



PLAN OF SUBDIVISION

PART LOT 9 and 10, CONCESSION 1
MUNICIPALITY OF PORT HOPE
NORTHUMBERLAND COUNTY

SCOPED ENVIRONMENTAL IMPACT STUDY

Prepared for: Penryn Mason Homes Inc.
Submitted by: Niblett Environmental Associates Inc.
File: PN 19-052

Date: September 2019





Niblett Environmental Associates Inc.
Biological Consultants

September 19, 2019

PN 19-052

Ms. Ashley Mason
Penryn Mason Homes Inc.
70 Innovator Ave, Suite 1
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**SUBJECT: SUBDIVISION APPLICATION
PART LOT 9 AND 10, CONCESSION 1
MUNICIPALITY OF PORT HOPE
NORTHUMBERLAND COUNTY**

SCOPED ENVIRONMENTAL IMPACT STUDY

Dear Ms. Mason,

Please find enclosed our scoped Environmental Impact Study (EIS) for the proposed plan of subdivision located at Part Lot 9 and 10, Concession 1, Township of Port Hope, Northumberland County.

We have completed the necessary biological inventories and assessments. We have made recommendations to mitigate the impacts from the development.

Please contact our office if you have any questions or require further project support.

Sincerely,

A handwritten signature in blue ink, appearing to read "C. Ellingwood", is written over a light blue horizontal line.

Chris Ellingwood
President and Sr. Terrestrial and Wetland Biologist

ACKNOWLEDGEMENTS

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**PLAN OF SUBDIVISION
PENRYN ESTATES-PHASES 5/9
PART LOT 9 & 10, CONCESSION 1
MUNICIPALITY OF PORT HOPE
NORTHUMBERLAND COUNTY**

SCOPED ENVIRONMENTAL IMPACT STUDY

Introduction

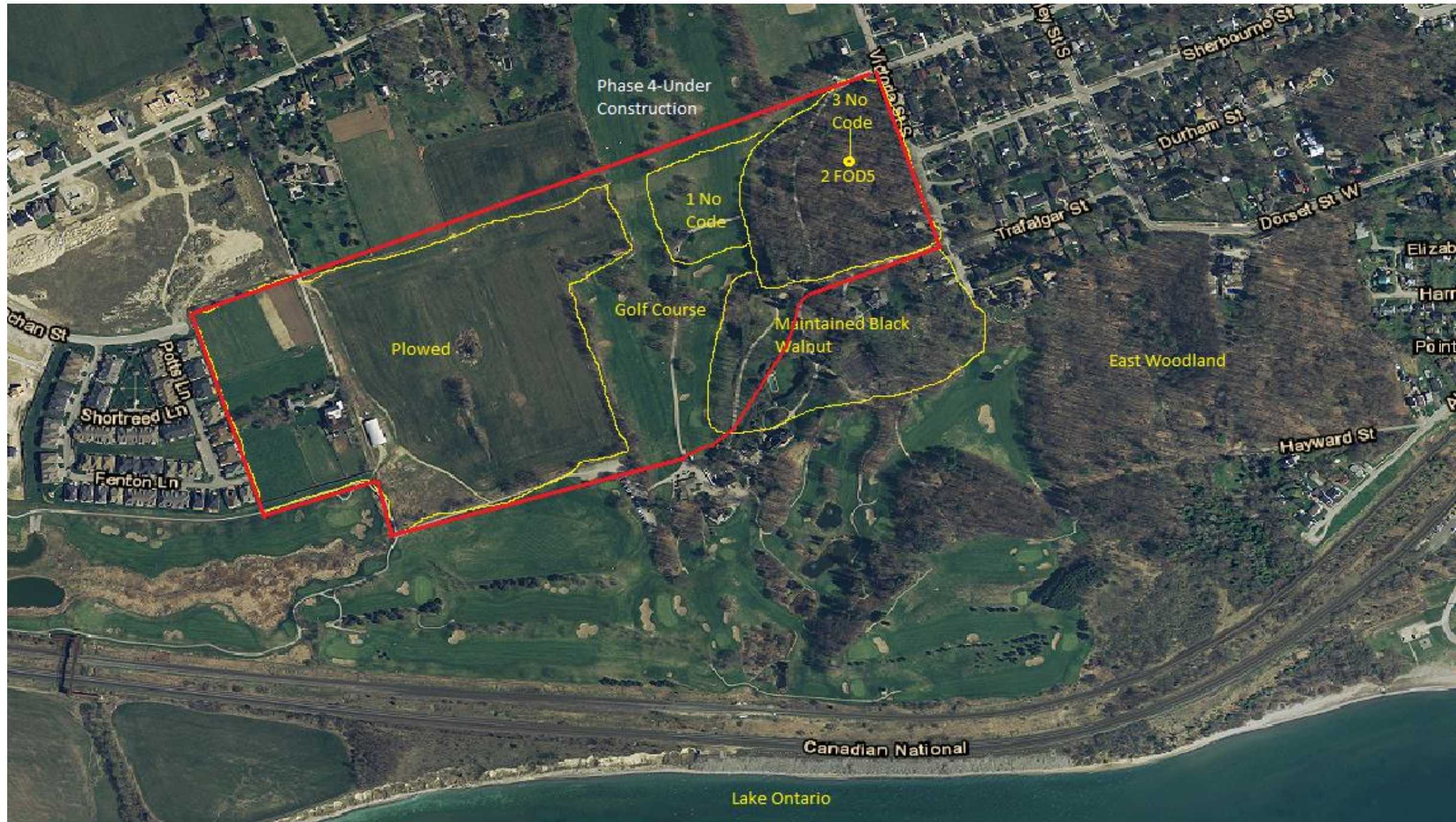
1.0 1.1 Background

Niblett Environmental Associates Inc. (NEA) was retained to complete a Scoped Environmental Impact Study (EIS) for the proposed 'development' application (Plan of Subdivision) at Part Lot 9 & 10, Concession 1, Township of Port Hope, Northumberland County. The key areas to be studied were the presence of a possible unevaluated wetland in the interior of the woodland, potential habitat for Species at Risk, possible Significant Wildlife Habitat, potential regionally rare plant species and an assessment of the functions and possible significance of the woodland. The property is shown as Phases 5 and 9 on the draft plan of subdivision.

Under separate cover, Mason Homes has commissioned several other studies, including work on this site by other environmental consultants. (Tree Inventory (Treescape, 2019 & Proposed Compensation [bat] (Geoprocess R. A, 2018). The Municipality of Port Hope, Northumberland County and Ganaraska Region Conservation Authority (GRCA) all require an EIS as part of the development application.

1.2 Location and Study Area

The study area is located at Part lot 9 and 10, Concession 1, Municipality of Port Hope, Northumberland County. The study area is located between Victoria Street South and Potts Lane. Phase 4 of the development is identified to the north, with the Port Hope Golf and Country Club located to the west and south. The property within Phases 5 and 9 is predominately abandoned farmland, a woodlot, old farm buildings and a portion of the Port Hope Golf and Country Club (Figure 1).





LEGEND		ELC TYPES (1 st Approximation)	
CODE	DESCRIPTION	CODE	DESCRIPTION
	Study Area	1 No Code	Disturbed Golf Course Edges
	Vegetation Community	2 FOD5	Dry-Fresh Sugar Maple Deciduous Forest Ecosite (Sugar Maple and Norway Maple)
		3 No Code	Disturbed area

FIGURE 1: VEGETATION COMMUNITIES
 PART LOT 9 & 10, CONC 1
 TOWNSHIP OF PORT HOPE
 NORTHUMBERLAND COUNTY



Niblett Environmental Associates Inc.
 Biological Consultants



Project No. 19-052

Contact: PHONE #
 705-878-9399

Drawing Date:
 September 5, 2019

1.3 Study Rationale

This section identifies federal, provincial and other regulatory legislation, policies, official plans (OP) and OP amendments that are applicable and relevant to the study area and the immediate vicinity. This includes policies that triggered the study. These documents may refer to natural features, Species at Risk, wildlife habitat and other features relevant to this study.

Federal Legislation

Migratory Birds Convention Act, 1994 (S.C. 1994, c.22)

1.3.1

The purpose of the Migratory Birds Convention Act (MBCA 1994) is to implement the Convention by protecting and conserving migratory birds — as populations and individual birds — and their nests.

No work is permitted to proceed that would result in the destruction of active nests (i.e., nests with eggs or young birds), or the wounding or killing of bird species protected under the MBCA and/or Regulations under that Act.

1.3.2

Provincial Legislation

Endangered Species Act, 2007

The purposes of the Ontario Endangered Species Act (ESA 2007) are to:

1. To identify species at risk based on the best available scientific information, including information obtained from community knowledge and aboriginal traditional knowledge;
2. To protect species that are at risk and their habitats, and to promote the recovery of species that are at risk;
3. To promote stewardship activities to assist in the protection and recovery of species that are at risk. 2007, c. 6, s. 1. (Government of Ontario, 2018)

The ESA clearly defines the five classifications of species status as *extinct*, *extirpated*, *endangered*, *threatened*, or *special concern*, and provides guidelines on the process of species status determination.

Regulations made under this act include: Ontario Regulation 230/08 and 242/08.

Ontario Regulation 230/08 provides the list of Species at Risk (SAR) in Ontario, which is updated regularly. This list was most recently consolidated on August 1, 2018 (Government of Ontario, 2018b). Species status provided in the list is assessed by an independent body, the Committee on the Status of Species at Risk in Ontario (COSSARO), based on the best-available science and Aboriginal Traditional Knowledge.

General habitat protection is afforded to all species listed as *endangered* or *threatened*. General habitat descriptions are technical, science-based documents that have been developed for some of the species that are most likely to be affected by human activity (Government of Ontario 2018c). Further information including a *Recovery Strategy* or *Management Plan* is required for each listed species, on a timeline dictated by the species status.

Ontario Regulation 242/08 explains possible exemptions to the ESA and details on how the purpose of the ESA is to be carried out.

Provincial Policy Statement, 2014

The Provincial Policy Statement, 2014 (PPS) is the statement of the Ontario government's policies on land use planning. It applies province-wide (in the province of Ontario) and provides provincial policy direction on land use planning. Municipalities use the PPS to develop their official plans and to guide and inform decisions on other planning matters. The PPS is issued under Section 3 of the Planning Act and all decisions affecting land use planning matters 'shall be consistent with' the Provincial Policy Statement (Government of Ontario, 2014).

Portions of Sections 2.1.5-2.1.8 of the Provincial Policy Statement (PPS 2014) apply to this project.

2.1.5 Development and site alteration shall not be permitted n:

- a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E¹;*
- b) significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)¹;*
- d) significant wildlife habitat;*

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

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

Growth Plan for the Greater Golden Horseshoe, 2019

The Growth Plan for the Greater Golden Horseshoe, 2017 came into effect on July 1, 2017, replacing the Growth Plan for the Greater Golden Horseshoe, 2006 (OMMAH, 2017). The plan was recently revised (effective May 16, 2019) with some changes to the natural heritage system policies and removing the provincial NHS mapping layers.

The 2019 Growth Plan for the Greater Golden Horseshoe is a long-term plan that works with the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan to provide a framework for growth management in the region (OMMAH, 2019)

The key growth management goals for the 2019 Growth Plan for the Greater Golden Horseshoe include:

- Managing growth by encouraging the development of communities in cities and towns that provide affordable housing options and easy access to the businesses and public services residents of all ages use every day.
- Improve and increase transportation options while reducing congestion.
- Focus investments in regional public service facilities in downtown areas.
- Build communities that maximize infrastructure investments, while balancing local needs for the agricultural industry and natural areas.
- Increase and promote economic growth (OMMAH, 2019).

The subject property is within the settlement area of Port Hope. According to Section 4.2.2 (Natural Heritage System), “*The Natural Heritage System* mapping will exclude lands within *settlement area* boundaries that were approved and in effect as of July 1, 2017” (OMMAH, 2019).

Local and Other Regulatory Bodies

Northumberland County Official Plan (2016)

The Northumberland County Official Plan (2016) indicates the subject property is within an “Urban Area” (Schedule A, Land Use). According to Section C4.3:

a) The creation of more than three units or lots through either plan of subdivision, consent or plan of condominium on one property is permitted provided the lands were zoned or designated for the type and amount of development in a local Official Plan on June 16, 2006; and,

b) Lot creation that is not subject to sub-section C4.3 a) of this Plan shall be governed by the policies of the local Official Plan, recognizing that urban areas and rural settlement areas shall be focus of growth.

Municipality of Port Hope

The subject property falls within a designated Greenfield Area as identified within Schedule A-1 Major Intensification Areas. Designated Greenfield areas are largely undeveloped lands subject to policies contained in Section 2.27 of the GPGGH.

The property also contains woodland and an area marked as “wetland” identified on Schedule B-1 Development Constraints Urban Area Detail. Section D1 of the OP discusses natural heritage resources, components of a natural heritage system, (indicating a NHS would be established under an OPA which would be undertaken within 3 years), and linkage areas.

Section D1.5 b) 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: i) Significant woodlands; ii) Significant valleylands; iii) Non-significant coastal wetlands; iv) Significant wildlife habitat; and, v) Significant Areas of Natural and Scientific interest.

c) Development and site alteration shall not be permitted in fish habitat except in accordance with Provincial and Federal requirements. d) Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

1.4 Other Resources Referenced

Prior to field surveys, background information for the study area and surrounding lands was reviewed to provide context for the setting and sensitivity of the site. Background information came from a variety of sources including several reports and agency correspondence that was completed for the study site towards the approvals:

Data Sources

- Aerial imagery
- 1.4.1 MNRF Land Information Ontario (LIO) database mapping and Ontario Natural Heritage Information Centre (NHIC) Make a Map tool (2019)
- Ontario Breeding Bird Atlas data (Bird Studies Canada, 2007)
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2019)

Literature and Resources

- 1.4.2
 - Natural Heritage Reference Manual (MNRF, 2010)
 - Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. Peterborough, 38pp. (OMNRF, 2015)
 - Unevaluated Wetland Evaluation Memo (GeoProcess Research Associates, 2019)
 - Permit Application-Forest Conservation Bylaw 2015-72 (AON Inc., 2019)
 - Tree Inventory (Treescape, 2019).

1.5 Description of Development

The proposal is for a proposed subdivision with a total of 355 units comprising of townhouses and single-detached houses as part of Phases 5 and 9. The subdivision entrance would be off Victoria Street South with public road connections into Phase 4 to the north.

1.6 Scope of Report

The main objective of this EIS report is to supplement the existing environmental reports for the property in support of a proposed subdivision. Preliminary discussions with GRCA indicated the scope of the work should include breeding bird surveys, ELC and incidental amphibian and mammal surveys. The results of the field work should indicate that the proposed development will not negatively affect the functions of natural features on the subject property.

This report will only deal with the suitability of the site from a biological perspective and the constraints due to the presence of the key natural heritage features and natural heritage system policies. Any other approvals or constraints due to zoning, flood and fill regulations, health regulations, minimum distance separation, other approvals for the municipality and other agencies are the responsibility of the owner.

Study Methods

2.1 General Approach

2.0 The study was completed in three distinct phases. The first phase involved the collection and review of existing information on the site including existing environmental reports, recent aerial imagery, key natural features and wetland mapping, Official Plan schedules for Municipality of Port Hope and Northumberland County, and other data available from GRCA and the Ontario Ministry of Natural Resources and Forestry (OMNRF). NEA Biologists completed a review of data from OMNRF's natural heritage databases and obtained the latest information on natural features and Species at Risk.

The second phase consisted of site visits by NEA's Terrestrial and Wetland biologists to collect new site-specific data to supplement the existing environmental reports completed. Discussions with GRCA in an e-mail dated May 2019 and a follow up telephone call, determined the scope of the field work would include:

- Botanical inventory and vegetation community mapping (according to the Ecological Land Classification for Southern Ontario);
- General surveys for wildlife (including birds, amphibians, reptiles and mammals);
- Breeding Bird Surveys
- Presence of unevaluated wetland
- Significance of the woodland as per the Significant Woodland criteria

The third phase involved preparation of an EIS report based on the natural features identified. Specific mitigation measures for protecting the woodland, sensitive species and other natural features on or adjacent to the study site are included. This report also contains a figure that illustrates the location of vegetation communities and recommended buffers/setbacks.

2.2.1

2.2 Site Study Methodology

Physical Site Characteristics

Site characteristics were assessed during field visits. These included general documentation of existing disturbances, current usage, age of vegetation cover, access lanes, general topography and soils. The descriptions from other study team members and geotechnical reports are used where available to assist in describing natural features.

Biophysical Inventory

2.2.2.1 *Vegetation*

Ecological Land Classification (ELC) Survey Method

All vegetation encountered in the study area was inventoried during the site visits. Delineation and classification of the vegetation community types was based on the Ecological Land Classification for Southern Ontario (Lee et al., 1998). General notes on disturbance, topography, soil types, soil moisture and state of each community were also compiled. Wetland boundaries were confirmed in the field following the methodologies contained in the Ontario Wetland Evaluation System Southern Manual, Third Edition (OMNR, 2013 and updates, version 3.2)

Rare, significant or unusual species were searched for. Species significance or rarity on a national, provincial, regional and local level was based on published literature and standard status lists. These included COSEWIC (2019), COSSARO (2018) and Riley et al., (1989).

2.2.2.2 *Wetlands*

The wetland boundary was delineated in two phases. The first phase was to review recent aerial photographs and available wetland mapping. Recent MNRF GIS database layers were also reviewed. As part of the workplan, the presence of wetland and confirmation of a wetland boundary was confirmed in the field using the methodologies in the Ontario Wetland Evaluation System, third edition, version 3.2, southern Ontario manual (2013) and GRCA definitions. The entire property was walked and the plant species, soils and soil moisture checked. A memo from Geoprocess (2019) discussed the wetland. NEA conducted detailed botanical inventories to confirm the findings.

A site visit with GRCA staff (watershed ecologist and planner) was conducted on June 24, 2019 to look specifically at a location on the property that may be wetland.

2.2.2.3 *Wildlife*

While biologists were on site conducting surveys of vegetation communities, incidental observations of any wildlife (including birds, mammals, amphibians and reptiles) on site were recorded. Documentation included notes about the species detected, their location and the type of encounter (i.e., direct sightings and indirect evidence such as calls, tracks, scat, burrows, dens, trails and browse).

2.2.2.4 *Woodlands*

Woodlands are a feature described under Section D1.8 under the Port Hope Official Plan. This section *outlines the responsibility for determining the significance of woodlands, valley lands and wildlife habitat areas rests with the County and the local municipalities and will be determined when the County establishes a natural heritage system in accordance with Section D1.2 of this Plan.*

In addition the provincial policies for significant woodlands were also reviewed. This is found under the Oak Ridges Moraine Technical Paper No. 7 and as per the MNRF Natural Heritage Reference Manual.

3.0 **Survey Results**

The following section presents NEA site-specific survey data only. Supporting information, the background review or other sources will be presented and discussed in Section 4.0 - Discussions and Analysis.

3.1^{3.1.1} **Physical Site Characteristics**

General Site Characteristics

The site was generally flat with some disturbed area at the west side of the study area adjacent to the golf course. A forest block was situated adjacent to Victoria Street with driveways entering the site to access the active golf course and the current construction site which made up a portion of the study area. Some areas had already been cleared of trees with one area plowed at the far west side of the subject property for archaeology purposes.

3.2 Biological Inventories

Vegetation

3.2.1.1 Introduction and Level of Effort

The vegetation communities were delineated within the study by NEA biologists according to^{3.2.1} the methodologies outlined in Section 2. A summary of the level of effort and environmental conditions have been provided in Table 1.

Table 1. Vegetation Surveys – Level of Effort

Survey Date	Survey Type	Weather	Start Time	Effort (person hours)
May 27, 2019	Reconnaissance on woodlot	N/A	3:45pm	0.5
May 30, 2019	ELC, wetland assessment and woodland assessments	12 ^o C, cloud cover 10/10, wind scale 1, no precipitation	9:30am	2
June 18, 2019	ELC	14 ^o C, cloud cover 8/10, wind scale 0-1, no precipitation	6:00am	0.5

3.2.1.2 ELC Code Descriptions

Three (3) vegetation communities were identified within the study area. Each community is described and illustrated in Figure 1.

A total of 54 plant species were identified during field surveys. The dominant species in each community are described below and a complete plant list is found in Appendix I-A.

Community 1 Golf Course Unmanaged Edges/Disturbed Portions (No Applicable ELC code)

This community was identified on the western side of the property and encompassed all the unmanaged areas of the golf course as well as a few areas that had been disturbed previously. The disturbed areas were regenerating. These areas contained a variety of common weed and pioneer site species, dominated mostly by herbaceous plants. Species identified here included garlic mustard (*Alliaria petiolata*), common dandelion (*Taraxacum officinale*), coltsfoot (*Tussilago farfara*), Kentucky bluegrass (*Poa pratensis*), white clover (*Trifolium repens*), motherwort (*Leonurus cardiaca*) and Canada thistle (*Cirsium arvense*). The only tree species identified here included Manitoba maple (*Acer negundo*) with some wild red raspberry (*Rubus idaeus*) and choke cherry (*Prunus virginiana*).



Photo 1. Unmanaged golf course edges (Photo date: May 30, 2019)

Community 2 Norway Maple and Sugar Maple Forest (ELC Code: FOD5)

This community was identified in the eastern half of the property. This mature deciduous forest dominated by Norway maple (*Acer platanoides*) and sugar maple (*Acer saccharum var saccharum*). Some large specimen trees of sugar maple and Norway maple were identified here with a dbh of around 90 cm. Overall the average dbh was around 40 dbh. A variety of deciduous tree species were present here including Manitoba maple (*Acer negundo*), white ash (*Fraxinus americana*), black cherry (*Prunus serotina*) and black walnut (*Juglans nigra*). Butternut specimens (*Juglans cinerea*) were also identified in this community. A diverse but open understory included species such as prickly gooseberry (*Ribes cynosbati*), European buckthorn (*Rhamnus cathartica*), American black currant (*Ribes americanum*), Virginia creeper (*Parthenocissus inserta*), choke cherry and tartarian honeysuckle (*Lonicera tartarica*). The ground cover contained a variety of species characteristic of rich soils with a mixture of common deciduous woodland species, as well as a number of garden escapees. The dominant herbaceous species found throughout the woodland included false Solomon seal (*Smilacina racemosa*) and garlic mustard (*Allaria petiolata*). Other species identified included rose-twisted stalk (*Streptopus roseus*), wood nettle (*Laportea canadensis*), sweet

white violet (*Viola blanda*), jack-in-the-pulpit (*Arisaema tryphyllum*), celandine (*Chelidonium majus*) and rough bedstraw (*Gallium asprellum*).



Photo 2: Norway maple and sugar maple forest (Community 2) – Photo Date: May 30, 2019

Community 3 Disturbed Area (No ELC Code Applicable)

A small area within the woodlot alongside some very large specimen trees looked to be an old driveway containing disturbed soils and was regenerating in vegetation. Some of the species recorded here included ostrich fern (*Matteucia struthiopteris*), garlic mustard, white avens (*Geum canadense*), Canadian enchanter's nightshade (*Circaea lutetiana L. ssp canadensis*) and wild red raspberry. Sugar maple, Manitoba maple and numerous large mature black walnut (*Juglans nigra*) (n 60-100 cm dbh) were the trees present in this area.



Photo 3: disturbed area -Photo date: May 30, 2019

3.2.2 Wetlands

GRCA questioned a small linear feature identified during desktop exercise, located within the woodland as potentially being wetland. NEA conducted soil analysis within this feature. It was determined that this area was not wetland based on the absence of mottles or gley within the soil sample (depth of 100cm). GRCA revisited the site on June 24th, 2019 with NEA to confirm the absence of wetland. GRCA was in agreement that this potential wetland pocket identified via desktop was in fact not present. A few clumps of ostrich fern were present but may have been dumped here, as the site was accessible and contained numerous piles of soil, garden clippings, branches and an uneven surface.

Birds

3.2.3.1 *Introduction and Level of Effort*

Breeding birds were identified within the study by NEA biologists according to the methodologies outlined in Section 2.2.2.2. A summary of the level of effort (time spent conducting surveys) and environmental conditions has been provided in Table 2.

Table 2. Bird Surveys – Level of Effort

Survey Date	Survey Type	Weather	Start Time	Effort (person hrs)
May 30, 2019	Breeding Bird	11°C, cloud cover 10/10, wind scale 0, drizzle, noise 3	7:45 AM	0.5
June 18, 2019	Breeding Bird	14°C, cloud cover 8/10, wind scale 0, no precipitation, noise 1	6:36 AM	0.5

3.2.3.2 Breeding Bird Surveys

A total of 13 bird species were identified during breeding bird surveys on May 30th and June 18th, 2019. A number of common species typical forest and edge habitats were detected from the first survey station (01BBS) located adjacent the woodlot (Community 2). These included, great crested flycatcher (*Myiarchus crinitus*), red-eyed vireo (*Vireo olivaceus*), common grackle (*Quiscalus quiscula*) and northern cardinal (*Cardinalis cardinalis*). From the point count station (02BBS) located within the forest community (Community 2), several other birds were identified including blue jay (*Cyanocitta cristata*), American crow (*Corvus brachyrhynchos*), black-capped chickadee (*Poecile atricapilus*), American robin (*Turdus migratorius*) and song sparrow (*Mesospiza melodia*).

The point count stations are identified on Figure 1. A detailed list of birds observed during the surveys and associated observations is found in Appendix II.

3.2.4

Other Wildlife

NEA biologists also kept records of any mammal and/or herpetofauna species encountered during their visit to the subject property. Although there was little evidence of other wildlife using the subject property, a red squirrel (*Sciurus vulgaris*) was identified within the woodlot (Community 2).

Woodland

NEA's Terrestrial and Wetland biologists determined that a woodland was found on the subject property (Community 2-Figure1). This woodland was dominated by deciduous tree species (i.e. sugar maple and Norway maple). This woodland was well documented within the Tree Inventory Report (Treescape, 2019). The boundary of the woodland was distinctly seen on the air photo therefore the dripline was not delineated in the field.

Discussion and Analysis

4.1 Species and Communities

Vegetation

4.0

NEA Terrestrial and Wetland Biologists observed one nationally, provincially or regionally significant plant species during their field inventories, the butternut tree (COSEWIC, 2019; SARA, 2019; COSSARO, 2018; Riley, 1989) (Appendix I-B). A Tree Inventory was produced by Treescape Certified Arborists in 2019. A separate study on butternut trees was conducted by that company. The report indicated four butternut trees were identified within the woodlot and were assessed by a certified Butternut Health Assessor. A Butternut Health Assessment Report was submitted to the Ontario Ministry of Natural Resources and it was determined that all four trees do NOT require any further protection.

None of the ecological community types identified on the property are considered provincially rare (NHIC 2019).

NHIC identified historical records within the 1km by 1km squares (17QJ1569 & 17QJ1669) containing the study area. Eastern few-fruited sedge (*Carex oligocarpa*), eastern prairie fringed orchid (*Platanthera leucophaea*) were the two vegetation species documented within this square. Neither of these species were identified during vegetation surveys. There is no habitat for either of these wet meadow species.

4.1.2

Birds

NEA Terrestrial and Wetland Biologists did not observe any nationally or provincially significant bird species during their field inventories (COSEWIC, 2019; SARA, 2019; COSSARO, 2018)(Appendix II).

One area sensitive bird species was identified within the woodlot (Community 2), yellow-bellied sapsucker (*Sphyrapicus varius*). This species inhabits forest and woodlands and prefers aspen, maple and birch stands for breeding.

The Ontario Breeding Bird Atlas (OBBA) records for the 10 km x 10 km square that overlaps the property (17QJ16) include twenty-one (21) bird species that are considered significant at the provincial level (COSSARO, 2018). These records are for: northern bobwhite (*Colinus virginianus*), least bittern (*Ixobrychus exilis*), king rail (*Rallus elegans*), black tern (*Chlidonias niger*), short-eared owl (*Asio flammeus*), common nighthawk (*Chordeiles minor*), whip-poor-

will (*Antrastomus vociferus*), chimney swift (*Chaetura pelagica*), red-headed woodpecker (*Melanerpes erythrocephalus*), olive-sided flycatcher (*Contopus cooperi*), eastern wood-pewee (*Contopus virens*), loggerhead shrike (*Lanius ludovicianus*), bank swallow (*Riparia riparia*), barn swallow (*Hirundo rustica*), wood thrush (*Hylocichla mustelina*), golden-winged warbler (*Vermivora chrysoptera*), cerulean warbler (*Setophaga cerulea*), Canada warbler (*Cardellina canadensis*), grasshopper sparrow (*Ammodramus savannarum*), bobolink (*Dolichonyx oryzivorus*) and eastern meadowlark (*Sturnella magna*). Many of these records were associated with larger natural features outside of the immediate study area. The woodland on the subject property was an isolated pocket with golf course and development surrounding it. NEA biologists did not observe any of the noted bird species during breeding bird surveys.

Other Wildlife

NEA³ Terrestrial and Wetland biologists did not observe any nationally or provincially significant mammal, amphibian or reptile species during their field inventories (COSEWIC, 2019; SARA, 2019; COSSARO, 2018).

NHIC identified historical records within the 1km by 1km squares (17QJ1569 & 17QJ1669) containing the study area. Rusty-patched bumble bee (*Bombus affinis*) documented within this square. This species inhabits open habitat including mixed farmland, urban settings and open woods. This species was not identified during field surveys.

The Ontario Reptile and Amphibian Atlas (Ontario Nature, 2019) records for the 10 km x 10 km square that overlaps the property (17QJ16) includes one species that was considered significant at the provincial level (COSSARO, 2018). The record was for snapping turtle (*Chelydra serpentina*). As was the case with records from the OBBA, the observations were associated with larger natural features outside of the immediate study area. No wetland was identified within the study area.

Bats were identified on the subject property by Geoprocess Research Associates as noted in email correspondence via the client. A compensation plan was submitted to MNR which has accepted that the removal of bat habitat can occur provided that removal of trees in the bat habitat is not conducted between between April 1st and Sept 20th (MNR, Jan 2019). The Compensation Plan included the placement of several bat boxes and 3 ha of enhanced foraging habitat (Geoprocess R.A, Nov 2018). As indicated by Geoprocess twenty bat boxes were proposed to be located on 10 poles placed in several locations around the general area. Five poles are to be placed south of the development on the golf course lands, 2 poles to be placed south of the railway line along a fencerow adjacent Lake Ontario and the other 3 to

be placed within the valleyland feature on the Mason Homes 6, 7, 8 property. The enhancement area is proposed to be located south-west of the proposed subdivision, within the adjacent golf course lands (Geoprocess R.A, Nov 2018).

4.2 Natural Features

Woodland

As defined in the Municipality of Port Hope Official Plan (2017) Woodlands are considered Significant if they are 4 ha in size or greater. The woodland on the subject property is 3.15 ha, however was contiguous with other adjacent woodlands (<20m gap) to the south across the golf course and connecting to a larger woodland to the south-east. Although the canopy was contiguous to the south, the woodland adjacent was hardly a woodland, with planted walnut trees growing on maintained lawns on private property. A larger woodlot was seen further south and was contiguous with the walnut canopy. Due to the contiguous nature of the woodland on the subject property with other woodlands on adjacent properties, this woodland would be considered significant based on the definition in the Municipality of Port Hope Official Plan.

5.0 Impact Assessment and Recommendations

The following section provides a description of the predicted impacts that may result from the proposed development (Table 4). It also highlights key mitigation measures to be implemented to avoid and/or minimize adverse effects to the natural features within or near the project. A full list of mitigation measures has been provided in Section 7 of this report.

5.1 Significant Woodland

The woodland (Community 2) on the subject property will be removed in order to accommodate the proposed subdivision. The woodlot was 3.15 ha in size and contained some ecological functions in terms of wildlife habitat and species diversity. This woodland contained several functions, however had its limitations. Functions identified here as typical for many woodlots included cover for wildlife, nutrient cycling and clean air and long-term storage of carbon. The woodland was mature and contained many over-mature trees (i.e. Norway maple and sugar maple). Additionally, significant species (butternut) and wildlife habitat (bats) were documented in this woodland.

Although this woodlot contained a diversity of plant and tree species within it, many invasive

species and garden escapees were abundant throughout. An abundance of garlic mustard was identified throughout the entire woodland and was considered one of the dominant species in the ground layer. Evidence of garden waste was also seen along the eastern edges of the woodlot. The spread of cultivars was seen in pockets around the forest. The canopy was dominated by non-native tree species (i.e. Norway maple) and sugar maple.

The woodland contained human disturbance on all sides. To the southeast there is woodland cover and a continuous canopy across several private lots and parts of the buildings and maintained areas along the access road and some of the holes of the golf course.

Treescape (2019) conducted a tree inventory in the main woodlot which summarized the following points

- *Norway Maple accounts for approximately 47% of the tree inventoried. Most of these trees are in moderate structural condition presenting with all the inherent structural defects associated with the species.*
- *CP1 [NEA community 2] contains a high quantity of mature trees in a state of decline, primarily, White Pine and Black Locust. Despite this decline, there is also a high degree of natural regeneration occurring throughout this area. This compartment also has a large amount of standing dead trees and fallen dead material on the ground. The north section of the compartment is predominantly Norway Maple, White Pine, Black Locust and Red Oak while the southern portion has a higher content of Ash, Black Walnut and Sugar Maple.*
- *CP 2 [NEA community 2] has a diverse mix of tree species. The White Pine located in this area are quality mature specimens worthy of long-term retention.*
- *CPT 3 [NEA community 2] has a high concentration of middle mature to mature Norway Maple, Black Locust and Manitoba Maple with degrading health and/or structural integrity.*
- *CPT 4 [NEA community 2] is a nice cluster of middle mature Norway Spruce acting as a buffer/screen to the golf course.*

Based on our work and that of the other consultants, the ecological functions of the woodland are summarized in Table 3. The table includes the typical functions that are assessed to determine woodland significance.

Table 3. Summary of Ecological Functions of Woodland (NEA Community 2).

Function	Criteria	Policy	Function present
Size	4 ha or greater	Port Hope OP	Yes
Interior habitat	Interior bird habitat greater than 100 m from edges	Natural Heritage Reference Manual	No, woodland less than 160 m wide
Connectivity	Connected to other woodlands, valleys or natural heritage features	Natural Heritage Reference Manual	No
Part of valley	Associated with a watercourse	Natural Heritage Reference Manual	No
Bat habitat	Bat roosting or maternity colony trees	Endangered Species Act	Yes- To be compensated through ESA permit
Butternut trees	Species at Risk	Endangered Species Act	Trees present- but no further approvals required by MNRF
Regionally rare species or species of conservation concern	Regionally significant species or specialized native species	Significant Wildlife Habitat manual and Natural Heritage Reference Manual	No
Old growth species	Several Trees may be over 100 years old	Natural Heritage Reference Manual	Yes

Although this woodland was considered ‘significant’ based on its size, the quality of the woodland on the property was degrading. The removal of the woodlot would result in the loss of 3.15 ha of canopy cover. This would not pose a significant impact to the overall diversity of the area.

5.2 Species at Risk

One significant species was identified within the woodlot, butternut (*Juglans cinerea*). Treescape identified the presence of four butternut trees. As documented in their BHA report to MNRF.

- *Four butternut trees were identified and have been assessed by a Certified Butternut Assessor. A report was submitted to the Ontario Ministry of Natural Resources and it has been determined that all four of these specimens do NOT require any further protection*

The assessment of butternuts was not conducted by NEA staff as a result.

5.3 Significant Wildlife Habitat

One Area Sensitive breeding bird was identified within the woodlot (Community 2). Community 2 contains suitable breeding habitat for this species. The removal of this woodlot will result in 3.15 ha of displaced breeding habitat for the yellow-bellied sapsuckers. Under the SWH manual for Ecoregion 6E, confirmation of Significant Wildlife Habitat for area sensitive breeding bird habitat requires nesting of at least three (3) area sensitive species. As such the woodlot does not meet the SWH criteria. This species prefers to breed in aspen, maple and birch stands. NEA recommends planting trees within the fragmented woodlands to the south, as per the bat compensation plan, which will provide contiguous habitat to the woodland to the south-east and increase interior habitat which will benefit the yellow-bellied sapsucker.

5.4 Natural Heritage System and Wildlife Corridors / Connectivity

The removal of this woodlot will not impact the movement of wildlife across the landscape. Wildlife will continue to use the golf course and woodlot corridor to the south and east. Two main railways are located between the Lake Ontario shoreline and the woodlot to the south. This acts as a major barrier for wildlife accessing the shoreline and moving east-west. The woodlot on the subject property is at the northern limits and is surrounded by subdivision construction and residential housing.

Table 4. Impact Assessment and Recommendation Summary

Feature or Function	Impact to Feature or Function	Mitigation	Residual Effect
Significant Woodland	Loss of mature 3.15 ha woodland	1)Tree cutting to occur outside of the Breeding Bird timing window (April 15-August 15)	Loss of 3.15 ha of degrading woodland
Species at Risk: Butternut	Removal requires submission of BHA report	<i>1)It has been determined that all four of these specimens do NOT require any further protection .</i>	None
Species at Risk: Bats	Please refer to the Proposed Compensation Plan (Geoprocess R. A, 2018) for more details	<p><i>1)No snags or trees containing cavities are removed between April 1 and September 30 (MNRF, 2019)</i></p> <p><i>2)If any species at risk is encountered, all activities that may impact that species or its habitat must stop, and the MNRF Peterborough District Office should be contacted immediately at 705-755-2001 (MNRF, 2019)</i></p> <p><i>Compensation as outlined by Geoprocess R. A will include:</i></p> <p><i>-the erection of bat boxes/houses</i></p> <p><i>-enhancement of foraging area</i></p>	
Wildlife Corridors / Connectivity	wildlife corridor/connectivity will continue to exist to the south	1)Tree cutting to occur outside of the Breeding Bird timing window (April 15-August 15)	Loss of 3.15 ha of degrading woodland

Policies and Legislative Compliance

6.0 The following section describes how the proposed development will be in conformance with the relevant federal, provincial and other regulatory legislation, policies, official plans and OP amendments that are applicable and relevant to the study area and the immediate vicinity.

6.1 Federal Legislation

Migratory Birds Convention Act, 1994 (S.C. 1994, c.22)

The core breeding period in Ontario for migratory birds under the MBCA for Bird Conservation Region 13 (i.e., the one the subject property lies within) extends from April 15th to August 15th (Environment and Climate Change Canada, 2014). As such, clearing of trees and other vegetation for the development cannot occur during this timing window.

6.2 Provincial Legislation

Endangered Species Act, 2007

Only one endangered species was identified on the subject property, butternut. This species was assessed by Treescape . A report was submitted to the Ontario Ministry of Natural Resources and it has been determined that all four of these specimens do not require any further protection. This project is in compliance with the Endangered Species Act.

Planning Act and Provincial Policy Statement, 2017

Section 5 of this ESA report contains recommendations that would allow the proposed development to proceed in a manner consistent with the Provincial Policy Statement (PPS).

Growth Plan for the Greater Golden Horseshoe, 2019

As the subject property falls within an identified settlement area in the Municipality of Port Hope Official Plan. The Plan of subdivision would be in compliance with the Growth Plan for the Greater Golden Horseshoe.

6.3 Local and Other Regulatory Bodies

Northumberland County Official Plan (2016)

The Northumberland County Official Plan (2016) indicates the subject property is within an “Urban Area” (Schedule A, Land Use). Development is anticipated. This project is in compliance with the Official Plan requirements.

Municipality of Port Hope (2012)

The proposed development will occur on lands previously approved for residential. The current plans show that the woodland will be residential development. The woodland on the property was determined as significant due to adjacent contiguous woodland cover, Section 5.1 provides details on the impacts and recommendations. The future of the woodland has been determined through several previous approvals. Compliance with the policies of the Municipality, and any requirements or conditions of approval of the subdivision plan will need to be discussed with Municipal staff.

Ganaraska Region Conservation Authority (GRCA) and Ontario Regulation 168/06

The proposed project complies with Regulation 168/06. The ESA demonstrates that no interference with wetland, or watercourse will occur. No wetland was present on the property.

Summary of Recommendations

The following section summarizes NEA's recommendations on how the proposed development can occur in compliance with applicable federal, provincial and other regulatory pieces of legislation, policies, official plans (OPs) and OP amendments.

7.0

7.1 General Recommendations

1. Client to obtain relevant permits, if required from the Municipality of Port Hope.
2. Any vegetation clearing required shall be completed outside the Breeding Bird timing window of April 15th to August 15th.
3. Follow mitigation measures identified in the Tree Inventory Report (Treescape, 2019)
4. Follow Compensation measures as identified in the Proposed Compensation plan (bats) by Geoprocess R.A. (2018).

Conclusion

Niblett Environmental Associates has prepared this Environmental Impact Study to address potential impacts on natural heritage features associated with the proposed plan of subdivision at Part Lot 9 and 10, Concession 1, Municipality of Port Hope, Northumberland **8.0** County.

As a result of our analysis, the removal of a 3.15 ha woodlot on the subject property to accommodate Phases 5 and 9 of the proposed subdivision will not significantly impact on the overall woodlot functions in the larger area. The adjacent woodlands to the south and east will continue to provide value to the landscape. Mitigation measures have been outlined for threatened and endangered bat species and compensation measures proposed in another consultant's report (Geoprocess R.A, 2018).

Construction within the proposed building envelope will result in no negative impacts on the functions of identified natural heritage features, *provided* the recommendations outlined in Sections 5 and 7 are implemented. NEA's recommendations have been made to address potential impacts to natural heritage features and/or their functions during the site preparation, construction and post-construction period. Additional discussions with the Municipality of Port Hope are required so that appropriate permitting processes are followed.

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Appendix I- A: Plant Species by Community

APPENDIX I - A Plant Species by Community

Families and genera for the plant species found in this appendix are listed in taxonomic order. The species are listed alphabetically by scientific name within each genus.

Three standard reference works were used for the botanical nomenclature and taxonomy (Newmaster et. al., 1998; Gleason and Cronquist 1991; Voss 1980; 1985). Other published works for botanical names included; ferns (Cody and Britton 1989); grasses (Dore and McNeill 1980); orchids (Whiting and Catling 1986); shrubs (Soper and Heimburger 1982) and trees (Farrar 1995).

Total: Number of communities where plant species was recorded
X : Plant species recorded

Common Name	Scientific Name	Total	COMMUNITY NUMBER		
			1	2	3
WOOD FERN FAMILY	DRYOPTERIDACEAE				
ostrich fern	<i>Matteuccia struthiopteris</i>	2		X	X
sensitive fern	<i>Onoclea sensibilis</i>	2	X		X
PINE FAMILY	PINACEAE				
white spruce	<i>Picea glauca</i>	1		X	
BUTTERCUP FAMILY	RANUNCULACEAE				
white baneberry	<i>Actaea pachypoda</i>	2	X	X	
tall buttercup	<i>Ranunculus acris</i>	1		X	
POPPY FAMILY	PAPAVERACEAE				
celandine	<i>Chelidonium majus</i>	1		X	
NETTLE FAMILY	URTICACEAE				
wood nettle	<i>Laportea canadensis</i>	2	X	X	
WALNUT FAMILY	JUGLANDACEAE				
butternut	<i>Juglans cinerea</i>	1		X	
black walnut	<i>Juglans nigra</i>	2		X	X
BIRCH FAMILY	BETULACEAE				
white birch	<i>Betula papyrifera</i>	2		X	X
BUCKWHEAT FAMILY	POLYGONACEAE				
lady's thumb	<i>Polygonum persicaria</i>	1		X	
curled dock	<i>Rumex crispus</i>	1		X	
great water dock	<i>Rumex orbiculatus</i>	1			X
VIOLET FAMILY	VIOLACEAE				
sweet white violet	<i>Viola blanda</i>	1		X	
GOURD FAMILY	CUCURBITACEAE				
wild cucumber	<i>Echinocystis lobata</i>	1		X	

COMMUNITY NUMBER

Common Name	Scientific Name	Total	1	2	3
MUSTARD FAMILY	BRASSICACEAE				
garlic mustard	<i>Alliaria petiolata</i>	3	X	X	X
dame's rocket	<i>Hesperis matronalis</i>	1		X	
GOOSEBERRY FAMILY	GROSSULARIACEAE				
American black currant	<i>Ribes americanum</i>	1		X	
prickly gooseberry	<i>Ribes cynosbati</i>	1		X	
ROSE FAMILY	ROSACEAE				
yellow avens	<i>Geum aleppicum</i>	1		X	
white avens	<i>Geum canadense</i>	2		X	X
black cherry	<i>Prunus serotina</i>	2	X	X	
choke cherry	<i>Prunus virginiana</i>	2	X	X	
wild red raspberry	<i>Rubus idaeus</i>	3	X	X	X
European mountain ash	<i>Sorbus aucuparia</i>	1		X	
PEA FAMILY	FABACEAE				
honey locust	<i>Gleditsia triacanthos</i>	1		X	
white clover	<i>Trifolium repens</i>	1	X		
EVENING PRIMROSE FAMILY	ONAGRACEAE				
Canada enchanter's nightshade	<i>Circaea lutetiana L. ssp.canadensis</i>	2		X	X
DOGWOOD FAMILY	CORNACEAE				
alternate-leaf dogwood	<i>Cornus alternifolia</i>	1		X	
BUCKTHORN FAMILY	RHAMNACEAE				
European buckthorn	<i>Rhamnus cathartica</i>	1		X	
GRAPE FAMILY	VITACEAE				
Virginia creeper	<i>Parthenocissus inserta</i>	2		X	X
BUCKEYE FAMILY	HIPPOCASTANACEAE				
horse chestnut	<i>Aesculus hippocastanum</i>	1		X	
MAPLE FAMILY	ACERACEAE				
Manitoba maple	<i>Acer negundo</i>	3	X	X	X
Norway maple	<i>Acer platanoides</i>	1		X	
sugar maple	<i>Acer saccharum ssp.saccharum</i>	2		X	X
CASHEW FAMILY	ANACARDIACEAE				
staghorn sumac	<i>Rhus typhina</i>	1			X
NIGHTSHADE FAMILY	SOLANACEAE				
bitter nightshade	<i>Solanum dulcamara</i>	1		X	
WATERLEAF FAMILY	HYDROPHYLLACEAE				
Virginia waterleaf	<i>Hydrophyllum virginianum</i>	1		X	
MINT FAMILY	LAMIACEAE				
motherwort	<i>Leonurus cardiaca</i>	2	X	X	
OLIVE FAMILY	OLEACEAE				
white ash	<i>Fraxinus americana</i>	1		X	
MADDER FAMILY	RUBIACEAE				
cleavers	<i>Galium aparine</i>	1		X	
rough bedstraw	<i>Galium asprellum</i>	1		X	

COMMUNITY NUMBER

Common Name	Scientific Name	Total	1	2	3
HONEYSUCKLE FAMILY		CAPRIFOLIACEAE			
tartarian honeysuckle	<i>Lonicera tatarica</i>	1		X	
red-berried elderberry	<i>Sambucus racemosa</i>	2		X	X
Guelder rose	<i>Viburnum americanum</i>	1		X	
ASTER FAMILY		ASTERACEAE			
Canada thistle	<i>Cirsium arvense</i>	1	X		
goldenrod species	<i>Solidago spp.</i>	2	X		X
common dandelion	<i>Taraxacum officinale</i>	2	X	X	
coltsfoot	<i>Tussilago farfara</i>	1	X		
ARUM FAMILY		ARACEAE			
Jack-in-the-pulpit	<i>Arisaema triphyllum</i>	1		X	
GRASS FAMILY		POACEAE			
Kentucky blue grass	<i>Poa pratensis</i>	1	X		
LILY FAMILY		LILIACEAE			
lily-of-the-valley	<i>Convallaria majalis L.</i>	1		X	
false Solomon's seal	<i>Smilacina racemosa</i>	2	X	X	
rose-twisted stalk	<i>Streptopus roseus</i>	1		X	

Total Number of Plant Species 54

16 46 15

**Number of Plant Species
Per Community**

Appendix I- B: List of Significant Plant Species

APPENDIX I - B List of Significant Plant Species

Plant species observed by NEA with significant status on national, provincial and relevant regional lists are listed with status codes and where applicable the most current year of publication. Three standard reference works were used for the botanical nomenclature and taxonomy (Newmaster et. al., 1998; Gleason and Cronquist 1991; Voss 1980; 1985). Other published works for botanical names included; ferns (Cody and Britton 1989); grasses (Dore and McNeill 1980); orchids (Whiting and Catling 1986); shrubs (Soper and Heimburger 1982) and trees (Farrar 1995).

- NATIONAL RANKING** **Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Government of Canada**
Species at Risk Act (SARA), SCHEDULE 1 (Subsections 2(1), 42(2) and 68(2)), Government of Canada
- PROVINCIAL RANKING** **Species at Risk in Ontario (COSSARO), Government of Ontario**
Provincial Rank (SRANK), Natural Heritage Information Center, Government of Ontario
- REGIONAL RANKING** **Riley PDVN** **Riley, 1989, Peterboro/Durham/Victoria/Northumberland County**

- STATUS CODES**
- | | | | |
|-----------------------|--------------|-----------------------------|--|
| COSEWIC | END * | - Endangered Species | *Year of Status Publication included in Code |
| COSSARO | THR * | - Threatened Species | |
| SARA | SC * | - Species of Concern | |
| SRANK | S1 | - Extremely Rare | Other national or provincial codes not listed |
| | S2 | - Very Rare | |
| | S3 | - Rare to Uncommon | |
| Regional Lists | R | - Rare native species | Other Regional codes not listed |
| | EXP | - Extirpated native species | |

Common Name	Scientific Name	NATIONAL RANKINGS		PROVINCIAL RANKINGS		REGIONAL RANKINGS				
		COSEWIC	SARA	COSSARO	SRank	Riley PDVN				
butternut	Juglans cinerea	END Apr/14	END Mar/13	END Jun/14	S3?					
Plants with Ranking	Total:	1	Status List Totals:	1	1	1	0	0	0	0

Appendix II Bird Status Report

APPENDIX II Bird Status Report

Bird species observed by NEA are listed in the order followed the American Ornithologists' Union (AOU) Check-list of North American birds (7th edition, 1999, 47th Supplement). Common and scientific nomenclature are based on those used by AOU. Any significant status for a species on national and provincial lists is displayed as well as those from relevant regional lists.

List Status :	END - endangered	A wildlife species facing imminent extirpation or extinction.
	END-R -endangered regulated	A wildlife species facing imminent extirpation or extinction in Ontario which has been regulated under Ontario's Endangered Species Act (ESA).
	THR - threatened	A wildlife species likely to become endangered if limiting factors are not reversed.
	SC - special concern	A wildlife species that may become threatened or an endangered species because of a combination of biological characteristics and identified threats.
	YES - Area Sensitive	A wildlife species that requires large areas of suitable habitat in order to sustain their population numbers.
	* Other status levels are not displayed	

List Sources:	COSEWIC	The Committee on the Status of Endangered Wildlife in Canada, May 2018.
	COSSARO	The Committee on the Status of Species at Risk in Ontario, June 2018.
	SARA	Species At Risk Act, Schedule 1, Government of Canada, 2018.
	Area Sensitive	Significant Wildlife Technical Guide, Appendix C, OMNR, Oct. 2000
	Region 6	Southern Ontario Wetland Evaluation Appendix 11B, Version 3.2, March 2013

Breeding Status: (Observed By NEA)	B -species observed in breeding season in suitable habitat with some evidence of breeding (confirmed, probable or possible as per Ontario Breeding Bird Atlas, 2002).
	F -species observed in breeding season but no evidence of breeding or suitable nest sites available on the study site (includes flyovers, migrants and foraging colonial breeders).
	M -species observed outside of breeding season for that species and in area outside of the known

AOU Code	Common Name	Scientific Name	COSEWIC	COSSARO	SARA	Area Sensitive	Region 6
YBSS	Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>				Yes	
GCFL	Great Crested Flycatcher	<i>Myiarchus crinitus</i>				No	
REVI	Red-eyed Vireo	<i>Vireo olivaceus</i>				No	
BLJY	Blue Jay	<i>Cyanocitta cristata</i>				No	
AMCR	American Crow	<i>Corvus brachyrhynchos</i>				No	
BCCH	Black-capped Chickadee	<i>Poecile atricapillus</i>				No	
AMRO	American Robin	<i>Turdus migratorius</i>				No	
EUST	European Starling	<i>Sturnus vulgaris</i>				No	
SOSP	Song Sparrow	<i>Melospiza melodia</i>				No	
NOCA	Northern Cardinal	<i>Cardinalis cardinalis</i>				No	
INBU	Indigo Bunting	<i>Passerina cyanea</i>				No	
COGR	Common Grackle	<i>Quiscalus quiscula</i>				No	
AMGO	American Goldfinch	<i>Carduelis tristis</i>				No	

TOTAL SPECIES OBSERVED: **0** **0** **0** **1** **0** **0** **0**