Prepared for:

City of Toronto

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Attention: Grace Tesa

Lawrence Park Neighbourhood Investigation of Basement Flooding & Road Improvement Environmental Assessment

APPENDIX E –

Environmental Impact Study (EIS) Report

submitted by:

Aquafor Beech Ltd.

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APPENDIX E – LAWRENCE PARK ENVIRONMENTAL IMPACT STUDY (EIS)

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1 Introduction

Aquafor Beech Limited was retained by the City of Toronto to prepare an Environmental Impact Study (EIS) in support of five (5) potential sewer upgrade location options included in the *Lawrence Park Neighbourhood Investigation of Basement Flooding & Road Improvement Study* Environmental Assessment (EA), which is also being undertaken by Aquafor beech Limited on behalf of the City of Toronto. The purpose of the EIS is to assess the potential impacts and mitigation measures for each of the five (5) sewer upgrade locations as they relate to natural heritage resources. The findings of the EIS will be considered during the evaluation of the preferred alternative as part of the EA process.

The work plan detailed herein was developed in consultation with the City of Toronto and the Toronto and Region Conservation Authority (TRCA). The following sections describe the methods and results of the studies completed from 2014-2016, relevant planning context, potential impacts and mitigation measures, as well as recommendations for a preferred option as part of the EA.

Throughout the document "study area" generally refers to the portion of the Lawrence Park neighbourhood included in the EA. The general study area and the locations of five (5) potential sewer upgrade locations (Sites 1 – 5) are illustrated in **Figure 1.1**. These sites include:

- Site 1: Toronto French School valley;
- Site 2: York University Glendon Campus;
- Site 3: Sherwood Park;
- Site 4: Strathgowan Ave; and
- Site 5: Valleyanna Drive.

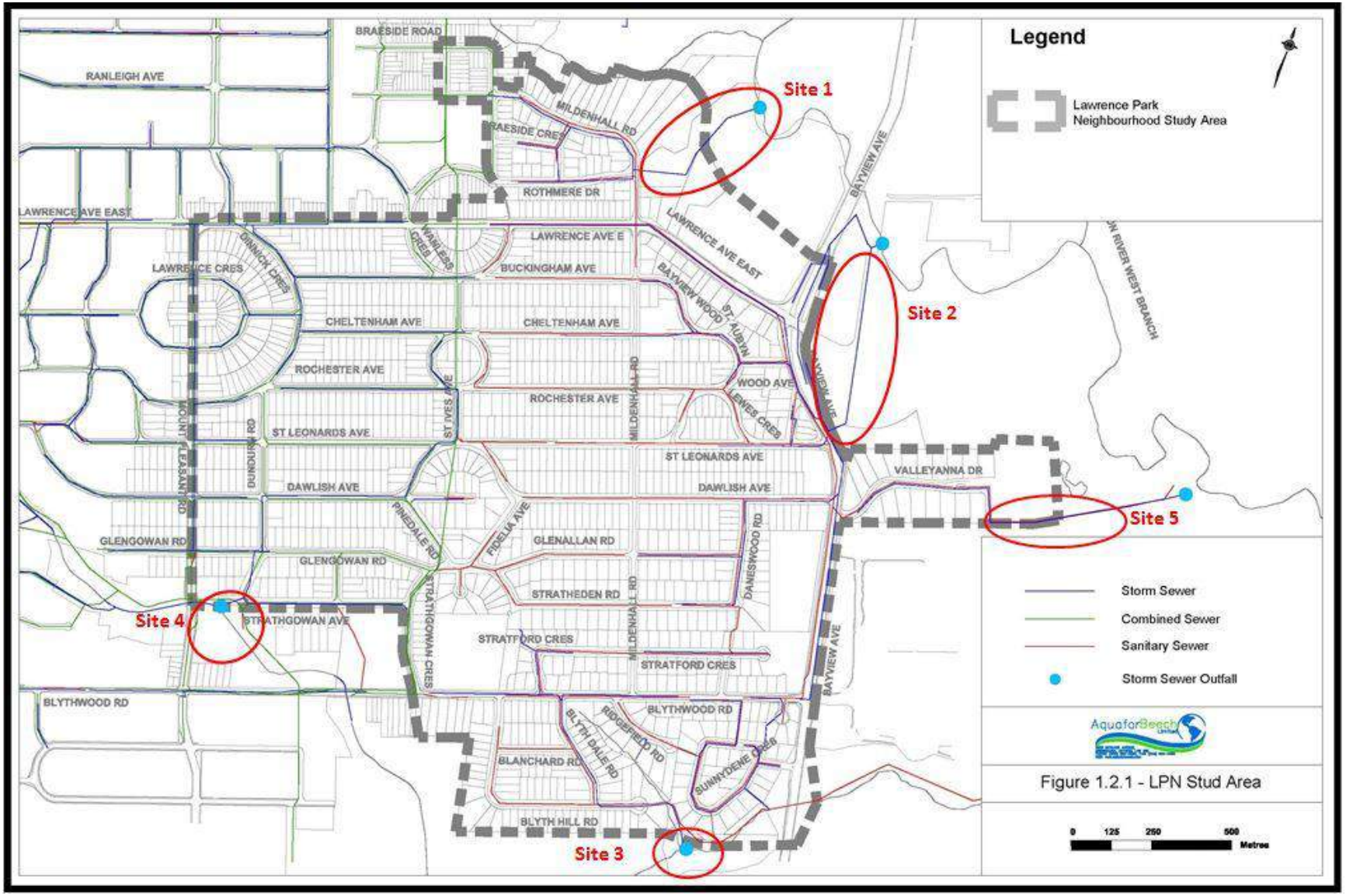

Figure 1.1: Environmental Impact Study Site Locations

2 Proposed Sewer Upgrades

The following subsections detail the proposed sewer upgrade works at each of the five (5) sites listed above. Significant natural heritage features within the study area include the Glendon Forest Environmentally Significant Area (ESA), which is located east of the study area, as well as the Sherwood ESA, which is located southwest of the study area. Don River West Branch also flows adjacent to the study area. Don River West Branch flows in a southeastern direction to Lake Ontario. These features are described in more detail in **Section 3**.

The preferred construction methodology to be used where proposed works are within and adjacent to parks and natural areas is jack-and-bore, as it is the least impactful to vegetation. It is recommended that this methodology be employed where technically feasible. Construction methodology details will be determined at the detailed design stage.

2.1 Site 1: Toronto French School Valley

Site 1 drains an area in the northern part of the Lawrence Park Neighbourhood. The existing conditions for the area's storm drainage are as follows:

- The area conveys flows from several streets located west of Midenhall Road. Flows are conveyed through an easement located at the north limit of the Toronto French School;
- The existing sewer located within the easement is undersized and requires a capacity upgrade. Furthermore, a field investigation showed that the sewer is in a state of disrepair and may be causing erosion within the ravine; this sewer is also undersized and requires a capacity upgrade (Figure 3.1);
- The existing easement agreement allows the City to enter the lands along the sewer alignment for the purposes of constructing and maintaining the storm sewer;
- There are four properties with reverse sloped driveways along Mildenhall Road.

The preferred works involve the following improvements:

- Upgrading the existing storm sewer in the Natural Area to 1200 mm from 450 mm as illustrated in **Figure 2.1**. This section of pipe is buried from Mildenhall Road to the West Don River. It lies under paved portions of the Toronto French School property, then leads north down the valley slope and into the West Don River valley floodplain.

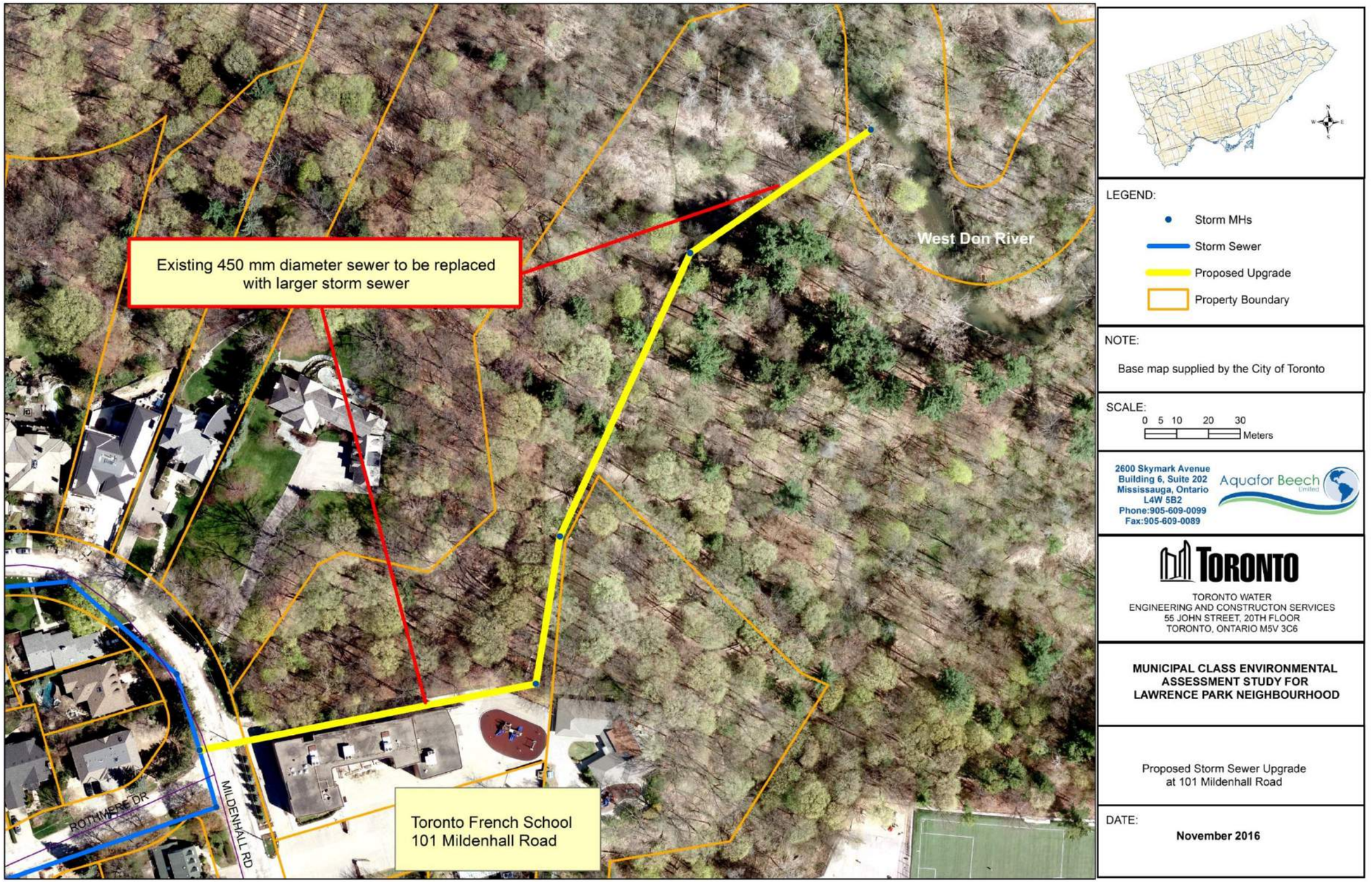

Figure 2.1: Proposed Storm Sewer Upgrades at Site 1

2.2 Site 2: York University Glendon Campus

The drainage area for Site 2 is the largest of the drainage areas in the Lawrence Park Neighbourhood covering approximately 40 ha. The existing conditions include the following:

- The existing area conveys flows from several streets east of Bayview Avenue area east of Bayview Avenue. Flows are conveyed across Bayview Avenue at St. Leonards Avenue through the York University's Glendon College campus at 2275 Bayview Avenue into a ravine with an outfall at the West Don River;
- The existing sewer conveying flows through the Glendon campus is undersized and requires a capacity upgrade. Furthermore, the upstream sewer in the ravine lands will need to be deepened to allow for upgrading of the main sewer through the campus property;
- There is currently no existing easement through the Glendon campus that allows for construction and maintenance of the storm sewer;
- There are 67 properties with reverse sloped driveways throughout the drainage area. The majority of the reverse driveways are located along Dawlish Avenue, Rochester Avenue and St. Leonard's Avenue.

The preferred works includes the following as illustrated on **Figure 2.2**:

- Upgrading the existing storm sewers from Bayview Avenue, through the Glendon Campus to 1350 mm with capacity to convey the 100-year event while maintaining the criteria set out in the BF Guidelines;
- Deepening of the upstream sewer in the ravine area to allow for appropriate sizing of the sewer through the Glendon campus (1200 mm pipe); and
- An easement to allow for construction and maintenance of the sewer within the Glendon Campus will be required.

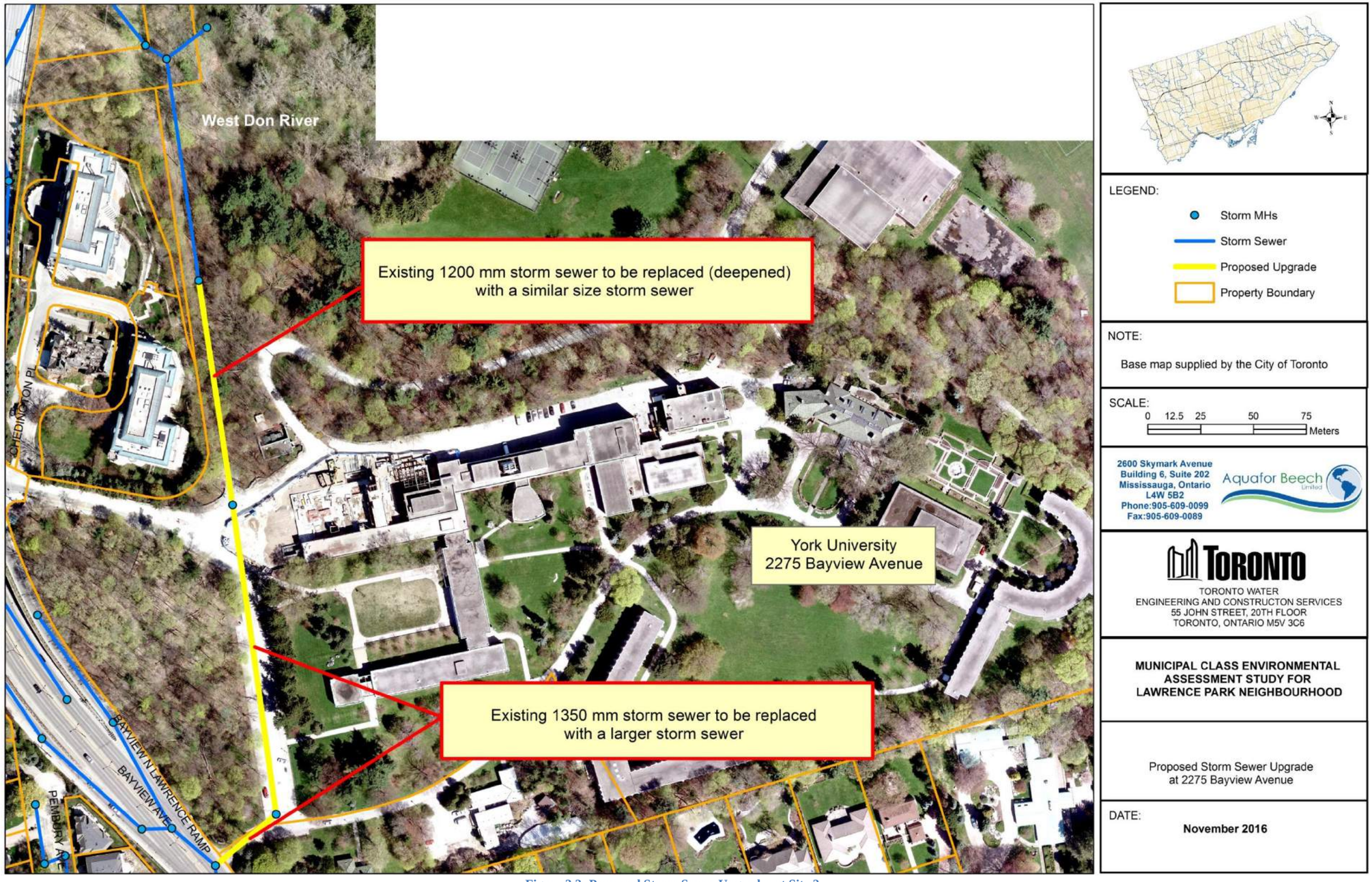

Figure 2.2: Proposed Storm Sewer Upgrades at Site 2

2.3 Site 3: Sherwood Park

After initial site inspections in 2014, the natural heritage features and functions within Site 3 (e.g. groundwater seepage areas, 150+ year old trees) were deemed too sensitive to warrant infrastructure upgrades within the valley at this location. Accordingly, additional storm capacity has been built in to the pipe beneath Blyth Hill Road and no intrusion into the natural heritage system will occur. As such, the natural heritage features and related assessment for Site 3 are not discussed further this report.

Figure 2.3: Illustrations showing the sensitivity of natural heritage features within Site 3

2.4 Site 4: Strathgowan Ave

Site 4 drains an area from approximately the middle of the Lawrence Park Neighbourhood towards the southwest. The existing conditions include the following:

- Many of the existing streets drain towards a low point near the centre of the drainage area at Strathden Road and Strathgown Crescent; these flows should be conveyed out of the low point and west to the open channel at the west limit of Strathgowan Avenue;

The preferred works are shown on **Figure 2.4** and include:

- Installation of new 1,750 m of storm sewers where none currently exist; and
- Replacement of the existing storm sewer on Strathgowan Avenue.

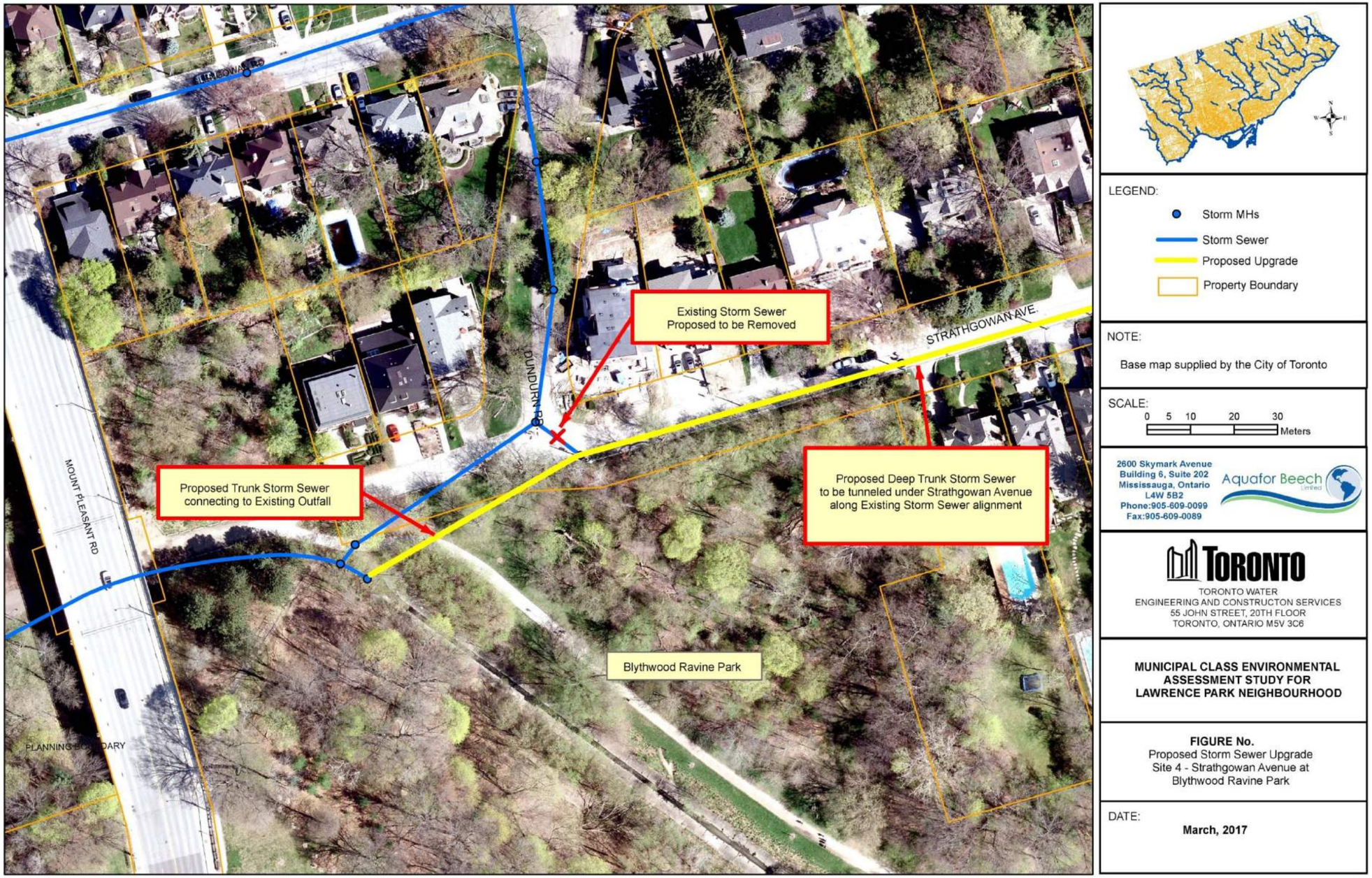

Figure 2.4: Proposed Storm Sewer Upgrades at Site 4

2.5 Site 5: Valleyanna Dr.

The existing 250 mm diameter sanitary sewer along Valleyanna Drive is proposed to be lowered through an existing asphalt driveway located along the southern limit of 28 Valleyanna Drive up to the edge of the valley lands in order to accommodate the proposed storage tank upstream. The pipe replacing the 250 mm sanitary sewer will be of the same size with the extent of the replacement to stop short of the valley lands. **Figure 2.5** illustrates the location within 28 Valleyanna Drive where the existing sanitary sewer will need to be replaced.

Site 5 includes the following remedial measures:

- Mandatory downspout disconnection (a theoretical 75% disconnection rate was assumed as a base condition);
- Sealing sanitary manhole covers in low lying areas to minimize the inflow of storm water into the sanitary system;
- Capacity upgrades on St. Aubyns Crescent to Wood Avenue (525 mm), on Rochester Avenue to Wood Avenue (450 mm) and on Wood Avenue to Bayview Avenue (600 m);
- Capacity upgrades on Bayview Avenue to Wood Avenue (450 mm), Bayview Avenue to Dawlish Avenue (675 mm) and on Bayview Avenue to Armistice Drive (450 mm);
- Capacity upgrades along the sections of sewer on Valleyanna Drive (675 mm);
- In-line storage in the form of a box culvert (2000 mm x 2000 mm – 1100 m^3) on Valleyanna Drive; and
- Lowering, and therefore replacement, of the existing 250 mm sanitary sewer east of Valleyanna Drive in order to receive flows from the proposed underground storage facility.

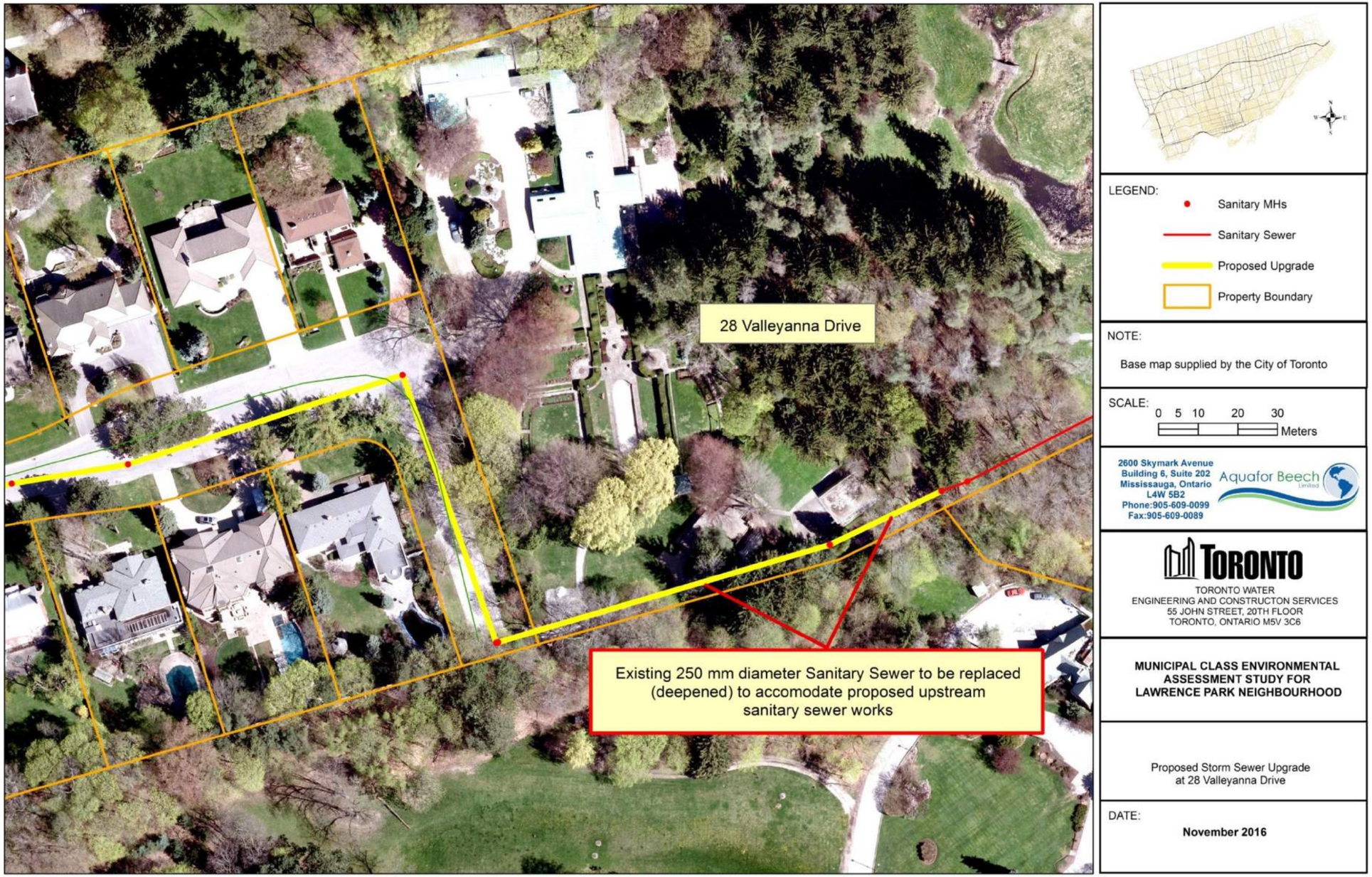

Figure 2.5: Proposed Storm Sewer Upgrades at Site 5

3 Natural Heritage Characterization

The subsections below detail the methods and results of the following biophysical surveys:

- Vegetation community assessments and delineations;
- Botanical inventories;
- Incidental mammal surveys;
- Screening and surveys for species-at-risk and other species of conservation concern, including Butternut (*Juglans cinerea*);
- Significant wildlife habitat assessment; and
- The assessment of corridors and linkages.

The methodology and results of the biophysical surveys and natural heritage assessments are provided in **Section 3.1** and **Section 3.2**, respectively, and are organized by Site.

Due to initial project timing, some faunal surveys (e.g. breeding amphibians and breeding birds) could not be completed per standard survey protocols. Also, faunal surveys were not required by the TRCA, which requested vegetation surveys only. Accordingly, the study relies on a combination of available background information, incidental sightings, and habitat assessments. Data pertaining to aquatic fauna also relied upon background data, in this case consisting of fish records from the TRCA.

3.1 Survey Methodologies

The following subsections detail the methodologies used for each of the biophysical surveys conducted as part of this EIS. Lands within 120 metres of the sewer lines and sewer outfalls were subject to biophysical surveys. In cases where adjacent lands were in private ownership, visual surveys were conducted from the property line. All biophysical surveys were completed on October 1st to 4th, 2014; October 26th, 2016; and November 3rd, 2016.

3.1.1 Vegetation Communities

The application of Ecological Land Classification (ELC) for Southern Ontario consists of describing, classifying and delineating ecological units under the guidance of a standardized protocol (Lee et al., 1998). As part of ELC field activities site-specific information is collected on an array of bio-physical parameters – substrate type and depth, moisture regime, topography, floral composition, stand structure and disturbance, amongst others – to produce detailed accounts of individual vegetation communities. This approach allows for a comprehensive and consistent approach to ecosystem classification, which is best interpreted by individuals certified in ELC by the Ontario Ministry of Natural Resources and Forestry (MNRF).

An Aquafor Beech Limited ecologist certified by the MNRF to conduct ELC studies visited the vegetation communities within the study area. The methodology used followed that of the *Ecological Land Classification for Southern Ontario: First Approximation and Its Application* (Lee et al., 1998).

Vegetation community ranking was determined by cross-referencing ELC codes with the MNRF's *NHIC Plant Community List with ELC Codes* document.

Despite comprehensive ELC field inventories, certain communities did not readily conform to established vegetation types listed in the ELC Manual, as is often the case with anthropogenically influenced communities. For these cases, communities were described to the most detailed level of refinement possible. The results of the vegetation community assessment are discussed below in **Section 3.2.2** to **Section 3.2.5**. ELC data sheets can be found in **Appendix A**.

3.1.2 Botanical Inventories

Botanical surveys were conducted by an Aquafor Beech Limited botanist using an area search technique. The surveyor walked throughout the study area in a grid-like pattern, stopping occasionally (e.g. every 5 metres or so) to record flora and also recording flora observed while walking.

3.1.3 Mammal Surveys

Mammal surveys were not conducted as part of this study due to the secretive nature of most mammal species and because trapping surveys designed for detecting them often cause animals stress or result in mortality. Accordingly, mammals and evidence of mammals (e.g. dens, scat, prints, hair, scrapes, etc.) observed incidentally during site surveys were recorded. Targeted area searches for mammals were conducted at each of the four sites visited.

3.1.4 Avifauna, Amphibians, Reptiles, and Fish

As mentioned above, surveys for breeding birds, breeding amphibians, reptiles, and fish were not conducted. As such, a precautionary approach was used to assess the potential presence of these taxa as follows:

i. Available background information (e.g. past studies, leading community science studies from reputable organizations, site summaries, MNRF data requests, and NHIC queries) is reviewed.
ii. Habitats present within the study area are assessed through field investigations.
iii. Species lists from background information sources are cross-referenced with habitat assessments to determine if suitable habitat for taxa and/or species of interest is present.

If suitable habitat is present, for the purpose of this report it will be assumed that the taxa and/or species of interest are present in said habitat.

Herpetofauna observations solicited from Ontario Nature are included in **Appendix B**.

3.1.5 Species-at Risk and other Species of Conservation Concern

For the purposes of this study, species-at-risk (SAR) are defined as those listed by the *Committee on the Status of Species at Risk in* Ontario *(*COSSARO) or the *Committee on the Status of Endangered Wildlife in Canada* (COSEWIC) as Endangered or Threatened. Species of conservation concern are defined as those listed COSSARO or COSEWIC as Special Concern; species with provincial rankings of S1-S3; and locally rare species (L1-L3) as specified in the Toronto and Region Conservation Authority's (TRCA) locally rare species lists in addition to various sources/authorities including the *Distribution and Status of the Vascular Plants of the Greater Toronto Area* (Varga et al., 2000) and the *Ontario Land Bird Conservation Plan: Lower Great Lakes/St. Lawrence Plain, North American Bird Conservation Area 13* (Ontario Partners in Flight, 2008).

Additional records of species of conservation concern were gathered from other background information reports, including:

- Environmentally Significant Areas (ESAs) in the City of Toronto (North-South Environmental Inc. et al., 2012)

Surveys

Aquafor Beech Limited staff conducted area searches for Butternut within areas of potential impact and lands 50 metres from areas of potential impact. When located, trees locations were recorded with a hand-held GPS unit and a photographic record was taken. Butternut Health Assessments were not conducted as part of this study.

Screening

Aquafor Beech Limited contacted the MNRF to inquire about known or suspected occurrences of SAR and other species of conservation concern within the subject lands. The official response letter from the MNRF is included in **Appendix C**.

According to the MNRF, SAR previously recorded or suspected to occur within the study area include the following:

- Butternut (Endangered);
- Wood Thrush (Special Concern); and
- Eastern Wood-pewee (Special Concern)

Aquafor Beech Limited also conducted a query of the NHIC database on August 11 2014 and again on June 15 2015 using a 1 km square search query, with no difference between query results. A consolidated summary of all potential SAR and other species of conservation concern obtained through correspondence from the MNRF and the NHIC query, and an assessment of presence within the study area, is contained in **Appendix C.**

3.1.6 Significant Wildlife Habitat

Significant wildlife habitat (SWH) is broadly categorized by the MNRF as:

i. seasonal concentration areas;
ii. rare vegetation communities or specialized habitats for wildlife;
iii. habitats of species of conservation concern, excluding the habitats of endangered and threatened species; and
iv. animal movement corridors (MNR, 2000).

Using the background information sources described above in **Section 0** and the results of biophysical surveys, Aquafor Beech Limited assessed the potential occurrence of the above SWH categories within the study area (i.e. Sites 1,2, 4, and 5) in accordance with the SWH criteria for Ecosite 7E. The detailed SWH screening assessment is found in **Appendix D**. A summary of the confirmed or potential SWH is located in **Section 3.2.7**.

3.1.7 Corridors and Linkages

Corridors are generally defined as linear strip of vegetation which provide a continuous or near continuous pathway between two habitats. This term has no implications about its relative use by wildlife (Bennett, A. F., 1999, 2003). A linkage refers to an arrangement of habitat that is not necessarily linear or continuous that enhances the movement of wildlife or the continuity of ecological processes through the landscape (Bennett, A. F., 1999, 2003).

Corridors and linkages are important components of the natural heritage system, especially in anthropogenically altered landscapes with fragmented natural heritage features. Corridors and linkages allow for plant and wildlife movement among environmental features, support hydrological and nutrient cycling, and contribute to the overall integrity and connectivity of the Natural Heritage System. They can also be important ecological features in their own right.

Aquafor Beech Limited assessed the presence of corridors and linkages through primary field investigations and review of available air photos (i.e. Google Earth). Corridors and linkages that were continuous and contained multiple habitat types and features with minimal anthropogenic influence were generally considered of more ecological significance than those that were disjunct and/or highly impacted.

3.2 Results

The following subsections detail the results of the biophysical surveys and species of conservation concern screening exercises conducted for Sites 1, 2, 4, and5. Descriptions and representative photographs of each Site are also included. Additional photographs are on file at Aquafor Beech Limited and can be viewed upon request.

3.2.1 Geology, Physiography, & Soils

The LPN study area is located adjacent to the Don Valley. The Don Valley is notable because of its deep wide valley in the lower reaches. At the Bloor Street Viaduct, the valley is about 400 m wide while the river is only about 15 m wide. This is due to its glacial origins. The Don River and its deep valley were formed about 12,000 years ago at the end of the Wisconsin Glaciation. During that glaciation which lasted for 35,000 years, all of Ontario was covered in ice. As the climate warmed the glaciers began to melt. As the ice front retreated in southern Ontario, several rivers were formed that drained into Lake Iroquois, a glacier lake which was the precursor to Lake Ontario. The Don River is now small in comparison to the deep and wide valley that resulted from its glacial origin. The Don River is now classified as an underfit river.

The landscape at that time was loose glacial till so the large amounts of glacier melt water eroded deep valleys over thousands of years. As time progressed, isostatic uplift caused the earth's plate to rise and tilt. This caused Lake Iroquois to drain towards the south. A remnant of its shoreline can be seen on the north side of Davenport Road in Toronto. In the Don Valley, the old shoreline is evident just north of Eglinton Avenue. Today the source of the Don River is the Oak Ridges Moraine, another legacy of the Wisconsin glaciation.

The location of the old shoreline is important when considering soils in the Don watershed. Soils north of the old shoreline are mostly luvisolic *Halton Till* while south of the shoreline they are still sandy glaciolacustrine deposits.

The Don Valley contains one of the most interesting locations for studying the regional geological history. The Don Valley Brick Works was an old brick making factory with a quarry where they extracted shale. At the rear wall, local geologists discovered a record of the past three glaciations. There are nine distinct layers visible dating back 120,000 years.

3.2.2 Site 1: Toronto French School Valley

Site 1 is located west of Bayview Avenue within the West Don River valley. It is characterized by natural mature sugar maple – oak forests on the valley slope and lowland, with a white elm deciduous forest in the floodplain. The proposed storm sewer upgrade will occur behind the north building of the Toronto French School under existing paved schoolyard, then into the natural lands of the West Don River valley. The West Don River Valley is considered a candidate Regional Life Science Area of Natural and Scientific Interest (ANSI), which also contains the Glendon Forest ESA (ESA #34).

During field investigations within the valley at Site 1, it was discovered that the existing sewer pipe had been undermined where a crossing of a tributary of the West Don River and there is

significant erosion downstream of the undermined pipe (**Figure 3.1**). Opportunities to mitigate existing erosion to eliminate ongoing tree losses, as well as improve water quality and fish habitat in the West Don River, are discussed in **Section 5**.

Figure 3.1: Undermined Sewer Pipe causing Erosion at Site 1

3.2.2.1 Vegetation Communities

A total of three (3) ELC polygons representing three (3) vegetation communities were described and delineated at Site 1. Forest communities comprise the natural heritage feature coverage, and include deciduous and mixed forest community series. None of the vegetation communities present within the study site are provincially rare according to the MNRF. A complete list of ELC communities including their respective field numbers and ELC code is provided in **Table 3.1**. Vegetation communities within the detailed study site are described in detail below, and vegetation community mapping is included in **Figure 3.3**.

Polygon 1: Dry - Fresh Sugar Maple - Oak Deciduous Forest

This forest community is situated on the valley slope of the West Don River. Mature sugar maple (*Acer saccharum*) dominates the canopy and sub-canopy, and is abundant with mature red oak (*Quercus rubra*), Norway maple (*Acer platanoides*), in the canopy and sub-canopy respectively (**Figure 3.2**). Other associated species in the forest layers include ironwood (*Ostrya virginiana*), American beech (*Fagus grandifolia*), and white ash (*Fraxinus americana*). Alternate-leaved dogwood (*Cornus alternifolia*), chock cherry (*Prunus virginiana*), and European buckthorn (*Rhamnus cathartica*) comprise the understory. The ground layer is abundant with zigzag goldenrod (*Solidago flexicaulis*), and includes Canada goldenrod (*Solidago canadensis var. canadensis*) and sedges (*carex spp.*). Proposed storm sewer upgrades will be constructed within this vegetation community.

Figure 3.2: ELC polygon 1 - Sugar Maple - Oak Forest

Seeps were identified on the west slope of the West Don River, north of the Toronto French School property, approximately 30 m from Mildenhall Road. The seepage area contributes to the small tributary contained within the valley at this location. Soils in this vegetation community are silty clay-loam and medium sand. Mottling at both soil sample sites were observed at 50 cm below soil surface. Bedrock and the water table are beyond 120 cm below surface. Gley was not observed.

Polygon 2: Fresh - Moist Sugar Maple - Hemlock Mixed Forest

A small pocket of a mature sugar maple – hemlock mixed forest is located between vegetation communities 1 and 3, within close proximity to the West Don River. Sugar maple and Eastern hemlock (*Tsuga canadensis*) are abundant within this community. Associated species include ironwood, musclewood (*Carpinus caroliniana*), and yellow birch (*Betula alleghaniensis*). The ground layer is comprised of Canada goldenrod and dog strangling vine (*Cynanchum louiseae*), an invasive species. It has been observed that the Toronto French School is using this vegetation community as a teaching/play area. The understory layer is very impacted by this use.

Soil in this vegetation community is medium sand, with mottles present at 35 cm below soil surface. Bedrock and the water table are beyond 120 cm below surface. Gley was not observed.

Polygon 3: Fresh - Moist White Elm Lowland Deciduous Forest

Along the floodplain lowland of the West Don River at Site 1 is described a fresh-moist white elm (*Ulmus americana*) lowland deciduous forest. Here, white elm and Norway maple are abundant within the canopy layer. White elm and Manitoba maple (*A. negundo*) are abundant in the sub-canopy. Alternate-leaved dogwood, green ash (*Fraxinus pennsylvanica*), European buckthorn, and purple flowering raspberry (*Rubus odoratus*) are occasional in the understory. The ground layer is dominated by dog strangling vine. Canada goldenrod, yellow avens (*Geum aleppicum*), and white vervain (*Verbena urticifolia*). One dead butternut was identified in this vegetation community. Refer to **Figure 3.3** for location of the butternut at Site 1.

Soil in this vegetation community is as silty sand, with mottles observed at 30 cm below surface. Bedrock and the water table are beyond 120 cm below surface. Gley was not observed.

Table 3.1: Vegetation Communities at Site 1

ELC Polygon Number	Vegetation Community		Global Rank	Provincial Rank
	Name	ELC Code		
1	Dry - Fresh Sugar Maple - Oak Deciduous Forest	FOD5-3	G?	S5
2	Fresh - Moist Sugar Maple - Hemlock Mixed Forest	FOM6-1	G4G5	S4S5
3	Fresh - Moist White Elm Lowland Deciduous Forest	FOD7-1	-	-

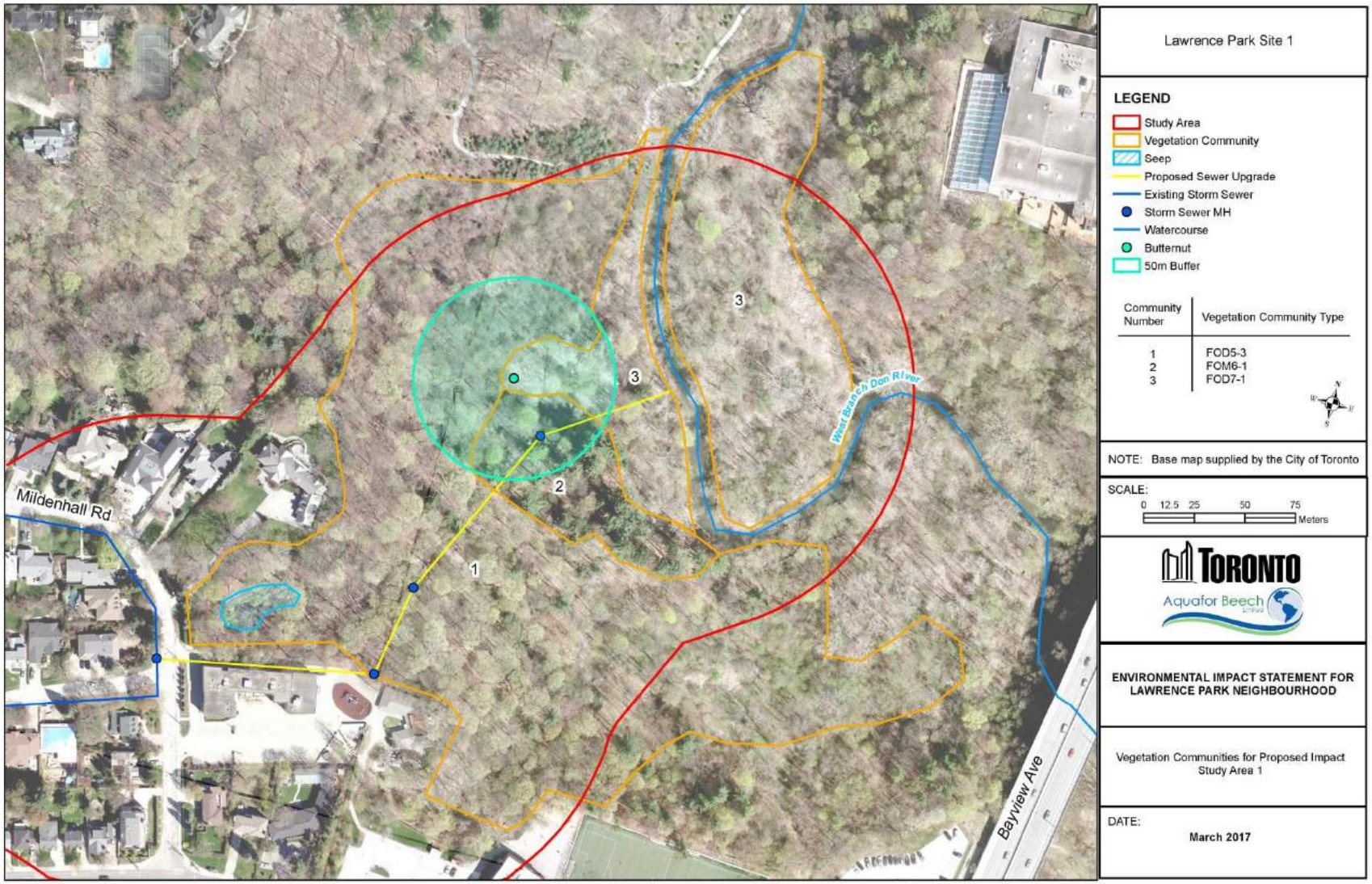

Figure 3.3: Location of Vegetation Communities, Groundwater Seepage Area, and Butternut at Site 1

3.2.2.2 Flora

Flora inventories were conducted in association with vegetation community surveys on October 26, 2016. Refer to **Table 3.2** for a complete annotated list of flora observed at Site 1.

A total of forty (40) species were observed, including thirty-one (31) (76%) native and nine (9) (24%) introduced species. Butternut is the only species of conservation concern observed, and is and Endangered species provincially and federally, significant in the TRCA jurisdiction (L3), and a provincially significant species (S2?).

Table 3.2: List of flora identified at Site 1 in October 2016

Scientific Name	Common Name	CC	CW	COSEWIC	COSSARO	TRCA Rank	G-Rank	S-Rank	Introduced 0=n I =y	Polygon 1	Polygon 2	Polygon 3
Acer negundo	Manitoba Maple	0	-2	-	-	L+?	G5	S5	0			X
Acer platanoides	Norway Maple	0	5	-	-	L+	G?	SE5	I	X		X
Acer saccharum ssp. saccharum	Sugar Maple	4	3	-	-	L5	G5	S5	0	X	X	
Alliaria petiolata	Garlic Mustard	0	0	-	-	L+	G?	SE5	I	X		
Betula alleghaniensis	Yellow Birch	6	0	-	-	L4	G5	S5	0		X	
Betula papyrifera	White Birch	2	2	-	-	L4	G5	S5	0	X		X
Carex sp	Sedge Species	-	-	-	-	-	-	-	0	X		X
Carpinus caroliniana	Blue Beech	6	0	-	-	L4	G5	S5	0	X	X	
Cornus alternifolia	Alternate-leaved Dogwood	6	5	-	-	L5	G5	S5	0	X		X
Crataegus sp	Hawthorn Species	-	-	-	-	-	-	-	0			X
Cynanchum nigrum	Black Swallow-wort	0	5	-	-	L+	G?	SE?	I		X	X
Euonymus europaea	European Euonymus	0	5	-	-	L+	G?	SE2	I			
Eupatorium rugosum	White Snakeroot	5	3	-	-	L5	G5	S5	0			X
Fagus grandifolia	American Beech	6	3	-	-	L4	G5	S5	0	X		
Fraxinus americana	White Ash	4	3	-	-	L5	G5	S5	0	X		
Fraxinus pennsylvanica	Red Ash	3	-3	-	-	L5	G5	S5	0			X
Geum aleppicum	Yellow Avens	2	-1	-	-	L5	G5	S5	0			X
Impatiens capensis	Spotted Touch-me-not	4	-3	-	-	L5	G5	S5	0	X		
Juglans cinerea	Butternut	6	2	END	END	L3	G4	S2?	0			X
Juglans nigra	Black Walnut	5	3	-	-	L5	G5	S4	0			X
Lonicera tatarica	Tartarian Honeysuckle	0	3	-	-	L+	G?	SE5	I	X		
Lysimachia ciliata	Fringed Loosestrife	4	-3	-	-	L5	G5	S5	0			X
Ostrya virginiana	Hop Hornbeam	4	4	-	-	L5	G5	S5	0	X	X	
Pinus strobus	Eastern White Pine	4	3	-	-	L4	G5	S5	0	X	X	
Populus grandidentata	Largetooth Aspen	5	3	-	-	L4	G5	S5	0	X		X
Prunus serotina	Black Cherry	3	3	-	-	L5	G5	S5	0	X		
Prunus virginiana ssp. virginiana	Choke Cherry	2	1	-	-	L5	G5	S5	0	X	X	
Quercus rubra	Red Oak	6	3	-	-	L4	G5	S5	0	X		
Rhamnus cathartica	Common Buckthorn	0	3	-	-	L+	G?	SE5	I	X		X
Rhus typhina	Staghorn Sumac	1	5	-	-	L5	G5	S5	0			X
Ribes americanum	Wild Black Currant	4	-3	-	-	L5	G5	S5	0			X
Rubus idaeus ssp. idaeus	Red Raspberry	0	5	-	-	L+	G5	SE1	I			X
Rubus odoratus	Purple Flowering Raspberry	3	5	-	-	L5	G5	S5	0			X
Solanum dulcamara	Bittersweet Nightshade	0	0	-	-	L+	G?	SE5	I	X		
Solidago canadensis var. canadensis	Canada Goldenrod	1	3	-	-	L5	G5	S5	0			X
Solidago flexicaulis	Zig-zag Goldenrod	6	3	-	-	L5	G5	S5	0	X	X	
Symphyotrichum lanceolatum ssp. lanceolatum	Panicled Aster	3	-3	-	-	L5	G5	S5	0	X		
Tilia americana	Basswood	4	3	-	-	L5	G5	S5	0	X		X
Tsuga canadensis	Eastern Hemlock	7	3	-	-	L4	G5	S5	0	X	X	
Ulmus americana	White Elm	3	-2	-	-	L5	G5?	S5	0	X	X	X
Ulmus parvifolia	Chinese Elm	-	-	-	-	L+	GNR	SE1	I	X		
Verbena urticifolia	White Vervain	4	-1	-	-	L5	G5	S5	0			X

3.2.2.3 Incidental Wildlife Observations

Table 3.3 lists the incidental wildlife observations recorded at Site 1.

Table 3.3: Incidental Wildlife Observations at Site 1

Species		Status					Vegetation Community		
Scientific Name	**Common Name**	**COSEWIC**	**COSSARO**	**G-Rank**	**S-Rank**	**Toronto Region**	**1**	**2**	**3**
Birds									
Scolopax minor	American Woodcock	-	-	G5	S4B	L3			**x**
Cardinalis cardinalis	Northern Cardinal	-	-	G5	S5	L5		**x**	**x**
Mammals									
Sciurus carolinensis	Eastern Gray Squirrel	-	-	G5	S5	L5	**x**	**x**	
Fish									
N/A									
Herpetofauna									
N/A									
Odonates and Lepidopterans									
N/A									

Of the wildlife species listed above, the American woodcock is a locally rare species, as indicated by its L3 ranking.

3.2.2.4 Mammals

Direct observations of mammals at Site 1 include eastern grey squirrel (*Sciurus carolinensis*). Given the habitat types present adjacent to Site 1, other species such as white-tailed deer (*Odocoileus virginianus*), woodchuck (*Marmota monax*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*), eastern chipmunk (*Tamias striatus*), red squirrel (*Sciurus vulgaris*), opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), skunk (*Mephitis mephitis*), meadow vole (*Microtus pennsylvanicus*), eastern cottontail (*Sylvilagus floridanus*) and the domestic housecat (*Felis catus*) are likely present.

3.2.2.5 Avifauna, Amphibians, Reptiles and Fish

As mentioned previously, surveys for breeding birds, breeding amphibians, and reptiles were not conducted. The results of the background information reviews are as follows:

Avifauna

Incidental wildlife observations (**Table 3.3**) during field surveys identified American woodcock (*Scolopax minor*) and northern cardinal (*Cardinalis cardinalis*). American woodcock is a locally rare species.

According to the Toronto ESA Report (North-South Environmental Inc. 2012), the following species are breeding within the Glendon Forest ESA, adjacent to Site 1:

- Wood Thrush

There are no avifaunal records available from eBird.org.

Amphibians

According to the Toronto ESA Report (North-South Environmental Inc. 2012), the following species are breeding within the Glendon Forest ESA:

- Green Frog (*Lithobates clamitans*, L4)

Anuran records were solicited from Ontario Nature in January, 2017. There are no records of frogs and toads within 120 m of Site 1.

Reptiles

According to the Toronto ESA Report (North-South Environmental Inc. 2012), reptiles are not abundant in Toronto, and Site 1 (Glendon Forest) is not considered a significant habitat area for reptiles. Due to their highly cryptic nature, reptiles, especially snakes, can be difficult to document.

Fish

Fish records were not provided by the TRCA.

The TRCA's Regional Watershed Monitoring Program (RWMP) monitors four (4) stations in the Lower West Don River (TRCA 2009). The Ontario Stream Assessment Protocol (OSAP) is used every three (3) years to assess the fish community and aquatic habitat. Monitoring data for the Lower Don available on TRCA's website includes the years 2002 and 2005. Species captured included:

- White Sucker (*Catostomus commersonii*)
- Blacknose Dace (*Rhinichthys atratulus*)
- Longnose Dace (*Rhinichthys cataractae*)
- Fathead Minnow (*Pimephales promelas*)
- Common Carp (*Cyprinus carpio*)
- Creek Chub (*Semotilus atromaculatus*)

- Brown Bullhead (*Ameiurus nebulosus*)
- Pumpkinseed (*Lepomis gibbosus*)

3.2.2.6 Species-at-Risk and Other Species of Conservation Concern

SAR and species of conservation concern that have been confirmed or have the potential to occur within Site 1 are as follows:

Endangered Species

Butternut

Butternut is a nationally and provincially Endangered tree. One (1) butternut was found in the floodplain of the West Don River valley, in ELC polygon 3 (refer to **Figure 3.3** for butternut mapping). Note that while the tree was located by an MNRF-certified Butternut Health Assessor, a Butternut Health Assessment (BHA) was not performed, as an assessment is beyond the scope of the project. The butternut at Site 1 is dead, and as such would be assessed as non-retainable following a BHA. Non-retainable trees do not receive protection under the Endangered Species Act.

Species of Special Concern

Snapping Turtle

Potential foraging habitat is available for snapping turtles within the West Don River floodplain. As construction at Site 1 will occur to the West Don River, snapping turtles may be present within the construction zone.

Wood Thrush

Wood thrush prefers second-growth and mature deciduous and mixed forests, with a well-developed understory and saplings. Generally, they prefer large forest mosaics, but will nest in forest patches. According to the City of Toronto ESA report (North-South Environmental et al. 2012), wood thrush are confirmed breeding in the Glendon Forest ESA, which is associated with Sites 1.

Eastern Wood-pewee

Eastern wood-pewee prefers deciduous and mixed forests that are mature and intermediate age stands, as well as forest clearings and edges. Potentially suitable breeding habitat is present within Site 1 as forests within the Site include mature sugar maple – oak and sugar maple – hemlock forests (refer to **Section 3.2.2.1** for descriptions). This species was not included as a breeding bird in the City of Toronto ESA report (North-South Environmental et al. 2012), however the MNRF, in the request for information response letter, stated that eastern wood-pewee is known to occur within the vicinity of Site 1.

S1 – S3 Conservation Status (Provincially Ranked Species)

Black Cohosh (S2)

Black Cohosh is a Carolinian species that can be found on rich wooded slopes within the Carolinian Zone of Canada. The West Don River is within the northern border of the Carolinian Zone in Canada. Potentially suitable habitat is present at Site 1, within the river valley of the West Don River. However, this species was not observed near to the existing pipes during flora surveys and as such it is not anticipated that the proposed work will harm this species.

L1 – L3 TRCA Conservation Status

American Woodcock (L3)

The American woodcock nests on the ground in moist woodlands and bushy thickets adjacent to grassy clearings. Suitable habitat is available at Site 1 within open thickets and woodlands within the bottomland (floodplain) of the West Don River. This species was observed within ELC polygon 3.

3.2.2.7 Significant Wildlife Habitat

Bat Maternity Roost Colonies

Potential bat maternity roost habitat (i.e. trees with cavities, loose bark, crevices, and snags) were not surveyed for this report, but are likely to occur throughout Site 1. The West Don River is an extensive river valley that has potential roost sites throughout in the mature forests. Proposed works at Site 1 extends into the river valley and to the West Don River.

Seeps and Springs

Seeps were identified within Site 1 at the headwaters of a tributary to the Don River (refer to **Figure 3.3**).

Special Concern and Rare Wildlife Species

All Special Concern and provincially rare (S1-S3, SH) plant and animal species' habitats are considered SWH. Refer to **Appendix B** for discussions regarding Special Concern and rare wildlife species. Species of Special Concern or provincially rare species confirmed at Site 1 includes wood thrush. Species of Special Concern or rare species that could potentially occur at Site 1 includes black cohosh (S2), snapping turtle (SC), and eastern wood-pewee (SC).

3.2.2.8 Corridors and Linkages

Two (2) wildlife corridors were identified within and adjacent to Site 1.

The first is an aquatic corridor consisting of the West Branch of the Don River. This river is an important spawning area for salmonids.

The second is a major terrestrial corridor consisting of the valley lands in the Don River Valley. The valley system provides habitat and movement opportunities for wildlife.

3.2.3 Site 2: York University Glendon Campus

Site 2 works will be located within an existing cleared road in the York University Glendon Campus (**Figure 3.4**). The West Don River Valley is considered a candidate Regional Life Science Area of Natural and Scientific Interest (ANSI), which also contains the Glendon Forest ESA (ESA #34).

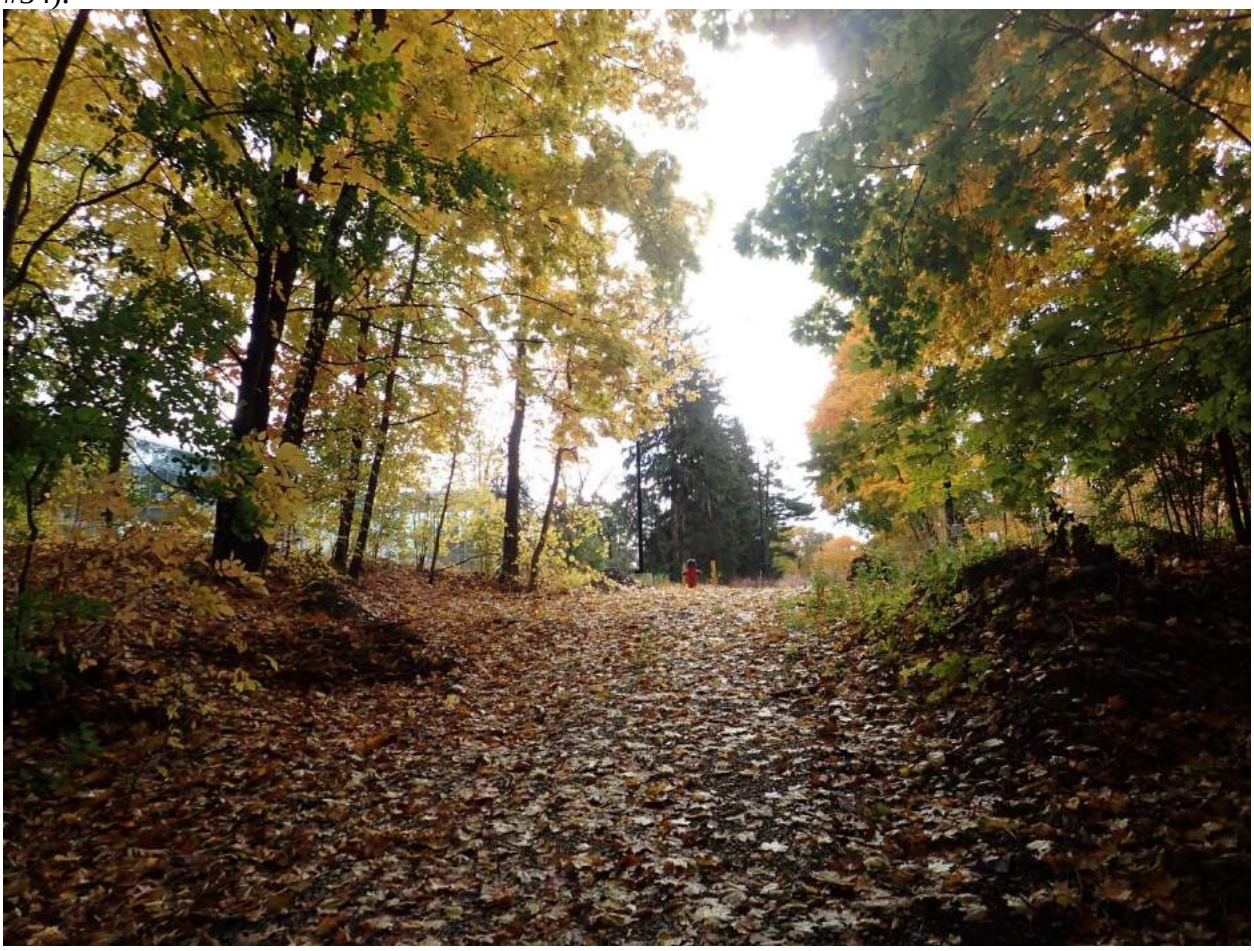

Figure 3.4: Existing Unpaved Access Road at Proposed Infrastructure Works

3.2.3.1 Vegetation Communities

A total of three (3) ELC polygons representing three (3) vegetation communities were described at Site 2. None of the vegetation communities are globally or provincially significant.

Table 3.4 lists the vegetation communities at Site 2. Vegetation communities are illustrated in **Figure 3.5**.

Polygon 1: Mineral Cultural Woodland

This vegetation community is situated on anthropogenically influenced slopes. Part of the community adjacent to Bayview Ave is heavily disturbed, and may have been used as a staging area for the Bayview Avenue bridge reconstruction previously. The community is mid-aged, with tree species less than 10 m tall. Manitoba maple, Norway maple, and hybrid white willow (*Salix x rubens*) comprise the canopy. Norway maple, Manitoba maple, and black locust (*Robinia pseudo-acacia*) are all abundant in all forest layers. European buckthorn, however, is dominant in the sub-canopy and understory layers. The ground layer is dominated by dog strangling vine, with Canada goldenrod, wild carrot (*Daucus carota*), smooth brome (*Bromus inermis ssp. inermis*), and common ragweed (*Ambrosia artemisiifolia)* as abundant associates.

There is evidence of extensive fuel wood logging, widespread anthropogenic trails and tracks, widespread light garbage dumping, extensive noise pollution, widespread light deer browsing, and widespread recreational use.

Polygon 2: Willow Mineral Deciduous Swamp

The willow swamp is situated in a low depression east of Bayview Ave. The community is highly disturbed, and rests adjacent to the West Don River's metal bank treatment. As the proposed culvert replacements at Site 2 now stop on the Glendon Campus, this community is greater than 120 m from the anticipated area of diturbance.

Polygon 3: Dry – Fresh Deciduous Forest

This vegetation community lies on the West Don River valley slope as a mid-aged exotic deciduous forest. Norway maple dominates the canopy, and is abundant in the sub-canopy, understory, and ground layers. Sugar maple is abundant in the canopy, and occasional in the ground layer. A butternut was observed and shows signs of canker. Other associated species within this community include green ash, Manitoba maple, European buckthorn, white elm, alternate-leaved dogwood, and Canada goldenrod.

There is evidence of extensive fuel wood logging, moderate widespread noise pollution, and some instances of tree death.

Polygon 4: Fresh – Moist Hemlock Coniferous Forest

This vegetation community is north of the Glendon Campus between school buildings and a recreational park with tennis courts. Eastern hemlock and white pine (*Pinus strobus*) are abundant throughout the community. Deciduous species include Norway maple.

Table 3.4: Vegetation Communities at Site 2

ELC Polygon Number	Vegetation Community		Global Rank	Provincial Rank
	Name	ELC Code		
1	Mineral Cultural Woodland	CUW1	-	-
2	Willow Mineral Deciduous Swamp	SWD4-1	-	-
3	Dry - Fresh Deciduous Forest	FOD4	-	-
4	Fresh – Moist Hemlock Coniferous Forest	FOC3	-	-

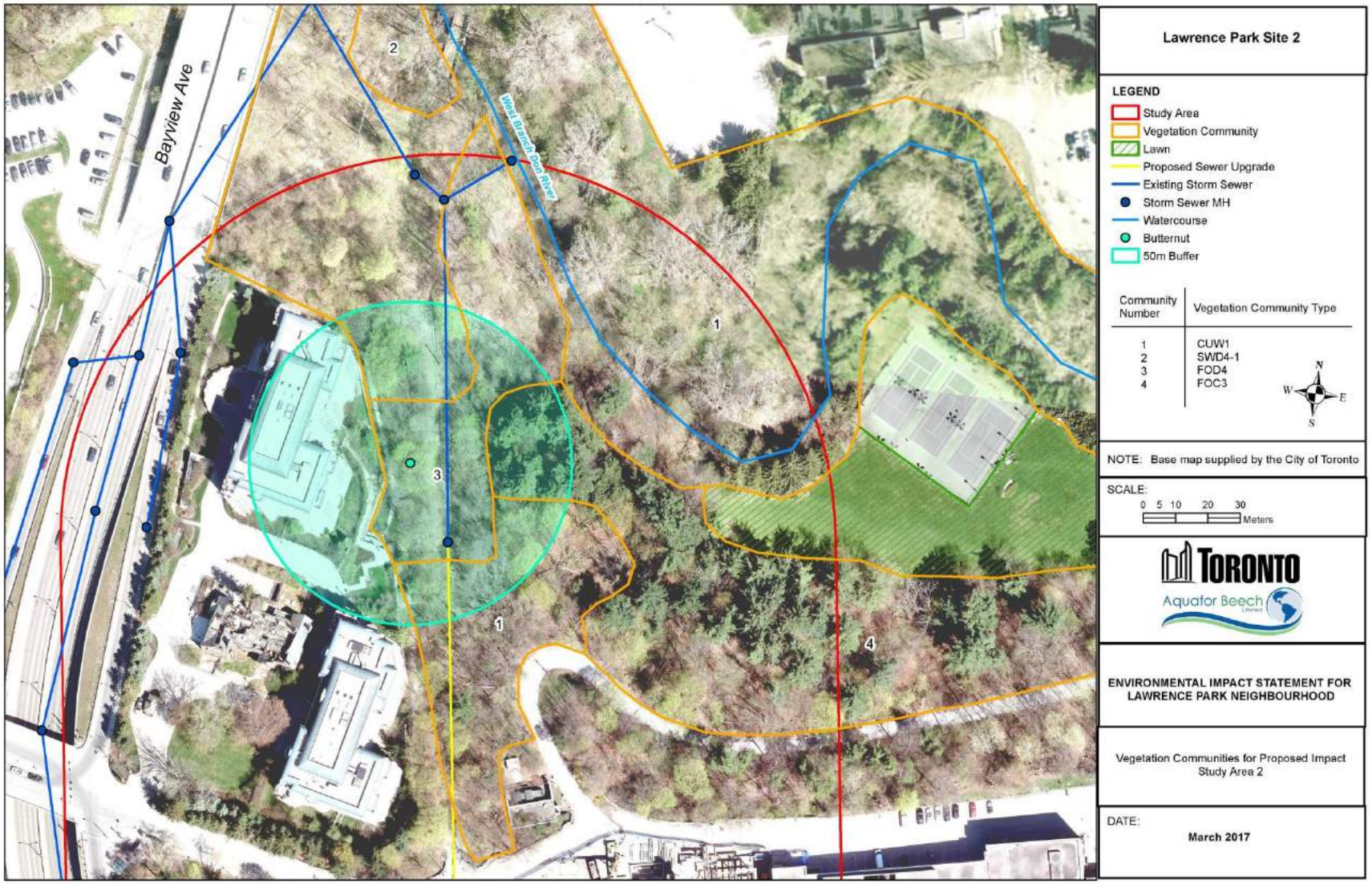

Figure 3.5: Location of Vegetation Communities and Butternut at Site 2

3.2.3.2 Flora

Flora inventories were conducted in association with vegetation community surveys on October 14, 2014, and November 3, 2016.

A total of sixty-six (66) species were identified, including fourty-two (42) (64%) native and twenty-four (24) (36%) introduced species. Three species identified are of conservation concern, including Butternut (Endangered, S2?, L3), and two TRCA L3 ranked species; Maple-leaved viburnum (*Viburnum acerifolium*) and running strawberry-bush (*Euonymus obovata*). Refer to **Table 3.5** for an annotated list of species recorded at Site 2.

Table 3.5: List of Flora identified at Site 2 in October 2014 and November 2016.

Scientific Name	Common Name	CC	CW	COSEWIC	COSSARO	TRCA Rank	G-Rank	S-Rank	Introduced 0=n I =y	Polygon 1	Polygon 2	Polygon 3	Polygon 4
Acer negundo	Manitoba Maple	0	-2	-	-	L+?	G5	S5	0	x	x	x	
Acer platanoides	Norway Maple	0	5	-	-	L+	G?	SE5	I	x	x	x	x
Acer saccharum ssp. saccharum	Sugar Maple	4	3	-	-	L5	G5	S5	0	x		x	
Acer X freemanii	Freeman's Maple	-	-	-	-	L4	G?	S5	0	x			
Agrostis stolonifera	Creeping Bent Grass	0	-3	-	-	L+?	G5	S5	0		x		
Alliaria petiolata	Garlic Mustard	0	0	-	-	L+	G?	SE5	I	x		x	
Ambrosia artemisiifolia	Common Ragweed	0	3	-	-	L5	G5	S5	0	x			
Asclepias syriaca	Common Milkweed	0	5	-	-	L5	G5	S5	0	x			
Aster lanceolatus ssp. lanceolatus	Panicled Aster	3	-3	-	-	L5	G5	S5	0	x	x		
Aster lateriflorus var. lateriflorus	One-sided Aster	3	-2	-	-	L5	G5	S5	0			x	
Aster novae-angliae	New England Aster	2	-3	-	-	L5	G5	S5	0	x	x		
Betula papyrifera	White Birch	2	2	-	-	L4	G5	S5	0			x	
Bidens cernua	Nodding Beggar-ticks	2	-5	-	-	L5	G5	S5	0		x		
Bromus inermis ssp. inermis	Smooth Brome	0	5	-	-	L+	G4G5	SE5	I	x			
Chelidonium majus	Celandine	0	5	-	-	L+	G?	SE5	I	x		x	
Cirsium vulgare	Bull Thistle	0	4	-	-	L+	G5	SE5	I	x			
Cornus alternifolia	Alternate-leaved Dogwood	6	5	-	-	L5	G5	S5	0	x		x	
Cornus stolonifera	Red-osier Dogwood	2	-3	-	-	L5	G5	S5	0	x	x		
Cynanchum nigrum	Black Swallow-wort	0	5	-	-	L+	G?	SE?	I	x	x	x	
Dactylis glomerata	Orchard Grass	0	3	-	-	L+	G?	SE5	I	x			
Daucus carota	Wild Carrot	0	5	-	-	L+	G?	SE5	I	x			
Euonymus europaea	European Euonymus	0	5	-	-	L+	G?	SE2	I			x	
Euonymus obovata	Running Strawberry-bush	6	5	-	-	L3	G5	S5	0			x	
Euthamia graminifolia	Grass-leaved Goldenrod	2	-2	-	-	L5	G5	S5	0	x			
Fraxinus americana	White Ash	4	3	-	-	L5	G5	S5	0	x			
Fraxinus pennsylvanica	Red Ash	3	-3	-	-	L5	G5	S5	0			x	
Geum aleppicum	Yellow Avens	2	-1	-	-	L5	G5	S5	0			x	
Hydrophyllum virginianum	Virginia Water-leaf	6	-2	-	-	L5	G5	S5	0			x	
Impatiens capensis	Spotted Touch-me-not	4	-3	-	-	L5	G5	S5	0		x		
Juglans cinerea	Butternut	6	2	END	END	L3	G4	S2?	0			x	
Juglans nigra	Black Walnut	5	3	-	-	L5	G5	S4	0			x	
Ligustrum vulgare	Common Privet	0	1	-	-	L+	G?	SE5	I			x	
Lonicera tatarica	Tartarian Honeysuckle	0	3	-	-	L+	G?	SE5	I			x	
Melilotus alba	White Sweet-clover	0	3	-	-	L+	G5	SE5	I	x			
Ostrya virginiana	Hop Hornbeam	4	4	-	-	L5	G5	S5	0			x	
Parthenocissus inserta	Thicket Creeper	3	3	-	-	L5	G5	S5	0	x			
Phalaris arundinacea	Reed Canary Grass	0	-4	-	-	L+?	G5	S5	0		x		
Phleum pratense	Timothy	0	3	-	-	L+	G?	SE5	I	x	x		
Pinus strobus	Eastern White Pine	4	3	-	-	L4	G5	S5	0			x	x
Poa pratensis ssp. pratensis	Kentucky Blue Grass	0	1	-	-	SNA	G?	S5	0	x			
Polygonum cuspidatum	Japanese Knotweed	0	3	-	-	L+	G?	SE4	I			x	
Populus grandidentata	Largetooth Aspen	5	3	-	-	L4	G5	S5	0	x			
Populus tremuloides	Trembling Aspen	2	0	-	-	L5	G5	S5	0		x		
Prunella vulgaris ssp. vulgaris	Selfheal	0	0	-	-	L+	G5	SE3	I		x		

Scientific Name	Common Name	CC	CW	COSEWIC	COSSARO	TRCA Rank	G-Rank	S-Rank	Introduced 0=n I =y	Polygon 1	Polygon 2	Polygon 3	Polygon 4
Prunus virginiana ssp. virginiana	Choke Cherry	2	1	-	-	L5	G5	S5	0	x		x	
Ranunculus acris	Tall Buttercup	0	-2	-	-	L+	G5	SE5	I			x	
Rhamnus cathartica	Common Buckthorn	0	3	-	-	L+	G?	SE5	I	x	x	x	
Rhamnus frangula	Glossy Buckthorn	0	-1	-	-	L+	G?	SE5	I		x	x	
Rhus radicans ssp. negundo	Climbing Poison-ivy	5	-1	-	-	L5	G5	S5	0	x			
Rhus typhina	Staghorn Sumac	1	5	-	-	L5	G5	S5	0	x		x	
Ribes sp	Currant Species	-	-	-	-	-	-	-	0		x	x	
Robinia pseudo-acacia	Black Locust	0	4	-	-	L+	G5	SE5	I	x	x	x	
Rosa multiflora	Multiflora Rose	0	3	-	-	L+	G?	SE4	I			x	
Rubus odoratus	Purple Flowering Raspberry	3	5	-	-	L5	G5	S5	0	x		x	
Rumex crispus	Curly Dock	0	-1	-	-	L+	G?	SE5	I	x			
Salix X rubens	Hybrid White Willow	0	-4	-	-	L+	G?	SE4	I	x	x		
Sicyos angulatus	One-seeded Bur Cucumber	5	-2	-	-	L5	G5	S5	0		x		
Solanum dulcamara	Bittersweet Nightshade	0	0	-	-	L+	G?	SE5	I	x			
Solidago canadensis var. canadensis	Canada Goldenrod	1	3	-	-	L5	G5	S5	0	x	x	x	
Solidago flexicaulis	Zig-zag Goldenrod	6	3	-	-	L5	G5	S5	0			x	
Tilia americana	Basswood	4	3	-	-	L5	G5	S5	0	x		x	
Tsuga canadensis	Eastern Hemlock	7	3	-	-	L4	G5	S5	0			x	x
Ulmus americana	White Elm	3	-2	-	-	L5	G5?	S5	0	x	x	x	
Verbena urticifolia	White Vervain	4	-1	-	-	L5	G5	S5	0	x			
Viburnum acerifolium	Maple-leaved Viburnum	6	5	-	-	L3	G5	S5	0			x	
Viburnum opulus	European Highbush Cranberry	0	0	-	-	L+	G5	SE4	I		x		
Vitis riparia	Riverbank Grape	0	-2	-	-	L5	G5	S5	0	x	x	x	

3.2.3.3 Incidental wildlife Observations

No incidental observations of wildlife were recorded during field surveys at Site 2.

3.2.3.4 Mammals

No mammals were observed during field surveys, however given the habitat types present on and adjacent to Site 2, species such as raccoon, skunk, opossum, eastern cottontail, grey squirrel, chipmunk, woodchuck, mink, weasels, red squirrel, meadow vole, house mouse, white-tailed deer, and domestic housecat are likely present.

3.2.3.5 Avifauna, Amphibians, Reptiles and Fish

As mentioned previously, surveys for breeding birds, breeding amphibians, and reptiles were not conducted. No records birds, amphibian, or reptiles were recorded incidentally during field surveys.

Avifauna

According to the Toronto ESA Report (North-South Environmental Inc. 2012), the following species are breeding within the Glendon Forest ESA, adjacent to Site 1:

- Wood Thrush

eBird records show eight (8) common species occurring near Site 2, as described in the *Toronto – Glendon College* hotspot dataset. These species are listed in

Table 3.6.

Table 3.6: Avifauna Species Recorded on eBird

Species		Status					Count	Date of Observation
Scientific Name	Common Name	COSEWIC	COSSARO	G-Rank	S-Rank	Toronto Region		
Cardinalis cardinalis	Northern Cardinal	-	-	G5	S5	L5	1	Jan 17, 2016
Junco hyemalis	Dark-eyed Junco	-	-	G5	S5B	-	2	Jan 17, 2016
Picoides pubescens	Downy Woodpecker	-	-	G5	S5	L5	3	Jan 17, 2016
Poecile atricapillus	Black-capped Chickadee	-	-	G5	S5	L5	5	Jan 17, 2016
Sitta carolinensis	White-breasted Nuthatch	-	-	G5	S5	L4	2	Jan 17, 2016
Spinus tristis	American Goldfinch	-	-	G5	S5B		5	Jan 17, 2016
Sturnus vulgaris	European Starling	-	-	G5	SNA	L+	8	Jan 17, 2016
Turdus migratorius	American Robin	-	-	G5	S5B	L5	50	Jan 17, 2016

None of the species listed through eBird are significant locally, provincially, or nationally.

Amphibians

According to the Toronto ESA Report (North-South Environmental Inc. 2012), the following species are breeding within the Glendon Forest ESA:

- Green Frog (L4)

Anuran records were solicited from Ontario Nature in January, 2017. There are no records of frogs and toads within 120 m of Site 2, nor is suitable breeding habitat present.

Reptiles

According to the Toronto ESA Report (North-South Environmental Inc. 2012), reptiles are not abundant in Toronto, and Site 2 (Glendon Forest) is not considered a significant habitat area for reptiles. Due to their highly cryptic nature, reptiles, especially snakes, can be difficult to document.

Fish

Fish records were not provided by the TRCA. There is no fish habitat at Site 2 given that the proposed storm sewer upgrades are located over 120 m from the West Don River.

TRCA's Regional Watershed Monitoring Program (RWMP) monitors four (4) stations in the Lower West Don River (TRCA 2009). The Ontario Stream Assessment Protocol (OSAP) is used every three (3) years to assess the fish community and aquatic habitat. Monitoring data for the Lower Don available on TRCA's website includes the years 2002 and 2005. Species captured included:

- White Sucker (*Catostomus commersonii*)
- Blacknose Dace (*Rhinichthys atratulus*)
- Longnose Dace (*Rhinichthys cataractae*)
- Fathead Minnow (*Pimephales promelas*)
- Common Carp (*Cyprinus carpio*)
- Creek Chub (*Semotilus atromaculatus*)
- Brown Bullhead (*Ameiurus nebulosus*)
- Pumpkinseed (*Lepomis gibbosus*)

3.2.3.6 Species-at-Risk and Other Species of Conservation Concern

Endangered Species

Butternut

Butternut is a nationally and provincially Endangered tree that is widespread throughout southern and eastern Ontario. One (1) butternut was found adjacent to the path, in ELC polygon 3 (refer to **Figure 3.5** for butternut mapping). Note that while the trees were located by an MNRF-certified Butternut Health Assessor, a Butternut Health Assessment was not performed as an assessment is beyond the scope of the project. The butternut showed signs of heavy canopy dieback, and had open and healed sooty cankers along the trunk.

Species of Special Concern

Snapping Turtle

Potential foraging habitat is available for snapping turtles within the West Don River floodplain. Construction at Site 2 will occur on an existing road, however snapping turtle foraging habitat is within 120 m of the proposed infrastructure improvements.

Wood Thrush

Wood thrush prefers second-growth and mature deciduous and mixed forests, with a well-developed understory and saplings. Generally, they prefer large forest mosaics, but will nest in forest patches. According to the City of Toronto ESA report (North-South Environmental et al. 2012), wood thrush are confirmed breeding in the Glendon Forest ESA, which is associated with Sites 2.

Eastern Wood-pewee

Eastern wood-pewee prefers deciduous and mixed forests that are mature and intermediate age stands, as well as forest clearings and edges. Potential suitable breeding habitat is within Site 2, within the West Don River valley. This species was not included as a breeding bird in the City of Toronto ESA report (North-South Environmental et al. 2012), however the MNRF, in the request for information response letter, stated that eastern wood-pewee is known to occur within the vicinity of Site 2.

S1 – S3 Conservation Status (Provincially Ranked Species)

Painted Skimmer (S2)

Painted Skimmers inhabit boggy ponds and ditches with much emergent vegetation, and are usually associated with woodlands. Potentially suitable habitat is present within the Don River Valley, but not within or adjacent to the proposed area of disturbance. Odonate surveys were not included in the scope of work for this project, and painted skimmer was not recorded as an incidental wildlife observation during field surveys.

Swamp Darner (S2S3)

Swamp darner prefers swamps and slow streams for breeding in or adjacent to woodland areas. Potentially suitable habitat is present in the West Don River valley. As stated above, odonate surveys were not conducted for the scope of this report. The species was not recorded as an incidental wildlife observation during field surveys. Potentially suitable habitat is outside of the area of potential impact.

L1 – L3 TRCA Conservation Status

Maple-leaved Viburnum (Viburnum acerifolium) (L3)

Maple-leaved viburnum is a shrub of dry or rocky woods (Newcomb, 1977), and was identified in ELC polygon 3 (refer to **Section 3.2.3.1** for vegetation community descriptions). The proposed storm sewer upgrades extend into the very southern edge of ELC polygon 3.

Running strawberry-bush (Euonymus obovata) (L3)

Running strawberry-bush occurs in rich roods (Newcomb, 1977), and was identified in ELC polygon 3 (refer to **Section 3.2.3.1** for vegetation community descriptions). The proposed storm sewer upgrades extend into the very southern edge of ELC polygon 3.

3.2.3.7 Significant Wildlife Habitat

Bat Maternity Roost Colonies

Bat maternity colonies may be present at Sites 2, within the West Don River valley. Proposed works at Sites 2 are confined to semi-natural areas (i.e. disturbed linear natural areas consisting of planted and natural trees surrounded by estate and/or institutional properties); therefore it is not likely that bat maternity roost colonies, if within Site 2, are located within or adjacent to the proposed storm sewer upgrades.

Special Concern and Rare Wildlife Species

All Special Concern and Provincially rare (S1-S3, SH) plant and animal species' habitats are considered SWH. Refer to **Appendix B** for discussions regarding Special Concern and rare wildlife species.

At Site 2, species of Special Concern or provincially rare species include wood thrush (SC – confirmed), snapping turtle (SC – potential), and eastern wood-pewee (SC – potential).

3.2.3.8 Corridors and Linkages

Three (3) wildlife corridors were identified within and adjacent to Site 2.

The first is an aquatic corridor consisting of the West Branch of the Don River.

The second is a major terrestrial corridor consisting of the valley lands in the Don River Valley. The valley system provides habitat and movement opportunities for wildlife.

The third is a minor terrestrial wildlife corridor spanning east to west that cuts through the Glendon Campus on either side of a main pathway. This corridor is likely used by urban-adapted mammals such as squirrels, rabbits, and skunks within the woodlands.

3.2.4 Site 4: Strathgowan Ave.

This site is located in the south west corner of the study area, at the west end of Strathgowan Avenue in the Blythwood Ravine Park. The area slopes down south-west from Strathgowan Road to the channelized tributary of the West Don River in Blythwood Ravine Park. The land on the opposite side of the tributary slopes down north-east from the intersection at Mt. Pleasant Road and Blythwood Road.

3.2.4.1 Vegetation Communities

A total of five (5) ELC polygons representing three (3) vegetation community types are present at Site 4. None of the vegetation communities are globally or provincially significant. A complete list of the vegetation communities identified at Site 4 is found in **Table 3.7**, below. Vegetation communities are illustrated in **Figure 3.7**.

Polygon 1: Deciduous Forest (Inclusion: Cultural Meadow)

This community is a mid-aged Norway maple dominated forest on the valley slope adjacent to Mt. Pleasant Road. It is heavily disturbed, with invasive exotic species comprising a large portion of vegetation cover, which is why the community can only be described to the community series level. Red oak is abundant in the canopy, while sugar maple, white birch (*Betula papyrifera*) and basswood are occasional. Norway maple dominates the sub-canopy, with white mulberry (*Morus alba*), sugar maple, and little-leaf linden (*Tilia cordata*) as associates. The understory is abundant with European buckthorn and choke cherry (*Prunus virginiana*). The ground layer is comprised of Canada goldenrod, zig-zag goldenrod, blue-stemmed goldenrod (*Solidago caesia),* and Canada enchanter's nightshade (*Circaea lutetiana ssp. canadensis*).

Soil within this community is medium sand, with no mottling or gley. Evidence of selective logging has been observed, as well as some wind blown down trees and dead trees.

A small cultural meadow inclusion lies on the east side of Mt. Pleasant Road, and is a mowed lawn.

Polygon 2: Fresh – Moist Lowland Deciduous Forest

This community is located on the valley floodplain on the west side of the tributary. It is young to mid-aged, with Norway maple, basswood, and hybrid white willow abundant in the canopy. Norway maple is the only species in all four layers of the forest. In addition to Norway maple, the sub-canopy is comprised of Manitoba maple, basswood, and white elm. Green ash, choke cherry, European buckthorn, and alternate-leaved dogwood comprise the understory. The ground layer is dominated by Canada goldenrod, with garlic mustard (*Alliaria petiolata*), and yellow avens (*Geum aleppicum*) abundant.

There are intermediate gaps in the forest canopy that are found throughout the vegetation community. Exotic invasive species are dominant in vegetation cover. The soil is silty fine sand. Mottles were observed at 60 cm below the soil surface. Gley was not present.

Polygon 3: Mineral Cultural Woodland

This community is located on the valley floodplain, between the east side of the tributary and the recreational path. It is a young woodland, with no tree over 10 m tall. Manitoba maple dominates the canopy and sub-canopy, and is abundant in the understory and ground layer. Other tree species in these layers include Norway maple (abundant in the understory and ground layer), white mulberry (abundant in the canopy and sub-canopy), black walnut (occasional in the canopy; abundant in the sub-canopy), and tree-of-heaven (*Ailanthus altissima*) (rare in the sub-canopy; occasional in the understory). The ground layer is abundant with garlic mustard, Canada goldenrod, orchard grass (*Dactylis glomerata*), and common burdock (*Arctium minus ssp. minus*).

The soil is sand, with mottling present at 55 cm below the soil surface. Gley was not observed.

Polygon 4: Fresh – Moist Lowland Deciduous Forest

This community differs from that of ELC polygon 2 in that ELC polygon 4 is dominated by red oak in the canopy where ELC polygon 2 is dominated by Norway maple. This community is mid-aged to mature. The topographic feature is the same in both ELC polygons, which is a valley slope. This forest is located on the east side of the tributary, adjacent to a residential property.

After Red oak, Norway maple is the most abundant tree in the community. Norway maple is abundant in the canopy, sub-canopy, and ground layer. It is occasional in the understory. Manitoba maple is abundant in the bottom three layers, and black cherry (*Prunus serotina*), sugar maple, white ash, and red maple comprise the rest of the forest with occasional occurrences. Garlic mustard, zig-zag goldenrod, bittersweet nightshade (*Solanum dulcamara*) and lily-of-the-valley (*Convallaria majalis*) comprise the ground layer.

The soil is medium sand, with mottles present at 65 cm below the soil surface. Gley was not observed. There is evidence of selective logging, some wind blow down trees, and unofficial recreation trails.

Polygon 5: Deciduous Forest

This forest is located on the east side of the tributary, adjacent to Strathgowan Road, and within the construction zone of the proposed infrastructure upgrades. It is a young forest that is heavily anthropogenically influenced through what appears to be restoration planting measures. Red oak and basswood, are abundant in the canopy and sub-canopy. One butternut was identified on the slope within the canopy layer. White mulberry is abundant in the sub-canopy and understory. Other associated forest species within the canopy, sub-canopy, and understory include white pine, eastern white cedar (*Thuja occidentialis*), Manitoba maple, red maple, black cherry, and Norway maple. The ground layer is dominated by a cultural grass (*Poa sp.*) and abundant with zig-zag goldenrod and heart-leaved aster (*Symphiotrichum cordifolium).*

The soil is medium sand, with mottles present at 66 cm below the soil surface.

Proposed infrastructure works will occur within the north west corner of this vegetation community and also in adjacent open park land (**Figure 3.6**).

Figure 3.6: ELC Polygon 5 (background) and park land (left).

Table 3.7: Vegetation Communities at Site 4

ELC Polygon Number	Vegetation Community		Global Rank	Provincial Rank
	Name	ELC Code		
1	Deciduous Forest (Inclusion: Cultural Meadow)	FOD (CUM)	-	-
2	Fresh - Moist Lowland Deciduous Forest	FOD7	-	-
3	Mineral Cultural Woodland	CUW1	-	-
4	Fresh - Moist Lowland Deciduous Forest	FOD7	-	-
5	Deciduous Forest	FOD	-	-

Figure 3.7: Location of Vegetation Communities and Butternut at Site 4

3.2.4.2 Flora

Flora inventories were conducted in association with vegetation community surveys on October 26, 2016. Refer to **Table 3.8** for an annotated list of flora.

A total of seventy-two (72) species were identified during field surveys. Of these, fourty-three (43) (60%) are native and twenty-nine (29) (40%) are introduced. Three (3) species are of conservation concern, including butternut (Endangered, S2?, L3), maple-leaved viburnum (L3), and white spruce (L3).

Table 3.8: List of Flora Identified at Site 4 on October 26, 2016

Scientific Name	Common Name	CC	CW	COSEWIC	COSSARO	TRCA Rank	G-Rank	S-Rank	Introduced 0=n I =y	Polygon 1	Polygon 2	Polygon 3	Polygon 4	Polygon 5
Acer negundo	Manitoba Maple	0	-2	-	-	L+?	G5	S5	0		x	x	x	x
Acer platanoides	Norway Maple	0	5	-	-	L+	G?	SE5	I	x	x	x	x	x
Acer rubrum	Red Maple	4	0	-	-	L4	G5	S5	0				x	x
Acer saccharinum	Silver Maple	5	-3	-	-	L4	G5	S5	0					x
Acer saccharum ssp. saccharum	Sugar Maple	4	3	-	-	L5	G5	S5	0	x	x		x	
Ailanthus altissima	Tree-of-heaven	0	5	-	-	L+	G?	SE5	I			x		
Alliaria petiolata	Garlic Mustard	0	0	-	-	L+	G?	SE5	I		x	x	x	
Arctium minus ssp. minus	Common Burdock	0	5	-	-	L+	G?	SE5	I		x	x		x
Berberis thunbergii	Japanese Barberry	0	4	-	-	L+	G?	SE5	I				x	x
Betula papyrifera	White Birch	2	2	-	-	L4	G5	S5	0	x				x
Bidens frondosa	Devil's Beggar-ticks	3	-3	-	-	L5	G5	S5	0			x		
Borago officinalis	Borage	0	5	-	-	L+	G?	SE1	I			x		
Carex sp	Sedge Species	-	-	-	-	-	-	-	0	x				x
Celtis occidentalis	Hackberry	8	1	-	-	L+	G5	S4	0		x			
Circaea lutetiana ssp. canadensis	Canada Enchanter's Nightshade	3	3	-	-	L5	G5	S5	0	x	x			
Convallaria majalis	Lily-of-the-valley	0	5	-	-	L+	G5	SE5	I	x			x	
Cornus alternifolia	Alternate-leaved Dogwood	6	5	-	-	L5	G5	S5	0	x	x			x
Cornus stolonifera	Red-osier Dogwood	2	-3	-	-	L5	G5	S5	0					x
Cynanchum nigrum	Black Swallow-wort	0	5	-	-	L+	G?	SE?	I		x	x		
Dactylis glomerata	Orchard Grass	0	3	-	-	L+	G?	SE5	I			x		
Erigeron annuus	Daisy Fleabane	0	1	-	-	L5	G5	S5	0			x		
Euonymus alata	Winged Euonymus	0	5	-	-	L+	G?	SE2	I	x			x	
Fagus grandifolia	American Beech	6	3	-	-	L4	G5	S5	0	x				
Fragaria virginiana ssp. virginiana	Common Strawberry	2	1	-	-	L5	G5	S5	0				x	
Fraxinus americana	White Ash	4	3	-	-	L5	G5	S5	0	x			x	
Fraxinus pennsylvanica	Red Ash	3	-3	-	-	L5	G5	S5	0		x	x		
Geum aleppicum	Yellow Avens	2	-1	-	-	L5	G5	S5	0	x	x	x		
Hesperis matronalis	Dame's Rocket	0	5	-	-	L+	G4G5	SE5	I	x				
Juglans cinerea	Butternut	6	2	END	END	L3	G4	S4	0					x
Juglans nigra	Black Walnut	5	3	-	-	L5	G5	S4	0		x	x		x
Lapsana communis	Nipplewort	0	5	-	-	L+	G?	SE5	I					x
Leonurus cardiaca ssp. cardiaca	Motherwort	0	5	-	-	L+	G?	SE5	I	x	x	x		
Lonicera tatarica	Tartarian Honeysuckle	0	3	-	-	L+	G?	SE5	I	x			x	
Lysimachia ciliata	Fringed Loosestrife	4	-3	-	-	L5	G5	S5	0		x			
Lysimachia nummularia	Moneywort	0	-4	-	-	L+	G?	SE5	I			x	x	x
Malus pumila	Common Apple	0	5	-	-	L+	G5	SE5	I					x
Morus alba	White Mulberry	0	0	-	-	L+	G?	SE5	I	x		x	x	x
Myosotis scorpioides	Common Forget-me-not	0	-5	-	-	L+	G5	SE5	I					x
Parthenocissus inserta	Thicket Creeper	3	3	-	-	L5	G5	S5	0		x			
Picea glauca	White Spruce	6	3	-	-	L3	G5	S5	0					x
Pinus strobus	Eastern White Pine	4	3	-	-	L4	G5	S5	0	x				x
Plantago major	Common Plantain	0	-1	-	-	L+	G5	SE5	I			x		

Scientific Name	Common Name	CC	CW	COSEWIC	COSSARO	TRCA Rank	G-Rank	S-Rank	Introduced 0=n I =y	Polygon 1	Polygon 2	Polygon 3	Polygon 4	Polygon 5
Poa pratensis ssp. pratensis	Kentucky Blue Grass	0	1	-	-	L+	G?	SNA	I			x		
Poa sp	Blue Grass Species	-	-	-	-	-	-	-	0	x			x	x
Polygonatum pubescens	Hairy Solomon's Seal	5	5	-	-	L4	G5	S5	0					x
Populus grandidentata	Largetooth Aspen	5	3	-	-	L4	G5	S5	0				x	
Populus tremuloides	Trembling Aspen	2	0	-	-	L5	G5	S5	0					x
Prunus avium	Sweet Cherry	0	5	-	-	L+	G?	SE4	I		x			
Prunus serotina	Black Cherry	3	3	-	-	L5	G5	S5	0	x	x		x	x
Prunus virginiana ssp. virginiana	Choke Cherry	2	1	-	-	L5	G5	S5	0	x	x		x	x
Quercus rubra	Red Oak	6	3	-	-	L4	G5	S5	0	x			x	x
Rhamnus cathartica	Common Buckthorn	0	3	-	-	L+	G?	SE5	I	x	x	x	x	
Rhodotypos scandens	Jetbead	-	-	-	-	L+	GNR	SE1	I	x			x	
Rhus radicans ssp. negundo	Climbing Poison-ivy	5	-1	-	-	L5	G5	S5	0					x
Ribes sp	Currant Species	-	-	-	-	-	-	-	0		x			x
Rubus idaeus ssp. idaeus	Red Raspberry	0	5	-	-	L+	G5	SE1	I	x			x	x
Rubus odoratus	Purple Flowering Raspberry	3	5	-	-	L5	G5	S5	0					x
Rudbeckia hirta	Black-eyed Susan	0	3	-	-	L4	G5	S5	0		x			
Rumex crispus	Curly Dock	0	-1	-	-	L+	G?	SE5	I			x		
Salix fragilis	Crack Willow	0	-1	-	-	L+	G?	SE5	I			x		
Salix X rubens	Hybrid White Willow	0	-4	-	-	L+	G?	SE4	I		x			
Sambucus canadensis	Common Elderberry	5	-2	-	-	L5	G5	S5	0					x
Solanum dulcamara	Bittersweet Nightshade	0	0	-	-	L+	G?	SE5	I	x	x		x	
Solidago caesia	Blue-stem Goldenrod	5	3	-	-	L5	G5	S5	0	x				
Solidago canadensis var. canadensis	Canada Goldenrod	1	3	-	-	L5	G5	S5	0	x	x	x		
Solidago flexicaulis	Zig-zag Goldenrod	6	3	-	-	L5	G5	S5	0	x	x		x	x
Symphiotrichum cordifolium	Heart-leaved Aster	5	5	-	-	L5	G5	S5	0				x	x
Thuja occidentalis	Eastern White Cedar	4	-3	-	-	L4	G5	S5	0					x
Tilia americana	Basswood	4	3	-	-	L5	G5	S5	0	x	x			x
Tilia cordata	Littleleaf Linden			-	-	L+	GNR	SNA	1	x				x
Tsuga canadensis	Eastern Hemlock	7	3	-	-	L4	G5	S5	0	x			x	x
Ulmus americana	White Elm	3	-2	-	-	L5	G5?	S5	0	x	x		x	
Verbena urticifolia	White Vervain	4	-1	-	-	L5	G5	S5	0			x		
Viburnum acerifolium	Maple-leaved Viburnum	6	5	-	-	L3	G5	S5	0					x
Viola sp	Violet Species			-	-	-	-	-	0	x				x
Vitis riparia	Riverbank Grape	0	-2	-	-	L5	G5	S5	0	x	x	x	x	

3.2.4.3 Incidental Wildlife Observations

Incidental wildlife observations were recorded during field surveys. The results are as follows (**Table 3.9**):

Table 3.9: Incidental Wildlife Observations at Site 4

Species		Status					Vegetation Community				
Scientific Name	Common Name	COSEWIC	COSSARO	G-Rank	S-Rank	Toronto Region	1	2	3	4	5
Birds											
Picoides villosus	Hairy Woodpecker			G5	S5	L4	x	x			
Poecile atricapillus	Black-capped Chickadee			G5	S5	L5			x		
Mammals											
Sylvilagus floridanus	Eastern Cottontail			G5	S5	L4	x	x			
Sciurus carolinensis	Eastern Gray Squirrel			G5	S5	L5	x	x			
Fish											
N/A											
Herpetofauna											
N/A											
Odonates and Lepidopterans											
N/A											

3.2.4.4 Mammals

Direct observations of mammals at Site 4 include eastern cottontail and grey squirrel. Neither species is locally, provincially, or nationally significant. Given the habitat types present on and adjacent to Site 4, other species such as woodchuck, red fox, coyote, chipmunk, red squirrel, opossum, raccoon, skunk, meadow vole, and the domestic housecat are likely present.

3.2.4.5 Avifauna, Amphibians, Reptiles and Fish

As mentioned previously, surveys for breeding birds, breeding amphibians, and reptiles were not conducted.

Avifauna

Incidental observations of black-capped chickadee and hairy woodpecker were made during field surveys (**Table 3.9**). Neither species is locally, provincially, or nationally significant.

There are no avifaunal records available from eBird.org.

Amphibians

Anuran records were solicited from Ontario Nature in January, 2017. There are no records of frogs and toads within 120 m of Site 1; potential breeding habitat for anurans was not observed.

Reptiles

According to the Toronto ESA Report (North-South Environmental Inc. 2012), reptiles are not abundant in Toronto, and the Glendon Forest ESA at Site 4 is not considered a significant habitat area for reptiles. Due to their highly cryptic nature, reptiles, especially snakes, can be difficult to document.

Fish

Fish records were not provided by the TRCA. Fish were not observed during field surveys. If fish are present within the concrete-lined channel at this site, they would likely be tolerant warmwater species.

3.2.4.6 Species-at-Risk and Other Species of Conservation Concern

Endangered Species

Butternut

One (1) butternut was found adjacent to the path on the east side, in ELC polygon 3 (refer to **Figure 3.7**). Note that while the trees were located by an MNRF-certified Butternut Health Assessor, a Butternut Health Assessment was not performed as an assessment is beyond the scope of the project. The butternut is heavily cankered and is likely not a hybrid.

L1 – L3 TRCA Conservation Status

Maple-leaved Viburnum (Viburnum acerifolium) (L3)

Maple-leaved viburnum is a shrub of dry or rocky woods (Newcomb, 1977), and was identified in ELC polygon 5 (refer to **Section 3.2.4.1** for vegetation community descriptions). The proposed storm sewer upgrades that extends into the NHS, extends into the edge of ELC polygon 5.

White Spruce (L3)

White spruce is a coniferous tree that is associated with a wide range of soils and climates but prefers rich, moist soil (Kershaw, 2001). White spruce was observed in ELC polygon 5, which is the vegetation community that the proposed storm sewer upgrades will occur within. The white spruce in this vegetation community were planted as part of a restoration project and therefore not considered native.

3.2.4.7 Significant Wildlife Habitat

Bat Maternity Roost Colonies

Bat maternity colonies may be present at Site 4 across the tributary in ELC polygon 1. Proposed works at Sites 4 are confined to young semi-natural areas (i.e. disturbed natural areas consisting

of planted and natural trees adjacent to Strathgowan Ave); however potential roosting habitat may be present within the Site 4 boundary.

3.2.4.8 Corridors and Linkages

Two (2) corridors were identified at Site 4.

The first is an aquatic corridor consisting of a channelized tributary of the West Don River. Fish species were not observed during field surveys, however if fish inhabit the channelized tributary they would be considered warm water species.

The second is the east – west narrow tributary valley that ends at Cheritan Ave to the east, and leads to the West Don River valley to the west. Raccoon, grey squirrel, eastern cottontail, eastern chipmunk, and domestic cats may use this corridor.

3.2.5 Site 5: Valleyanna Dr.

Site 5 is located east of Bayview Avenue, north and northeast of the Sunnybrook Health Sciences Centre campus. The western portion of Site 5 consists of a linear wooded easement located between the Sunnybrook campus and the southern edge of residential lots on Valleyanna Drive. The eastern portion of Site 5 is located within the West Don River valley, and north and east of the Estates of Sunnybrook, which is located on the north east corner of the Sunnybrook campus. The West Don River Valley is considered a candidate Regional Life Science Area of Natural and Scientific Interest (ANSI), which also contains the Glendon Forest ESA (ESA #34).

3.2.5.1 Vegetation Communities

A total of six (6) ELC polygons representing six (6) vegetation communities were described and delineated at Site 5. None of the vegetation communities present within the study area are globally or provincially significant. Refer to **Table 3.10** for a list of the vegetation community names, ELC codes, and global and provincial ranking. Vegetation communities are illustrated in **Figure 3.9**.

Polygon 1: Mineral Cultural Woodland

This vegetation community is the linear easement between Valleyanna Drive and Sunnybrook Hospital. It is a narrow strip of mid-aged natural and planted trees that comprise a cultural woodland rife with exotic invasive species including Norway maple, black locust, and Siberian elm (*Ulmus pumila*). Norway maple is abundant in all four forest layers. Other tree species include white ash, white mulberry, basswood, red oak, and white pine. European buckthorn is abundant in the sub-canopy and understory layers. The understory is also abundant with choke cherry and Tartarian honeysuckle (*Lonicera tatarica*). The ground layer is abundant with garlic mustard, Canada goldenrod, heart-leaved aster, yellow avens, and meadow goat's-beard (*Tragopogon pratensis ssp. pratensis*).

The proposed infrastructure upgrades starting at the terminus of Valleyanna Drive will occur within a private paved driveway adjacent to this vegetation community (**Figure 3.8**).

Figure 3.8: Paved private residential roadway, manholes in right foreground.

Polygon 2: Mixed Forest (Inclusion: Fresh – Moist Lowland Deciduous Forest)

This vegetation community is associated with the valley slope of the West Don River. White ash, eastern hemlock, and Norway maple are abundant in the canopy, with black locust and silver maple (*A. saccharinum*) occasionally scattered throughout. Two butternut trees were found at the north end of the ELC polygon (**Figure 3.9**). The understory is dominated by choke cherry and European buckthorn; with alternate-leaved dogwood, red raspberry (*Rubus idaeus ssp. idaeus*), and multiflora rose (*Rosa multiflora*) as abundant associates. The ground layer is abundant with yellow avens, garlic mustard, dog-strangling vine, and one-sided aster (*Aster lateriflorus var. lateriflorus*).

The soil in this vegetation community is silty clay loam, with mottles present at 20 cm below the soil surface. Gley is not present.

Polygon 3: Fresh – Moist Lowland Deciduous Forest (Inclusion: Foul Manna Grass Mineral Meadow Marsh)

This young forest community is located on the bottomland of the West Don River floodplain. No trees are over 10 m tall. Basswood, red oak, and black walnut comprise the canopy, and Norway maple, white elm and staghorn sumac (*Rhus typhina*) in the sub-canopy. The understory is abundant with European buckthorn, riverbank grape (*Vitis riparia*), and winged euonymus (*Euonymus alata*). The ground layer is dominated by dog-strangling vine, and abundant with garlic mustard.

The meadow marsh inclusion has Manitoba maple, green ash, and hybrid white willow scattered throughout, and is dominated by foul manna grass (*Glyceria striata*) in the ground layer. In addition, dog-strangling vine, reed canary grass (*Phalaris arundinacea*) and spotted jewel-weed (*Impatiens capensis*) are abundant in the ground layer. This inclusion is likely influenced by ground water seepage.

Polygon 4: Dry – Fresh Sugar Maple – Oak Deciduous Forest

Vegetation community 4 is a mature natural sugar maple – red oak forest, located on a terrace. Sugar maple dominates the canopy, and is abundant in the sub-canopy and ground layer. Red oak is abundant in the canopy and occasional in the sub-canopy. The only other tree species in the top two forest layers is white ash. Choke cherry and European buckthorn are abundant in the understory, with common barberry (*Berberis vulgaris*) and privet (*Ligustrum vulgare*) associates. The ground layer is abundant with dog-strangling vine, common wood sedge (*Carex blanda*), and Pennsylvania sedge (*C. pensylvanica*).

The soil in this community is medium sand. Mottles and gley are not present.

Polygon 5: Willow Mineral Deciduous Swamp (Inclusion: Fresh – Moist Lowland Deciduous Forest)

This vegetation community is located in the floodplain of the West Don River. It is mid-aged, and dominated by hybrid white willow. White elm, Manitoba maple, and silver maple are associated tree species in the community. The understory is dominated by red-osier dogwood (*Cornus stolonifera*). The ground layer is abundant with sensitive fern (*Onoclea sensibilis*), spotted jewel-weed, narrow-leaved cattail (*Typha angustifolia*), and yellow iris (*Iris pseudacorus*).

The soil in this vegetation community is comprised of five (5) horizons, ranging from course sand to silty clay. No mottling was observed, and gley was documented at 20 cm below the soil surface. The water table sits at 20 cm below the soil surface.

Polygon 6: Fresh – Moist Poplar Deciduous Forest

Located above the floodplain, largetooth aspen (*Populus grandidentata*) dominates over white elm and red oak in this mature forest. Norway maple and European buckthorn are abundant in the sub-canopy, with occasional occurrences of staghorn sumac and shagbark hickory (*Carya ovata*). One butternut was observed in this community (**Figure 3.9**). Dog-strangling vine is dominant in the ground layer.

Table 3.10: Vegetation Communities at Site 5

ELC Polygon Number	Vegetation Community		Global Rank	Provincial Rank
	Name	ELC Code		
1	Mineral Cultural Woodland	CUW1	-	-
2	Mixed Forest (Inclusion: Fresh - Moist Lowland Deciduous Forest)	FOM (FOD7)	-	-
3	Fresh - Moist Lowland Deciduous Forest (Inclusion: Foul Manna Grass Mineral Meadow Marsh)	FOD7 (MAM2-4)	-	-
4	Dry - Fresh Sugar Maple - Oak Deciduous Forest	FOD5-3	G?	S5
5	Willow Mineral Deciduous Swamp (Inclusion: Fresh - Moist Lowland Deciduous Forest)	SWD4-1 (FOD7)	-	-
6	Fresh - Moist Poplar Deciduous Forest	FOD8-1	G5	S5

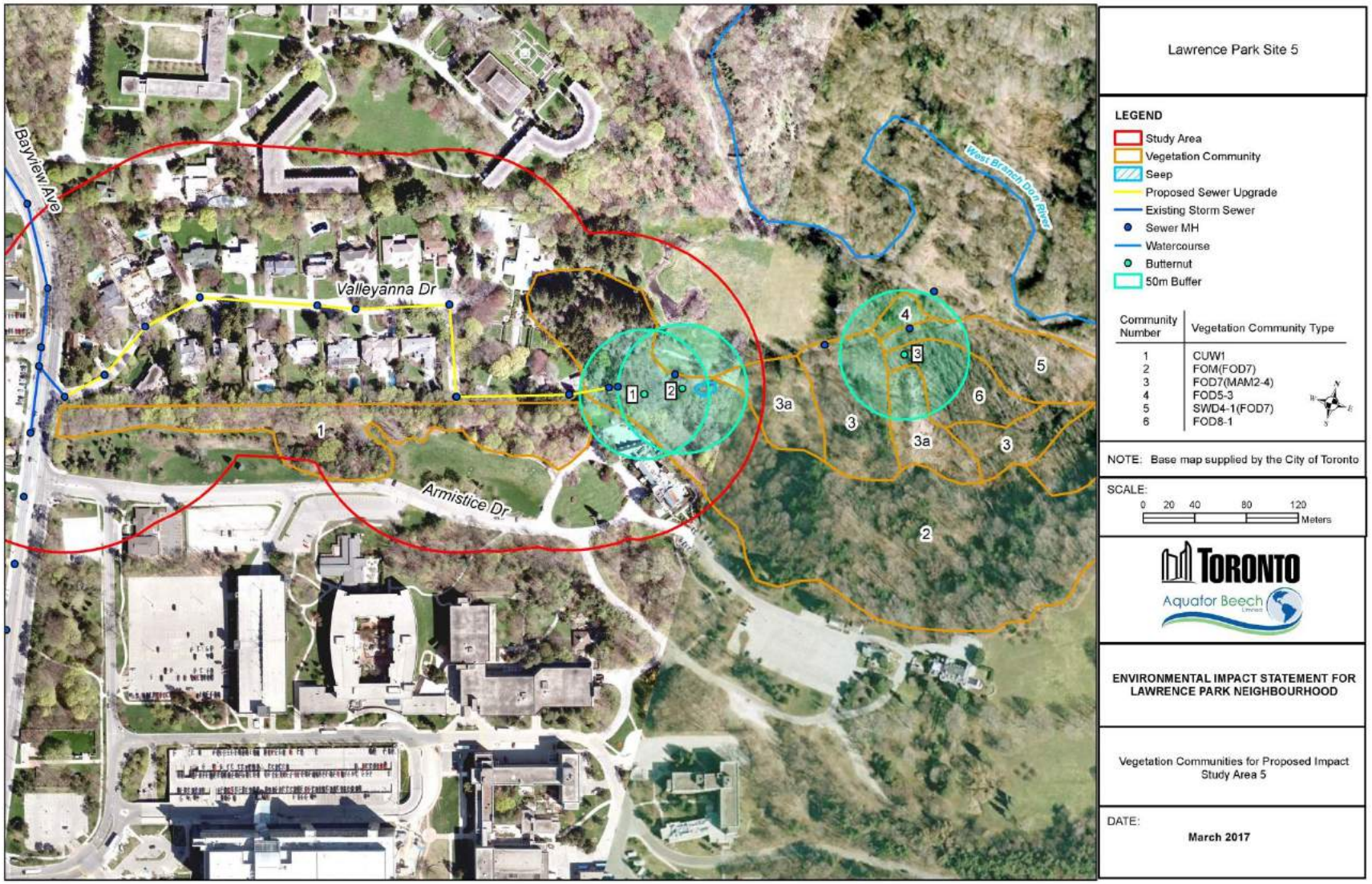

Figure 3.9: Location of Vegetation Communities, Seeps and Springs, and Butternut at Site 5

3.2.5.2 Flora

Flora inventories were conducted in association with vegetation community surveys on October 2, 2014. Refer to **Table 3.11** for an annotated list of flora recorded at Site 5.

A total of seventy-nine (79) species were identified during field surveys. Of these, fourty-eight (48) (61%) are native and thirty-one (31) (39%) are introduced. Five (5) species are of conservation concern, including butternut (Endangered, S2?, L3), shagbark hickory (*Carya ovata*) (L3), moonseed (*Menispermum canadense*) (L3), running strawberry-bush (L3), and cinnamon fern (*Osmunda cinnamomea*) (L3).

Table 3.11: List of Flora Identified at Site 5 on October 2, 2014

Scientific Name	Common Name	CC	CW	COSEWIC	COSSARO	TRCA Rank	G-Rank	S-Rank	Introduced 0=n I =y	polygon 1	polygon 2	polygon 3	polygon 4	polygon 5	polygon 6
Abies balsamea	Balsam Fir	5	-3	-	-	L4	G5	S5	0		x				
Acer negundo	Manitoba Maple	0	-2	-	-	L+?	G5	S5	0		x	x		x	
Acer platanoides	Norway Maple	0	5	-	-	L+	G?	SE5	I	x	x	x			x
Acer saccharinum	Silver Maple	5	-3	-	-	L4	G5	S5	0	x	x			x	
Acer saccharum ssp. saccharum	Sugar Maple	4	3	-	-	L5	G5	S5	0				x		
Aesculus hippocastanum	Horse Chestnut	0	5	-	-	L+	G?	SE2	I	x					
Alliaria petiolata	Garlic Mustard	0	0	-	-	L+	G?	SE5	I	x	x	x			
Symphyotrichum cordifolium	Heart-leaved Aster	5	5	-	-	L5	G5	S5	0	x					
Symphyotrichum lateriflorum var. lateriflorum	One-sided Aster	3	-2	-	-	L5	G5	S5	0		x		x		
Symphyotrichum puniceum	Purple-stem Aster	6	-5	-	-	L5	G5	S5	0					x	
Berberis vulgaris	Common Barberry	0	3	-	-	L+	G?	SE5	I				x		
Carex arctata	Drooping Wood Sedge	5	5	-	-	L5	G5?	S5	0						x
Carex blanda	Common Wood Sedge	3	0	-	-	L5	G5?	S5	0			x	x		
Carex pensylvanica	Pennsylvania Sedge	5	5	-	-	L4	G5	S5	0				x		
Carex sp	Sedge Species	-	-	-	-				0	x				x	
Carya ovata	Shagbark Hickory	6	3	-	-	L3	G5	S5	0				x		x
Chenopodium album var. album	Lamb's Quarters	0	1	-	-	L+	G5	SE5	I		x				
Circaea lutetiana ssp. canadensis	Canada Enchanter's Nightshade	3	3	-	-	L5	G5	S5	0	x	x				
Cornus alternifolia	Alternate-leaved Dogwood	6	5	-	-	L5	G5	S5	0	x	x				
Cornus foemina ssp. racemosa	Grey Dogwood	2	-2	-	-	L5	G5	S5	0	x					
Cornus stolonifera	Red-osier Dogwood	2	-3	-	-	L5	G5	S5	0					x	
Cynanchum nigrum	Black Swallow-wort	0	5	-	-	L+	G?	SE?	I	x	x	x	x		x
Dryopteris carthusiana	Spinulose Wood Fern	5	-2	-	-	L5	G5	S5	0		x				
Echinocystis lobata	Wild Cucumber	3	-2	-	-	L5	G5	S5	0			x			
Equisetum arvense	Field Horsetail	0	0	-	-	L5	G5	S5	0					x	
Euonymus alata	Winged Euonymus	0	5	-	-	L+	G?	SE2	I	x	x	x	x		x
Euonymus europaea	European Euonymus	0	5	-	-	L+	G?	SE2	I	x					x
Euonymus fortunei	Garden Euonymous	-	-	-	-	L+		SE5	I	x	x				
Euonymus obovata	Running Strawberry-bush	6	5	-	-	L3	G5	S5	0					x	
Fagus grandifolia	American Beech	6	3	-	-	L4	G5	S5	0				x		
Fraxinus americana	White Ash	4	3	-	-	L5	G5	S5	0	x	x	x	x		
Fraxinus pennsylvanica	Red Ash	3	-3	-	-	L5	G5	S5	0			x			
Geum aleppicum	Yellow Avens	2	-1	-	-	L5	G5	S5	0	x	x				
Glyceria striata	Fowl Manna Grass	3	-5	-	-	L5	G5	S5	0		x	x			
Hemerocallis fulva	Tawny Day-lily	0	5	-	-	L+	G?	SE5	I	x					
Hesperis matronalis	Dame's Rocket	0	5	-	-	L+	G4G5	SE5	I			x			
Impatiens capensis	Spotted Touch-me-not	4	-3	-	-	L5	G5	S5	0	x		x		x	
Iris pseudacorus	Yellow Iris	0	-5	-	-	L+	G?	SE3	I					x	
Juglans cinerea	Butternut	6	2	END	END	L3	G4	S2?	0	x	x				
Juglans nigra	Black Walnut	5	3	-	-	L5	G5	S4	0			x			
Lapsana communis	Nipplewort	0	5	-	-	L+	G?	SE5	I	x					
Ligustrum vulgare	Common Privet	0	1	-	-	L+	G?	SE5	I	x			x	x	

Scientific Name	Common Name	CC	CW	COSEWIC	COSSARO	TRCA Rank	G-Rank	S-Rank	Introduced 0=n I =y	polygon 1	polygon 2	polygon 3	polygon 4	polygon 5	polygon 6
Lonicera tatarica	Tartarian Honeysuckle	0	3	-	-	L+	G?	SE5	I	x		x			
Mahonia aquifolium	Oregon Grape	-	-	-	-	L+	G5	SE5	I	x					
Menispermum canadense	Moonseed	7	0	-	-	L3	G5	S4	0			x			x
Morus alba	White Mulberry	0	0	-	-	L+	G?	SE5	I	x	x				
Onoclea sensibilis	Sensitive Fern	4	-3	-	-	L5	G5	S5	0					x	
Osmunda cinnamomea	Cinnamon Fern	7	-3	-	-	L3	G5	S5	0					x	
Ostrya virginiana	Hop Hornbeam	4	4	-	-	L5	G5	S5	0	x					
Parthenocissus inserta	Thicket Creeper	3	3	-	-	L5	G5	S5	0	x	x		x		
Phalaris arundinacea	Reed Canary Grass	0	-4	-	-	L+?	G5	S5	0		x	x			
Picea abies	Norway Spruce	0	5	-	-	L+	G?	SE3	I	x					
Pinus sylvestris	Scots Pine	0	5	-	-	L+	G?	SE5	I	x					
Podophyllum peltatum	Mayapple	5	3	-	-	L5	G5	S5	0		x				
Populus grandidentata	Largetooth Aspen	5	3	-	-	L4	G5	S5	0				x		x
Prunus avium	Sweet Cherry	0	5	-	-	L+	G?	SE4	I		x				
Prunus virginiana ssp. virginiana	Choke Cherry	2	1	-	-	L5	G5	S5	0	x	x		x		
Pseudotsuga menziesii	Douglas Fir	-	-	-	-	-	-	-	I		x				
Pyrus communis	Common Pear	0	5	-	-	L+	G5	SE4	I		x				
Quercus rubra	Red Oak	6	3	-	-	L4	G5	S5	0	x		x	x		x
Rhamnus cathartica	Common Buckthorn	0	3	-	-	L+	G?	SE5	I	x	x	x	x	x	x
Rhus typhina	Staghorn Sumac	1	5	-	-	L5	G5	S5	0			x			x
Ribes cynosbati	Prickly Gooseberry	4	5	-	-	L5	G5	S5	0		x				
Ribes sp	Currant Species	-	-	-	-				0					x	
Robinia pseudo-acacia	Black Locust	0	4	-	-	L+	G5	SE5	I	x	x				
Rosa multiflora	Multiflora Rose	0	3	-	-	L+	G?	SE4	I		x				
Rubus idaeus ssp. idaeus	Red Raspberry	0	5	-	-	L+	G5	SE1	I	x	x				
Salix X rubens	Hybrid White Willow	0	-4	-	-	L+	G?	SE4	I	x		x		x	
Solanum dulcamara	Bittersweet Nightshade	0	0	-	-	L+	G?	SE5	I	x					
Solidago canadensis var. canadensis	Canada Goldenrod	1	3	-	-	L5	G5	S5	0	x				x	
Solidago flexicaulis	Zig-zag Goldenrod	6	3	-	-	L5	G5	S5	0	x					
Thuja occidentalis	Eastern White Cedar	4	-3	-	-	L4	G5	S5	0	x					
Tilia americana	Basswood	4	3	-	-	L5	G5	S5	0	x	x	x			
Tilia cordata	Little-leaf Linden	-	-	-	-	L+	GNR	SNA	I	x					
Tragopogon pratensis ssp. pratensis	Meadow Goat's-beard	0	5	-	-	L+	G?	SE5	I	x					
Tsuga canadensis	Eastern Hemlock	7	3	-	-	L4	G5	S5	0		x				
Typha angustifolia	Narrow-leaved Cattail	3	-5	-	-	L+	G5	S5	0					x	
Ulmus americana	White Elm	3	-2	-	-	L5	G5?	S5	0		x	x		x	x
Ulmus pumila	Siberian Elm	0	5	-	-	L+	G?	SE3	I	x					
Verbena urticifolia	White Vervain	4	-1	-	-	L5	G5	S5	0		x				
Vitis riparia	Riverbank Grape	0	-2	-	-	L5	G5	S5	0		x		x	x	

3.2.5.3 Incidental Wildlife Observations

Table 3.12 lists the incidental wildlife observations made at Site 5.

Table 3.12: Incidental Wildlife Observations at Site 5

Species		Status					Vegetation Community					
Scientific Name	Common Name	COSEWIC	COSSARO	G-Rank	S-Rank	TRCA	1	2	3	4	5	6
Birds												
Poecile atricapillus	Black-capped Chickadee	-	-	G5	S5	L5	x					
Mammals												
Castor canadensis	Beaver	-	-	G5	S5	L4					x	
Marmota monax	Woodchuck	-	-	G5	S5	L5			x			
Odocoileus virginianus	White-tailed Deer	-	-	G5	S5	L4		x			x	
Sciurus carolinensis	Eastern Gray Squirrel	-	-	G5	S5	L5	x	x				
Tamias striatus	Eastern Chipmunk	-	-	G5	S5	L4		x				
Vulpes vulpes	Red Fox	-	-	G5	S5	L4	x					
Fish												
Oncorhynchus tshawytscha	Chinook Salmon	-	-	G5	SNA	-	Found in the West Don River, north of ELC polygon 5					
Herpetofauna												
N/A												
Odonates and Lepidopterans												
N/A												

As listed above, seven (7) common species were recorded as incidental wildlife observations at Site 5. None of the observed species are significant locally, provincially, or nationally.

3.2.5.4 Mammals

Several old dens, likely belonging to Red Fox, were found within the wooded easement parallel to Valleyanna Drive (**Figure 3.10**). Additional direct observations of mammals include White-tailed Deer, Beaver (*Castor canadensis*), Grey Squirrel, Chipmunk, and Woodchuck. Given the habitat types present on and adjacent to Site 5, other species such as Raccoon, Skunk, Opossum, Eastern Cottontail, Muskrat (*Ondatra zibethicus*), Mink (*Neovison vison*), Weasels (*Mustela* spp.), Red Squirrel, Meadow Vole, house mouse (*Mus musculus*), and domestic housecat are likely present.

Figure 3.10: Mammal den found in wooded easement adjacent to residential lots south of Valleyanna Drive

Large snags with cavities which could potentially provide habitat for bats were not observed. However, surveys during leaf-off conditions were not completed and observations made as part of this study were incidental in nature. According to the latest MNRF protocol for species-at-risk bats in treed habitats (MNRF, April 2017), surveys for candidate maternity roost trees require surveys during leaf-on and leaf-off conditions. The results of these surveys inform the need for and extent of acoustic surveys. As the protocol did not exist when Aquafor Beech Limited conducted natural heritage field surveys, surveys for potential candidate maternity roosts were not completed.

3.2.5.5 Avifauna, Amphibians, Reptiles and Fish

Avifauna

As mentioned previously, surveys for breeding birds, breeding amphibians, and reptiles were not conducted.

An incidental observation of black-capped chickadee) was made during field surveys (**Table 3.12).** This species is common locally, provincially, and nationally.

According to the Toronto ESA Report (North-South Environmental Inc. 2012), the following species are breeding within the Glendon Forest ESA:

- Wood Thrush

There are no avifaunal records available from eBird.org within or adjacent to Site 5.

Amphibians

According to the Toronto ESA Report (North-South Environmental Inc. 2012), the following species are breeding within the Glendon Forest ESA:

- Green Frog (L4)

Anuran records were solicited from Ontario Nature in January, 2017. There are no records of frogs and toads within 120 m of the proposed area of disturbance at Site 5. Potentially suitable breeding habitat for anurans is present within ELC polygon 6.

Reptiles

According to the Toronto ESA Report (North-South Environmental Inc. 2012), reptiles are not abundant in Toronto, and Site 5 (Glendon Forest) is not considered a significant habitat area for reptiles. Due to their highly cryptic nature, reptiles, especially snakes, can be difficult to document.

Fish

Fish records were not provided by the TRCA. During field surveys, an adult chinook salmon was observed in the West Don River (**Figure 3.11**). The West Don River is an important spawning river for Chinook salmon, which are an introduced species from the west coast of Canada.

Figure 3.11: Adult chinook salmon in the West Don River

3.2.5.6 Species-at-Risk and Other Species of Conservation Concern

Endangered Species

Bats

Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*M. septentrionalis*), and Tri-colored bat (*Perimyotis subflavus*) roost in treed habitats from approximately April – October. These bat species are considered endangered in Ontario and, along with their habitat, are protected under the Endangered Species Act. Potentially suitable maternity roosting habitat for myotis species and tri-colored bat is present within all sites within the study area. According to the Guelph District Office of the MNRF's *Survey Protocol for Species at Risk Bats within Treed Habitats* (MNRF, 2017), "any coniferous, deciduous, or mixed wooded ecosite, including treed swamps, that includes trees at least 10 cm diametre-at-breast height (dbh) should be considered suitable maternity roost habitat", to be confirmed through further study (i.e. candidate roost tree surveys and potentiall acoustic surveys). In accordance with this definition, potentially suitable habitat within the study area includes treed habitats at Sites 1, 2, 4, and 5. According to the MNRF's survey protocol, once potentially suitable vegetation communities have been identified bat maternity roost habitat is to be confirmed through identification of suitable maternity roost trees and, if applicable, acoustic surveys. Consultation with the Aurora District MNRF office is strongly recommended.

Butternut

Butternut is a nationally and provincially Endangered tree that is widespread throughout southern and eastern Ontario. A total of three (3) Butternut were found in two locations: on a valley slope in ELC polygon 2 and on a terrace in ELC polygon 6, as illustrated in **Figure 3.9**. Further information about the condition of each tree is summarized below, along with photos of the trees (**Figure 3.12**). Note that while the trees were located by an MNRF-certified Butternut Health Assessor, a Butternut Health Assessment was not performed as such an assessment is beyond the scope of the project. Butternut #3 is located outside of the Site 5 study area.

Butternut tree #1 is in fair health, with some healed open wounds on the trunk and root flare of the tree and open and sooty wounds on the trunk and branches. Several morphological characteristics point towards this tree possibly being a hybrid, namely notched leaf scars (on some twigs), rusty-coloured hairs on the leaf petiole, and a slightly asymmetric nut, though further investigation at an appropriate time of year is required to determine hybrid status. The tree is located approximately 6 metres south of the fence on the adjacent residential lot. Butternut trees #2 and #3 are dead.

Figure 3.12: From left to right, Butternut trees #1, #2, and #3.

Species of Special Concern

Wood Thrush

Wood thrush prefers second-growth and mature deciduous and mixed forests, with a well-developed understory and saplings. Generally, they prefer large forest mosaics, but will nest in forest patches. According to the City of Toronto ESA report (North-South Environmental et al. 2012), wood thrush are confirmed breeding in the Glendon Forest ESA, which is associated with Sites 5.

Eastern Wood-pewee

Eastern wood-pewee prefers deciduous and mixed forests that are mature and intermediate age stands, as well as forest clearings and edges. Potentially suitable breeding habitat is present within

Site 5 as forests within the Site include mature sugar maple – oak, and mixed forests (refer to **Section 3.2.5.1** for descriptions).

S1 – S3 Conservation Status (Provincially Ranked Species)

Black Cohosh (S2)
Black Cohosh is a Carolinian species that can be found on rich wooded slopes within the Carolinian Zone of Canada. The West Don River is within the northern border of the Carolinian Zone. Potentially suitable habitat is present at Site 5, within the river valley of the West Don River. However, this species was not observed during flora surveys and potentially suitable habitat is outside of the area of anticipated impact.

Painted Skimmer (S2)
Painted Skimmers inhabit boggy ponds and ditches with much emergent vegetation, and are usually associated with woodlands. Potentially suitable habitat is present within the Don River Valley, east of Site 5, which is outside of the Site 5 study boundary and area of anticipated impact. Odonate surveys were not conducted as part of this study; painted skimmer was not recorded incidentally during field surveys.

Swamp Darner (S2S3)
Swamp darner prefers swamps and slow streams for breeding in or adjacent to woodland areas. Potentially suitable habitat is present in the West Don River valley at Site 5, which is outside of the area of anticipated impact. As stated above, surveys were not conducted as part of this study; swamp darner was not recorded incidentally during field surveys.

L1 – L3 TRCA Conservation Status

Shagbark Hickory (L3)
Shagbark hickory prefers rich, moist sites, mixed with other broad-leaved trees. It is a Carolinian indicator species. It was identified in ELC polygons 4 and 6 (refer to **Table 3.11** for flora inventory list). These vegetation communities are outside of the Site 5 study boundary.

Moonseed (L3)
Moonseed is a vine that prefers rich woods and thickets and flowers in early summer (Newcomb, 1977). Moonseed was identified in ELC polygons 3 and 6. These vegetation communities are outside of the Site 5 study boundary.

Running Strawberry-bush (L3)
Running strawberry-bush occurs in rich woods, and was identified in ELC polygon 4. ELC polygon 4 is outside of the Site 5 study boundary.

Cinnamon Fern (L3)
Cinnamon fern is widespread in swamps, wet woods, and wet meadows. It was identified in ELC polygon 5 (Willow Mineral Deciduous Swamp (Inclusion: Fresh - Moist Lowland Deciduous Forest)), which is outside of the Site 5 study boundary.

3.2.5.7 Significant Wildlife Habitat

Bat Maternity Roost Colonies

Bat maternity colonies may be present at Sites 1, 2, 4 and 5. Potential bat maternity roost habitat (i.e. trees with cavities, loose bark, crevices, and snags) were not surveyed for this report.

Tree removals in natural areas are limited to Sites 1, and 5. The West Don River is an extensive river valley that has potential roost sites throughout. Proposed works at Site 5 are confined to semi-natural areas (i.e. disturbed linear natural areas consisting of planted and natural trees surrounded by estate and/or institutional properties); therefore bat maternity roost colonies are likely to be found in ELC polygons 2 and 3i, which extend into the West Don River valley.

Seeps and Springs

Seeps were identified in ELC polygon 2 and 3 (refer to **Figure 3.9**).

Special Concern and Rare Wildlife Species

All Special Concern and Provincially rare (S1-S3, SH) plant and animal species' habitats are considered SWH. Refer to **Appendix B** for discussions regarding Special Concern and rare wildlife species. Within Site 5, confirmed species of Special Concern includes wood thrush. Species of Special Concern that could potentially occur within Site 5 includes eastern wood-pewee. Provincially rare species that could potentially occur within Site 5 includes black cohosh (S2).

3.2.5.8 Corridors and Linkages

Three (3) wildlife corridors were identified within and adjacent to Site 5.

The first is an aquatic corridor consisting of the West Branch of the Don River. As mentioned above, this river is an important spawning area for salmonids.

The second is a major terrestrial corridor consisting of the valley lands in the Don River Valley. The valley system provides habitat and movement opportunities for wildlife. Well-worn pathways with White-tailed Deer tracks in a north-south direction were observed within the valley west of the River.

The third is a minor terrestrial wildlife corridor spanning east to west from the wooded easement south of Valleyanna Drive to the Don River Valley. Several small pathways, likely used by urban-adapted mammals such as skunk and raccoon, were observed within the easement.

3.2.6 Species-at-Risk and other Species of Conservation Concern: Screening Results

The results of the screening exercise conducted for SAR and other species of conservation concern are detailed in **Appendix C**. Relevant results are summarized below.

Bats

Potentially suitable maternity roosting habitat for myotis species and tri-colored bat is present within all forested habitats in the study area. According to the Guelph District Office of the MNRF's Survey Protocol for Species at Risk Bats within Treed Habitats (MNRF, 2017), "any coniferous, deciduous, or mixed wooded ecosite, including treed swamps, that includes trees at least 10 cm diametre-at-breast height (dbh) should be considered suitable maternity roost habitat", to be confirmed through further study. In accordance with this definition, potentially suitable habitat within the study area includes all treed habitats within natural areas in the study area. According to the MNRF's survey protocol, once potentially suitable vegetation communities have been identified bat maternity roost habitat is to be confirmed through identification of suitable maternity roost trees and, if applicable, acoustic surveys. As Endangered species, bats and their habitat are protected under the Endangered Species Act.

Black Cohosh

Black Cohosh is a Carolinian species that can be found on rich wooded slopes within the Carolinian Zone of Canada. The West Don River is within the northern border of the Carolinian Zone in Canada. Potentially suitable habitat is present at Sites 1, 2, and 5. Sites 1, 2, and 5 are within the river valley of the West Don River, However, this species was not observed adjacent to the existing pipes during flora surveys. Construction works at Site 3 will be restricted to the urban area; therefore potential habitat at Site 3 will not be disturbed.

Butternut

Butternut is a short-lived (<75 years), mast-bearing tree in the walnut family (*Juglandaceae*). It is frequently found along moist streambanks and within riparian areas, although it will also occur on well-drained sites underlain by limestone (Poisson and Ursic, 2013). As butternut is intolerant of shade it does not comprise a large component of mature forests. In Canada this species is restricted to southern Ontario and Quebec where the soils are calcareous, and is absent on the granites of the Canadian Shield.

The primary threat to butternut is an introduced exotic fungal pathogen, *Sirococcus clavigignenti-juglandacearum* ("butternut canker"). Infection generally occurs through wounds, broken branches or leaf scars, causing twig dieback and eventual tree mortality. The most obvious sign of infection is a black, oozing canker on the stem or twigs. Hybridization with other walnut species, most notably English walnut (*J. regia*) and Japanese walnut (*J. aliantifolia*), is also a threat. Hybrid trees are not protected under the Endangered Species Act.

A recovery strategy for butternut (Poisson and Ursic, 2013) has been developed, however a habitat regulation is not yet in place. For the interim, the general habitat provisions of the Endangered Species Act apply. In Aquafor Beech Limited's past experience, the Ministry of Natural Resources and Forestry (MNRF) has interpreted butternut habitat as being an area 50 metres surrounding each stem. Any development activities or site alterations within butternut habitat demand that a

certified Butternut Health Assessor determine whether the individual is retainable and therefore protected under the Endangered Species Act, based on provincial protocols. Accordingly, it is recommended that butternut in the study area be assessed at least 2 years' prior to the anticipated construction date. Delaying assessments closer to the date of construction may result in project delays should permits under the Endangered Species Act be required.

Butternut was found within the Sites 1, 2, 4, and 5. Butternut Health Assessments have not been conducted to date as assessments are beyond the scope of this report. The species is Endangered in Ontario and non-hybrid trees assessed as "retainable" following a Butternut Health Assessment and their habitat are protected under the Endangered Species Act.

Eastern Wood-pewee

Eastern wood-pewee prefers deciduous and mixed forests that are mature and intermediate age stands, as well as forest clearings and edges. Potentially suitable habitat is present at Sites 1, 2, and 5 as the West Don River valley is comprised of mature forest patches with forest clearings and edges. Breeding bird surveys were not included in the scope of work for this project.

Painted Skimmer

Painted Skimmers inhabit boggy ponds and ditches with much emergent vegetation, and are usually associated with woodlands. Potentially suitable habitat is present within the Don River Valley, east of Site 5, which is outside of the area of proposed construction impact.

Snapping Turtle

Snapping Turtles (juvenile, inset photo) are primarily aquatic and generally occur in habitats that provide slow-moving water, a soft mud bottom and dense aquatic vegetation such as ponds, sloughs, shallow bays and slow streams. Some individuals persist in heavily urbanized water bodies such as golf course ponds and irrigation canals. Females generally nest on sand and gravel banks along waterways, but may also use muskrat houses, abandoned beaver lodges and anthropogenic features such as road shoulders, railway embankments and gardens. Snapping turtles hibernate under water in lakes, marshes or small, continuously flowing streams (COSEWIC, 2008).

Foraging habitat for snapping turtles is available at Sites 1 and 2 within the West Don River valley. Works within Site 4 is along a concrete lined channel, which is not suitable habitat for snapping turtles. No suitable nesting habitat was observed at any of the sites within the study area.

Swamp Darner

Swamp darner prefers swamps and slow streams for breeding in or adjacent to woodland areas. Potentially suitable habitat is present at Site 3, and in the West Don River valley at Site 5. Construction works at Site 3 will be restricted to the urban area; therefore potential habitat at Site 3 will not be disturbed.

Wood Thrush

Wood thrush prefers second-growth and mature deciduous and mixed forests, with a well-developed understory and saplings. Generally, they prefer large forest mosaics, but will nest in forest patches. According to the City of Toronto ESA report (North-South Environmental et al. 2012), wood thrush are confirmed breeding in the Glendon Forest ESA, which is associated with Sites 1, 2, and 5.

3.2.7 Significant Wildlife Habitat

The following types of SWH have been confirmed or are potentially present within the study area:

Bat Maternity Roost Colonies

Bat maternity colonies may be present in wooded areas at Sites 1, 2, 4, and 5. Candidate bat maternity roost habitat (i.e. trees with cavities, loose bark, crevices, and snags) were not surveyed for this report, and as such the location(s) of candidate roost trees is not known. Little Brown Myotis, Northern Myotis, and Tri-Colored Bat are considered Endangered in Ontario.

Seeps and Springs

Seeps were identified within Sites 1 and 5. At Site 1, a concentration of seeps occurs approximately 30 m east of Mildenhall Road, north of the Toronto French School property, approximately 50 m west of Bayview Avenue (**Figure 3.3**). At Site 5, seepage areas occur in vegetation communities 2 and 3 (**Figure 3.9**).

Special Concern and Rare Wildlife Species

All Special Concern and Provincially rare (S1-S3, SH) plant and animal species' habitats are considered SWH. The following species of Special Concern and provincially rare species have either been confirmed or could potentially occur within areas of potential impact at Sites 1, 2, 4, and 5:

- Butternut (END, S2?);
- Eastern Wood-pewee (SC, S4B);
- Northern Myotis (END, S3)
- Snapping Turtle (SC, S3);
- Tri-colored Bat (END, S3?); and
- Wood Thrush (SC, S4B).

The occurrence of each of the above species is detailed in the results for each respective Site (**Sections 3.2.2** to **3.2.5**). Refer to **Appendix D** for further details regarding Special Concern and rare wildlife species.

4 Planning Context

This section details the planning and environmental policies relevant to the proposed infrastructure upgrades.

4.1 City of Toronto Official Plan

The City of Toronto acknowledges that a healthy natural environment helps to build strong communities and a competitive economy. Clean air, water, and soil, along with parks, open spaces, and an abundance of trees entice people to work and invest in the City. Natural environments are complex, and do not recognize political boundaries on the landscape. It is therefore the role of the City of Toronto to act as a steward of the natural environment, and understand these limits.

According to the City of Toronto's Official Plan (OP), the Natural Heritage System (NHS) "is made up of areas where protecting, restoring and enhancing the natural features and functions should have high priority in our city-building decisions. We must be careful to assess the impacts of new development in areas near the natural heritage system" (City of Toronto, 2015, p 3-32 – 3-33). The NHS provides a number of ecosystem services for the City, including "shade and habitat, help clean the air, contribute to the green links between our streets, neighbourhoods, employment areas and parks, and support ecosystem diversity" (City of Toronto, 2015, p 3-33). In regards to protecting the City's NHS, the City states that "protecting Toronto's natural environment and urban forest should not be compromised by growth, insensitivity to the needs of the environment, or neglect" (City of Toronto, 2015, p 3-32 – 3-33).

The City of Toronto's NHS includes the following features and functions:

- Significant landforms and physical features, including drumlins and the Lake Iroquois shorecliff;
- Watercourses and hydrological features and functions;
- The riparian zone which encompasses the aquatic habitat adjacent to the watercourse that is essential to a healthy stream;
- Valley slopes and floodplains;
- Terrestrial natural habitat types, including forest, wetland, successional, meadow, and beaches and bluffs;
- Significant aquatic features and functions;
- Vegetation communities and species of concern; and
- Significant biological features that are directly addressed by Provincial policy, such as Areas of Natural and Scientific Interest.

Of the above-listed features and functions, proposed infrastructure upgrades at sites 1, 2, 4, and 5 will occur within and/or adjacent to the following:

- Watercourses and hydrological features and functions;
- The riparian zone which encompasses the aquatic habitat adjacent to the watercourse that is essential to a healthy stream;
- Valley slopes and floodplains;

- Terrestrial natural habitat types, including forest, wetland, successional, meadow, and beaches and bluffs; and
- Vegetation communities and species of concern.

Figure 4.1 illustrates the approximate location of Sites 1, 2, 4, and 5 and their proximity to the City's Natural Heritage System (identified as "Natural Areas" on the figure).

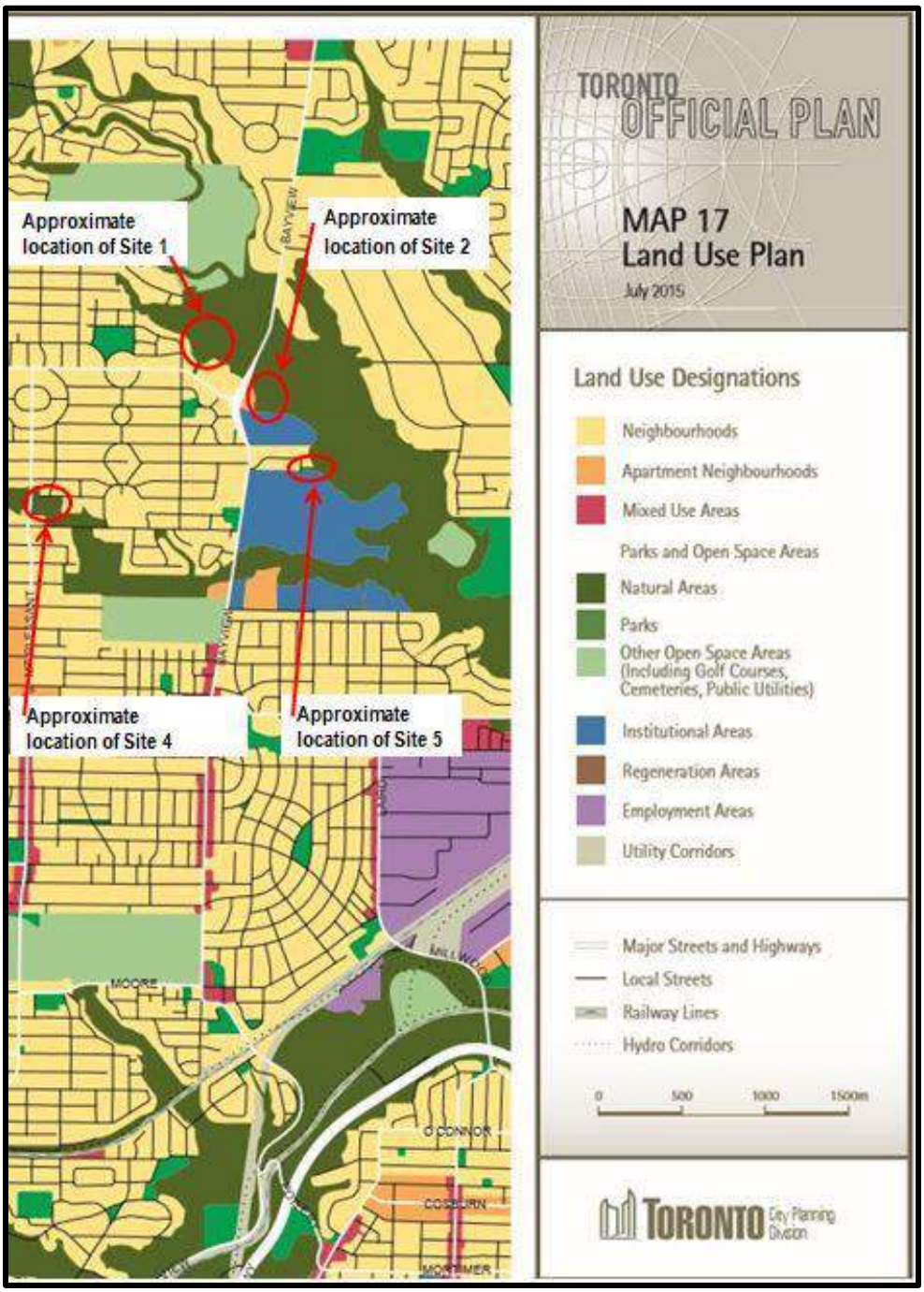

Figure 4.1: Location of Sites 1, 2, 4, and 5 within the City of Toronto's NHS

There are a number of policies that govern the NHS and describe acceptable uses and development guidance within the NHS. Under Section 3.4 of the OP, the policies that relate to Sites 1, 2, 4, and 5 are as follows:

1. To support strong communities, a competitive economy and a high quality of life, public and private city-building activities and changes to the built environment, including public works, will be environmentally friendly, based on:

a) protecting and improving the health of the natural ecosystem, by:
i) minimizing air, soil and water pollution;
ii) recognizing rainwater and snowmelt as a resource to improve the health of Toronto's watercourses and the near shore zones of Lake Ontario;
iii) managing the quantity and improving the quality of stormwater and groundwater infiltration and flows;
iv) cleaning-up contaminated soils, sediment, groundwater, rivers and buildings;
v) mitigating the unacceptable effects of noise; and
vi) minimizing the release and proliferation of invasive species and mitigating their impacts;

b) protecting, restoring and enhancing the health and integrity of the natural ecosystem, supporting bio-diversity in the City and targeting ecological improvements, paying particular attention to:
i) habitat for native flora and fauna and aquatic species;
ii) water and sediment quality;
iii) landforms, ravines, watercourses, wetlands and the shoreline and associated biophysical processes; and
iv) natural linkages between the natural heritage system and other green spaces;

e) reducing the risks to life, health, safety, property, and ecosystem health that are associated with flooding, unstable slopes and erosion and contaminated lands; and

f) reducing the adverse effects of stormwater and snow melt based on a hierarchy of watershed-based wet weather flow practices which recognize that wet weather flow is most effectively managed where it falls, supplemented by conveyance, then end-of-pipe solutions.

6. Areas within the floodplain may only be used for activities that:

a) retain existing topography;

b) protect, restore or improve existing natural features and functions;

c) do not result in unacceptable risks to life or property; and

d) minimize the need to mitigate and remediate floods, erosion and damage to the natural ecosystem.

7. Utilities or services may be located within, or cross the floodplain, including:

a) transportation and above-ground utilities, which may be permitted only to cross the floodplain if there is no reasonable alternative; and

b) underground utilities, flood or erosion control, stormwater management, and conservation.

10. Development is generally not permitted in the natural heritage system (**Figure 4.1**). Where the underlying land use designation provides for development in or near the natural heritage system, development will:

a) recognize natural heritage values and potential impacts on the natural ecosystem as much as is reasonable in the context of other objectives for the area; and

b) minimize adverse impacts and when possible, restore and enhance the natural heritage system.

12. All proposed development in or near the natural heritage system will be evaluated to assess the development's impacts on the natural heritage system and identify measures to mitigate negative impact on and/or improve the natural heritage system, taking into account the consequences for:

a) terrestrial natural habitat features and functions including wetlands and wildlife habitat;

b) known watercourses and hydrologic functions and features;

c) significant physical features and land forms;

d) riparian zones or buffer areas and functions;

e) vegetation communities and species of concern; and

f) significant aquatic features and functions including the shoreline of Lake Ontario.

13. Areas of land or water within the natural heritage system with any of the following characteristics are particularly sensitive and require additional protection to preserve their environmentally significant qualities:

a) habitats for vulnerable, rare, threatened or endangered plant and/ or animal species and communities that are vulnerable, threatened or endangered within the City or the Greater Toronto Area; or

b) rare, high quality or unusual landforms created by geomorphological processes within the City or the Greater Toronto Area; or

c) habitats or communities of flora and fauna that are of a large size or have an unusually high diversity of otherwise commonly encountered biological communities and associated plants and animals; or

d) areas where an ecological function contributes appreciably to the healthy maintenance of a natural ecosystem beyond its boundaries, such as serving as a wildlife migratory stopover or concentration point, or serving as a water storage or recharge area.

Development will not occur on lands within the natural heritage system that exhibit any of these characteristics. Activities will be limited to those that are compatible with the preservation of the natural features and ecological functions attributed to the areas.

14. Provincially significant natural heritage features will be protected by:

a) prohibiting development or site alteration in provincially significant wetlands or significant portions of the habitat of threatened or endangered species;

b) only permitting development in the following locations if it has been demonstrated, through a study, that there will be no negative impacts on the natural features or the ecological functions for which the area is identified:

i) lands adjacent to provincially significant wetlands or significant portions of the habitat of threatened or endangered species;
ii) in or on lands adjacent to fish habitat; and
iii) in or on lands adjacent to provincially significant woodlands, valleylands, wildlife habitat, and areas of natural and scientific interest.

15. Protecting, restoring and enhancing the natural heritage system will recognize the joint role of, and opportunities for, partnerships among public and private landowners, institutions and organizations.

Environmentally Significant Areas

Environmentally Significant Areas (ESAs) are natural areas within the NHS that have high quality natural features and require protection to preserve these features. According to the City of Toronto, ESA's have one or more of the following environmental qualities:

- They are home to rare or endangered plants or animals;
- They are large, diverse and relatively undisturbed which many plants and animals need to survive and reproduce;
- They contain rare, unusual or high quality landforms that help us to understand how Toronto's landscape formed; and
- They provide important ecological functions that contribute to the health of ecosystems beyond their boundaries, such as serving as a stopover location for migratory wildlife.

There are 86 ESAs in the City of Toronto (City of Toronto, 2017). Within the study area; Sites 1, 2, and 5 are either within or adjacent to the Glendon Forest ESA (**Figure 4.2**).

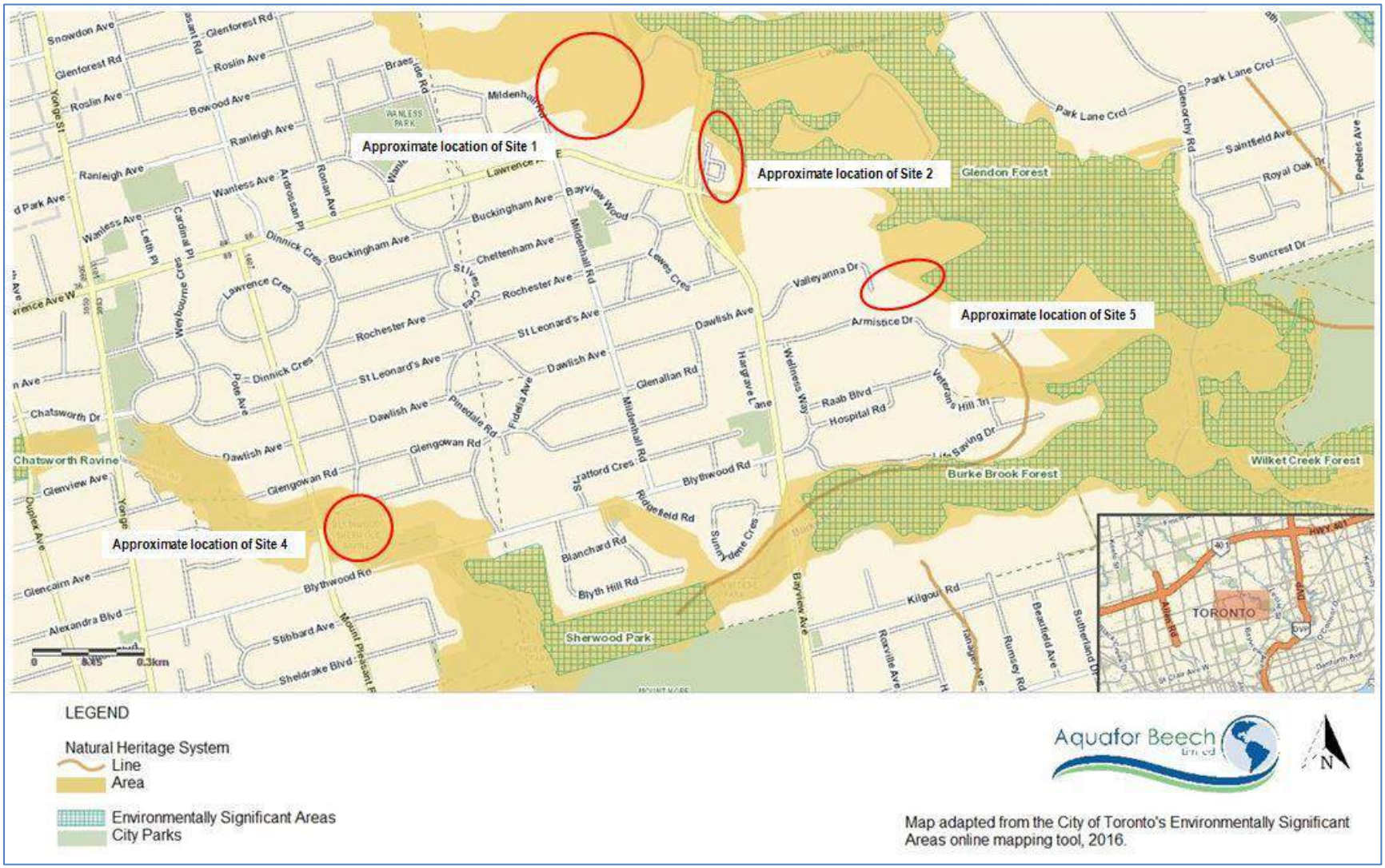

Figure 4.2: Approximate Location of Sites 1, 2, 4, and 5 within or adjacent to ESAs

4.2 Endangered Species Act

The protection of SAR in Ontario is dictated primarily by the Ontario Endangered Species Act (ESA). The ESA originally received royal assent in 1971. On account of numerous deficiencies and implementation constraints, the ESA's scope and stringency were strengthened significantly in 2007 following a protracted review. The stated purposes of the ESA are:

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.*

A scientific body known as the COSSARO is tasked with identifying threats to species in Ontario and classifying those deemed at risk as extirpated, endangered, threatened or special concern. Endangered and threatened species receive recovery strategies, which offer science-based recommendations that aid in their protection and future recovery. These species are also protected from being killed, harmed or harassed (s. 9) and receive habitat protection (s. 10). Alternatively, special concern species receive management plans rather than recovery strategies and are not subject to species or habitat protection.

A regulation specifying a species' habitat must be developed by the second anniversary (endangered) or third anniversary (threatened) of the date the species is officially listed. Before the habitat regulation has been devised, a general definition of habitat is employed and defined as:

> *"[A]n 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"*

Any activity that constitutes harm to an endangered or threatened species or damages its habitat must receive approval from the MNRF under section 17(2)(c) of the ESA. In order to obtain a 17(2)(c) authorization proponents must demonstrate how an overall net benefit for the species will be attained, which often involves rehabilitation or restoration activities.

4.3 Toronto and Region Conservation Authority Policies

The purpose of the Conservation Authorities Act (1990) is to prevent the loss of life and property due to flooding and erosion; and, the conservation and enhancement of natural resources.
Ontario Regulation 166/06 establishes Regulated Areas where development could be subject to flooding, erosion or dynamic beaches, or where interference with wetlands and alterations to shorelines and watercourses might have an adverse effect on those environmental features. Under Ontario Regulation 166/06, any proposed development, interference or alteration within a Regulated Area requires a permit from the TRCA.

There are prohibitions to development within regulated flood plains as stated in O. Reg. 166/06. Section 2 (1) states the following:

> Subject to section 3, no person shall undertake development or permit another person to undertake development in or on the areas within the jurisdiction of the Authority that are,
>
> (b) river or stream valleys that have depressional features associated with a river or stream, whether or not they contain a watercourse, the limits of which are determined in accordance with the following rules:
>
> > (i) where the river or stream valley is apparent and has stable slopes, the valley extends from the stable top of bank, plus 15 metres, to a similar point on the opposite side,
> > (ii) where the river or stream valley is apparent and has unstable slopes, the valley extends from the predicted longterm stable slope projected from the existing stable slope or, if the toe of the slope is unstable, from the predictedlocation of the toe of the slope as a result of stream erosion over a projected 100-year period, plus 15 metres, to asimilar point on the opposite side,
> > (iii) where the river or stream valley is not apparent, the valley extends the greater of,
> >
> > > (A) the distance from a point outside the edge of the maximum extent of the flood plain under the applicable flood event standard, plus 15 metres, to a similar point on the opposite side, and
> > > (B) the distance from the predicted meander belt of a watercourse, expanded as required to convey the flood flows under the applicable flood event standard, plus 15 metres, to a similar point on the opposite side;
>
> (c) hazardous lands;
>
> (d) wetlands; or
>
> (e) other areas where development could interfere with the hydrologic function of a wetland, including areas within 120 metres of all provincially significant wetlands and wetlands on the Oak Ridges Moraine, and within 30 metres of all other wetlands. O. Reg. 166/06, s. 2 (1); O. Reg. 82/13, s. 1 (1, 2).

Section 6 (1) of O. Reg. 166/06 states "the Authority may grant permission to straighten, change, divert or interfere with the existing channel of a river, creek, stream or watercourse or to change or interfere with a wetland" O. Reg. 166/06, s. 6 (1); O. Reg. 82/13, 4 (1)" (Government of Ontario, 2013).

Figure 4.3 to **Figure 4.6** illustrates the approximate location of storm sewer replacements within TRCA regulated areas (shown in green). The map was retrieved from the TRCA's online Regulated Areas Search mapping tool (TRCA, 2016). Accordingly, **permits from the TRCA will be required for works within all Sites.**

Figure 4.3: Approximate location of proposed storm sewer replacement at Site 1

Figure 4.4: Approximate location of proposed storm sewer replacement at Site 2

Figure 4.5: Approximate location of storm sewer replacement at Site 4

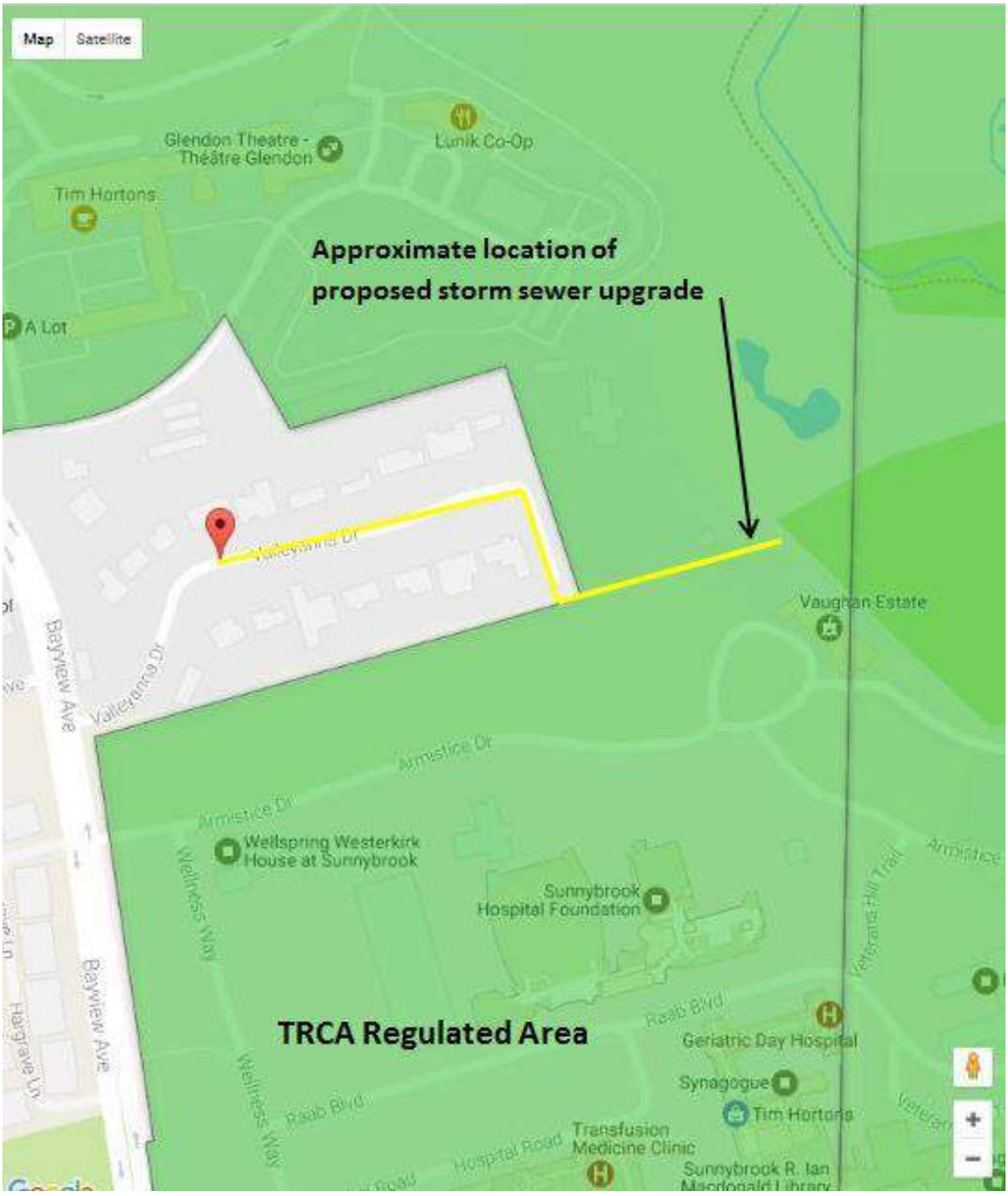

Figure 4.6: Approximate location of storm sewer replacement at Site 5

5 Development Impacts and Mitigation Measures

The potential impacts and recommended mitigation measures of each Site are discussed below, followed by general potential impacts and recommended mitigation measures that are applicable to all Sites.

Potential impacts to the NHS will likely occur every 100 + years due to the anticipated lifecycle of storm sewer pipes and therefore infrastructure will need to be continuously replaced as pipes deteriorate. As previously mentioned, the preferred construction methodology to be used where proposed works are within and adjacent to parks and natural areas is jack-and-bore, as it is the least impactful to trees. Implementation of this construction method may require vegetation removal in select areas (e.g. receiving pits). It is recommended that this methodology be employed where technically feasible. Accordingly, some of the potential impacts and recommended mitigation measures discussed below reflect this anticipated infrastructure construction cycle.

5.1 Site 1: Toronto French School Valley

Impacts to Aquatic Habitat

Replacing the old storm sewer adjacent to the West Don River and accommodating access into the valley may result in the removal of vegetation and may result in increased sediment entering the West Don River.

Mitigation: It is recommended that removed vegetation is mitigated through restoration plantings. Erosion and sediment control will be used to prevent siltation into the river.

Loss of Woodland/Forest Cover

An approximate 10 m wide swath of vegetation will be removed the length of the storm sewer in natural areas as a result of the proposed infrastructure development (and associated grading).

Mitigation: Recommended mitigation measures include offsetting the loss of woodland cover through native woody plantings within and at the edge of the storm sewer corridor (approximate 5 m on each side from the centreline of the pipes), and Terraseeding the sewer corridor with native herbaceous species appropriate to the vegetation community and physiographic characteristics (i.e. slope, soil type, available sun). A certified Arborist should be on site during construction to prune the branches and roots of trees that are to be retained adjacent to construction zones.

Soil Compaction

Access into the NHS to accommodate construction machinery and construction staging at each site may cause soil compaction.

Mitigation: It is recommended that staging and valley access be restricted to existing roads and trails within the NHS as much as possible. Where this is not possible, it is recommended that an arborist aerate the soil using a pneumatic drill post construction and that construction best practices, such as the application of mulch or plywood in work areas, be implemented.

Loss of species of Conservation Concern

Assess and staging areas may harm SAR and species of conservation concern (i.e. Butternut and black cohosh), ground nesting species (i.e. American woodcock), tree nesting/roosting species (i.e. Bats, eastern wood-pewee and wood thrush,) and snapping turtle foraging habitat.

Mitigation: To mitigate harm to vegetative species of concern, it is recommended that prior to construction a qualified biologist flag rare plants that could be impacted by the proposed construction and if necessary, transplant the species to suitable habitat within the same vegetation community if possible. If the latter measure is taken, it is recommended that an aftercare and monitoring plan be developed.

As a first step, butternut trees are to be assessed as part of a Butternut Health Assessment to determine if protection under the Endangered Species Act is applicable (refer to **Section 7**).

To mitigate potential harm to American woodcock, a species present in ELC polygon 3, and potential harm to eastern wood-pewee and wood thrush, it is recommended that vegetation be removed prior to the generalized breeding timing window (April 1st – August 31st).

To mitigate potential harm to snapping turtles, it is recommended that sediment and erosion control measures are also used to exclude snapping turtles from entering construction areas.

It is recommended that surveys for bat habitat (i.e. candidate roost trees) occur prior to any vegetation removals. Following the identification of candidate roost trees, acoustic surveys ought to be completed as required, in consultation with the MNRF. Should it be determined that the proposed works will impact SAR bat habitat, consultation with the MNRF and potentially the acquisition of a permit under the Endangered Species Act will be required.

Rehabilitation to the Tributary of the West Don River

As detailed in **Section 2.1**, a damaged pipe has caused erosion and downcutting of the tributary of the Don River at Site 1.

Mitigation: It is recommended that the City of Toronto investigate options for channel rehabilitation downstream of the broken pipe so that ongoing erosion does not continue to impact the adjacent forest and the West Don River.

Encroachment into the NHS

Newly removed vegetation may provide access into the NHS for dumping, vandalism, camping, and the creation of unauthorized trails.

Mitigation: It is recommended that thorny plant species are used as part of the restoration of disturbed areas. Signage focusing on promoting the restoration efforts (i.e. new plantings) may also deter encroachment into the NHS and should be installed along of the access routes and pipe corridors leading into the NHS. Stewardship activities (i.e. outreach, educational signage) directed towards groups which currently use the area is also recommended.

Decline in Tree Health

Soil compaction resulting from the temporary access roads and construction within the NHS may cause a decline in tree health over time, which may lead to tree mortality for trees adjacent to the temporary access road and storm sewer corridor.

Mitigation: Recommended mitigation measures include the installation of tree protection fencing, and having a certified arborist on site during construction. Tree aftercare, to be completed under the supervision of a certified arborist, is also recommended.

Loss of Forest Cover

As stated previously, storm sewer pipes may need to be replaced approximately every 100+ years due to the lifespan of the pipes. Therefore, it is possible that continued replacement of the storm sewer pipes within the valley may require trees be removed on a 100+ year rotation. It is likely that this disturbance schedule could: exacerbate edge effects such as light infiltration to the forest floor (which causes soil drying); provide a potential vector for invasive species to colonize the forest; and, increase the likelihood of tree mortality from wind stresses such as blow downs.

Mitigation: It is recommended that mitigation measures include: offsetting the loss of woodland cover through native woody plantings within and at the edge of the disturbed areas; retention of a certified arborist to prune tree roots and branches of trees adjacent to construction; and Terraseed disturbed areas with context-appropriate native herbaceous species.

Impacts to Sensitive Species

Continued disruption of the NHS by potential storm sewer upgrades every 100+ years may deteriorate key habitat characteristics such as interior forest for sensitive species (i.e. wood thrush).

Mitigation: It is recommended that the potential loss of forest cover be mitigated through native woody plantings at the edge of the storm sewer corridor (approximate 5 m on each side from the centreline of the pipes) to reduce the need to remove trees in the future, and preserve interior forest habitat.

5.2 Site 2: York University Glendon Campus

Loss of Woodland/Forest Cover

The existing pipe needs to be replaced. This may require select vegetation removals near receiving pit, or root pruning as a result of the proposed infrastructure development (and associated grading).

Mitigation: Recommended mitigation measures include offsetting the loss of woodland cover through native woody plantings within and at the edge of disturbed areas, and Terraseeding the sewer corridor with native herbaceous species appropriate to the vegetation community and physiographic characteristics (i.e. slope, soil type, available sun). A certified Arborist should be on site during construction to prune the branches and roots of trees that are to be retained adjacent to construction zones.

Soil Compaction

Access into the NHS to accommodate construction machinery and construction staging at each site may cause soil compaction.

Mitigation: It is recommended that staging and valley access be restricted to existing roads and trails within the NHS as much as possible. Where this is not possible, it is recommended that an arborist aerate the soil using a pneumatic drill post construction and that construction best practices, such as the application of mulch or plywood in work areas, be implemented.

Loss of species of Conservation Concern

Assess and staging areas may harm vegetative species of conservation concern (i.e. Butternut, maple-leaved viburnum, and running strawberry-bush), and tree nesting/roosting species (i.e. Bats, eastern wood-pewee and wood thrush,) and snapping turtle foraging habitat.

Mitigation: To mitigate harm to vegetative species of concern, it is recommended that prior to construction a qualified biologist flag rare plants that could be impacted by the proposed construction and if necessary, transplant the species to suitable habitat within the same vegetation community if possible. If the latter measure is taken, it is recommended that an aftercare and monitoring plan be developed.

As a first step, butternut trees are to be assessed as part of a Butternut Health Assessment to determine if protection under the Endangered Species Act is applicable (refer to **Section 7).**

To mitigate potential harm to eastern wood-pewee and wood thrush, tree nesting species, it is recommended that vegetation be removed prior to the generalized breeding timing window (April 1st – August 31st). To mitigate potential harm to snapping turtles, it is recommended that sediment and erosion control measures are also used to exclude snapping turtles from entering construction areas.

It is recommended that surveys for bat habitat (i.e. candidate roost trees) occur prior to any vegetation removals. Following the identification of candidate roost trees, acoustic surveys ought to be completed as required, in consultation with the MNRF. Should it be determined that the proposed works will impact SAR bat habitat, consultation with the MNRF and potentially the acquisition of a permit under the Endangered Species Act will be required.

5.3 Site 4: Strathgowan Avenue

Creation of New Woodland Edges

Intrusion into wooded communities may result in a decrease in wooded cover and habitat quality within the NHS.

Mitigation: It is recommended that loss of wooded cover be mitigated through compensation plantings.

Loss of Woodland/Forest Cover

Construction related to the replacement of the pipe may require vegetation removed the length of the storm sewers, or root pruning as a result of the proposed infrastructure development (and associated grading).

Mitigation: Recommended mitigation measures include offsetting the loss of woodland cover through native woody plantings within and at the edge of disturbed areas, and Terraseeding the sewer corridor with native herbaceous species appropriate to the vegetation community and physiographic characteristics (i.e. slope, soil type, available sun). A certified Arborist should be on site during construction to prune the branches and roots of trees that are to be retained adjacent to construction zones.

Soil Compaction

Access into the NHS to accommodate construction machinery and construction staging at each site may cause soil compaction.

Mitigation: It is recommended that staging and valley access be restricted to existing roads and trails within the NHS as much as possible. Where this is not possible, it is recommended that an arborist aerate the soil using a pneumatic drill post construction and that construction best practices, such as the application of mulch or plywood in work areas, be implemented.

Loss of species of Conservation Concern

Assess and staging areas may harm vegetative species of conservation concern (i.e. Butternut and maple-leaved viburnum).

Mitigation: To mitigate harm to vegetative species of concern, it is recommended that prior to construction a qualified biologist flag rare plants that could be impacted by the proposed construction and if necessary, transplant the species to suitable habitat within the same vegetation community if possible. If the latter measure is taken, it is recommended that an aftercare and monitoring plan be developed.

Furthermore, as a first step, the butternut tree on site is to be assessed as part of a Butternut Health Assessment to determine if protection under the Endangered Species Act is applicable (refer to **Section 7**).

5.4 Site 5: Valleyanna Dr.

As stated previously, the proposed sewer works will occur within a paved private residential driveway located adjacent to wooded areas.

Impacts to Tree Roots

There is a potential to impact tree roots and branches adjacent to the paved driveway.

Mitigation: It is recommended that a certified arborist be retained during construction. The arborist is to complete and/or supervise any required pruning, as well as make site-specific aftercare recommendations.

Loss of Species of Conservation Concern

Assess and staging areas may harm vegetative species of conservation concern (i.e. Butternut), and tree nesting species (i.e. bats, eastern wood-pewee and wood thrush).

Mitigation: As a first step, the butternut trees on site are to be assessed as part of a Butternut Health Assessment to determine if protection under the Endangered Species Act is applicable (refer to **Section 7**).

It is recommended that surveys for bat habitat (i.e. candidate roost trees) occur prior to any vegetation removals. Following the identification of candidate roost trees, acoustic surveys ought to be completed as required, in consultation with the MNRF. Should it be determined that the proposed works will impact SAR bat habitat, consultation with the MNRF and potentially the acquisition of a permit under the Endangered Species Act will be required.

To mitigate potential harm to eastern wood-pewee and wood thrush, tree nesting species, it is recommended that vegetation be removed prior to the generalized breeding timing window (April 1st – August 31st).

5.5 Potential Impacts and Recommended Mitigation Measures Applicable to All Sites

The following subheadings outline potential impacts and recommended mitigation measures applicable to all Sites within the study area.

Loss of Terrestrial Habitat

Potential impacts to vegetation communities resulting from vegetation removal to accommodate the proposed sewer upgrade and construction access road will be mitigated through a revegetation/restoration plan developed in consultation with the City of Toronto and the TRCA. At a minimum, trees should be replaced at a 3:1 ratio, 5 shrubs should be planted for every tree removed, and herbaceous seed mix should be seeded over disturbed areas from construction. It is recommended that, where possible, efforts be made to improve wildlife habitat through the provision of habitat plantings, re-use of large diametre trees cut to accommodate construction, etc.

It is also recommended that trees to be retained be subject to the provisions of the City of Toronto's Tree Protection Policy and Specifications for Construction Near Trees guidelines (City of Toronto, July 2016), or subsequent update. A certified Arborist should be on site to prune roots within the proposed storm sewer corridor of trees adjacent to construction zones and are to be retained. An erosion and sediment control plan will be developed to reduce further degradation of terrestrial habitat.

Control of Invasive Species

Exotic invasive species were found within the proposed infrastructure construction footprint at all Sites. As part of the construction process, these species will need to be removed to accommodate site access and pipe installation. Decreasing the amount of invasive species within and adjacent to the NHS will likely have a positive effect on the health of the NHS through reducing the likelihood of exotic invasive species spreading into other areas of the NHS, including Environmentally Significant Areas. Invasive species adjacent to areas of disturbance have the potential to quickly colonize disturbed areas and as such they should be included in an invasive species removal plan. Priority should be given to Norway maple, Manitoba maple, tree of heaven (*Alianthus altissima*), and white mulberry (*Morus alba*) Accordingly, mitigation measures are not applicable.

It is recommended that a minimum 5-year invasive species management plan be developed and circulated to the City of Toronto's Urban Forestry Department and the TRCA for review and approval prior to construction. The Plans should include cost-estimates as well as adaptive management plans.

Erosion and Sediment Control

Erosion and sedimentation control techniques are necessary precautions to minimize sediment entry into surrounding creeks and/or storm sewer pipes. Installation of construction fencing and erosion & control silt fence are required well in advance of construction activities. Construction fencing and access routes shall be clearly delineated and appropriate setbacks maintained from private property for the duration of construction works. Sediment and erosion control measures should remain in place until vegetation has become established.

Sediment and erosion control measures will also act as wildlife exclusion fencing to prevent small mammals and herpetofauna from falling into the open cut pits where the storm sewer pipes will be laid.

Potential sources for sedimentation related to construction activities include sediments disturbed and deposited by construction vehicles and blowing sand and dust. The following mitigating measures are proposed:

- Place sediment traps to receive storm runoff during construction
- Provide tire washing facilities for construction vehicles that exit the sites
- Install silt fencing along the perimeters of the work sites where appropriate to prevent migration of sediment-laden storm runoff
- Cover exposed excavated material to prevent erosion by rain and wind
- Water or other dust suppressants to be employed during construction to control release of dust particles to the air
- Cover catch basins with filter fabric during construction to prevent the migration of sediments into the conveyance system and ultimately to the watercourses.

Erosion and sediment control plan, and the selection of appropriate measures will be addressed during the detailed design and construction as per the City requirements. Any construction projects impacting TRCA regulated lands require an erosion and sediment control plan be prepared referencing the Greater Golden Horseshoe Area Conservation Authorities' *Erosion and Sediment Control Guideline for Urban Construction* (downloadable from www.sustainabletechnologies.ca).

Trees

Best Management Practices for trees before, during, and after construction include the following:

Planning Phase

- It is recommended that a certified arborist completes a tree inventory within the area of anticipated impact.

Design Phase

- Detail tree removals and retentions on plan drawings;
- Planned areas for construction access, staging, material storage, etc.;
- Tree protection zone (TPZ) fencing and signage, trunk protection, etc.;
- Considerations: root and crown pruning (raising, reduction, etc.) to avoid damage by construction equipment;
- Considerations: Tunnelling vs. trenching; and
- Grade changes, slop stabilization, etc.

Construction Phase

- Site supervision by a certified arborist and communication plan;
- Excavation techniques (hand excavation, pneumatic, hydraulic, jack-and-bore, etc.);
- Root pruning techniques and considerations;
- Backfill techniques and considerations; and
- Tree care during construction.

Post-Construction Aftercare

- Monitoring;
- Irrigation;
- Aeration;
- Mulching;
- Wound treatment; and
- Fertilization (not recommended for at least 1 year post construction).

The removal of existing trees is always of concern. The proposed mitigation measures include the following:

- Protective fencing around trees designated to remain;
- Mature trees will be avoided to eliminate the need for their removal;
- Small trees, if removed, will be replaced or replanted. The replaced trees will be in accordance with City's requirements;
- Root pruning, if required, will be done in accordance with City Standards; and,
- Proper consultation with the City of Toronto's Urban Forestry department.

Fuel Spills

Fuel spills may occur during the onsite refueling of construction equipment with the potential to contaminate surface and groundwater. Mitigation measures include:

- Refueling in designated areas outside of the NHS;
- Spill containment for on-site storage tanks; and,
- Spill clean-up contingency plan.

Avoidance of Sensitive Wildlife Timing Windows

Birds

When possible, it is recommended that the proponent avoid construction and site preparation work during the generalized nesting period of April 1 to August 31. If site works must occur during the generalized nesting period, a qualified avian ecologist must conduct an active nest survey immediately prior to site disturbances or alterations (e.g. tree removal). It is further recommended that the proponent establish temporary Nest Protection Zones for any nests, which will remain in place until all fledged birds have left the vicinity or as advised by a qualified wildlife biologist. These measures will ensure that site alteration does not contravene the federal Migratory Convention Act (1994), which protects the nests of most breeding bird species in Ontario.

Bats

Pending further investigation into potential SAR bat maternity roosting sites, any sensitive timing windows that may be associated with roosting bats will be confirmed by the MNRF. It is recommended that, if possible, construction timing avoid sensitive bat roosting periods. It is generally expected that bats would use maternity roosting sites from April to October.

6 Summary of Key Findings

The following subheadings summarize the key findings of the biophysical inventories completed at each Site, and related recommendations to minimize the potential negative effects the proposed works may have on the NHS. The impact assessments for each Site are discussed in **Section 5**.

The key findings of field studies and background research at each Site are as follows:

6.1 *Site 1: Toronto French School Valley*

- Works are proposed within the West Don River valley, within mature sugar maple and oak upland forests, and a white elm lowland. None of the vegetation communities are provincially or globally significant.
- The West Don River is within the proposed construction works.
- Anticipated impacts include impacts to SWH, species of conservation concern (i.e. butternut, American woodcock, wood thrush, eastern wood-pewee, black cohosh, and snapping turtle), sedimentation and erosion, soil compaction, and reduction in forest cover.
- These impacts are anticipated to be mitigated through restoration plantings, tree protection measures, sediment and erosion control, soil aeration, and avoidance of sensitive timing windows.

Confirmed SAR and other species of conservation concern ***within 120 m*** of the construction zone:

- Butternut (END);
- American Woodcock (L3);
- Wood Thrush (SC); and
- Eastern Wood-pewee (SC).

Potential SAR and other species of conservation concern ***within 120 m*** of the construction zone:

- Black Cohosh (S2);
- Myotis and Perimyotis species bats (END); and
- Snapping Turtle (SC)

Significant Wildlife Habitat includes:

- Bat Maternity Roost Colonies (Potential);
- Seeps and Springs (Confirmed); and
- Special Concern and Rare Wildlife Species (Confirmed)

Corridors and Linkages include:

- West Don River (aquatic corridor); and
- West Don River valley (terrestrial corridor)

6.2 *Site 2: York University Glendon Campus*

- Works are proposed along an existing roadway, flanked by natural and planted vegetation. None of the vegetation communities are provincially or globally significant.
- Anticipated impacts include impacts to SWH, species of conservation concern (i.e. butternut, wood thrush, eastern wood-pewee, maple-leaved viburnum, running strawberry-bush, and snapping turtle), sedimentation and erosion, and reduction in forest cover.
- These impacts are anticipated to be mitigated through restoration plantings, tree protection measures, sediment and erosion control, and adherence to sensitive timing windows.

Confirmed SAR and other species of conservation concern ***within 120 m*** of the construction zone:

- Butternut (END);
- Wood Thrush (SC);
- Eastern Wood-pewee (SC);
- Maple-leaved Viburnum (L3); and
- Running Strawberry-bush (L3)

Potential SAR and other species of conservation concern ***within 120 m*** of the construction zone:

- Myotis and Perimyotis species bats; and
- Snapping Turtle (SC)

Potential SAR and other species of conservation concern ***beyond 120 m*** of the construction zone:

- Myotis and Perimyotis species bats (END);
- Painted Skimmer (S2); and

- Swamp Darner (S2S3)

Significant Wildlife Habitat includes:

- Bat Maternity Roost Colonies (Potential); and
- Special Concern and Rare Wildlife Species (Confirmed)

Corridors and Linkages include:

- West Don River (aquatic corridor); and
- West Don River valley (terrestrial corridor)
- Glendon Campus ground (terrestrial corridor)

6.3 *Site 4: Strathgowan Ave.*

- Works are proposed within the NHS and a park south of Strathgowan Ave.
- None of the vegetation communities are provincially or globally significant.
- Anticipated impacts include impacts to SWH, species of conservation concern (i.e. butternut and maple-leaved viburnum), sedimentation and erosion, soil compaction, and reduction in forest cover.
- These impacts are anticipated to be mitigated through restoration plantings, tree protection measures, sediment and erosion control, and soil aeration.

Confirmed SAR and other species of conservation concern ***within 120 m*** of the construction zone:

- Butternut (END); and
- Maple-leaved Viburnum (L3).

Potential SAR and other species of conservation concern ***within 120 m*** of the construction zone:

- Myotis and Perimyotis species bats (END)

Significant Wildlife Habitat includes:

- Bat Maternity Roost Colonies (Potential)

Corridors and Linkages include:

- West Don River tributary (aquatic corridor); and
- West Don River tributary valley (terrestrial corridor)

6.4 *Site 5: Valleyanna Dr.*

- None of the vegetation communities present are provincially or globally significant.
- Anticipated impacts include impacts to SWH, species of conservation concern (i.e. butternut, wood thrush, and eastern wood-pewee), sedimentation and erosion, soil compaction, potential damage to adjacent trees, and reduction in forest cover.
- These impacts are anticipated to be mitigated through restoration plantings, tree protection measures, sediment and erosion control, soil aeration, and adherence to sensitive timing windows.

Confirmed SAR and other species of conservation concern ***within 120 m*** of the construction zone:

- Butternut (END)

Potential SAR and other species of conservation concern ***within 120 m*** of the construction zone:

- Shagbark Hickory (L3);
- Running-strawberry Bush (L3);
- Myotis and Perimyotis species bats (END);
- Wood Thrush (SC); and
- Eastern Wood-pewee (SC).

Significant Wildlife Habitat includes:

- Bat Maternity Roost Colonies (Potential);
- Seeps and Springs (Confirmed); and
- Special Concern and Rare Wildlife Species (Confirmed).

Corridors and Linkages include:

- West Don River (aquatic corridor);
- West Don River valley (terrestrial corridor); and
- Valleyanna Dr. easement (terrestrial corridor).

7 Recommendations for Further Study

The following subheadings contain recommendations for further study:

SAR and other Species of Conservation Concern

The status of SAR and other species of conservation concern, as well as their habitats, are routinely updated. The status SAR and other species of conservation concern (i.e. Endangered, Threatened, Special Concern, S-ranked, and L-ranked species) should be reviewed on a continual basis to reflect the most up-to-date species designations. Accordingly, an addendum to this report may be required prior to construction.

Butternut

Butternuts and their general habitat are protected under the Endangered Species Act (ESA). As mentioned above in **Section 0**, butternut often hybridizes with other members of the walnut family. Pure butternuts are protected under the ESA, while hybrid trees are not. Accordingly, butternut trees within 50 m of the proposed limits of disturbance must have their hybridity status confirmed. Following this confirmation, pure butternuts are to be subject to a Butternut Health Assessment (to be completed by an MNRF-certified Butternut Health Assessor). As hybrids are not eligible for protection under the ESA, no further provisions under the Act is needed. The results of the Butternut Health Assessment will determine whether the ESA is applicable: Category 1 (i.e. non-retainable) trees are not protected under the ESA, while Category 2 and 3 trees are.

Bats

It is recommended that surveys for candidate roost trees be completed where tree removals are proposed within treed habitats in natural areas and/or parks. Surveys should be completed in

consultation with the Aurora District MNRF and will likely need to be in accordance with the *Survey Protocol for Species at Risk Bats within Treed Habitats: Little Brown Myotis, Northern Myotis, & Tri-colored Bat* (MNRF, 2017).

Pending further investigation into potential bat maternity roosting sites, and habitat use by bats, any timing windows that may be associated with roosting bats will be confirmed by the MNRF. It is generally expected that bats would use maternity roosting sites from April to October.

Tree Inventories

Trees adjacent to proposed works should be inventoried to determine which individuals will be retainable and which will be removed. Once a preliminary construction layout has been developed, it is recommended that the project arborist (who will be part of the construction contractor crew) will review the layout and provide recommendations on "fine-tuning" the layout, e.g. identifying opportunities to avoid disturbing native, healthy trees and/or minimizing the competition between desirable species.

Invasive Species Management Plan

It is recommended that invasive species within and adjacent to proposed areas of disturbance (in natural areas) be identified and removed as part of a minimum 5-year adaptive management plan. The Plan is to be submitted to the City of Toronto's Forestry Department and the TRCA for review and approval prior to construction. As previously mentioned, priority species include Norway maple, Manitoba maple, tree of heaven, and white mulberry.

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Appendix A: ELC Datasheets

Toronto French School site

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Lawrence Park EA		POLYGON: 1	
	SURVEYOR(S): Ash Baron	DATE: 26 Oct '16	TIME: start	finish
	UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA >> QUERUBR > FAGGRAN > TSUCANA
2	SUB-CANOPY	3	3	ACESASA >> ACEPLAT > FAGGRAN > FRAAMER
3	UNDERSTOREY	5	3	ACESASA > FRAAMER > ACEPLAT = PRUVIRG
4	GRD. LAYER	7	3	SOLFLEX >> SOLCANA

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

TEXTURE: SiCL & mS	DEPTH TO MOTTLES / GLEY	g = 50	G=
MOISTURE: 4/3	DEPTH OF ORGANICS:		0 (cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		>120 (cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		FO
COMMUNITY SERIES:		FOD
ECOSITE:		FOD5
VEGETATION TYPE:	Dry-fresh Sugar Maple-Oak deciduous forest	FOD5-3
INCLUSION		
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

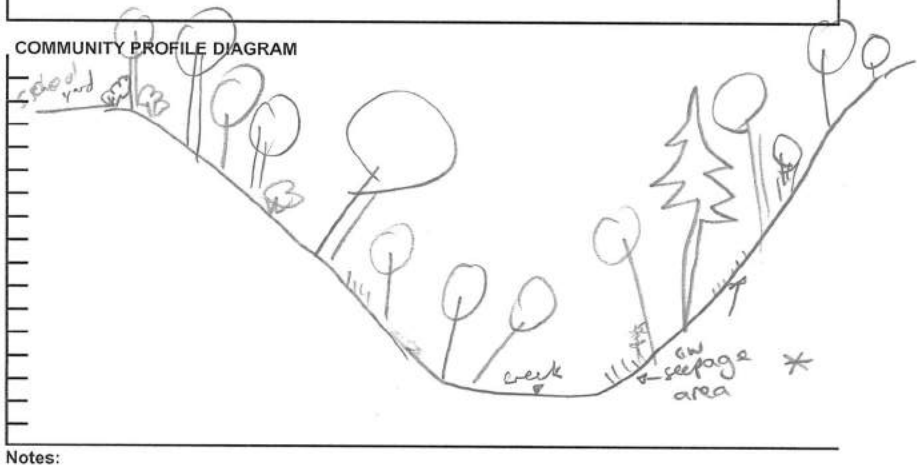
TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

SITE 1

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope / UTM

	P/A	PP	Dr	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING	
1				on	mid slope		seepages		17	629977	4843133	± 3.3m
2				on	top slope				17	630064	4843187	± 3.8m
3												
4												
5												

SOIL	1	2	3	4	5
TEXTURE x HORIZON	A 0-120 cm D	A 0-20cm B 20-40 D			
A TEXTURE	SiCL	SL			
COURSE FRAGMENTS	none	none			
B TEXTURE		MS			
COURSE FRAGMENTS		none			
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	SiCL	MS			
SURFACE STONINESS	none	none			
SURFACE ROCKINESS	none	none			
DEPTH TO / OF					
MOTTLES	50cm	50cm			
GLEY	none	n/a			
BEDROCK	>120	>120			
WATER TABLE	>120	>120			
CARBONATES	Y	Y			
DEPTH OF ORGANICS	0	0			
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME	mod moist	3 V. fresh			
SOIL SURVEY MAP					
LEGEND CLASS					

ELC PLANT SPECIES LIST

SITE: Lawrence Park, Toronto French School Site
POLYGON:
DATE: 26 Oct 2016
SURVEYOR(S): Ash Baron

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

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

SPECIES CODE	LAYER 1	2	3	4	COL.
ACESASA	D	D	A	D	
ULMPARV	R				
ACEPLAT		A	A	A	
ULMAMER		O			
OSTVIRG		O			
QUERUBR	A				
POPGRAN		R			
FRAAMER	R	D	A		
CARCARO		O			
TILAMER		O			
TSUCANA	O			O	planted
FAGGRAN	O	O	O		
PINSTRO	R				
BETPAPY	R				
PRUSERO	R				
CORALTE			O		
PRUVIRG			A		
LONTATA			O		
KHACATH			O		

SPECIES CODE	LAYER 1	2	3	4	COL.
SOLFLEX				A	
IMPCAPE				R	
SOLDULC				R	
SOLCANA				O	
CAR SP				R	

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

NS Jan 5/17 in excel

ELC
MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC
WILDLIFE

SITE: Lawrence Park, Toronto French School Site
POLYGON: 1
DATE: 26 Oct 2016
SURVEYOR(S): AVB
START TIME: END TIME:

TEMP (°C): 5 | CLOUD (10th): 6 | WIND: 1 | PRECIPITATION: Ø

CONDITIONS:

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA	X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
M	g. squirrel	OB		3					

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

Toronto French School Site

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Lawrence Park EA		POLYGON: 2	
SURVEYOR(S): Ash Baron	DATE: 26 Oct '16	TIME: start / finish	
UTMZ: 17	UTME: 630100	UTMN: 4843207 ±3.3m	

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

TEXTURE: mS	DEPTH TO MOTTLES / GLEY	g = 10	G=
MOISTURE: 4. mod moist	DEPTH OF ORGANICS:	0 (cm)	
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	>120 (cm)	

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		FO
COMMUNITY SERIES:		FOM
ECOSITE:		FOM6
VEGETATION TYPE:	Fresh moist sugar maple - hemlock mixed forest	FOM6-1
INCLUSION		
COMPLEX		

Notes:

ELC — STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

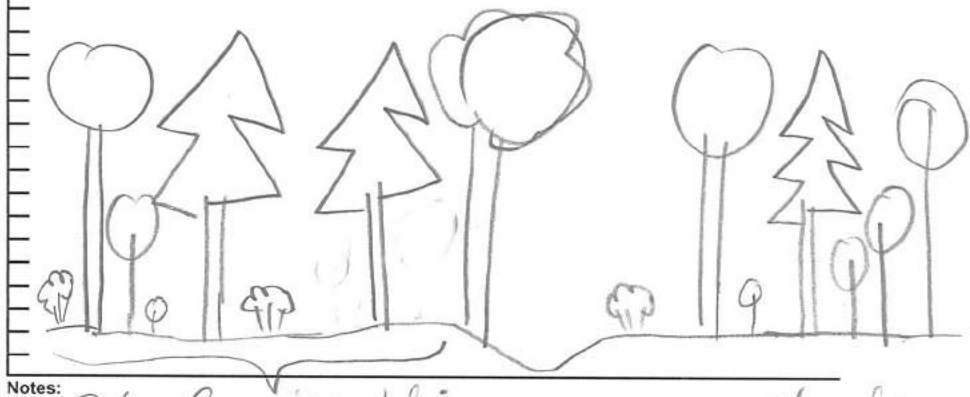
TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

School using this area as a teaching/play area. Understory layer v. impacted.

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope | UTM

	P/A	PP	Dr	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1					flat				17	630100	4843207
2											
3											
4											
5											

± 3m

SOIL	1	2	3	4	5
TEXTURE x HORIZON	A 0-10 cm B 10-120 cm				
A TEXTURE	SL				
COURSE FRAGMENTS	none				
B TEXTURE	mS				
COURSE FRAGMENTS	small gravel				
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	mS				
SURFACE STONINESS	none				
SURFACE ROCKINESS	none				
DEPTH TO / OF					
MOTTLES	35 cm				
GLEY	none				
BEDROCK	>120 cm				
WATER TABLE	>120 cm				
CARBONATES	Y				
DEPTH OF ORGANICS	0				
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME	4. mod moist				
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Lawrence Park ESA
POLYGON: 2
DATE: October 26, 2016
SURVEYOR(S): AVB

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

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

SPECIES CODE	LAYER 1	2	3	4	COL.
TSUCANA	A				
ACESASA	A	A	D	A	
BETALEG	R				
CARCARO		R			
OSTVIRG		R			
PINSTRO	R				
ULMAMER		R			
PRUVIRG			A		

SPECIES CODE	LAYER 1	2	3	4	COL.
SOLFLEX				A	
DSV				O	

NS Jan 5/17
in excel

ELC
MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

- TFS Recreational area *
↳ ecological impacts related to use by school

ELC
WILDLIFE

SITE: Lawrence Park EA
POLYGON: 2
DATE: 26 Oct 2016
SURVEYOR(S): AVB
START TIME: END TIME:

TEMP (°C): 5 | CLOUD (10th): 7 | WIND: 1 | PRECIPITATION: 0

CONDITIONS:

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA	X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
M	squirrel	OB		*					
B	card-inal	VO		**					

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

TFS site

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Lawrence Park ETA		POLYGON: 3	
	SURVEYOR(S): Ash Baron	DATE: 26 Oct '16	TIME: start	finish
	UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	3	ACEPLAT>ULMAMER>ACENEGU>TILAMER
2	SUB-CANOPY	3	3	ACENEGU>ULMAMER>JUGNIGR
3	UNDERSTOREY	4	4	RUBIDID>RHACATH>ACENEGU>CORALTE
4	GRD. LAYER	5	4	DSV>SOLCANA

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

TEXTURE: S;S	DEPTH TO MOTTLES / GLEY	g = 30	G= n/a
MOISTURE: 5: moist	DEPTH OF ORGANICS:		0 (cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		>120 (cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		FO
COMMUNITY SERIES:		FOD
ECOSITE:		FOD7
VEGETATION TYPE:	Fresh-moist White Elm lowland deciduous forest	FOD7-1
INCLUSION		
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

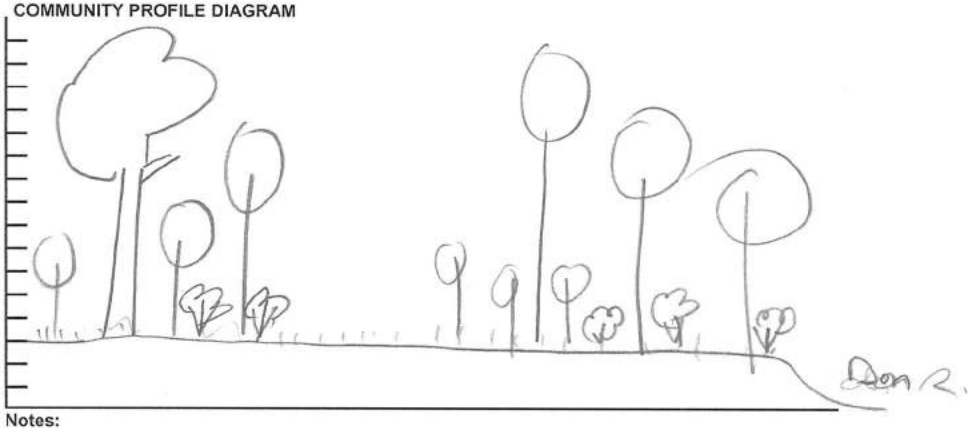
TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

ELC
SOILS ONTARIO

SITE: Lawrence Park EA
POLYGON: 3
DATE: 26 Oct 2016
SURVEYOR(S): AVB

	P/A	PP	Dr	Position	Aspect	Slope %	Type	Class	Z	UTM EASTING	UTM NORTHING
1									17	630065	4843275
2											
3											
4											
5											

± 4m

SOIL	1	2	3	4	5
TEXTURE x HORIZON	A 0-30cm B 30-120				
A TEXTURE	MS:S				
COURSE FRAGMENTS	none				
B TEXTURE	mS				
COURSE FRAGMENTS	none				
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	S:S				
SURFACE STONINESS	none				
SURFACE ROCKINESS	none				
DEPTH TO / OF					
MOTTLES	30cm				
GLEY	N/a				
BEDROCK	>120				
WATER TABLE	>120				
CARBONATES	Y				
DEPTH OF ORGANICS	0				
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME	5: moist				
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE:
POLYGON: 3
DATE:
SURVEYOR(S):

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

SPECIES CODE	LAYER 1	2	3	4	COL.
JUGNIGR		O			
ACEPEAT	A				
ULMAMER	A	A			
BETPAPY	R				
FRAPENN			O	O	
TILAMER	O	O			
ACENEGU	O	A	O	O	
JUGCINE	R				dead
POPGRAN	O				
CARCARO		O			
RUBODOR			R		
CORALTE			O		
European Buckthorn			O		
RHACATH		O	O		
CRA-SP		R			
RIBAMER			R		
RHUTYPH		O			
RUBIDID			A		

SPECIES CODE	LAYER 1	2	3	4	COL.
DSV				D	
SOLCAN				A	
GEUALEP				A	
VERURTI				A	
ASTLANC				O	
CAR-SP				O	
LYSCILI				R	
EUPRUGO				R	
ALIPETI				A	

1 dead @ 0630046 4843244 ± 3m

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

sewer @ UTM 0630063 4843237 ± 3m

NS Jan 5/17 in excel

ELC

MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE:
POLYGON:
DATE:
SURVEYOR(S):
START TIME: END TIME:

TEMP (°C):	CLOUD (10th):	WIND:	PRECIPITATION:
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	Cardinal	OB		1					
B	Woodcock	OB		1					

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

Site 1 (new site #2 @ Bayview Bridge + York U)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Lawrence Park | POLYGON: 3

SURVEYOR(S): Ash Baron | DATE: 3 Nov '16 | TIME: start / finish

UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACEPLAT>ACESASA>FRAPENN=ACENEG
2	SUB-CANOPY	3	2	ACEPLAT>RHACATH>ULMAMER=CORALT
3	UNDERSTOREY	5	3	ACEPLAT>RIB-SP=FRAPENN
4	GRD. LAYER	6	3	SOLCANA>ALIPETI>GEUALEP

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

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

STAND COMPOSITION: | BA:

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

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

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

SOIL ANALYSIS:

TEXTURE: MS	DEPTH TO MOTTLES / GLEY	g = 66	G=
MOISTURE: 3: V. fresh	DEPTH OF ORGANICS:	0 (cm)	
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	7120 (cm)	

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		FO
COMMUNITY SERIES:		FOD
ECOSITE:	Dry-Fresh Deciduous Forest	FOD4
VEGETATION TYPE:		
INCLUSION		
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS

SITE: | POLYGON: | DATE: | SURVEYOR(S):

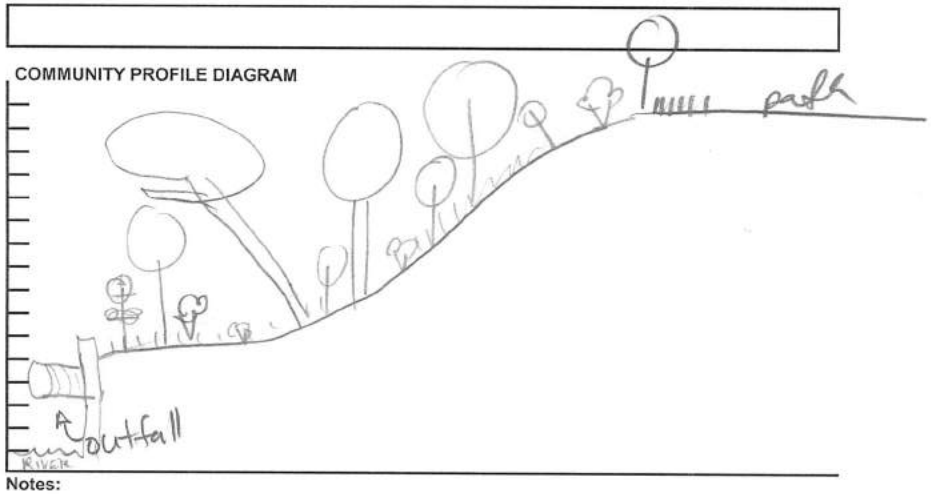
TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

SITE 2

York U

ELC	SITE:
SOILS ONTARIO	POLYGON:
	DATE:
	SURVEYOR(S):

	P/A	PP	Dr	Position	Aspect	Slope %	Type	Class	Z	UTM EASTING	UTM NORTHING
1				bottom slope					17	630433	4843023
2											
3											
4											
5											

+/- 3.7m

SOIL	1	2	3	4	5
TEXTURE x HORIZON	A 0-17cm 17-120+ B				
A TEXTURE	SiCL				
COURSE FRAGMENTS	none				
B TEXTURE	mS				
COURSE FRAGMENTS	none				
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	mS				
SURFACE STONINESS	none				
SURFACE ROCKINESS	none				
DEPTH TO / OF					
MOTTLES	66cm				
GLEY	N/A				
BEDROCK	7120+cm				
WATER TABLE	7120				
CARBONATES	Y				
DEPTH OF ORGANICS	0				
PORE SIZE DISC #1	—				
PORE SIZE DISC #2	—				
MOISTURE REGIME	3. V fresh				
SOIL SURVEY MAP					
LEGEND CLASS					

ELC PLANT SPECIES LIST	SITE: Lawrence Park, Glendon Campus
	POLYGON: 3
	DATE: 3 Nov 2016
	SURVEYOR(S): A. Baron

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

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

SPECIES CODE	LAYER 1	2	3	4	COL.
ACESASA	A			O	
TILAMER	O	O			
FRAPENN	O		O	O	
JUGNIGR		R			
ULMAMER		A	O		
ACEPLAT	D	A	A	A	
ACENEGU	O				
PINSTRO	O				
RHUTYPH		D			
BETPAPY		R			
TSUCANA		R			
JUGCINE	R				
RIB-SP			A	O	
CORALTE		A	O		
PRUVIRG		O	O		
LIGVULG				R	
European bearing bush				A	
RHACATH		A	O	A	
VIBACER				R	
LONTATA			O		
RUBODOR			O		
ROSNULT			R		
OSTVIRG		R			
VITRIPA					

SPECIES CODE	LAYER 1	2	3	4	COL.
EUOBOV				O	
HYDVIRG				O	
DSV-CYNNIGR				D	
Jap knotweed				A	
celandine				O	
GEUALEP				A	
SOLFLEX				A	
ALIPET1				A	
SOLCANA				A	
ASTLAL A				O	
RANACR1				R	

near path →

UTM * 17 630437 4843023 +/- 3.9 m

on path →

JUGCINE *flagged in field
↳ evidence of beetle + fungal attack
↳ sprouting
↳ heavy canopy dieback

- likely will not be retainable, suggest BHA @ detailed design phase.

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ELC

MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE:
POLYGON:
DATE:
SURVEYOR(S):
START TIME: END TIME:

TEMP (°C):	CLOUD (10th):	WIND:	PRECIPITATION:
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

Lawrence Park E15

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 1, Glendon Site	POLYGON: 1	
	SURVEYOR(S): Ash Baron	DATE: 4 Oct '14	TIME: start / finish
	UTMZ:	UTME:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	3	ACENEGU>ACEPLAT>SALRUBE
2	SUB-CANOPY	4	3	RHACATH>ACENEGU>ACEPLAT>ROBPSEU
3	UNDERSTOREY	5	3	RHACATH>ACENEGU=ACEPLAT>ROBPSEU
4	GRD. LAYER	5	4	CYNNIGR>SOLCANA=BROINN>ACENEGU

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Cultural	CU
COMMUNITY SERIES:	Cultural Woodland	CUW
ECOSITE:	Mineral Cultural Woodland	CUW1
VEGETATION TYPE:		
INCLUSION		
COMPLEX		

Notes: TRCA ELC:

ELC STAND CHARACTERISTICS	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

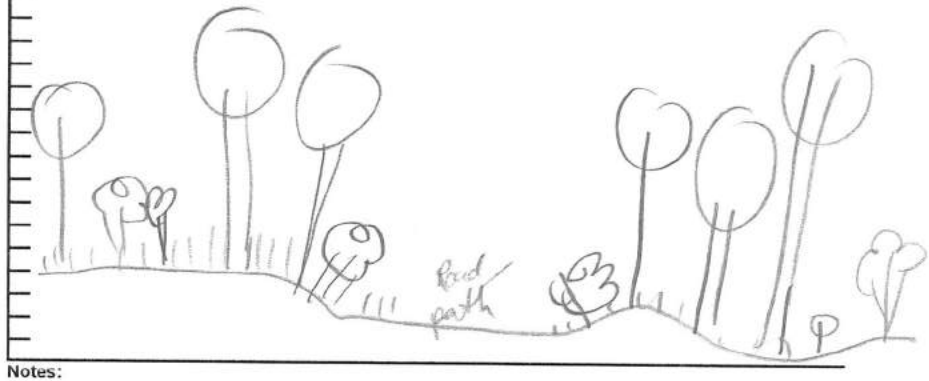
TREE TALLY BY SPECIES

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

SITE 2

Lawrence Park Ext S.

ELC
SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope UTM

	P/A	PP	Dr	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE x HORIZON		cultural soils not recorded			
A TEXTURE					
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: 1, Glendon site
POLYGON: 1
DATE: 4 Oct 2014
SURVEYOR(S): AVB

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

SPECIES CODE	LAYER 1	2	3	4	COL.
ACEPLAT	A	A	A	A	
RHUTYPH		O			
SALRUBE	A				
ACESASA	O				
ACE×FREE	O	O			
POPGRAN	O				
ACENEGU	A	A	A	A	
ULMAMER		O			
ROBPSEU	A	A	A	A	
TILAMER	R				
FRAAMER	O	R			
RHACATH		D	D		
PRUVIRG			O		
CORSTOL			O		
CORALTE			O		
RUBODOR			O		
VITRIPA			A		
PARVITA			A		

was — PARINSE

SPECIES CODE	LAYER 1	2	3	4	COL.
DSV				D	CANNIGR
ASTLAE				R	
SOLDULC				O	
VERURTI				O	
SOLCANA				A	
AMBARTE				A	
DAUCARO				A	
BROINN				A	
CHEALBA				A	CHEALBU
ALIPETI				A	
POAPRAT				A	
TOXRADI			O		
DACGLOM				A	
RUMCRIS				O	
PHLPRAT				O	
cultivar				O	MEDSATI
MELALB				O	
EUTGRA				R	
ASCSYRI				R	
bull thistle				R	CIRVULG
POLPENS				R	
PLAMAJO				R	
ASTLANC				O	
ASTNOVA				R	

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

NS - Jan 5/17 in excel

White snakeroot

ELC

MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE:
POLYGON:
DATE:
SURVEYOR(S):
START TIME: END TIME:

TEMP (°C):	CLOUD (10th):	WIND:	PRECIPITATION:

CONDITIONS:

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS N/A		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

Lawrence Park ELS

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 1, Glendon Site	POLYGON: 2
	SURVEYOR(S): A. Baron	DATE: 4 Oct '14
	TIME: start	finish
	UTMZ:	UTME: UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	6	SALRUBE >> POPTREM = ACENEGU
2	SUB-CANOPY	3	2	ACENEGU > POPTRAM > SALRUBE
3	UNDERSTOREY	4	3	ACENEGU > RHAFRAN > CORSTOL = VITRIPA
4	GRD. LAYER	6	4	PHAARUN > SOLCANA > ASTLANC = RHAFRAN

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

TEXTURE: SiC	DEPTH TO MOTTLES / GLEY	g = 15cm	G = n/a
MOISTURE: V. moist	DEPTH OF ORGANICS: 0		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK: 7120		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Swamp	SW
COMMUNITY SERIES:	Deciduous Swamp	SWD
ECOSITE:	Mineral Deciduous Swamp	SWD4
VEGETATION TYPE:	Willow mineral deciduous swamp	SWD4-1
INCLUSION		
COMPLEX		

Notes:
- highly disturbed.
- wetland in a depression

ELC STAND CHARACTERISTICS	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

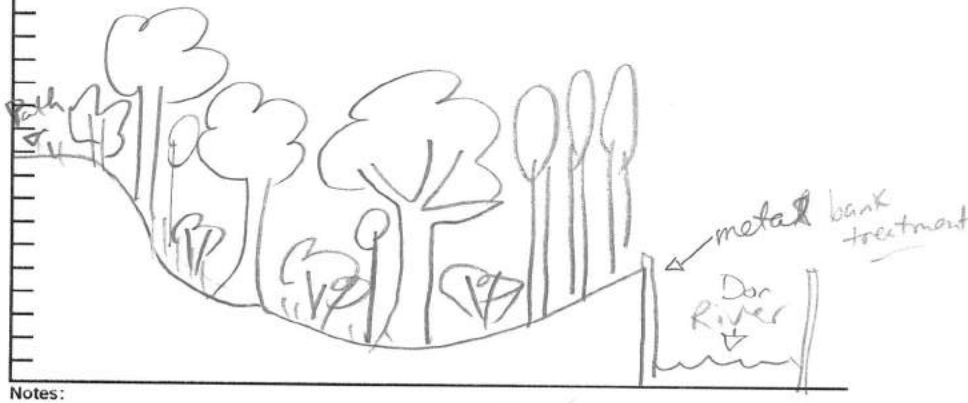
TREE TALLY BY SPECIES

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

ELC

SOILS ONTARIO

SITE: 1
POLYGON: 2
DATE: Oct 4 2014
SURVEYOR(S): AVB

	P/A	PP	Dr	Position	Aspect	Slope %	Type	Class	UTM Z	EASTING	NORTHING
1									17	630386	4843139
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE x HORIZON	A ↓ 120 cm				
A TEXTURE	SiC				
COURSE FRAGMENTS	none				
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	SiC				
SURFACE STONINESS	no				
SURFACE ROCKINESS	no				
DEPTH TO / OF					
MOTTLES	15cm				
GLEY	n/a				
BEDROCK	n/a				
WATER TABLE	n/a				
CARBONATES	—				
DEPTH OF ORGANICS	Ø				
PORE SIZE DISC #1	—				
PORE SIZE DISC #2	—				
MOISTURE REGIME	6, V. moist				
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Glendon, Site 1
POLYGON: 2
DATE:
SURVEYOR(S): AVB

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

SPECIES CODE	LAYER 1	2	3	4	COL.
SALRUBE	D	A	O		
ACENEGU	A	D	A	A	
ACERAT	O				
POPTREM		A	A	O	
ROBPSEU		R			
ULMAMER		O			
RHACATH			A		
CORSTOL			A		
RHAFRAN			A	A	
~~RHACATH~~			~~O~~	~~O~~	
VIBOPUL			O		
RIB-SP			O		
VITRIPA			A		

SPECIES CODE	LAYER 1	2	3	4	COL.
PHAARUN				D	
SOLCANA				A	
ASTLANC				A	
ASTNOVA				O	
bur cucumber				O	
DSV				O	
PHLPRAT				O	
BIDCERN				O	
AGRSTOL				O	
PRUVIRG				R	
IMPCAPE				A	

NS- Jan 5/17 in excel

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ELC

MANAGEMENT / DISTURBANCE

SITE:

POLYGON:

DATE:

SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE:

POLYGON:

DATE:

SURVEYOR(S):

START TIME: | END TIME:

TEMP (°C):	CLOUD (10th):	WIND:	PRECIPITATION:
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

New site near mt pleasant Rd (site new 4)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Lawrence Park		POLYGON: 1	
SURVEYOR(S): Ash Baron	DATE: Oct 26 '16	TIME: start	finish
UTMZ: 17	UTME:	UTMN:	

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		FO
COMMUNITY SERIES:		FOD
ECOSITE:		
VEGETATION TYPE:		
X INCLUSION		CUM
COMPLEX		

Notes: Some mature QUERUBR on slope.

ELC STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

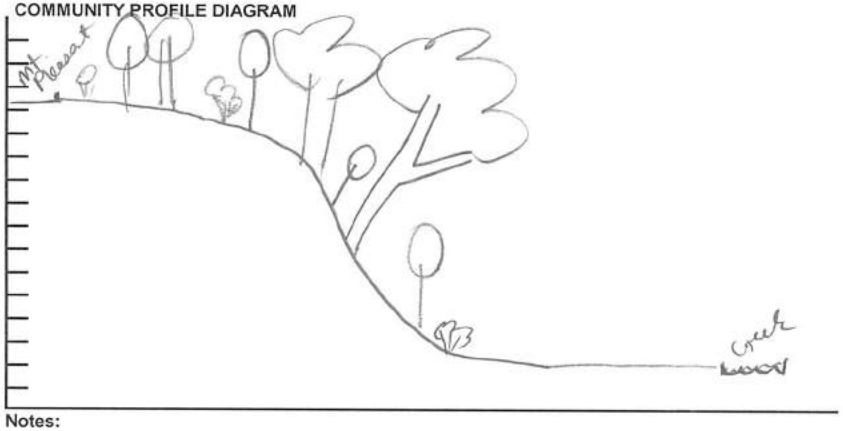
TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



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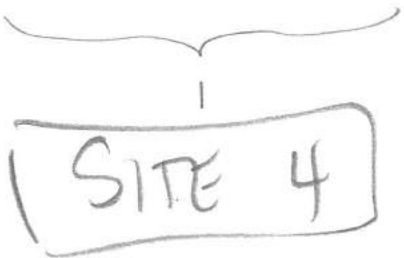


ELC
SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

	P/A	PP	Dr	Position	Aspect	Slope %	Slope Type	Slope Class	UTM Z	UTM EASTING	UTM NORTHING
1				top of slope					17	629431	4841907
2											
3											
4											
5											

±4.3m

SOIL	1	2	3	4	5
TEXTURE x HORIZON	A 0-50, B 50-120				
A TEXTURE	mS				
COURSE FRAGMENTS	none				
B TEXTURE	mS				
COURSE FRAGMENTS	gravel				
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	mS				
SURFACE STONINESS	Some				
SURFACE ROCKINESS	n/a				
DEPTH TO / OF					
MOTTLES	n/a				
GLEY	n/a				
BEDROCK	>120				
WATER TABLE	>120				
CARBONATES	Y				
DEPTH OF ORGANICS	0				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Lawrence Park, "new site B"
POLYGON: 1
DATE: October 2016
SURVEYOR(S): Ash Baron

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

SPECIES CODE	LAYER 1	2	3	4	COL.
ACEPLAT	D	D			
QUERUBR	A				
MORALBA		R			
ACESASA	O	O			
TILCORD		R			
FAGGRAN	R				
FRAAMER			O		
BETPAPY	O				
ULMAMER			R		
PINSTRO			R		
TILAMER	O				
PRUSERO	R				
TSUCANA	R		O		
RHACATH			A		
CORALTE			O		
PRUVIRG			A		
EUOALAT			R		
jetbead			R		
LONTATA			R		
VITRIPA				O	

SPECIES CODE	LAYER 1	2	3	4	COL.
SOLCANA				A	
SOLFLEX				A	
lily of the valley				O	
POA-SP1				O	
CAR				O	
VIO-SP				R	
SOLCAES				A	
SOLDULC				R	
RUBIDID			R	R	
motherwort				R	
CIRLUTE				A	
GEUALEP				A	

dk green leaves

NB - Jan 5/17 in excel

ELC
MANAGEMENT / DISTURBANCE

SITE:
POLYGON: 1
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC
WILDLIFE

SITE:
POLYGON: 1
DATE:
SURVEYOR(S): AVB
START TIME: END TIME:

TEMP (°C): 10 CLOUD (10th): 8 WIND: 3 PRECIPITATION: 0
CONDITIONS:

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#
M	gr. squirrel	OB		3
B	hairy woodpecker	OB		2
M	e. cott ontail	OB		1

TY	SP. CODE	EV	NOTES	#

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

"New site B"

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Lawrence Park	POLYGON: 2	
	SURVEYOR(S): A. Baron	DATE: Oct 2016	TIME: start / finish
	UTMZ:	UTME:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACEPLAT > TILAMER > SALRUBE > ACENEGU
2	SUB-CANOPY	3	3	TILAMER > ACEPLAT > ACENEGU
3	UNDERSTOREY	5	3	FRAPENN > RHACATH > ACEPLAT > PRUVIRG
4	GRD. LAYER	6	3	

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

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

STAND COMPOSITION: BA:

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

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

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

SOIL ANALYSIS:

TEXTURE: SiFS	DEPTH TO MOTTLES / GLEY	g = 60 cm G =
MOISTURE: 3/4 v.fresh / mod. moist	DEPTH OF ORGANICS:	0 (cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	>120 (cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		FO
COMMUNITY SERIES:		FOD
ECOSITE:	Fresh-moist lowland deciduous forest	FOD7
VEGETATION TYPE:		
INCLUSION		
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

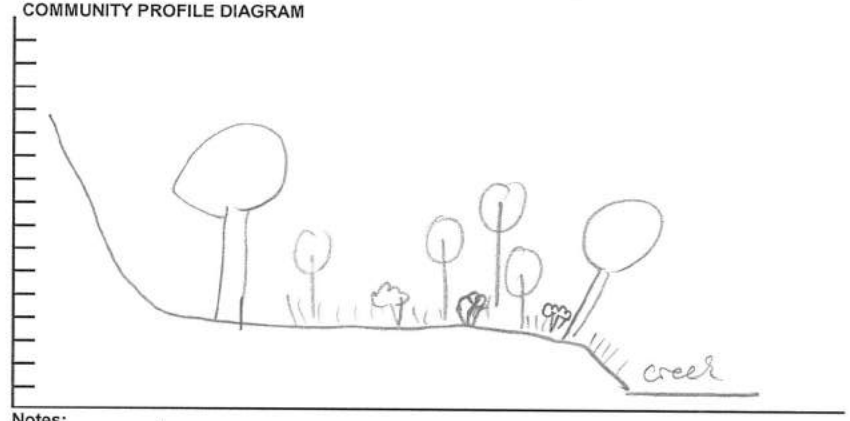
TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

1

polygon 2

ELC
SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope | UTM

	P/A	PP	Dr	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1									17	629423	4841920
2											
3											
4											
5											

±2.8m

SOIL	1	2	3	4	5
TEXTURE x HORIZON	A 0-120				
A TEXTURE	SiFS				
COURSE FRAGMENTS	none				
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	SiFS				
SURFACE STONINESS	none				
SURFACE ROCKINESS	none				
DEPTH TO / OF					
MOTTLES	60				
GLEY	n/a				
BEDROCK	>120				
WATER TABLE	>120				
CARBONATES	Y				
DEPTH OF ORGANICS	1				
PORE SIZE DISC #1	—				
PORE SIZE DISC #2	—				
MOISTURE REGIME	3/4				
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Lawrence Park, "new site B"
POLYGON: 2
DATE: Oct 2016
SURVEYOR(S):

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

SPECIES CODE	LAYER 1	2	3	4	COL.
ACEPLAT	A	O	O	A	
ACENEGU	O	O		O	
FRAPENN			A	A	
TILAMER	A	A			
JUGNIGR	R				
PRUAVIU	R				
ULMAMER		R			
SALRUBE	A				
ACESASA	O				
CELOCCI				R	
PRUSERO				R	
PRUVIRG			O		
CORALT			O		
RHACATH			A		
RIB-SP			O		
VITRIPA				A	
PARINU				R	

SPECIES CODE	LAYER 1	2	3	4	COL.
SOLCANA				D	
SOLDULC				O	
GEUALEP				A	
LYTCILI				R	
(motherwort)				R	
ALIPETI				A	
LEOCARD				O	
ARCMIMI				O	
CIRVTE				O	
RUDHIRT				R	
DSV				O	

ELC
MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC
WILDLIFE

SITE:
POLYGON: 2
DATE:
SURVEYOR(S):
START TIME: END TIME:

TEMP (°C): 6	CLOUD (10th): 8	WIND: 2	PRECIPITATION: 0
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#
M	g. squirrel	OB		-
B	h. woodpecker	OB	pair ed.	2
M	e. cotton	OB		1

TY	SP. CODE	EV	NOTES	#

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

"New site B"

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Lawrence Park		POLYGON: 3	
SURVEYOR(S): Ash Baron	DATE: Oct '16	TIME: start	finish
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	3	ACENEGL >> MORALBA > JUGNIGR
2	SUB-CANOPY	3	3	ACENEGL > MORALBA > JUGNIGR
3	UNDERSTOREY	5	1	ACENEGL > ACEOLAT > RHACATH
4	GRD. LAYER	6	4	SOLANA = DACGLOM

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Cultural	CU
COMMUNITY SERIES:	Cultural Woodland	CUW
ECOSITE:	mineral cultural woodland	CUW1
VEGETATION TYPE:		
INCLUSION		
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

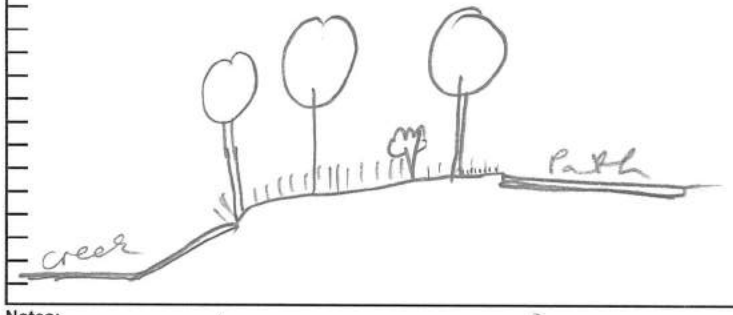
TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

Polygon # 3

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope | UTM

	P/A	PP	Dr	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1									17	609461	4841922 ± 7.4m
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE x HORIZON	A 0-15 B 15-120				
A TEXTURE	SCi				
COURSE FRAGMENTS	none				
B TEXTURE	S				
COURSE FRAGMENTS	small gravel				
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	S				
SURFACE STONINESS	none				
SURFACE ROCKINESS	none				
DEPTH TO / OF					
MOTTLES	55 cm				
GLEY	none				
BEDROCK	>120				
WATER TABLE	>120				
CARBONATES	Y				
DEPTH OF ORGANICS	0				
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME	3 v. fresh				
SOIL SURVEY MAP					
LEGEND CLASS					

ELC PLANT SPECIES LIST

SITE: Lawrence Park "New site B"
POLYGON: 3
DATE: October 26 2016
SURVEYOR(S): AVB

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

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

SPECIES CODE	LAYER 1	2	3	4	COL.
ACENEGU	D	D	A	A	
ACEPLAT			A	A	
MORALBA	A	A	O		
SALFRAG	O				
JUGNIGR	O	A			
FRAPENN		O	O		
AILALTI		R	O		
RHACATH			O		
VITRIPA			O		

SPECIES CODE	LAYER 1	2	3	4	COL.
LEDCARD				O	
SOLFLEX				O	
ALIPETI				A	
SOLGANA				A	
GEUALEP				A	
ARCMIMI				A	
DACGLOM				A	
HESMATR				O	
DSV				O	
VERURTI				R	
BIDFRON				R	
POAPRAT				O	
PLAMAJO				R	
RUMCRIS				R	
Borage				R	
ERIANNU				R	
creeping jenny				R	

NS Jan 5/17 in excel

ELC
MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC
WILDLIFE

SITE:
POLYGON: 3
DATE:
SURVEYOR(S):
START TIME: END TIME:

TEMP (°C): 6 | CLOUD (10th): 8 | WIND: 2 | PRECIPITATION: 0

CONDITIONS:

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	Chickadee	OB		2					

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

"New Site B"

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Lawrence Park		POLYGON: 4	
SURVEYOR(S): Ash Baron	DATE: 26 Oct 2016	TIME: start	
		finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	QUERUBR >> ACEPLAT > ACESASA
2	SUB-CANOPY	3	3	ACEPLAT > ACENEGU > ULMAMER
3	UNDERSTOREY	5	2	PRUVIRG > ACENEGU > RHACATH
4	GRD. LAYER	7	3	ALIPETI > SOLFLEX >> SOLDULC = ASTCORD

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

TEXTURE: MS	DEPTH TO MOTTLES / GLEY	g = 65 cm	G= n/a
MOISTURE: 3: Very fresh	DEPTH OF ORGANICS:	0 (cm)	
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	>120 (cm)	

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		FO
COMMUNITY SERIES:		FOD
ECOSITE:	Fresh-moist lowland deciduous forest	FOD7
VEGETATION TYPE:		
INCLUSION		
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

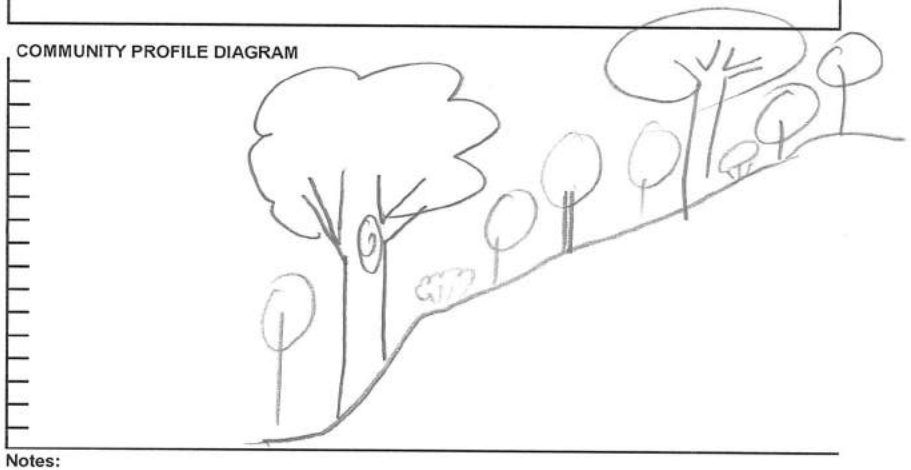
TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

5

4

ELC
SOILS ONTARIO

SITE: Lawrence Park, "New Site B"
POLYGON: 4
DATE: 26 Oct 2016
SURVEYOR(S): AB

Slope | UTM

	P/A	PP	Dr	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1									17	629499	4841940
2											
3											
4											
5											

± 3m.

SOIL	1	2	3	4	5
TEXTURE x HORIZON	A 0-18 18-120 B				
A TEXTURE	SiS				
COURSE FRAGMENTS	none				
B TEXTURE	mS				
COURSE FRAGMENTS	none				
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	mS				
SURFACE STONINESS	none				
SURFACE ROCKINESS	none				
DEPTH TO / OF					
MOTTLES	65cm				
GLEY	n/a				
BEDROCK	>120				
WATER TABLE	>120				
CARBONATES	yes				
DEPTH OF ORGANICS	0				
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME	3. v. fresh				
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Lawrence Park, "New Site B"
POLYGON: 4
DATE: Oct 26 2016
SURVEYOR(S): Ash Baron

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

SPECIES CODE	LAYER 1	2	3	4	COL.
QUERUBR	D	O			
ACEPLAT	A	A	O	R	
ULMAMER		A	O		
ACENEGU		A	A	A	
POPGRAN	R				
PRUSERO	O				
ACERUBR		O			
ACESASA	O	O			
TSUCANA	R				
MORALBA		O			
FRAAMER			O		
RHACATH			O		
PRUNIRG			A		
EUOALAT			O		
jetbead			O	O	
LONTATA			R		
RUBIDID			R		
BERTHUN			R		
TAX-SP			R		
VIBRIPA			O		

SPECIES CODE	LAYER 1	2	3	4	COL.
ALIPETI				A	
SOLFLEX				A	
SOLDULC				O	
POA-SP				O	
lily of the Valley				O	
ASTCORD				O	
creeping jenny				O	
FRAVIRG				R	

ELC

MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE:
POLYGON: 4
DATE:
SURVEYOR(S):
START TIME: END TIME:

TEMP (°C): 6 CLOUD (10th): 8 WIND: 1 PRECIPITATION: 0

CONDITIONS:

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA		FALLEN LOGS
		X	cavity trees

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#
M	unknown	HO		8

TY	SP. CODE	EV	NOTES	#

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

"New site B"

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Lawrence Park 64 | POLYGON: 5

SURVEYOR(S): Ash Baron | DATE: Oct 26 '16 | TIME: start / finish

UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	QUERUBR>TILAMER>ACEPLAT
2	SUB-CANOPY	3	3	QUERUBR>MORALBA>ACENEGU>TILAMER
3	UNDERSTOREY	4	4	PRUVIRG>MORALBA>CORALTE
4	GRD. LAYER	6	4	ASTCORD>SOLFLEX>creeping Jenny

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

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

STAND COMPOSITION: | BA:

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

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

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

SOIL ANALYSIS:

TEXTURE: mS	DEPTH TO MOTTLES / GLEY	g = 66cm	G= n/a
MOISTURE: 3: v. fresh	DEPTH OF ORGANICS:	0 (cm)	
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	>120 (cm)	

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		FO
COMMUNITY SERIES:	Deciduous Forest	FOD
ECOSITE:		
VEGETATION TYPE:		
INCLUSION		
COMPLEX		

Notes: Extensive planting in this community.

ELC STAND CHARACTERISTICS

SITE:
POLYGON:
DATE:
SURVEYOR(S):

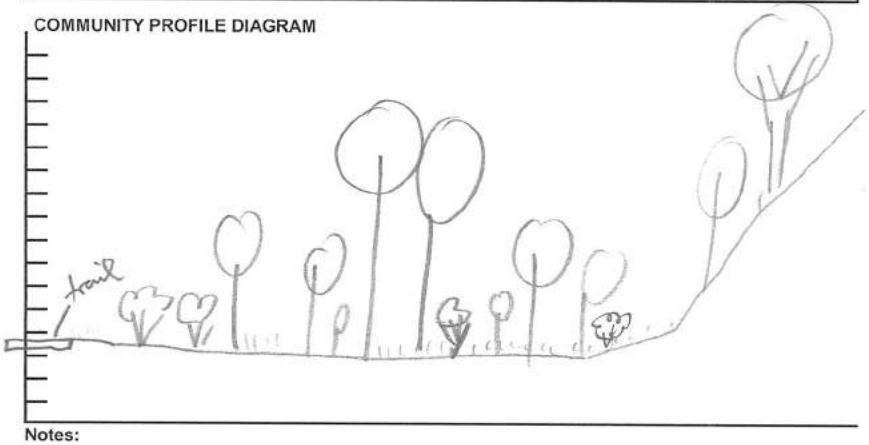
TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

Polygon # 5

4

ELC
SOILS ONTARIO

SITE:
POLYGON: 5
DATE:
SURVEYOR(S):

	P/A	PP	Dr	Position	Aspect	Slope %	Type	Class	Z	UTM EASTING	UTM NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE x HORIZON	A 0-25 B 25-120				
A TEXTURE	SSi				
COURSE FRAGMENTS	none				
B TEXTURE	mS				
COURSE FRAGMENTS	none				
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	mS				
SURFACE STONINESS	none				
SURFACE ROCKINESS	none				
DEPTH TO / OF					
MOTTLES	66 cm				
GLEY	n/a				
BEDROCK	7120				
WATER TABLE	>120				
CARBONATES	Y				
DEPTH OF ORGANICS	0				
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME	3. v. fresh				
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Lawrence Park
POLYGON: 5
DATE: 26 Oct 2016
SURVEYOR(S): Ash Barron

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

SPECIES CODE	LAYER 1	2	3	4	COL.
MORALBA		A	A		
TILAMER	A	A		A	
QUERUBR	A	A			
BETPAPY	R				
PICGLAU		O			
PINSTRO		O			
THUOCCI		O			
PRUSERO	O	O	O		
POPTREM	R				
ACENEGU	O	A	O		
MALPUMI		R			
ACERUBR		O			
ACEPLAT	O	O		A	
chinese juniper			O		
ACESACC	O	R			
TSUCANA		R			
TILCORD		O			
JUGCINE	R				
PRUVIRG			A	O	
RUBIDID			R		
BERTHUN			O		
jetbead			R		
SAMCANA			O		
CORALTE			A		
RUBODOR			O		
CORSTOL			R		
TOXRADI				R	
VIBACER			R		
RIB-SP				R	
JUGNIGR	R				
PARINI				R	

SPECIES CODE	LAYER 1	2	3	4	COL.	
ASTCORD				A		
POASP				D		
SOLFLEX				A		
creeping jenny				A		
LARCOMM				O		
VIO-SP				R		
POLPUBE				R		
CAR-SP				R		
ARCMIMI				O		
forget me not				O		
VIBLENT			R			
SALRUBR	R					
CELOCCI	R			R		planted

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

062 9443
4841965
± 3.3m

likely not a hybrid. Heavily cultured.

- Area has been subject to extensive "restoration" plantings

NS Jan 5/17 in excel

ELC

MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE:
POLYGON:
DATE:
SURVEYOR(S):
START TIME: END TIME:

TEMP (°C):	CLOUD (10th):	WIND:	PRECIPITATION:
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

Lawrence Park ELS

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 2, Valleyanna | POLYGON: 1
SURVEYOR(S): AVB | DATE: 2 Oct '14 | TIME: start / finish
UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACEPLAT > ROBPSEU > Sib. Elm
2	SUB-CANOPY	3	3	ACEPLAT = RHACATH > ROBPSEU
3	UNDERSTOREY	5	3	RHACATH > ACEPLAT > PRUVIRG = LONTATA
4	GRD. LAYER	6	3	ALIPETI > ACEPLAT > SOLCANA

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

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

STAND COMPOSITION: | BA:

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

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

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		CU
COMMUNITY SERIES:		CUW
ECOSITE:	Mineral Cultural Woodland	CUW1
VEGETATION TYPE:		
INCLUSION		
COMPLEX		

Notes: Easement b/w Valleyana Dr + Sunnybrook H

ELC STAND CHARACTERISTICS

SITE:
POLYGON:
DATE:
SURVEYOR(S):

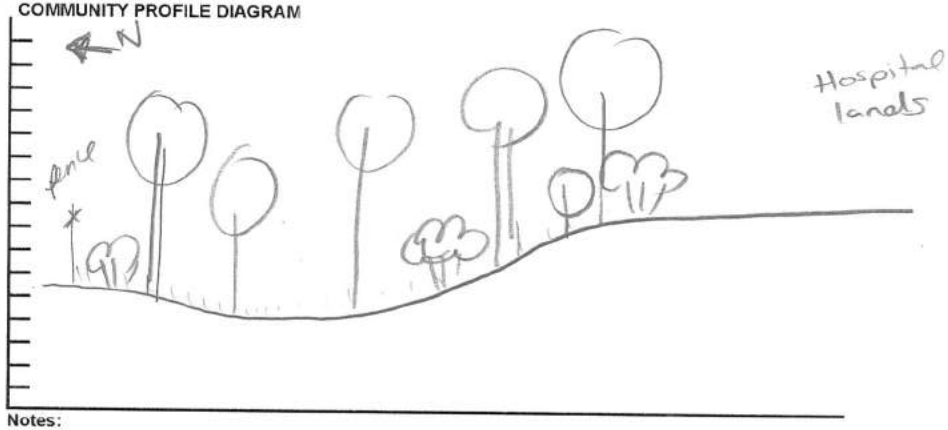
TREE TALLY BY SPECIES

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

SITE 5

mystery manhole on slope, 0630941, 4842660 ± 8m

ELC
SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

	P/A	PP	Dr	Position	Aspect	Slope %	Type	Class	Z	UTM EASTING	UTM NORTHING
1											
2											
3											
4											
5											

ULMPUMI

SOIL	1	2	3	4	5
TEXTURE x HORIZON		cultural community - soils not needed.			
A TEXTURE					
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

Japonica

- yardwaste dumping

ELC
PLANT SPECIES LIST

SITE: B. Vallevanna
POLYGON: 1
DATE: 2 OCT 2014
SURVEYOR(S): AVB

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

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

SPECIES CODE	LAYER 1	2	3	4	COL.
ACEPLAT	A	A	A	A	
Sib. ELM	O	O	O		
FRAAMER		O	O		
little leaved linden	R				
ROBPSEU	O	O	R		
ACESACC	O				
OSTVIRG		R			
PINSYLV	O				
SALRUBE	R				
MORALBA		O			
TILAMER		O			
QUERUBR		O			
horse chestnut	R				AESHIPP
norway spruce	R				PICABE
THUOCCI		O			
RHACATH		A	A	O	
CORRACE			O		
european euonymus			O		EUOEURO-
privet			O		LIGVULG-
PRUVIRG			A		
LONMATA			A		
oregon grape			R		
RUBIDM			O		
EUOALAT			O		
* JUGCINE	R				
VITRIPA				A	
					EUOSPP
PARVITA				C	
CORALTE			O		

SPECIES CODE	LAYER 1	2	3	4	COL.
DSV				O	
ALIPETI				A	
GEUALEP				A	
SOLCANA				A	
TRAPRAT				A	
AST ♡				A	ASTCOR
CIRLUTE				O	
HEMFULV				O	
SOLDULC				O	
Zig zag goldenrod				A	SOLFLEX
CAR SP				O	
IMPCAPE				R	
nightshade				O	LAPCOMM
DRYCART					

- giant puffballs, - yard waste

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

* - JUGCINE on slope. See back of page, Polygon 2

NS - Jan 5/17 in excel

ELC

MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE: 2
POLYGON: 1
DATE: 2 OCT 2014
SURVEYOR(S): MB
START TIME: END TIME:

TEMP (°C): 20	CLOUD (10th):	WIND:	PRECIPITATION:
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA	X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#
M	fox	HO	old	1 0
B	whitethroat	VO		1

TY	SP. CODE	EV	NOTES	#

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 2, Valleyanna		POLYGON: 2	
SURVEYOR(S): A. Baron	DATE: 20 Oct '14	TIME: start	finish
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	FRAAMER>ACEPLAT>TSUCANA
2	SUB-CANOPY	2	3	FRAAMER>ACEPLAT>ULMAMER
3	UNDERSTOREY	5	3	RHACATH>PRUVIRG>FRAAMER>CORALTE
4	GRD. LAYER	6	3	ASTLALA>ALIPETI>GEMALEP>CIRLUTE

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

TEXTURE: SiCL	DEPTH TO MOTTLES / GLEY	g = 20	G= n/a
MOISTURE: fresh	DEPTH OF ORGANICS:		0 (cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		7-20 (cm)

COMMUNITY CLASSIFICATION:

			ELC CODE
	COMMUNITY CLASS:		FO
	COMMUNITY SERIES:	Mixed forest	FOM
	ECOSITE:		
	VEGETATION TYPE:		
X	INCLUSION	fresh-moist lowland deciduous forest	FOD7
	COMPLEX		

seep

Notes:

ELC — STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

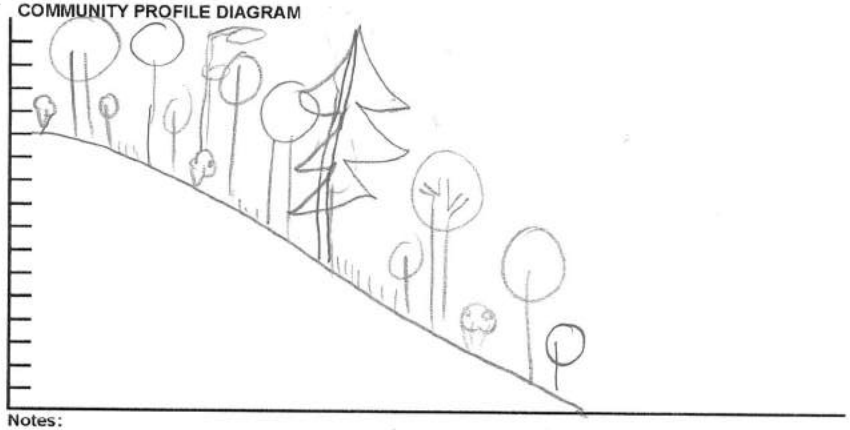
TREE TALLY BY SPECIES

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

ELC
SOILS ONTARIO

SITE: 2
POLYGON: 2
DATE: 20 Oct 2014
SURVEYOR(S): AVB

	P/A	PP	Dr	Slope Position	Aspect	%	Type	Class	Z	UTM EASTING	UTM NORTHING
1									17	630968	4842665 ±3m
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE x HORIZON	50 A; 50-120 cm B				
A TEXTURE	SiCL				
COURSE FRAGMENTS	none				
B TEXTURE	SiC				
COURSE FRAGMENTS	none				
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	SiCL				
SURFACE STONINESS	no				
SURFACE ROCKINESS	no				
DEPTH TO / OF					
MOTTLES	20				
GLEY	none				
BEDROCK	7120				
WATER TABLE	7120				
CARBONATES	Y				
DEPTH OF ORGANICS	Ø				
PORE SIZE DISC #1	—				
PORE SIZE DISC #2	—				
MOISTURE REGIME	6. V moist				
SOIL SURVEY MAP					
LEGEND CLASS					

Note: doesn't match the community. Odd result, community has likely fresh moisture regime

- Mystery manhole @ 630941, 4842660 ±8m on slope

ELC
PLANT SPECIES LIST

SITE: 2, Valleyanne
POLYGON: 2
DATE: 20 Oct 2014
SURVEYOR(S): AVB

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

SPECIES CODE	1	2	3	4	COL.
fir	R				
FRAAMER	A	O	O		
*JUGCINE	R				
ACEPLAT	A	O	O	O	
ROBPSEU	O	O			
ULMAMER		O			
TILAMER		O			
ACESACC	O				
PYRCOMM		R			
PRUAVIU		R			
MORALBA		R			
TSUCANA	A	O			
CORALTE			O		
euro Euonymus			O		
RHACATH			A		
EUOALAT			O		
RIBCYNO			R		
PRUVIRG			A		
RUBIDID			O		
ROSMULT			O		
VITRIPA			A		
PARVITA			O		

ABIBALS – no, was Pseudotsuga menziesii (planted.)

SPECIES CODE	1	2	3	4	COL.
DRYCART				O	
GEUALEP				A	
ASTLALA				A	
ALIPETI				A	
CIRLUTE				A	
DSV				A	
PODPELT				O	
CHEALBU				O	
VERURTI				A	
Euonymus			A		
GEYSTRI				O	
ALIPETI				O	
RHACATH			A		
DSV				O	
PHAARUN				A	
ACENEGU		A			
VITRIPA			A		
FRAPENN	A	O			
ROSMULT			O		

inclusion

- See notes on back of page for JUGCINE **

MJ - Jan 5/17 in excel

ELC

MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE:
POLYGON: 2
DATE:
SURVEYOR(S):
START TIME: END TIME:

TEMP (°C):	CLOUD (10th):	WIND:	PRECIPITATION:
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
M	Chipmunk	HO							

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 2, Vallayanna		POLYGON: 3	
SURVEYOR(S): A. Baron + J. Ho	DATE: 2 Oct 14	TIME: start	
		finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	4	TILAMER > JUGNIGR > QUERUBR
2	SUB-CANOPY	3	3	ACEPLAT > TILAMER > ULMAMER
3	UNDERSTOREY	4	4	RHACATH > ACEPLAT > VITRIPA
4	GRD. LAYER	5	4	DSV > ALIPET 1 > CARBLAN

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		FO
COMMUNITY SERIES:		FOD
ECOSITE:	Fresh-moist lowland deciduous forest	FOD7
VEGETATION TYPE:		
X INCLUSION	Fowl Manna Grass Mineral meadow marsh	MAM2-4
COMPLEX		

Notes:

ELC — STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

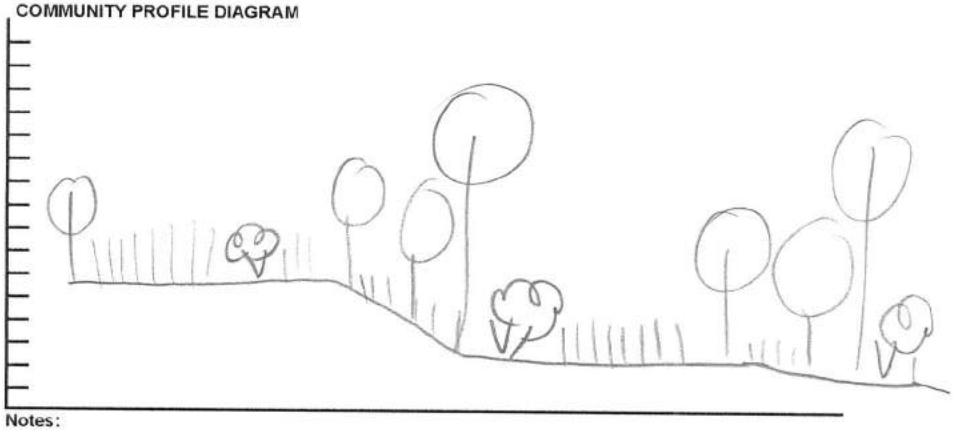
TREE TALLY BY SPECIES

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope | UTM

	P/A	PP	Dr	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE x HORIZON					
A TEXTURE					
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: 2, Valleyanna Drive
POLYGON: 3
DATE: 2 Oct 2014
SURVEYOR(S): AVB + JH

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

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

SPECIES CODE	LAYER 1	2	3	4	COL.
ACENEGU	O	O	O		
FRAPENN	O				
SALAURE	O				
JUGNIGR	R				
ACEPLAT		A	A		
ULMAMER		O			
TILAMER	O	O			
QUERUBR	R				
RHUTYPH		R			
FRAAMER				R	
EUOALAT			A		
VITRIPA			A		
RHACATH		O	A		
LONTA/A					
canada mayseed					

SPECIES CODE	LAYER 1	2	3	4	COL.
DSV				A	
GLYSTRI				D	
ECHLOBA				O	
PHAARUN				A	
IMPCAPE				A	
HESMATR				O	
ALIPETI				R	
ALIPETI				A	
DSV				D	
CARBLAN				O	

3a complex

3a complex

MENCANA

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NS Jan 5/17 in excel

ELC

MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE:
POLYGON:
DATE:
SURVEYOR(S):
START TIME: END TIME:

TEMP (°C):	CLOUD (10th):	WIND:	PRECIPITATION:

CONDITIONS:

POTENTIAL WILDLIFE HABITAT: none

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

Lawrence Park ELS

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 2, Valleyanna		POLYGON: 4	
SURVEYOR(S): A Bacon	DATE: 2 Oct '14	TIME: start	
		finish	
UTMZ: 17	UTME: 631081	UTMN: 4842731	±8m

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA >> QUERUBR
2	SUB-CANOPY	3	2	ACESASA > QUERUBR > FAGGRAN
3	UNDERSTOREY	5	2	PRUVIRG > RAACATH > ACESASA
4	GRD. LAYER	6	4	CARPENN > DSV > CARBLAN

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

TEXTURE: mS	DEPTH TO MOTTLES / GLEY	g = n/a	G= n/a
MOISTURE: dry	DEPTH OF ORGANICS:	0 (cm)	
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	>120 (cm)	

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		FO
COMMUNITY SERIES:		FOD
ECOSITE:		FOD5
VEGETATION TYPE:	Dry-fresh Sugar maple-oak deciduous forest	FOD5-3
INCLUSION		
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

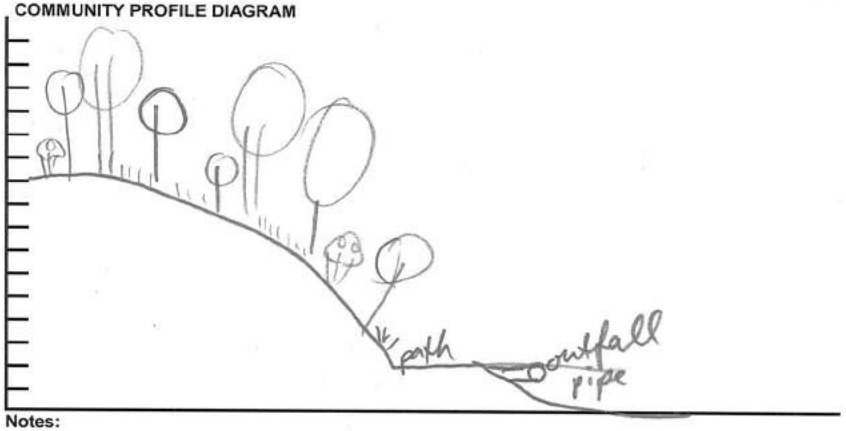
TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

Polygon 5

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

	P/A	PP	Dr	Position	Aspect	Slope %	Type	Class	Z	UTM EASTING	UTM NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE x HORIZON	5 A B 5-120 cm				
A TEXTURE	LmSL				
COURSE FRAGMENTS	no				
B TEXTURE	mS				
COURSE FRAGMENTS	—				
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	mS				
SURFACE STONINESS	—				
SURFACE ROCKINESS	—				
DEPTH TO / OF					
MOTTLES	—				
GLEY	—				
BEDROCK	7120				
WATER TABLE	7120				
CARBONATES					
DEPTH OF ORGANICS	Ø				
PORE SIZE DISC #1	—				
PORE SIZE DISC #2	—				
MOISTURE REGIME	Ø dry				
SOIL SURVEY MAP					
LEGEND CLASS					

Storm sewer outfall
0631124, 4842757 ±5m

ELC PLANT SPECIES LIST

SITE: 2
POLYGON: 4
DATE: 2/OCT/2014
SURVEYOR(S): A. Baron + John Mc

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

SPECIES CODE	LAYER 1	2	3	4	COL.
ACESASA	D	A	O	A	
QUERUBR	A	O			
FRAAMER		O	O	O	
POPGRAN					
~~FAGGRA~~ FAGGRAN					
CARCVAT					
EUOALAT			O		
RHACATH			A		
barberry			O		
PRUVIRG			A		
privet			O		
VITRIPA				O	
PARVITA				O	

BETNULG

SPECIES CODE	LAYER 1	2	3	4	COL.
DSV				A	
CARPENV				A	
CARBLAN				A	
ASTCLA				O	

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

NS- Jan 5/17 in excel

ELC

MANAGEMENT / DISTURBANCE

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

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

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	
START TIME:	END TIME:

TEMP (°C):	CLOUD (10th):	WIND:	PRECIPITATION:
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FAECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

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

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 2. Valleyanne		POLYGON: 5	
	SURVEYOR(S): A. Baron, J. Ho	DATE: 2 Oct '14	TIME: start	finish
	UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	SALRUBE >> ULMAMER
2	SUB-CANOPY	3	2	ULMAMER = ACENEGU
3	UNDERSTOREY	5	3	CORSTOL >> ACESACC > RIB-SP
4	GRD. LAYER	5	4	ONOSENS > IMPCAPE > TYPANGU

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

TEXTURE: 5	DEPTH TO MOTTLES / GLEY	g = n/a	G= 20 cm
MOISTURE: 6: moist	DEPTH OF ORGANICS:		10 (cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		7120 (cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		SW
COMMUNITY SERIES:		SWD
ECOSITE:		SWD4
VEGETATION TYPE:	Willow mineral deciduous swamp	SWD4-1
X INCLUSION		FOD7
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

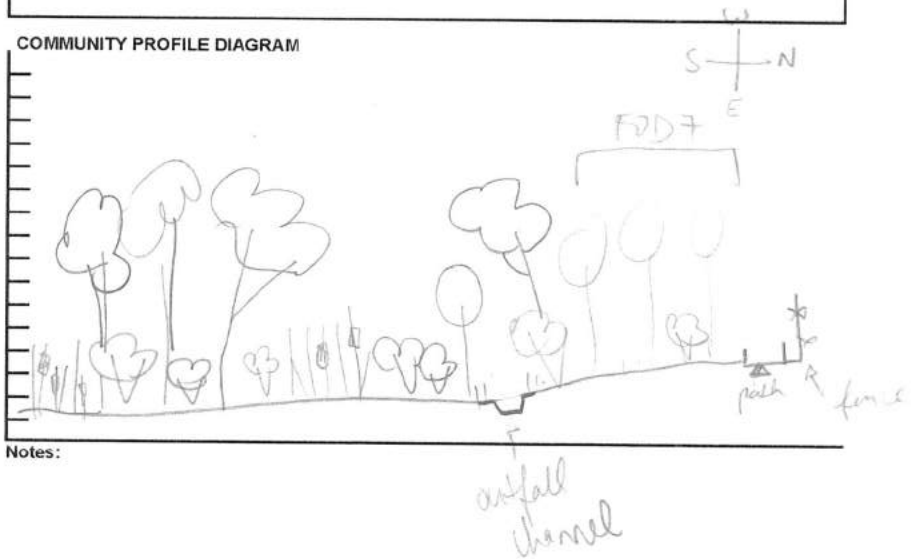
TREE TALLY BY SPECIES

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

	P/A	PP	Dr	Position	Aspect	Slope %	Slope Type	Slope Class	UTM Z	UTM EASTING	UTM NORTHING
1									17	631139	4842757
2											
3											
4											
5											

3.3m

SOIL	1	2	3	4	5
TEXTURE x HORIZON	10 A, 5 B, 10 C, 5, 15 D, E				
A TEXTURE	SCL				
COURSE FRAGMENTS	none				
B TEXTURE	S				
COURSE FRAGMENTS	none				
C TEXTURE	SiFS				
COURSE FRAGMENTS	none				
EFFECTIVE TEXTURE	S				
SURFACE STONINESS	none				
SURFACE ROCKINESS	none				
DEPTH TO / OF					
MOTTLES	none				
GLEY	20				
BEDROCK	>120				
WATER TABLE	22				
CARBONATES	Y				
DEPTH OF ORGANICS	10				
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME	G. V. moist				
SOIL SURVEY MAP					
LEGEND CLASS					

D SiCL
E SiC

ELC
PLANT SPECIES LIST

SITE: 2 Valleyanns
POLYGON: 5
DATE: 2 Oct 2014
SURVEYOR(S): AVB, JH

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

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
SALRUBE	D				
ULMAMER	O	O			
ACENEGU		O			
ACESACC		R	R		
CORSTOL			D		
EUOOBOV			R		
RIB_SP.			A		
privet			R		
RHACATH			O		

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
ONOSENS				A	
OSMCINN				O	
EQUARVE				A	
IMPCAPE				A	
IRIPSEU				A	
TYPANGU				A	
CAR_SP.				O	
ASTPUPU				O	
SOLCANA				O	

NS - Jan 5/17 in excel

ELC

MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE:
POLYGON:
DATE:
SURVEYOR(S):
START TIME: END TIME:

TEMP (°C):	CLOUD (10th):	WIND:	PRECIPITATION:
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
- SH = SUITABLE HABITAT
- SM = SINGING MALE

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

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

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

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 2, Valleyanna		POLYGON: 6	
	SURVEYOR(S): AVB + JH	DATE: 2 Oct '14	TIME: start	
			finish	
	UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

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

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	POPGRAN>>QUERUBR>ULMAMER
2	SUB-CANOPY	3	3	RHACATH>CARCVAT=ACEPLAT
3	UNDERSTOREY	4	3	MENCANA>RHACATH>ACEPLAT
4	GRD. LAYER	6	4	DSV>>CARARCT

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		FO
COMMUNITY SERIES:		FOD
ECOSITE:		FOD8
VEGETATION TYPE:	Fresh-moist Poplar deciduous forest	FOD8-1
INCLUSION		
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

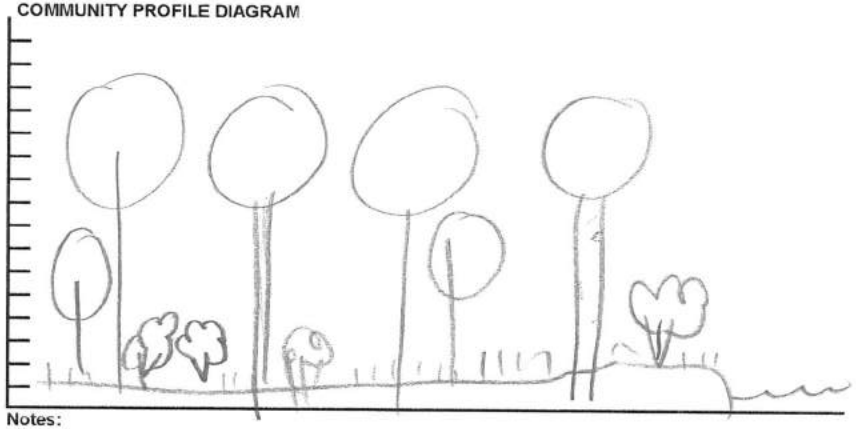
TREE TALLY BY SPECIES

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

Lawrence Park

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

	P/A	PP	Dr	Position	Aspect	Slope %	Type	Class	Z	UTM EASTING	UTM NORTHING
1											
2											
3											
4											
5											

SOIL TEXTURE x HORIZON	1	2	3	4	5

	1	2	3	4	5
A TEXTURE					
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

Dead JUGCINE @
0631103
4842708 ±6.5m

ELC PLANT SPECIES LIST

SITE: 2
POLYGON: 6
DATE: 2/10/2012
SURVEYOR(S): AVB + JH

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

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

SPECIES CODE	LAYER 1	2	3	4	COL.
POPGRAN	D	O			
CARCOR		O			
ACEPLAT		A	O	O	
ULMAMER	O				
QUERNBR	O				
RHUTYPH		O			
EUOALAT			O		
RHAGATH		A	O		
MENCANA			A		
euro spindle tree			O		

SPECIES CODE	LAYER 1	2	3	4	COL.
DSV				D	
CARART				A	

NS- Jan 5/17 in excel

ELC

MANAGEMENT / DISTURBANCE

SITE:

POLYGON:

DATE:

SURVEYOR(S):

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

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE:

POLYGON:

DATE:

SURVEYOR(S):

START TIME: END TIME:

TEMP (°C):	CLOUD (10th):	WIND:	PRECIPITATION:

CONDITIONS:

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

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

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

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

Appendix B: Ontario Nature Data

Anuran observations solicited from Ontario Nature

Common name	Individuals count	Atlas call code	Year	Month	Day	Datum	Zone	Easting	Northing	Habitat
American Toad	1	0	2004	7	5	NAD83	17	631059	4842440	-
American Toad	1	0	2004	5	28	NAD83	17	631442	4842540	Suitable breeding habitat
Green Frog	1	2	2004	7	12	NAD83	17	631297	4842760	-
Green Frog	1	3	2004	5	13	NAD83	17	630947	4842780	Suitable breeding habitat
American Toad	1	0	2006	5	6	NAD83	17	630629	4842920	grassy edge of parkinglot/wooded steep ravine slope in urban college campus

Appendix C: MNRF Correspondence & Species-at-Risk Screening

Southern Region
Aurora District Office
50 Bloomington Road West
Aurora, ON L4G 0L8

Ontario

Ministry of Natural Resources and Forestry

Ministere des Richesses Naturelles et des Forêts

June 26, 2015

Ash Baron
Aquafor Beech Ltd.
55Regal Road, Unit 3
Guelph, ON N1K 1B6
Phone: (519) 224-3740
Baron.a@aquaforbeech.com

Re: Lawrence Park, City of Toronto

Dear Mr. Baron,

In your email dated June 10, 2015 requested information on natural heritage features and element occurrences occurring on or adjacent to the above mentioned location. There are a number of Species at Risk recorded from your study area and the immediate vicinity.

Site 1 and Site 2
We have records of the following species within the vicinity of your study area, Butternut (END), Wood Thrush (SC) and Eastern Wood Pewee (SC). Natural heritage features in your study are include the West Don River Valley Candidate ANSI and unevaluated wetlands.

Site 3
Butternut (END) has been recorded within your study area. Natural heritage features include unevaluated wetlands.

Site 4
Butternut (END) has been recorded within your study area.

These species may receive protection under the *Endangered Species Act 2007* and thus, an approval from MNRF may be required if the work you are proposing could cause harm to these species or their habitat. If the Species at Risk in Ontario List is amended, additional species may be listed and protected under the *ESA 2007* or the status and protection levels of currently listed species may change.

Absence of information provided by MNRF for a given geographic area, or lack of current information for a given area or element, does not categorically mean the absence of sensitive species or features. Many areas in Ontario have never been surveyed and new plant and animal species records are still being discovered for many localities. For these reasons, the MNRF cannot provide a definitive statement on the presence, absence or condition of biological elements in any part of Ontario.

This species at risk information is highly sensitive and is not intended for any person or project unrelated to this undertaking. Please do not include any specific information in reports that will be available for public record. As you complete your fieldwork in these areas, please report all information related to any species at risk to our office. This will assist with updating our database and facilitate early consultation regarding your project.

If you have any questions or comments, please do not hesitate to contact me at 905-713-7369 or ESA.Aurora@ontario.ca (Attention: Megan Eplett).

Sincerely,

Megan Eplett
A\ Management Biologist
Ontario Ministry of Natural Resources and Forestry, Aurora District

Species-at-Risk and Other Species of Conservation Concern Summary Table														
Species or Feature		Rank					Last Obs. Date	Source	Potential Location within Lawrence Park Study Area				Habitat Requirements**	Assessment of Species Occurrence within 1 km of the Study Area
		S Rank	G Rank	COSSARO	COSEWIC	TRCA			Site 1	Site 2	Site 4	Site 5		
Barn Swallow	*Hirundo rustica*	S4B	G5	THR	THR	L4	2002-??-??, 2001-??-??	NHIC Database	-	-	-	*	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.	**Not Present**: Potential suitable habitat is only present at Site 4. Visual inspections of the culverts.
Black cohosh	*Actaea racemosa*	S2	G4	-	-	-	1974-10-05	NHIC Database	*	*	*	*	Rich woods and slopes in the Carolinian Zone, where it has apparently declined.	**Potential**: Potentially suitable habitat is present at Sites 1 and 5. However, this species was not observed during flora surveys. Given the extensive plantings and restoration work at Site 4, black cohosh is not likely to occur within this Site.
Broad Beech Fern	*Phegopteris hexagonoptera*	S3	G5	SC	SC	LX	1890-10-04	NHIC Database	*	*	*	*	Generally inhabits shady areas of beech and maple forests where the soil is moist or wet.	**Not Present**: Species is considered Extirpated from TRCA lands.
Broad-leaved Puccoon	*Lithospermum latifolium*	S2 S3	G4	-	-	LX	1904-07-08	NHIC Database	*	-	*	-	Shaded river banks and forested floodplains; boarders of forests. (Michigan Flora Online, 2011).	**Not Present**: Species is considered Extirpated from TRCA lands.
Butternut	*Juglans cinerea*	S2?	G4	END	END	L3	2004-08-10	MNRF/ NHIC Database	*	*	*	*	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.	**Present/ Confirmed**: Species has been identified at sites 1, 2, 4 and 5. For further information, please see **Section** 7.
Dodge's Hawthorn	*Crataegus dodgei*	S4	G5	-	-	LX	1902-09-11	NHIC Database	*	-	*	-	Thickets, borders of forests and swamps; dry prairie-like ground and jack pine plains; roadsides, fencerows, fields (Michigan Flora Online, 2011).	**Not Present**: Species is considered Extirpated from TRCA lands. Species was not identified during flora surveys.
Eastern Musk Turtle	*Sternotherus odoratus*	S3	G5	SC	SC	LX	1982	NHIC Database	*	*	*	*	This species occurs in rivers, lakes and ponds with a slow current and soft bottom, and usually inhabits shallow water (Ontario Nature, 2016).	**Not Present**: Species is considered Extirpated from TRCA lands.
Eastern Ribbonsnake	*Thamnophis sauritus*	S4	G5	SC	SC	LX	1913	NHIC Database	*	*	*	*	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.	**Not Present**: Species is considered Extirpated from lands within TRCA 's jurisdiction.
Eastern Wood-pewee	*Contopus virens*	S4B	G5	SC	SC	L4	-	MNRF/ NHIC Database	*	*	-	-	Associated with deciduous and mixed forests. Within mature and intermediate age stands it prefers areas with little understory vegetation as well as forest clearings and edges.	**Potential**: Potentially suitable habitat is present at Sites 1, 2, and 5. The presence of this species has not been confirmed as breeding bird surveys were not included in the scope of work for this project; however the MNRF stated in their response letter to be breeding within the vicinity of Sites 1 and 2.

Species-at-Risk and Other Species of Conservation Concern Summary Table														
Species or Feature		Rank					Last Obs. Date	Source	Potential Location within Lawrence Park Study Area				Habitat Requirements**	Assessment of Species Occurrence within 1 km of the Study Area
		S Rank	G Rank	COSSARO	COSEWIC	TRCA			Site 1	Site 2	Site 4	Site 5		
Erect Knotweed	*Polygonum erectum*	SH	G5	-	-	-	1904-07-07	NHIC Database	*	*	*	*	Farmyards, roadsides, and ditches (Michigan Flora Online, 2011).	**Not Present:** Species considered Extirpated from Ontario.
Geyer's Yellow Monkeyflower	*Erythranthe geyeri*	S1	G5	-	-	-	1897-09-04	NHIC Database	*	*	*	*	Moist habitat.	**Not Present**: According to the Ontario Vascular Plant List (OMNRF, 2016), one or two recent records are from southern Cochrane District. This species is known historically from the Toronto area. The species was not identified during flora field surveys.
Giant Lacewing	*Polystoechotes punctata*	SH	GNR	-	-	-	1934-08-00	NHIC Database	*	*	*	*	-	**Not Present**: According to the Ontario Species List (MNRF, 2016) Giant Lacewings were common throughout Ontario, north to Lake Superior. No specimens or reliable observations since the 1950s and the species is evidently now extirpated in Ontario.
Green-striped Darner	*Aeshna verticalis*	S3	G5	-	-	-	-	NHIC Database	*	*	*	*	Forest ponds and lakes with much aquatic vegetation (Paulson, 2001).	**Not Present**: Preferred habitat is not present within the study area.
Old-field Toadflax	*Nuttallanthus canadensis*	S1	G5	-	-	-	-	NHIC Database	*	*	*	*	Dry, open, sandy or rocky ± barren ground; oak and sassafras savanna and jack pine plains; beds of dried lakes.	**Not Present**: Preferred habitat is not present within the study area. Species was not observed during flora inventories.
Painted Skimmer	*Libellula semifasciata*	S2	G5	-	-	-	1908-06-08	NHIC Database	*	*	*	*	Boggy ponds and ditches with much emergent vegetation, usually associated with woodlands (Paulson, 2011).	**Potential**: Potentially suitable habitat is present within the West Don River valley in Site 2 and east of Site 5, which is outside of the area of proposed construction impact.
Queensnake	*Regina septemvittata*	S2	G5	END	END	-	1858-00-00	NHIC Database	*	*	*	*	Often found near streams, either basking or under rocks. In the spring and fall, Queensnakes may bask communally, even in low shrubs. The diet of the queensnake is one of the most restricted of any snake; it feeds almost exclusively on crayfish that have recently moulted. Little is known about queensnake hibernation sites (Ontario Nature, 2016)	**Not Present**: According to the Ontario Reptile and Amphibian Atlas, the nearest recent (after 1997) location of Queensnakes is in Cambridge/ Brantford area.
Ram's Head Ladies Slipper	*Cypripedium arietinum*	S3	S3	-	-	-	1925-pre	NHIC Database	*	*	*	*	Cold woods and bogs; very rare (Newcomb, 1977).	**Not Present**: Species not found during flora inventory.
Red Mulberry	*Morus rubra*	S2	G5	END	END	L1	1941-06-27	NHIC Database	*	*	*	*	Generally grows in moist forest habitats. In Ontario, these include slopes and ravines of the Niagara Escarpment, and sand splits and bottom lands; Can grow in open areas such as hydro corridors.	**Not Present**: Species not found during flora inventory. It is not present within the study area near proposed works.
Redside Dace	*Clinostomus elongatus*	S2	G3 G4	END	END	-	1926-05-01	NHIC Database	*	*	*	*	Generally found in pools and slow moving areas of small headwater streams with a moderate to high gradient.	**Not Present**: Species was not provided by the MNRF as a SAR occurring within the study area (refer to correspondence in **Appendix A**).

Species-at-Risk and Other Species of Conservation Concern Summary Table														
Species or Feature		Rank					Last Obs. Date	Source	Potential Location within Lawrence Park Study Area				Habitat Requirements**	Assessment of Species Occurrence within 1 km of the Study Area
		S Rank	G Rank	COSSARO	COSEWIC	TRCA			Site 1	Site 2	Site 4	Site 5		
Rusty-patched Bumble Bee	*Bombus affinis*	S1	-	END	END	-	1966-08-12	NHIC Database	-	-	-	*	Found in open habitat such as mixed farmland, urban settings, savannah, open woods and sand dunes. The most recent sightings have been in oak savannah, which contains both woodland and grassland flora and fauna.	**Not Present**: According to the MNRF, the species has only been found in Pinery Provincial Park since 2002.
Sharp-fruited Rush	*Juncus acuminatus*	S3?	G5	-	-		1926	NHIC Database	*	*	*	*	Moist, often sandy, sunny ground (Michigan Flora Online, 2011).	**Not Present**: This species was not identified during flora surveys. It is not present within the study area near proposed works.
Snapping Turtle	*Chelydra serpentina*	S3	G5	SC	SC	L3	2009-07-19	NHIC Database	*	*	-	*	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 man-made structures for nest sites, including roads (especially gravelly shoulders), dams and aggregate pits.	**Potential**: Potentially suitable habitat is present within the West Don River valley. Of the three sites within the valley, Sites 1 and 2 have potentially suitable habitat for snapping turtle.
Spiny Softshell	*Apalone spinifera*	S2	G5	THR	THR	-	1982-06-11	NHIC Database	*	*	*	*	Generally prefer marshy creeks, swift-flowing rivers, lakes, impoundments, bays, marshy lagoons, ditches and ponds near rivers.	**Not Present**: Species is not known to occur within the TRCA.
Stiff gentian	*Gentianella quinquefolia*	S2	G5	-	-	L1	1887-09-20	NHIC Database	*	*	*	*	Stream and river banks, marshy meadows; bluffs and forested hillsides; usually in ± calcareous sites (Michigan Flora Online, 2011).	**Not Present**: Species was not identified during flora field surveys.
Swamp Darner	*Epiaeschna heros*	S2S3	G5	-	-	-	1941-pre	NHIC Database	-	-	-	*	Swamps and slow streams for breeding; more confined to woodland areas. Larvae may develop in very shallow pools, perhaps even seasonal ones (Paulson, 2011).	**Potential**: Potentially suitable habitat is present at Site 2, and in the West Don River valley outside of Site 5.
Unicorn Clubtail	*Arigomphus villosipes*	S2S3	G5	-	-	-	191-	NHIC Database	*	*	*	*	Typically mud-bottomed lakes and ponds, including beaver ponds, with or without much vegetation. May occur in rather degraded urban situations (Paulson, 2011).	**Not present**: Potentially suitable habitat is not found within the study area.
White Wood Aster	*Eurybia divaricata*	S2S3	G5	THR	THR	-	1927-07-24	NHIC Database	-	*	*	*	Generally grows in open, dry, deciduous forests. It has been suggested that it may benefit from some disturbance, as it often grows along trails (Michigan Flora Online, 2011).	**Not Present**: Species was not observed during flora inventories.
White-haired panicgrass	*Dichanthelium praecocius*	S3?	G5 T5?	-	-	-	1911-07-07	NHIC Database	*	*	*	*	Dry open, usually sandy ground; prairies, open oak savannas, borders and fields (Michigan Flora Online, 2011).	**Not Present**: Suitable habitat is not within the study area.

Species-at-Risk and Other Species of Conservation Concern Summary Table														
Species or Feature		Rank					Last Obs. Date	Source	Potential Location within Lawrence Park Study Area				Habitat Requirements**	Assessment of Species Occurrence within 1 km of the Study Area
		S Rank	G Rank	COSSARO	COSEWIC	TRCA			Site 1	Site 2	Site 4	Site 5		
Woodland Flax	*Linum virginianum*	S2	G4 G5	-	-	LX	1890-07-16	NHIC Database	-	-	*	-	Dry forests, hillsides, and sandy banks; also moist shaded ground, shores, and river banks (Michigan Flora Online).	**Not Present**: Species is considered Extirpated from lands within TRCA 's jurisdiction.
Woodland Pinedrops	*Pterospora andromedea*	S2	G5	-	-	LX	1891-08-29	NHIC Database	-	-	-	*	Nearly always in habitats with conifers (especially pines but also hemlock, spruce, fir, white-cedar), in dryish (usually sandy or rocky) soil, often with common juniper and sometimes aspen or birch. Most frequent in open woods near the shores of the Great Lakes, much less common inland (Michigan Flora Online, 2011).	**Not Present**: Species is considered Extirpated from lands within TRCA 's jurisdiction.
Wood Thrush	*Hylocichla mustelina*	S4B	G4	SC	THR	L3	-	MNRF/ NHIC Database/ North-South Environmental Inc. et al, 2012	*	*	-	*	Nests mainly in second-growth and mature deciduous and mixed forests, with saplings and well-developed understory layers. Prefers large forest mosaics, but may also nest in small forest fragments.	**Present/Confirmed**: Suitable habitat is available within sites 1, 2 and 5 (Glendon Forest ESA). The species was previously recorded in the Glendon Forest ESA as part of the supporting studies for the City of Toronto ESA report (North-South Environmental et al. 2012).
Yellow Stargrass	*Hypoxis hirsuta*	S2S3	G5	-	-	Lx	1933-06-01	NHIC Database	*	*	*	*	Sandy open ground and oak forests, more often in fens, moist to wet meadows, swamp borders, and shores (Michigan Flora Online, 2011).	**Not Present**: Species is considered Extirpated from lands within TRCA 's jurisdiction..
West Don River Valley	Candidate Life Science ANSI								*	-	-	*		
Humber River	Canadian Heritage River								-	-	-	*		
Burke Brook Forest	Life Science site								-	-	-	*		
Glendon Forest	Life Science site								*	*	-	*		
Wetlands	Unevaluated								-	-	-	-		

*The Humber River Watershed is located over 5 kms east of the study area, and inclusion in the NHIC query results for Sites 3, 4, and 5 is likely erroneous.

** All habitat requirements were provided by the MNRF unless otherwise specified.

LEGEND

National Significance

Provincial status of Species at Risk is determined by the Committee on the Status of Species at Risk in Ontario (COSSARO). The terms "Special Concern", "Threatened" and "Endangered" are terms used by COSSARO to describe status. The Provincial Policy Statement (2014) defines threatened and endangered species simply, as "a species that is listed or categorized as a threatened or endangered species on the Ontario Ministry of Natural Resources official Species at Risk list, as updated and amended from time to time." The terms are explained by NHIC (2006) as follows:

- **Endangered**: A wildlife species facing imminent extirpation or extinction.

- **Threatened**: A wildlife species likely to become endangered if limiting factors are not reversed.

- **Special Concern**: A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.

Provincial Ranking System

The NHIC maintains a database of current provincial designations of species-at-risk. Provincial rarity is assessed by the NHIC, with species ranked as S1, S2, or S3 considered to be of most concern from a conservation perspective. The NHIC defines these ranks as follows:

SH Possibly Extirpated (Historical)—Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become NH or SH without such a 20-40 year delay if the only known occurrences in a nation or state/province were destroyed or if it had been extensively and unsuccessfully looked for. The NH or SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.

S1 Critically Imperiled—Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.

S2 Imperiled—Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

S3 Vulnerable—Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 Secure—Common, widespread, and abundant in the nation or state/province.

SNR Unranked—Nation or state/province conservation status not yet assessed.

SU Unrankable—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

SNA Not Applicable —A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

S#S# Range Rank —A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).

Appendix D: Significant Wildlife Habitat Assessment

Significant Wildlife Habitat Type: Seasonal Concentrations of Animals					
Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Waterfowl Stopover and Staging Areas (Terrestrial) **Rationale:** Habitat important to migrating waterfowl.	American Black Duck Northern Pintail Gadwall Blue-winged Teal Green-winged Teal American Wigeon Northern Shoveler Tundra Swan	CUM1 CUT1 Plus evidence of annual spring flooding from melt water or run-off within these Ecosites. - Fields with seasonal flooding and waste grains in the Long Point, Rondeau, Lk. St. Clair, Grand Bend and Pt. Pelee areas may be important to Tundra Swans.	Fields with sheet water during Spring (mid-March to May). •Fields flooding during springmelt 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 they have spring sheet water available.	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” • Any mixed species aggregations of 100 or more individuals required. • The flooded field ecosite habitat plus a 100-300m radius, dependant on local site conditions and adjacent land use is the significant wildlife habitat. • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). •SWH MISTIndex #7 provides development effects and mitigation measures.	**Not Present**: Specific habitat criteria not present within study area.
Waterfowl Stopover and Staging Areas (Aquatic) **Rationale:** Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback Ruddy Duck	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water)	Studies carried out and verified presence of: Aggregations of 100 or more of listed species for 7 days, results in > 700 waterfowl use days. • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH • The combined area of the ELC ecosites and a 100m radius area is the SWH • Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are significant wildlife habitat. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” • Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). • SWH MIST Index #7 provides development effects and mitigation	**Not Present**: Specific habitat criteria not present within study area.

Significant Wildlife Habitat Type: Seasonal Concentrations of Animals					
Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Shorebird Migratory Stopover Area **<u>Rationale:</u>** High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. • Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, 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. <u>Information Sources</u> • Western hemisphere shorebird reserve network. • Canadian Wildlife Service (CWS) Ontario Shorebird Survey. • Bird Studies Canada • Ontario Nature • Local birders and naturalist clubs • Natural Heritage Information Centre (NHIC) Shorebird Migratory Concentration Area	Studies confirming: Presence of 3 or more of listed species and > 1000 shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) • Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • SWH MIST Index #8 provides development effects and mitigation measures.	**Not Present**: Specific habitat criteria not present within study area.

Significant Wildlife Habitat Type: Seasonal Concentrations of Animals					
Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Raptor Wintering Area **<u>Rationale:</u>** Sites used by multiple species, a high number of individuals and used annually are most significant	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl **<u>Special Concern:</u>** Short-eared Owl Bald Eagle	<u>Hawks/Owls</u>: Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW. Bald Eagle: Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).	• The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Raptor wintering (hawk/owl) sites need to be > 20 ha with a combination of forest and upland. • Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands • Field area of the habitat is to be wind swept with limited snow depth or accumulation. • Eagle sites have open water and large trees and snags available for roosting <u>Information Sources</u>: • OMNRF Ecologist or Biologist • Naturalist clubs • Natural Heritage Information Centre (NHIC) Raptor Winter Concentration Area • Data from Bird Studies Canada • Results of Christmas Bird Counts • Reports and other information available from Conservation Authorities.	Studies confirm the use of these habitats by: One or more Short-eared Owls or; One of more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species • To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. • The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • SWH MIST Index #10 and • #11 provides development effects and mitigation measures.	**Not Present**: Suitable habitat is not present within the study area. Woodlands are present within the West Don Valley, and the valley branch below Strathgowan Ave, however fields are not present within the study area. Therefore the habitat criteria of combined woodlands and fields are not within the study area, thus suitable habitat is not present.

Significant Wildlife Habitat Type: Seasonal Concentrations of Animals					
Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Bat Hibernacula **<u>Rationale:</u>** Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat Tri-coloured Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	• Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. • Active mine sites should not be considered as SWH • The locations of bat hibernacula are relatively poorly known. <u>Information Sources</u> • OMNRF for possible locations and contact for local experts • Natural Heritage Information Centre (NHIC) Bat Hibernaculum • Ministry of Northern Development and Mines for location of mine shafts. • Clubs that explore caves (eg. Sierra Club) • University Biology Departments with bat experts.	• All sites with confirmed hibernating bats are SWH . • The area includes 200m radius around the entrance of the hibernaculum for most development types and 1000m for wind farms. • Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”. • SWH MIST Index #1 provides development effects and mitigation measures.	**Not Present**: Caves and crevices are not present within the study area.

Significant Wildlife Habitat Type: Seasonal Concentrations of Animals					
Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	

Bat Maternity Colonies
 	
<u>Rationale:</u> Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.
	Big Brown Bat
	Silver-haired Bat
		Maternity colonies considered SWH are found in forested Ecosites.
		
		All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM
			• Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).
			• Maternity roosts are not found in caves and mines in Ontario.
			• Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees
			Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2.
			• Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred
			
			<u>Information Sources</u>
			• OMNRF for possible locations and contact for local experts
			• University Biology Departments with bat experts.
				• Maternity Colonies with confirmed use by;
				  • >10 Big Brown Bats
				  • >5 Adult Female Silver- haired Bats
				• The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies.
				Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”.
				• SWH MIST Index #12 provides development effects and mitigation measures.
					Potential: Potential bat maternity colonies may be present at Sites 1, 2, and 5. The West Don River is an extensive river valley that has potential roost sites throughout. Proposed works at Sites 2 and 5 are confined to semi-natural areas (i.e. disturbed linear natural areas consisting of planted and natural trees surrounded by estate and/or institutional properties); therefore it is most likely that bat maternity roost colonies may be found within Site 1. Proposed works at Site 1 extend into the river valley and to the West Don River. See **Section 3.1.6** for further discussion.

Significant Wildlife Habitat Type: Seasonal Concentrations of Animals					
Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Turtle Wintering Areas **<u>Rationale:</u>** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Midland Painted Turtle **<u>Special Concern:</u>** Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles; ELC Community Classes; SW MA OA SA ELC Community Series FEO BOO Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	• For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen • Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. <u>Information Sources</u>: EIS studies carried out by Conservation Authorities. • Field Naturalists Clubs • OMNRF Ecologist or Biologist Natural Heritage Information Centre (NHIC)	• Presence of 5 over-wintering Midland Painted Turtles is significant. • One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. • The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep- water pool where the turtles are over wintering is the SWH. Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May). Congregation of turtles is more common where wintering areas are limited and therefore significant. • SWH MIST Index #28 provides development effects and mitigation measures for turtle wintering habitat.	**Not Present**: Suitable habitat is not found within the study area.

Significant Wildlife Habitat Type: Seasonal Concentrations of Animals					
Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Reptile Hibernaculum **<u>Rationale:</u>** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	**<u>Snakes:</u>** Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake **<u>Special Concern:</u>** Milksnake Eastern Ribbonsnake	For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.	• For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. <u>Information Sources</u> • In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs • University herpetologists • Natural Heritage Information Centre (NHIC)	Studies confirming: • Presence of snake hibernacula used by a minimum of five individuals of a snake sp. <u>or</u>; individuals of two or more snake spp. • Congregations of a minimum of five individuals of a snake sp. <u>or</u>; individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct) • <u>Note</u>: If there are Special Concern Species present, then site is SWH <u>Note</u>: Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH • SWH MIST Index #13 provides development effects and mitigation measures for snake hibernacula.	**Not Present**: Suitable habitat is not found within the study area. Potential hibernaculum were not observed during ELC surveys.

Significant Wildlife Habitat Type: Seasonal Concentrations of Animals					
Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff) **<u>Rationale:</u>** Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation. <u>Information Sources</u> Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas • Bird Studies Canada; *NatureCounts* http://www.birdscanada.org/birdmon/ Field Naturalist Clubs.	Studies confirming: • Presence of 1 or more nesting sites with 8[cxlix] or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50m radius habitat area from the peripheral nests[ccvii] Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • SWH MIST Index #4 provides development effects and mitigation measures	**Not Present**: Suitable habitat is not available within the study area. Eroding banks were not observed during ELC surveys.
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) **<u>Rationale:</u>** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree. <u>Information Sources</u> • Ontario Breeding Bird Atlas, colonial nest records. • Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). • Natural Heritage Information Centre (NHIC) Mixed Wader Nesting Colony • Aerial photographs can help identify large heronries. • Reports and other information available from Conservation Authorities. • MNRF District Offices. • Field Naturalist Clubs.	Studies confirming: • Presence of 2 or more active nests of Great Blue Heron or other listed species. • The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH • Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells • SWH MIST Index #5 provides development effects and mitigation measures.	**Not Present**: Suitable habitat is not available within the study area.

Significant Wildlife Habitat Type: Seasonal Concentrations of Animals					
Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Colonially - Nesting Bird Breeding Habitat (Ground) **<u>Rationale:</u>** Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) MAM1 – 6; MAS1 – 3; CUM CUT CUS	• Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. • Brewers Blackbird colonies are found loosely on the ground in or in low bushes in close proximity to streams and irrigation ditches within farmlands. <u>Information Sources</u> • Ontario Breeding Bird Atlas, rare/colonial species records. • Canadian Wildlife Service • Reports and other information available from Conservation Authorities. • Natural Heritage Information Centre (NHIC) Colonial Waterbird Nesting Area • MNRF District Offices. • Field Naturalist Clubs.	Studies confirming: • Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. • Presence of 5 or more pairs for Brewer's Blackbird. • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. • The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH • Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • SWH MIST Index #6 provides development effects and mitigation measures.	**Not Present**: Suitable habitat is not available within the study area.

Significant Wildlife Habitat Type: Seasonal Concentrations of Animals					
Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Migratory Butterfly Stopover Areas **<u>Rationale:</u>** Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Painted Lady Red Admiral <u>Special Concern</u> Monarch	Combination of ELC Community Series; need to have present one Community Series from each landclass: <u>Field</u>: CUM CUT CUS <u>Forest</u>: FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Erie or Lake Ontario. • The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south. The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. • Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes <u>Information Sources</u> • MNRF District Offices • Natural Heritage Information Centre (NHIC) • Agriculture Canada in Ottawa may have list of butterfly experts. • Field Naturalist Clubs • Toronto Entomologists Association • Conservation Authorities	Studies confirm: The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. • MUD of >5000 **or** >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. • SWH MIST [cxlix] Index #16 provides development effects and mitigation measures.	**Not Present**: Suitable habitat is not available within the study area.

Significant Wildlife Habitat Type: Seasonal Concentrations of Animals					
Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Landbird Migratory Stopover Areas **<u>Rationale:</u>** Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds. Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1 All migrant raptors species: Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	• 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 2-5ha can be considered for this habitat • If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Erie and Lake Ontario are more significant • Sites have a variety of habitats; forest, grassland and wetland complexes. • The largest sites are more significant • Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Erie and Lake Ontario are Candidate SWH. <u>Information Sources</u> • Bird Studies Canada • Ontario Nature • Local birders and field naturalist clubs • Ontario Important Bird Areas (IBA) Program	Studies confirm: • Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. • Studies should be completed during spring (Mar to May) and fall (Aug to Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • SWH MIST Index #9 provides development effects and mitigation measures.	**Not Present**: The study area is approximately 8.5 km from the Lake Ontario shoreline; 3.5 km beyond the range stipulated in the Habitat Criteria column.
Deer Winter Congregation Areas **<u>Rationale:</u>** Deer movement during winter in the southern areas of Eco- region 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions[cxlviii].	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	• Woodlots >100 ha in size or if large woodlots are rare in a planning area woodlots>50ha • Deer movement during winter in the southern areas of Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands. • Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha . • Woodlots with high densities of deer due to artificial feeding are not significant. <u>Information Sources</u> • MNRF District Offices. • LIO/NRVIS	Studies confirm: • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. • Use of the woodlot by white- tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF • Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey. • SWH MIST Index #2 provides development effects and mitigation measures.	**Not Present**: Suitable habitat is not available within the study area. Information solicited from the MNRF did not indicate the presence of Deer Winter Congregation Areas within the study area.

Significant Wildlife Habitat Type: Rare Vegetation Communities or Specialized Habitat for Wildlife					
Rare Vegetation Community	**Candidate SWH**			**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
	ELC Ecosite Code	**Habitat Description**	**Detailed Information and Sources**	**Defining Criteria**	
Cliffs and Talus Slopes **<u>Rationale:</u>** Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO CLO TAS CLS TAT CLT	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris	Most cliff and talus slopes occur along the Niagara Escarpment. <u>Information Sources</u> The Niagara Escarpment Commission has detailed information on location of these habitats. • OMNRF Districts • Natural Heritage Information Centre (NHIC) has location information available on their website • Field Naturalist Clubs • Conservation Authorities	• Confirm any ELC Vegetation Type for Cliffs or Talus Slopes • SWH MIST Index #21 provides development effects and mitigation measures.	**Not Present**: Vegetation community was not identified within the study area during ELC surveys.
Sand Barren **<u>Rationale:</u>** Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket- like (SBS1), or more closed and treed (SBT1). Tree cover always <u>≤</u> 60%.	Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.	A sand barren area >0.5ha in size. <u>Information Sources</u> • OMNRF Districts. • Natural Heritage Information Centre (NHIC) has location information available on their website. • Field Naturalist Clubs • Conservation Authorities	• Confirm any ELC Vegetation Type for Sand Barrens • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWH MIST[cxlix] Index #20 provides development effects and mitigation measures.	**Not Present**: Vegetation community was not identified within the study area during ELC surveys.

Significant Wildlife Habitat Type: Rare Vegetation Communities or Specialized Habitat for Wildlife					
Rare Vegetation Community	**Candidate SWH**			**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
	ELC Ecosite Code	**Habitat Description**	**Detailed Information and Sources**	**Defining Criteria**	
Alvar **<u>Rationale:</u>** Alvars are extremely rare habitats in Ecoregion 7E.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 **Five Alvar Indicator Species:** 1) *Carex crawei* 2) *Panicum philadelphicum* 3) *Eleocharis compressa* 4) *Scutellaria parvula* 5) *Trichostema brachiatum* These indicator species are very specific to Alvars within Ecoregion 7E	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animals species. Vegetation cover varies from patchy to barren with a less than 60% tree cover.	An Alvar site > 0.5 ha in size. Alvar is particularly rare in Ecoregion 7E where the only known sites are found in the western islands of Lake Erie. <u>Information Sources</u> • Alvars of Ontario (2000), Federation of Ontario Naturalists. • Ontario Nature – Conserving Great Lakes Alvars. • Natural Heritage Information Centre (NHIC) has location information available on their website. • OMNRF Staff. • Field Naturalist Clubs. • Conservation Authorities.	• Field studies that identify four of the five **Alvar Indicator Species** at a Candidate Alvar site is Significant. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses • SWH MIST Index #17 provides development effects and mitigation measures.	**Not Present**: Vegetation community was not identified within the study area during ELC surveys.
Old Growth Forest **<u>Rationale:</u>** Due to historic logging practices and land clearance for agriculture, old growth forest is rare in Ecoregion 7E.	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old Growth forests are characterized by heavy mortality or turnover of over- storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	Woodland area is >0.5ha <u>Information Sources</u> • OMNRF Forest Resource Inventory mapping • OMNRF Districts. • Field Naturalist Clubs • Conservation Authorities • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Municipal forestry departments	Field Studies will determine: • If dominant trees species of the are >140 years old, then the area containing these trees is Significant Wildlife Habitat • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present) • The area of forest ecosites combined or an eco-element within an ecosite that contain the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest forest area containing the old growth characteristics • SWH MIST Index #23 provides development effects and mitigation measures.	**Not Present**: Vegetation community was not identified within the study area during ELC surveys.

Significant Wildlife Habitat Type: Rare Vegetation Communities or Specialized Habitat for Wildlife					
Rare Vegetation Community	**Candidate SWH**			**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
	ELC Ecosite Code	**Habitat Description**	**Detailed Information and Sources**	**Defining Criteria**	
Savannah **<u>Rationale:</u>** Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60% In ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).	No minimum size to site Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> Natural Heritage Information Centre (NHIC) has location data available on their website. • OMNRF Districts. • Field Naturalists Clubs. • Conservation Authorities.	Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present Note: Savannah plant spp. list from Ecoregion 7E should be used. • Area of the ELC Ecosite is the SWH. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWH MIST Index #18 provides development effects and mitigation measures.	**Not Present**: Vegetation community was not identified within the study area during ELC surveys.
Tallgrass Prairie **<u>Rationale:</u>** Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover In ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).	No minimum size to site Ⓔ. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> • OMNRF Districts. • Natural Heritage Information Centre (NHIC) has location information available on their website. • Field Naturalists Clubs. • Conservation Authorities.	Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 7E should be used • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWH MIST Index #19 provides development effects and mitigation measures.	**Not Present**: Vegetation community was not identified within the study area during ELC surveys.
Other Rare Vegetation Communities **<u>Rationale:</u>** Plant communities that often contain rare species which depend on the habitat for survival.	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M The OMNRF/NHIC will have up to date listing for rare vegetation communities. <u>Information Sources</u> • Natural Heritage Information Centre (NHIC) has location information available on their website. • OMNRF Districts. • Field Naturalists Clubs. • Conservation Authorities.	Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. • Area of the ELC Vegetation Type polygon is the SWH. • SWH MIST Index #37 provides development effects and mitigation measures.	**Not Present**: Vegetation community was not identified within the study area during ELC surveys.

Specialized Habitat for Wildlife					
Specialized Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Waterfowl Nesting Area **<u>Rationale:</u>** Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 **Note: includes adjacency to Provincially Significant Wetlands**	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. • Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. • Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. <u>Information Sources</u> • Ducks Unlimited staff may know the locations of particularly productive nesting sites. • OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat.Reports and other information available from Conservation Authorities	Studies confirmed: • Presence of 3 or more nesting pairs for listed species excluding Mallards, or; • Presence of 10 or more nesting pairs for listed species including Mallards. • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. • SWH MIST Index #25 provides development effects and mitigation measures.	**Not Present**: Suitable habitat is not present within the study area. Wetlands were not identified via ELC.

Specialized Habitat for Wildlife					
Specialized Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat **<u>Rationale:</u>** Nest sites are fairly uncommon in Ecoregion 7E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	Osprey **Special Concern** Bald Eagle	ELC Forest Community Series: FOD FOM FOC SWD SWM SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. • Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. • Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). <u>Information Sources</u> • Natural Heritage Information Centre (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat. • Nature Counts, Ontario Nest Records Scheme data. • OMNRF District. • Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented • Reports and other information available from Conservation Authorities. • Field Naturalists clubs	Studies confirm the use of these nests by: • One or more active Osprey or Bald Eagle nests in an area. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area ofthe habitat from 400-800m is dependant on site lines from the nest to the development and inclusion of perching and foraging habitat [cvi] • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for <u>≥</u> 3 years or suspected of not being used for >5 years before being considered not significant. • Observational studies to determine nest site use, perching sites and foraging areas need to be done from early March to mid August. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" SWH MIST Index #26 provides development effects and mitigation measures	**Not Present**: Nests were not identified during field surveys.

Specialized Habitat for Wildlife					
Specialized Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Woodland Raptor Nesting Habitat **<u>Rationale:</u>** Nests sites for these species are rarely identified; these area sensitive habitats are often used annually by these species	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC SWM SWD CUP3	All natural or conifer plantation woodland/forest stands >30ha with >4ha of interior habitat. Interior habitat determined with a 200m buffer Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. <u>Information Sources</u> • OMNRF Districts. • Check the Ontario Breeding Bird Atlas [ccv] or Rare Breeding Birds in Ontario for species documented. • Check data from Bird Studies Canada. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of 1 or more active nests from species list is considered significant. Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH [ccvii]. (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest) • Barred Owl – A 200m radius around the nest is the SWH • Broad-winged Hawk and Coopers Hawk,– A 100m radius around the nest is the SWH. • Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. • Conduct field investigations from early March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • SWH MIST Index #27 provides development effects and mitigation measures.	**Not Present**: Suitable habitat is not present within the study area. Interior habitat is marginal in the West Don River valley.
Turtle Nesting Areas **<u>Rationale:</u>** These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle <u>Special Concern Species</u> Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle- nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. <u>Information Sources</u> • Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). • Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. • Natural Heritage Information Centre (NHIC) • Field Naturalist Clubs	Studies confirm: Presence of 5 or more nesting Midland Painted Turtles • One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat. • Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. • SWH MIST Index #28 provides development effects and mitigation measures for turtle nesting habitat.	**Not Present**: Suitable habitat is not available within the study area.

Specialized Habitat for Wildlife					
Specialized Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Seeps and Springs **<u>Rationale:</u>** Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could Have seeps/springs.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system. Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species. <u>Information Sources</u> • Topographical Map. • Thermography. • Hydrological surveys conducted by Conservation Authorities and MOE. • Field Naturalists Clubs and landowners. • Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	Field Studies confirm: Presence of a site with 2 or more seeps/springs should be considered SWH. • The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat. • SWH MIST [l]ndex #30 provides development effects and mitigation measures	**Present/ Confirmed**: Seeps were identified during ELC surveys at Sites 1 and 5.
Amphibian Breeding Habitat (Woodland). **<u>Rationale:</u>** These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians	• Presence of a wetland, pond or woodland pool (including vernal pools) >500m^2 (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat <u>Information Sources</u> • Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records • Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. • OMNRF Districts and wetland evaluations • Field Naturalist clubs • Canadian Wildlife Service Amphibian Road Call Survey • Ontario Vernal Pool Association: http://www.ontariovernalpools.org	Studies confirm; • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. • The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. • SWH MIST [cxlix] Index #14 provides development effects and mitigation measures.	**Not Present**: No woodland pools or ponds were identified within the study area during ELC surveys.

Specialized Habitat for Wildlife					
Specialized Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Amphibian Breeding Habitat (Wetlands) **<u>Rationale:</u>** Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands.	• Wetlands>500m^2 (about 25m diameter),supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. Bullfrogs require permanent water bodies with abundant emergent vegetation. <u>Information Sources</u> • Ontario Herpetofaunal Summary Atlas (or other similar atlases) • Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. • OMNRF Districts and wetland evaluations. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. **or;** Wetland with confirmed breeding Bullfrogs are significant. The ELC ecosite wetland area and the shoreline are the SWH. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWH MIST Index #15 provides development effects and mitigation measures.	**Not Present**: Site 5 swamp. Hydro period not likely to support breeding amphibians.
Woodland Area-Sensitive Bird Breeding Habitat **Rationale:** Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren Pileated Woodpecker **Special Concern:** Cerulean Warbler Canada Warbler	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	• Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. Interior forest habitat is at least 200 m from forest edge habitat. <u>Information Sources</u> • Local birder clubs. • Canadian Wildlife Service (CWS) for the location of forest bird monitoring. • Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. • Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. Conduct field investigations in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” • SWH MIST Index #34 provides development effects and mitigation measures.	**Not Present**: Suitable habitat is not present within the study area. Interior forest habitat is marginal within the West Don River valley.

Significant Wildlife Habitat Type: Habitats of Species of Conservation Concern Considered SWH					
Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Marsh Breeding Bird Habitat **<u>Rationale:</u>** Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. <u>Information Sources</u> • OMNRF District and wetland evaluations. • Field Naturalist clubs • Natural Heritage Information Centre (NHIC) Records. • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas.	Studies confirm: • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren **or** breeding by any combination of 4 or more of the listed species. • Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. • Area of the ELC ecosite is the SWH. • Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • SWH MIST Index #35 provides development effects and mitigation measures	**Not Present**: Wetland habitat was not identified has a habitat type during ELC surveys.
Open Country Bird Breeding Habitat **<u>Rationale:</u>** This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern** Short-eared Owl	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30 ha • Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years). • Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. • The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. <u>Information Sources</u> • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs. • Ontario Breeding Bird Atlas • EIS Reports and other information available from Conservation Authorities.	Field Studies confirm: • Presence of nesting or breeding of 2 or more of the listed species. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • SWH MIST Index #32 provides development effects and mitigation measures	**Not Present**: Suitable habitat is not present within the study area.

Specialized Habitat for Wildlife					
Specialized Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Shrub/Early Successional Bird Breeding Habitat **<u>Rationale:</u>** This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	<u>Indicator Spp</u>: Brown Thrasher Clay-coloured Sparrow <u>Common Spp.</u> Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Yellow- breasted Chat Golden-winged Warbler	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species	Large field areas succeeding to shrub and thicket habitats>10ha in size. • Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live- stock pasturing in the last 5 years). • Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. <u>Information Sources</u> • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs. • Ontario Breeding Bird Atlas • Reports and other information available from Conservation Authorities.	Field Studies confirm: Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. • A habitat with breeding Yellow- breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat. • The area of the SWH is the contiguous ELC ecosite field/thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” • SWH MIST Index #33 provides development effects and mitigation measures.	**Not Present**: Suitable habitat is not available within the study area.
Terrestrial Crayfish **<u>Rationale:</u>** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; (<u>Fallicambarus fodiens)</u> Devil Crayfish or Meadow Crayfish; (<u>Cambarus Diogenes)</u>	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. Constructs burrows in marshes, mudflats, meadows, the ground can’t be too moist. Can often be found far from water. • Both species are a semi- terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. <u>Information Sources</u> • Information sources from “Conservation Status of Freshwater Crayfishes” by Dr. Premek Hamr for the WWF and CNF March 1998	Studies Confirm: • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. • Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult • SWH MIST Index #36 provides development effects and mitigation measures.	**Not Present**: Study area is outside of the natural range of these species.

Specialized Habitat for Wildlife					
Specialized Wildlife Habitat	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Potential for Candidate and/or Confirmed SWH on Subject Property**
		ELC Ecosite Codes	**Habitat Criteria and Info. Sources**	**Defining Criteria**	
Special Concern and Rare Wildlife Species **<u>Rationale:</u>** These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre (NHIC).	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites <u>Information Sources</u> • Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. • NHIC Website "Get Information" : http://nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas • Expert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm: • Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. • SWH MIST Index #37 provides development effects and mitigation measures.	**Present/ Confirmed**: **Wood thrush** (SC) was previously recorded in Glenden Forest ESA (Sites 1, 2, and 5) (North-South Environmental et al. 2012). **Potential**: Potential suitable **eastern wood-pewee** (SC) habitat is present at Sites 1, 2, and 5. Potentially suitable **black cohosh** (S2) habitat is present at Sites 1 and 5. Potentially suitable **painted skimmer** (S2) habitat is available at Site 5. Potentially suitable **snapping turtle** (S3) habitat is present within the West Don River valley (Sites 1, and 2). Potentially suitable **swamp darner** (S2S3) habitat is present at Site 5.