun	166		14	3			76	16		275
	12-Jun	590		6	25			168	31		820
	13-Jun	115		2	3			35	2		157
Detector 41 Total		**2141**	**2**	**40**	**51**		**1**	**487**	**82**		**2804**
Grand Total		**2705**	**4**	**43**	**125**	**24**	**1**	**778**	**130**	**1**	**3811**

Appendix E

SAR and SWH Screening

Appendix E

Species at Risk and Significant Wildlife Habitat Screening – EcoRegion 7E

SAR Screening – Welland Area

Species	ESA Status	General habitat description	Assessment for Adjacent Lands
Amphibians - No SAR in Welland Area			
Birds			
Barn Swallow	Threatened	Prefers farmland; lake/river shorelines; wooded clearings; urban populated areas; rocky cliffs; and wetlands. They nest inside or outside buildings; under bridges and in road culverts; on rock faces and in caves etc.	No structures that could provide suitable nesting habitat is present within the subject lands.
Bobolink/Eastern Meadowlark	Threatened	Generally, prefers open grasslands and hay fields. In migration and in winter uses freshwater marshes and grasslands	No suitable habitat is present. Though large grass fields are present, these soccer fields are mowed regularly. No birds were heard or observed during field surveys.
Chimney Swift	Threatened	Historically found in deciduous and coniferous, usually wet forest types, all with a well developed, dense shrub layer; now most are found in urban areas in large, uncapped chimneys	No suitable nesting habitat is present.
Common Nighthawk	Special Concern	Generally prefer open, vegetation free habitats, including dunes, beaches, recently harvested forests, burnt-over areas, logged areas, rocky outcrops, rocky barrens, grasslands, pastures, peat bogs, marshes, lakeshores , and river banks. This species also inhabits mixed and coniferous forests. Can also be found in urban areas (nest on flat rooftops)	Low quality habitat is present. Not detected during night survey.
Yellow-breasted Chat	Endangered	Generally prefer dense thickets around wood edges, riparian areas, and in overgrown clearings	No suitable habitat is present.
Fish – No Fish Habitat is Present			
Insects			

Species	ESA Status	General habitat description	Assessment for Adjacent Lands
Monarch Butterfly	Special Concern	Exist primarily wherever milkweed and wildflowers exist; abandoned farmland, along roadsides, and other open spaces	No suitable habitat is present.
Rusty-patch Bumblebee	Endangered	Generally inhabits a range of diverse habitats including mixed farmland, sand dunes, marshes, urban and wooded areas. It usually nests underground in abandoned rodent burrows	No suitable habitat is present.
West Virginia White Butterfly	Special Concern	Generally prefer moist, deciduous woodlands. The larvae feed only on the leaves of the two-leaved toothwort (Cardamine diphylla), which is a small, spring-blooming plant of the forest floor.	The host plant, Two-leaved Toothwort, is not present.
Mammals			
Eastern small-footed Myotis Little Brown Myotis Northern Myotis Tri-colour Bat	Endangered	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius. Maternal Roosts: primarily under loose rocks on exposed rock outcrops, crevices and cliffs, and occasionally in buildings, under bridges and highway overpasses and under tree bark.	No overwintering habitat is present. Roosting or maternity habitat is present in only one small woodland within the subject lands.
Molluscs – No Aquatic Habitat is Present			
Plants			
Broad Beech Fern	Special Concern	Generally inhabits shady areas of beech and maple forests where the soil is moist or wet	No suitable habitat is present.
Butternut	Endangered	Generally grows in rich, moist, and well-drained soils often found along streams. It may also be found on well-drained gravel sites, especially those made up of limestone. It is also found, though seldomly, on dry, rocky and sterile soils. In Ontario, the Butternut generally grows alone or in small groups in deciduous forests as well as in hedgerows.	Species document to occur in small woodland.
Eastern Flowering Dogwood	Endangered	Generally grows in deciduous and mixed forests, in the drier areas of its habitat, although it is occasionally found in slightly moist environments; Also grows around edges and hedgerows	Species document to occur in small woodland.
Round-leaved Greenbrier	Threatened	Generally grows in open moist to wet woodlands, often growing on sandy soils . Habitat is variable.	General habitat is not present.
Swamp Rose Mallow	Special Concern	Generally grows in open, coastal marshes, but it is also sometimes found in open wet woods, thickets and drainage ditches	No suitable habitat is present.

Species	ESA Status	General habitat description	Assessment for Adjacent Lands
White Wood Aster	Threatened	Generally grows in open, dry, deciduous forests. It has been suggested that it may benefit from some disturbance, as it often grows along trails in woodlands.	Species document to occur in small woodland.
Reptiles			
Blanding's Turtle	Threatened	Generally occur in freshwater lakes, Permanent or temporary pools, slow flowing streams, marshes and swamps. They prefer shallow water that is rich in nutrients, organic soil and dense vegetation. Adults are generally found in open or partially vegetated sites, and juveniles prefer areas that contain thick aquatic vegetation including sphagnum, water lilies and algae.	Habitat is not present.
Common Five-lined Skink	Endangered	Generally occur near dunes, fields, and deciduous forests. This species is generally associated with relatively open environments.	Habitat is not present.
Eastern Ribbonsnake	Special Concern	Generally occur along the edges of shallow ponds, streams, marshes, swamps, or bogs bordered by dense vegetation that provides cover. Abundant exposure to sunlight is also required, and adjacent upland areas may be used for nesting	General habitat is present.
Massassauga Rattlesnake	Threatened	Generally occur in habitats ranging from tall grass prairie to cedar bogs to shorelines. All habitats require canopies that are not too open, but they also require access to spots where they can get warm enough to effectively digest their food and reproduce. Sufficient moisuture is also required for them to survive the winter, so they are often associated with wetlands or small, wet depressions in the terrain. (Wainfleet Bog)	Not known to occur in the local area. Population restricted to Wainfleet Bog area.
Milksnake	Special Concern	Generally occur in rural areas, where it is most frequently reported in and around buildings, especially old structures. It is also found in a wide variety of habitats, from prairies, pastures, and hayfields, to rocky hillsides and a wide variety of forest types. They must also be in proximity of	General habitat is present.

Species	ESA Status	General habitat description	Assessment for Adjacent Lands
		water, and suitable locations for basking and egg-laying.	
Snapping Turtle	Special Concern	Generally inhabit shallow waters where they can hide under the soft mud and leaf litter. Nesting sites usually occur on gravely or sandy areas along streams. Snapping Turtles often take advantage of manmade structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits.	Habitat is not present.

Significant Wildlife Habitat Screening – EcoRegion 7E

Significant Wildlife Habitat Type	Habitat Description	Habitat Assessment March 2022
Seasonal Concentration Areas of Animals		
Waterfowl Stopover and Staging Areas (Terrestrial)	Fields with sheet water or fields utilized by Tundra Swans during Spring (mid March to May). Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless used by Tundra Swans in the Long Point, Rondeau, Lk. St. Clair, Grand Bend and Pt. Pelee areas.	**No** Suitable habitat was not observed.
Waterfowl Stopover and Staging Areas (Aquatic)	Ponds, marshes, lakes, bays, costal inlets and watercourses that are used as stopover areas during migration. These habitats typically have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water).	**No** Suitable habitat was not observed.
Shorebird Migratory Stopover Area	Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. Sewage treatment ponds and storm water ponds do not qualify as a SWH	**No** Suitable habitat was not observed.
Raptor Winter Area	A combination of fields and woodlands that provide roosting, foraging and resting habitat for wintering raptors. These sites need to be larger than 20 ha in size, of which at least 15 ha needs to be comprised of idle/fallow or lightly grazed field/meadow.	**No** Suitable habitat was not observed.
Bat Hibernacula	Hibernacula may be found in caves, mine shafts, underground foundations and karsts.	**No** Suitable habitat was not observed.
Bat Maternity Colonies	Maternity colonies can be found in tree cavities, vegetation and buildings. Deciduous and mixed forest communities with greater than 10 ha of large diameter (> 25 cm dbh) wildlife trees.	**Potential** Suitable habitat in small woodlands.
Turtle Winter Areas	Over-wintering sites for turtles are typically in the same area as their core habitat. Waterbodies have to be deep enough to not frees and have soft mud substrates.	**No** Suitable habitat was not observed.
Snake Hibernaculum	Snakes hibernate in sites located below frost lines in burrows, rock crevices and other natural locations. Rock piles, slopes, stones fences, and crumbling foundations can also be used by hibernating snakes. Areas of broken and fissures rocks can also provide access to sites below the frost line.	**No** Suitable habitat was not observed.

Significant Wildlife Habitat Type	Habitat Description	Habitat Assessment March 2022
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)	Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area.	**No** Suitable habitat was not observed.
Colonially - Nesting Bird Breeding Habitat Breeding Habitat (Tree/Shrubs)	Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and occasionally emergent vegetation may also be used.	**No** Suitable habitat was not observed.
Colonially - Nesting Bird Breeding Habitat (Ground)	Nesting colonies of gulls and terns occur on rocky islands or peninsulas within a lake or larger river	**No** Suitable habitat was not observed.
Migratory Butterfly Stopover Areas	Cultural meadow, savannah and thicket communities that are within 5 km of Lake Ontario, at least 10 ha in size and contain a combination of field and forest habitat	**No** Suitable habitat was not observed.
Landbird Migratory Stopover Areas	Woodlots >5 ha in size and within 5 km of Lake Erie and Lake Ontario. If woodlands are rare in an area of shoreline, woodland fragments 2-5 ha can be considered for this habitat. If multiple woodlands are located along the shoreline those Woodlands <2 km from Lake Erie and Lake Ontario are more significant.	**No** Suitable habitat was not observed.
Deer Yarding Areas	Deer yarding areas or winter concentration within a mixed or coniferous forest and swamp communities.	**No** Suitable habitat was not observed.
Deer Winter congregation Areas	Deer movement in winter months within eco-region 7E are not constrained by snow depth, however they still congregate in suitable woodlands. These woodlands will typically be larger than 100 ha in size, however woodlands smaller than 100 ha may be considered significant based on MNR assessments.	**No** Suitable habitat is not associated with the subject lands.
Rare Vegetation Communities		
Cliffs and Talus Slops	A cliff is a vertical to near vertical bedrock that is greater than 3 m in height. A talus slope is rock rubble at the base of a cliff made up of coarse rocky debris.	**No** Suitable habitat is not associated with the subject lands.
Sand Barren	Sand barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. They have little to no soil and the underlying rock protrudes through the surface. Usually located within other types of natural habitat such as forest or savannah.	**No** Suitable habitat is not associated with the subject lands.
Alvar	Alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil.	**No** Alvar was not observed for the subject lands.

Significant Wildlife Habitat Type	Habitat Description	Habitat Assessment March 2022
Old Growth Forest	Old growth forests are characterized by heavy mortality or turnover of over story trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris. Stands must be 30 ha or greater in size with a minimum of 10 ha of interior habitat (interior habitat determined with a 100 m buffer).	**No** Old growth forest was not observed.
Savannah	Savannah is a tallgrass prairie habitat that has tree cover between 20 - 60%.	**No** Savannah was not observed for the subject lands.
Tallgrass Prairie	Tallgrass Prairie has ground cover that is dominated by prairie grasses. An open tallgrass prairie has less than 25% tree cover.	**No** Tallgrass Prairie was not observed for the subject lands.
Other Rare Vegetation Communities	Rare vegetation communities may include beaches, fens, forests, marsh, barrens, dunes and swamps, as identified in Appendix M of the Significant Wildlife Habitat Technical Guide.	**No** Rare vegetation communities were not observed.
Specialized Habitat for Wildlife		
Waterfowl Nesting Area	Waterfowl nesting areas are upland areas adjacent to marsh, shallow aquatic and swamp habitat. In order to be considered significant these features must extend 120 m from of a wetland in order to deter predators	**No** Suitable habitat is not associated with the subject lands.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Nests for these species are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands or on structures over water. Osprey nests are usually at the top of a tree, while Bald Eagle nets are typically in super canopy trees.	**No** No Bald Eagle or Osprey nests were observed within the subject lands.
Woodland Raptor Nesting Habitat	Woodland raptor habitat can be found in all natural or conifer plantation woodland/forest stands that are greater than 30 ha in size with more than 10 ha of interior forest habitat (interior habitat determined with a 200 m buffer).	**No** Suitable habitat is not associated with the subject lands
Turtle Nesting Areas	Ideal nesting habitat for turtles are close to water and away from roads and sites that are less prone to loos of eggs by predation. These areas are often associated with exposed mineral soil (sand or gravel) areas within 100 m of a marsh, shallow aquatic, bog or fen habitat.	**No** Suitable habitat was not observed for the subject lands.
Seeps and Springs	Seeps/springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats.	**No** Seeps/springs were not observed within the subject lands

Significant Wildlife Habitat Type	Habitat Description	Habitat Assessment March 2022
Amphibian Breeding Habitat (Woodland)	This type of habitat is associated with the presence of a wetland, lake or pond that is within or adjacent (within 120m) of a woodland. Woodlands with permanent ponds or those contain water until mid-July are more likely to be used as breeding habitat.	**Yes** Suitable habitat was observed for the subject lands.
Amphibian Breeding Habitat (Wetlands)	Wetlands and pools that are greater than 500 m^2 and are isolated from woodlands (greater than 120 m)	**No** Suitable habitat is not associated with the subject lands.
Marsh Bird Breeding Habitat	This type of habitat occurs in wetlands with shallow water and emergent aquatic vegetation present	**No** Suitable habitat is not associated with the subject lands.
Woodland Area-Sensitive Bird Breeding Habitat	Habitats where interior forest breeding birds are breeding. These forests are typically larger mature forest stands or woodlands that are greater than 30 ha in size (interior habitat determined with a 200 m buffer).	**No** Suitable habitat is not associated with the subject lands
Open Country Bird Breeding Habitat	This type of habitat occurs in larger grassland areas (including natural and cultural fields and meadows) that are greater than 30 ha in size. Grasslands that are being actively used for farming (i.e. row cropping, intensive hay, livestock pasturing in the last 5 years) typically do not provide ideal habitat for open country bird species.	**No** Suitable habitat is not associated with the subject lands.
Shrub/Early Successional Bird Breeding Habitat	This type of habitat occurs in large field areas succeeding to shrub and thicket habitats that are greater than 10 ha in size.	**No** Suitable habitat is not associated with the subject lands.
Terrestrial Crayfish	This type of habitat occurs in meadows and edge of shallow marshes.	**No** Suitable habitat is not associated with the subject lands.
Special Concern and Rare Wildlife Species	This type of habitat occurs wherever special concern and provincially rare (S1, S2, S3 and SH) plant and animal species occur.	**No** No species listed as special concern or as provincially rare were observed.
Animal Movement Corridors		
Amphibian Movement Corridors	This habitat consists of movement corridors between breeding habitat and summer habitat. Corridors may be found in all ecosystems associated with water.	**Yes** The Towpath drain within the subject lands.

Appendix F

Proposed Draft Plan of Subdivision

DATE: 2024-10-21
DWG: 2200-SK101

N

MONTGOMERY ROAD

RICE ROAD

PROPOSED WATERMAIN

EX. DRIPLINE

3m TRAIL

STREET A

STREET B

STREET C

STREET D

STREET E

BLOCK 1

BLOCK 2

BLOCK 3

BLOCK 4

BLOCK 61

BLOCK 62

BLOCK 63

BLOCK 64

BLOCK 65

BLOCK 66

BLOCK 67

BLOCK 68

BLOCK 69

BLOCK 70

BLOCK 71

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BLOCK 127

BLOCK 128

BLOCK 129

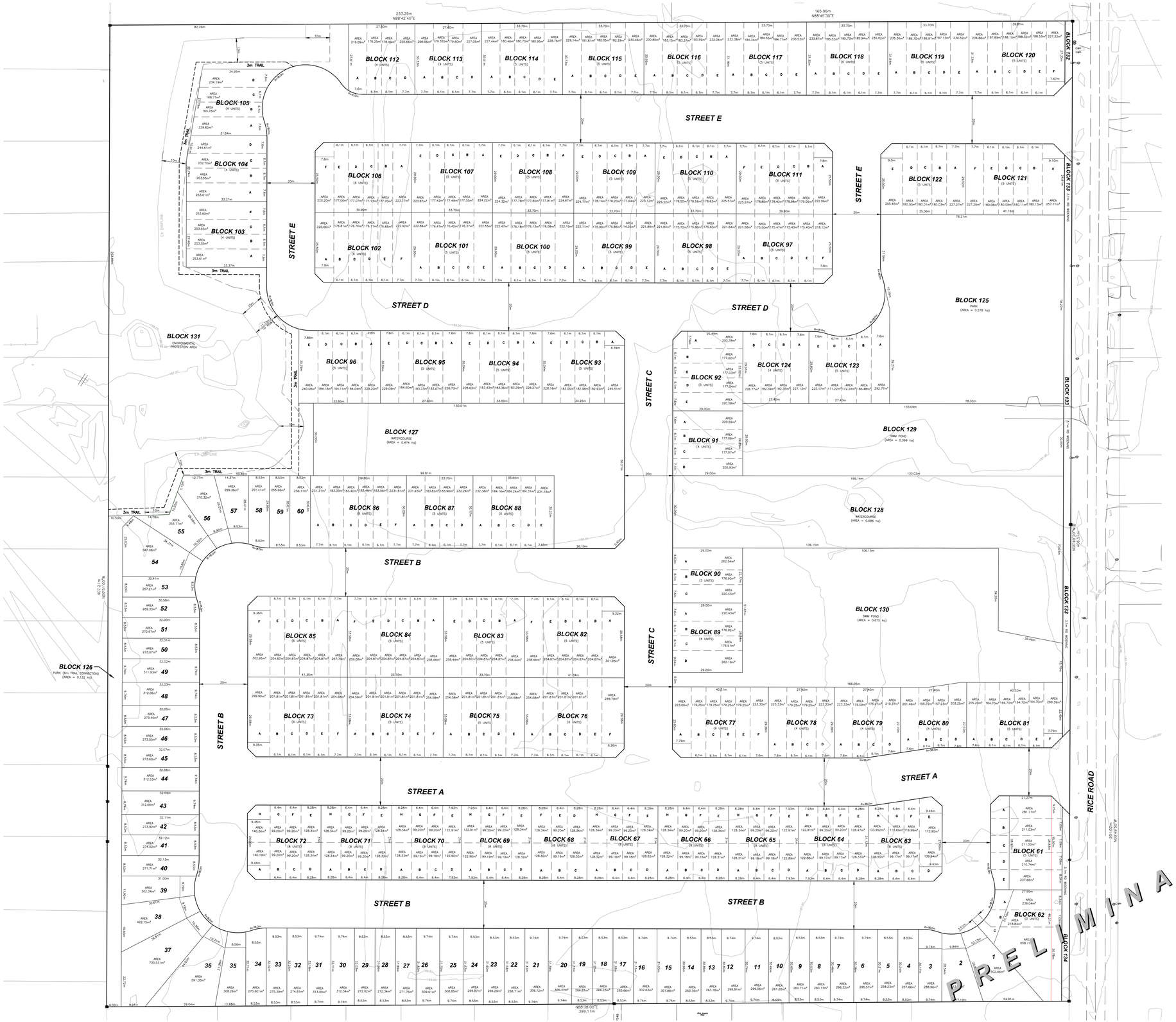
BLOCK 130

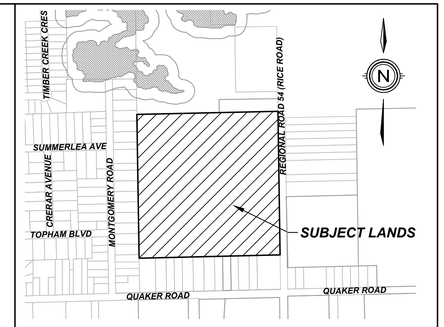
BLOCK 131

FLOWERING DOGWOOD

WHITE WOODASTER

BUTTERNUT TREE





KEY PLAN
N.T.S.

DRAFT PLAN

LEGAL DESCRIPTION

PART OF TOWNSHIP LOT 175
GEOGRAPHIC TOWNSHIP OF THOROLD
NOW IN THE CITY OF WELLAND
REGIONAL MUNICIPALITY OF NIAGARA

OWNER'S CERTIFICATE

BEING THE REGISTERED OWNER, I HEREBY AUTHORIZE UPPER CANADA CONSULTANTS TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE CITY OF WELLAND FOR APPROVAL.

BSF COMMUNITIES INC. DATE

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED ARE CORRECTLY SHOWN.

NOV. 30, 2023

J.D. BARNES LIMITED 21-16,555,554,555 DATE
DASHA PAGE, OLS

REQUIREMENTS OF SECTION 51(17) OF THE PLANNING ACT

a) SEE PLAN
b) SEE PLAN
c) SEE PLAN
d) SEE PLAN
e) SEE PLAN
f) SEE PLAN
g) SEE PLAN
h) MUNICIPAL WATER
i) SILTY SAND
j) SEE PLAN
k) FULL SERVICE
l) SEE PLAN

LAND USE SCHEDULE

LAND USE	LOT/BLOCK	# OF UNITS	AREA(ha)	AREA(%)
SINGLE FAMILY RESIDENTIAL	LOT 1–60	60	1.852	11.40
RICE RD STREET TOWNHOUSE	BLOCK 61–62	8	0.224	1.38
BACK TO BACK TOWNHOUSE	BLOCK 63–72	78	0.897	5.52
STREET TOWNHOUSE	BLOCK 73–124	261	5.342	32.88
PARK	BLOCK 125–126		0.701	4.31
WATERCOURSE	BLOCK 127–128		1.059	6.52
SWM PONDS	BLOCK 129–130		1.074	6.61
ENVIRONMENTAL PROTECTION	BLOCK 131		1.175	7.23
ROADWAY WIDENING	BLOCK 132–134		0.106	0.65
ROADWAY			3.816	23.50
TOTAL		407	16.246	100.00

DEVELOPABLE AREA = 14.012ha (EXCLUDES BLOCK 127,128,131)
DEVELOPABLE DENSITY = 28.97 units/ha
PARK – 0.701ha/14.012ha = 5.00% OF DEVELOPABLE AREA

#	REVISION	DATE	INIT
.	.	.	.
0	ISSUED FOR REVIEW	2024-10-04	TA

UPPER CANADA CONSULTANTS
ENGINEERS / PLANNERS

DRAWING TITLE
DRAFT PLAN OF SUBDIVISION (20m ROW)

DRAFTING	TA
DATE	OCTOBER 4, 2024
PRINTED	OCTOBER 24, 2024
SCALE	1:750
DWG No.	REV
2200-DP	**0**

Appendix G

Design for Drain Realignment

PELHAM
WELLAND

REGIONAL ROAD 54 (RICE ROAD)

PELHAM
WELLAND

PELHAM
THOROLD

THOROLD
WELLAND

N

#509 REGIONAL ROAD 54 (RICE ROAD)

#494 REGIONAL ROAD 54 (RICE ROAD)

#436 QUAKER ROAD

#469 REGIONAL ROAD 54 (RICE ROAD)

#450 REGIONAL ROAD 54 (RICE ROAD)

#436 QUAKER ROAD

REGIONAL ROAD 54 (RICE ROAD)

SECTION 1 (WEST OF REGIONAL ROAD 54 (RICE ROAD))	
EXISTING WETLAND	0.057ha
PROP WETLAND	0.581ha

SECTION 2 (EAST OF REGIONAL ROAD 54 (RICE ROAD)) TO EPA	
EXISTING WETLAND	0.453ha
PROP WETLAND	0.757ha

PROPOSED WETLAND AREA PROVIDED (TOTAL AREA = 3.885ha)

EXISTING WETLAND STAKED OUT JUNE 14 2023 (TOTAL AREA = 2.618ha)

UPPER CANADA CONSULTANTS
ENGINEERS / PLANNERS

CITY OF Welland

TOWPATH DRAIN RE-ALIGNMENT
WELLAND

WETLAND AREAS 1

CONSULTANT FILE No.	21243
DATE	2023-07-26
PRINTED	2023-07-27
SCALE	1:1000 m
REF No.	
DWG No.	21243-WETLAND1
REV	0