DAVE SMITH YOUTH TREATMENT CENTRE
PART LOT 6, CONCESSION 1
BRADLEY SIDE ROAD, KANATA
CITY OF OTTAWA
ENVIRONMENTAL IMPACT STATEMENT

Prepared for:        Dave Smith Youth Treatment Centre
Submitted by:        Niblett Environmental Associates Inc.
                      PN 12-078

December 4, 2014
December 4, 2014

Mr. Kevin Crawford
Dave Smith Youth Treatment Centre
1883 Bradley Side Road
Carp, Ontario
K0A 1L0

RE: DAVE SMITH YOUTH TREATMENT CENTRE
PART LOT 6, CONCESSION 1, BRADLEY SIDE ROAD
KANATA, CITY OF OTTAWA
ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Crawford:

We are pleased to submit our Environmental Impact Statement in support of your application for a severance and future buildings on the property on Bradley Side Road.

After a thorough review of our field data and existing literature we have assessed the impacts of the proposed severance and development on the natural features in the area. We have made several recommendations to mitigate any potential impacts.

Please contact us if you or the agencies require any additional information.

Sincerely,

Chris Ellingwood
President and Sr. Terrestrial and Wetland Biologist
# TABLE OF CONTENT

1.0 Introduction .................................................................................................................. 1  
1.1 Overview ...................................................................................................................... 1  
1.2 Background .................................................................................................................. 1  
1.3 Study Area .................................................................................................................. 2  
1.4 Study Rationale .......................................................................................................... 2  
1.5 Applicable Policies ..................................................................................................... 2  
1.5.1 Provincial Policy Statement .................................................................................... 2  
1.5.2 City of Ottawa Official Plan Requirements ......................................................... 4  
2.0 Study Methodology ....................................................................................................... 5  
2.1 General Approach ...................................................................................................... 5  
2.2 Detailed Methodology ............................................................................................... 5  
2.2.1 Vegetation ........................................................................................................... 5  
2.2.2 Mammals and other Wildlife ............................................................................. 6  
2.2.3 Significant Valleylands ....................................................................................... 6  
2.3 Reporting .................................................................................................................... 7  
3.0 Resource Inventory ...................................................................................................... 8  
3.1 General Site Characteristics ..................................................................................... 8  
3.2 Vegetation Communities ............................................................................................ 8  
3.3 Mammals and Other Wildlife .................................................................................. 11  
4.0 Resource Significance ............................................................................................... 12  
4.1 Natural Heritage Features and Functions ................................................................. 12  
4.2 Significant Species and Habitats ............................................................................... 12  
4.2.1 Vegetation ........................................................................................................... 12  
4.2.2 Birds ................................................................................................................... 13  
4.2.3 Mammals and Other Wildlife ............................................................................. 15  
4.2.4 Surface Water, Groundwater and Fish Habitat .................................................. 15  
4.2.5 Landforms Soils and Geology ........................................................................... 15  
4.2.6 Urban Tree Inventory ......................................................................................... 16  
5.0 Proposed Development ............................................................................................. 20  
6.0 Impact Assessment ..................................................................................................... 20  
6.1 Tree Cover and Vegetation ....................................................................................... 20  
6.2 Wildlife ..................................................................................................................... 22  
6.3 Surface Water, Groundwater and Fish Habitat ......................................................... 23  
6.4 Significant Valleyland ............................................................................................... 24  
6.5 Species at Risk .......................................................................................................... 24
List of Tables

Table 1. Urban Tree Inventory

List of Figures

Figure 1: Vegetation Communities, Proposed Development and Constraints
Figure 2: Urban Tree Inventory

List of Appendices

Appendix I: Plant Species by Community
Appendix II: Bird Status Report
DAVE SMITH YOUTH TREATMENT CENTRE
PART LOT 6, CONC 1. BRADLEY SIDE ROAD
KANATA, CITY OF OTTAWA

ENVIRONMENTAL IMPACT STATEMENT

1.0 Introduction

1.1 Overview

Niblett Environmental Associates Inc. (NEA) was retained by Dave Smith Youth Treatment Centre (DSYTC) to complete an Environmental Impact Statement (EIS) for their proposed new facility on the Bradley Side Road in Kanata. The EIS shall support an Official Plan Amendment and Rezoning Application.

The EIS follows the components of the EIS guidelines regarding scoping, field survey protocols, reporting and Species At Risk. The report is a combination of several studies including:

- Environmental Impact Statement
- Tree Conservation Report
- Impact Assessment of Endangered Species
- Assessment of Landform Features (Huntley Creek)

The Tree Conservation Report guidelines stipulate:

*If an Environmental Impact Statement (EIS) is required for a given site, that report will take the place of the Tree Conservation Report. The EIS will contain the elements listed below in addition to the EIS requirements. Tree removal, and any activities that could injure trees, must not occur until written approval of the EIS is provided.*

1.2 Background

In the City of Ottawa Environmental Impact Statement Guidelines, 2nd Edition (April, 2012) the City of Ottawa requires an EIS if development is proposed in or adjacent to environmentally designated lands or other features of the City’s natural heritage system (NHS). Significant valleylands, identified as part of the NHS were identified on Schedule L3.
The property is designated as ‘agriculture resource area’ in Schedule “A” of the OP.

The property is currently made up of agricultural fields with two hedgerows bisecting the property. A forested area exists north-east of the property with a valleyland and associated creek present.

1.3 Study Area

The property is located on the west side of Kanata, just north-east of Highway 417 and just south-west of Terry Fox Drive. The study area included the entire property and lands directly adjacent to it including the valleyland and forest to the north.

The current home of the Dave Smith Youth Treatment Centre exists directly to the north-east of the proposed severance. The majority of the surrounding lands are agricultural fields, rural lots and a golf course.

1.4 Study Rationale

The Environmental Impact Statement was triggered by Official plan amendment and rezoning application to allow for the development of the proposed treatment centre. The EIS was required as the proposed treatment centre location was within 120m of significant valleylands.

A pre-consultation meeting was held with the City (July 2010) and an Applicant’s Study and Plan Identification List filled out. Subsequently NEA did contact the City regarding the scope and requirements of the EIS, the assessment of landform features, Tree Conservation Report and the Impact Assessment of Endangered Species (Matthew Hayley, pers. comm. and e-mails, Sept./Oct. 2012).

1.5 Applicable Policies

1.5.1 Provincial Policy Statement

The extent of Natural Heritage features found on or adjacent to the study area have been investigated within this EIS and specifically Sections 2.1.1-2.1.3, 2.1.5, 2.1.7 & 2.1.8 of the Provincial Policy Statement (2014) apply to this project.

2.1.1 Natural Features and areas shall be protected for the long term
2.1.2 The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.

2.1.3 Natural heritage systems shall be identified in Ecoregions 6E & 7E, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.

2.1.5 Development and site alteration shall not be permitted in:

a) Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;¹

b) Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)¹;

c) significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)¹;

d) significant wildlife habitat;

e) significant areas of natural and scientific interest; and

f) coastal wetlands in Ecoregions 5E, 6E and 7E¹ that are not subject to policy 2.1.4 (b) unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

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

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

The property lies adjacent to lands designated as “agricultural resources area” in the City of Ottawa Official Plan. Adjacent lands to the north-west are significant valleylands (Annex, Appendix 14); Natural Heritage System.

Section 1.2 in the EIS Guidelines for the City of Ottawa states that:

*an EIS is required when development or site alteration, as defined in section 4.7.8 of the Official Plan, is proposed in or adjacent to environmentally designated lands or other features of the City’s Natural Heritage System (NHS).*

The EIS follows the components of the EIS guidelines regarding scoping, field survey protocols, reporting and Species At Risk. The report is a combination of several studies including:

- Environmental Impact Statement
- Tree Conservation Report
- Impact Assessment of Endangered Species
- Assessment of Landform Features (Huntley Creek)

The Tree Conservation Report guidelines stipulate:

*If an Environmental Impact Statement (EIS) is required for a given site, that report will take the place of the Tree Conservation Report. The EIS will contain the elements listed below in addition to the EIS requirements. Tree removal, and any activities that could injure trees, must not occur until written approval of the EIS is provided.*
2.0 Study Methodology

2.1 General Approach

Our approach to preparation of this Environmental Impact Statement consisted of three distinct phases. In the first phase we collected and reviewed available information on the site including recent air photography, RVCA regulated area and wetland mapping, key natural features GIS mapping, wetland mapping, City of Ottawa Official Plan schedules, City of Ottawa guidelines and other correspondence or files.

The second phase consisted of site visits by NEA biologists on October 2\textsuperscript{nd}, and 26\textsuperscript{th}, 2012 to confirm the data collected in the literature review. Vegetation boundaries were delineated and detailed inventories of the flora and fauna completed. The features and functions of the valleyland including the woodlands and the limits of the significant valleyland were also determined. The fencerows and other treed areas within the study area were also assessed and inventoried.

The third phase was the preparation of the EIS Report. This report includes an assessment of any significant natural heritage features and recommended mitigation measures such as buffers, setbacks, construction timing and clearing timing. The figures show the location of proposed buffers and key natural heritage features (constraints) in need of some level of protection.

2.2 Detailed Methodology

NEA collected data on vegetation and species at risk from the MNR and other sources. Literature reviewed included previously completed natural heritage studies of the area. In addition to information available from MNR and the City of Ottawa, several additional sources were checked to complete the literature review. These sources included the Ontario Breeding Bird Atlas data (both Cadman, 1987 and 2001-2005 field data), the National Heritage Information Centre, Significant Wildlife Habitat Technical Guide, NESS and UNAEES reports.

2.2.1 Vegetation

All vegetation communities on and adjacent to the study lands were visited and species composition determined. Community type determination criterion followed that of MNR’s Ecological Land Classification for Southern Ontario (ELC) program (Lee et al., 1998) and
was done to the vegetation type level. The presence of rare species or significant communities was documented and locations mapped.

Due to the timing of the application inventories took place on October 2\textsuperscript{nd} and 26\textsuperscript{th}, 2014. Although the inventory dates were later in the season a sufficient amount of vegetation existed and was easily identifiable. The majority of the development area was soybean field and narrow fencerows which likely would not support rare species or other ephemeral plants more easily identified in the spring. The woodland was examined to search for butternut and identify ecological functions and dominant vegetation but is well away from the development envelope.

Photographs and/or specimens were taken of plants requiring verification of identification. National, provincial and regional significance was determined from accepted status lists and published reference lists such as COSEWIC (2014), COSSARO (2014), ESA (2012), NHIC (2009), Brunton (2005) and Cuddy (1991).

2.2.2 Mammals and other Wildlife

Incidental observations of mammals, amphibians, reptiles and birds were made during the site visit. Observations included direct sightings and indirect evidence such as calls, scat, browse, burrows, dens and nests. The occurrence of linkages and corridors within the area were assessed based on field work and existing literature.

Significance on a national, provincial or regional level was based on COSEWIC (2014), COSSARO (2014), SARA (2013) and MNR (1993 and 2000).

Due to the timing of the application inventories took place on October 2\textsuperscript{nd} and 26\textsuperscript{th}, 2014. Although the inventory dates were outside of breeding bird season this was sufficient as the development limits contained mostly soy bean field and fencerows (only three (3) trees being removed) which would not provide suitable habitat for most bird species.

Breeding bird surveys were not conducted due to the timing of the application and the lack of habitat within the development envelope and adjacent lands. No whip-poor-will surveys were completed as the development envelope and adjacent lands (Soy bean fields and fencerows) were not considered suitable nesting or foraging habitat for this species.

2.2.3 Significant Valleylands

The extent of the valleylands as identified within the City of Ottawa’s Official Plan was
confirmed in the field.

2.3 Reporting

All of the above identified natural features and functions were used to create biophysical maps of the property and adjacent areas.

Information on the natural heritage features and functions of the study area was used to identify the potential constraints to the proposed development. In particular NEA determined areas where vegetation communities, rare and uncommon plant species, wildlife habitat and linkages could pose a constraint to development of this site.
3.0 Resource Inventory

3.1 General Site Characteristics

The site was generally flat and currently used for agricultural purposes. Two hedgerows bisected the property with a forested area to the north containing a valleyland. Bradley Side Road was bordered by an over-grown area adjacent the agricultural lands, also referred to as a roadside thicket (RTH).

3.2 Vegetation Communities

The study area includes a total of two (2) vegetation communities (Figure 1). This included hedgerows and a white cedar coniferous forest. There were a total of 59 plant species observed (Appendix I). The roadside thicket was not included within the community descriptions as it contained similar vegetation as the treed rows without the trees.

Community 1: Treed Rows (No ELC Code Applicable)

Two hedgerows bisected the property and the agricultural lands that made up most of the property, as well as bordering Oak Creek Road and the parcel of land in the western corner of the property. The most dominant tree species making up these treed rows included white ash (*Fraxinus americana*) and American elm (*Ulmus americana*). Manitoba maple (*Acer negundo*) and white birch (*Betula papyrifera*) were also observed interspersed between these species. Typical field species typical of disturbed habitat were found on the ground including common milkweed (*Asclepias syriaca*), awnless brome grass (*Bromus inermis* ssp.*inermis*), wild red raspberry (*Rubus idaeus*), cow vetch (*Vicia cracca*), common strawberry (*Fragaria virginiana*), common mullein (*Verbascum thapsus*), common dandelion (*Taraxacum officinale*), Canada goldenrod (*Solidago canadensis*) and tall goldenrod (*Solidago altissima*).
Community 2: Dry-Fresh White Cedar Coniferous Forest (ELC Code: FOC2-2)

The forest community was observed on the northern edge of the property. The community was dominated by eastern white cedar (*Thuja occidentalis*). Other tree species found along the edge of the community included white ash, Manitoba maple, green ash (*Fraxinus pennsylvanica var. subintegerr*), eastern white pine (*Pinus strobus*), American elm and American basswood (*Tilia americana*). European buckthorn (*Rhamnus cathartica*) and prickly gooseberry (*Ribes cynosbati*) were found in the understory with calico aster (*Symphyotrichum lateriflorum var. lateriflorum*), blue-stemmed goldenrod (*Solidago caesia*) and marginal wood fern (*Dryopteris marginalis*) in patches.
FIGURE 1: VEGETATION COMMUNITIES, PROPOSED DEVELOPMENT & CONSTRAINTS
Lot 6, Conc 1 Huntsley Township
The City of Ottawa
Kemptville MNR District
1 cm = 32 meters

REVISIONS

1. Added CAD drawing.
   DATE: 17/04/2014
   BY: W.P.
   NO: 2

Legend:
- Natural Features
- Vegetation Polygon
- Vegetation Community
- Calculated Buffers
- 25m Buffer
- 10m Buffer
- Vegetation Types
- Retained
- Vegetation Types
- Property, to be Severed
- Natural Features
- Calculated Buffers
- Vegetation Types
- Property, to be Severed

Cadastre provided by Watson, MacEwan, Teramura Architects.

Property, to be Severed
Retained
Natural Features
Vegetation Polygon
Vegetation Community
Calculations Buffers
Vegetation Types
Property, to be Severed

Neighborhood Communities
Lot 6, Conc 1 Huntsley Township
Kemptville MNR District
1 cm = 32 meters

Lot 6, Conc 1
TREED ROW
AGRA
DRY-FRESH WHITE CEDAR CONIFEROUS

Lot 7, Conc 1
TREED ROW
AGRA
DRY-FRESH WHITE CEDAR CONIFEROUS

Lot 5, Conc 1
TREED ROW
AGRA
DRY-FRESH WHITE CEDAR CONIFEROUS

Lot 6, Conc 2
TREED ROW
AGRA
DRY-FRESH WHITE CEDAR CONIFEROUS

Lot 7, Conc 2
TREED ROW
AGRA
DRY-FRESH WHITE CEDAR CONIFEROUS

TO BE RETAINED

PROPOSED BUILDING ENVELOPE

PROPOSED TREES ROW

AGRA
DRY-FRESH WHITE CEDAR CONIFEROUS

25m
BUFF

25m
BUFF

25m
BUFF

25m
BUFF

25m
BUFF

25m
BUFF
3.3 Mammals and Other Wildlife

A list of birds was compiled for the entire study area with a total of seven (7) species recorded (Appendix II). Species recorded included downy woodpecker (*Picoides pubescens*), American crow (*Corvus brachyrhynchos*), horned lark (*Evemophila alpestris*), black-capped chickadee (*Poecile atricapillus*), song sparrow (*Melospiza melodia*), white-throated sparrow (*Zonotrichia albicollis*) and red-winged blackbird (*Agelaius phoeniceus*).

Only signs of three other wildlife species were observed on the property. The spring peeper (*Pseudacris crucifer*) was the only amphibian observed on site at the time of the field visit. Evidence of coyote (*Canis latrans*) and white-tailed deer (*Odocoileus virginianus*) from tracks were observed on the property.
4.0 Resource Significance

4.1 Natural Heritage Features and Functions

The subject property contains designated significant valleylands a minimum of 30m from the property. There are no ANSI’s, PSW’s or other components of the Natural Heritage System on the subject property.

4.2 Significant Species and Habitats

4.2.1 Vegetation

A review of the NHIC database found two records for significant species (including vegetation and wildlife excluding including birds): ram's-head lady's-slipper (*Cypripedium arietinum*) and the butternut (*Juglans cinerea*).

The ram's-head lady's-slipper is considered an S3 species by NHIC and is generally found within wet areas. It was last observed within the 1km by 1km square containing the study property in 1997. This species was not observed on the property. No habitat existed for the ram’s-head lady’s-slipper on the property as no wetlands existed within the area. The record may have come from within the valley along the creek.

Butternut is considered endangered provincially and nationally (COSSARO, 2014; COSEWIC, 2014). Butternut trees are found in a variety of habitats, but are in serious decline due to the butternut canker. One butternut tree was found on the northern edge of the study property adjacent to the cedar forest and within the treed row outside the development envelope.

A review of the plant list for the study area (Appendix I) found that one of the species was considered regionally rare, field mustard (*Brassica rapa*).

Field mustard was considered rare by Cuddy (1991). This species is a widely cultivated crop as well as a widely spread weed. When the rarity list was created this species likely was not as abundant as it is today.

No significant vegetation communities (Bakowsky, 1997) are present in the study area.
4.2.2 Birds

A review of the list of breeding bird species recorded for the study area (Appendix II) found that none were considered nationally, provincially and regionally rare. No area sensitive (AS) species were recorded during the field surveys.

The study area is included as part of a 10 x 10 km Ontario Breeding Bird Atlas square (18VR21). The database includes a summary of results from the 1st atlas (1981-1985) and the current or second atlas (2001-2005). A list of significant species was generated for this square. There were nine (9) species listed specifically: black tern (Chlidonias niger), common nighthawk (Chordeiles minor), whip-poor-will (Antrostomus vociferous), red-headed woodpecker (Melanerpes erythrocephalus), loggerhead shrike (Lanius ludovicianus), barn swallow (Hirundo rustica), golden-winged warbler (Vermivora chrysoptera), bobolink (Dolichonyx oryzivorus) and eastern meadowlark (Sturnella magna). None of these species were observed on or adjacent to the property at the time of the field visit.

The black tern is listed as a special concern provincially but not at risk nationally (COSSARO, 2014; COSEWIC, 2014). This species nests in shallow marshes, especially cattails. There are no wetlands on or adjacent to the property, therefore the black tern would not find suitable habitat on the property.

The common nighthawk is listed by COSEWIC as a threatened species (2014) and as special concern provincially (COSSARO, 2014). The common nighthawk is typically found in open areas such as sand dunes, recently logged or burned over areas, pastures, open forest, gravel roads, rocky outcrops and rocky barrens, and even military base and airports. There was no suitable breeding or foraging habitat for this species on the property.

The whip-poor-will is listed as a threatened species nationally and provincially (COSEWIC, 2014; COSSARO, 2014). The whip-poor-will can be found in areas with a mix of open and forested areas within open woodlands or openings in more mature, deciduous, coniferous and mixed forests. Foraging habitat includes old field meadows, juniper meadows and natural opening and new clearcuts. It forages in these open areas and uses forested areas for roosting (resting and sleeping) and nesting (ROM, 2010). The property does contain mature forested areas and therefore suitable habitat may be present for the whip-poor-will in the lands north of the development envelope. A review of NHIC also identified the whip-poor-will as within a 1km by 1km square containing the subject property. This habitat (Category 2) is likely located in the valleyland with the building envelope more than 190 m south in current active cropland. The building envelope is not suitable foraging
habitat for this species. As suitable foraging habitat was not identified in the development envelope or adjacent lands no whip-poor-will surveys were completed.

The red-headed woodpecker is listed provincially as a Special Concern species (COSSARO, 2014) and is a federally threatened species (COSEWIC, 2014). This species is typically found in habitats dominated by oak and beech or forests within a floodplain area. It is also found in a variety of more open habitats (such as pastureland, golf courses, and cemeteries) however these areas must also contain a large number of overmature deciduous and dead trees for perching and nesting. There is no suitable habitat for this species on the property.

The loggerhead shrike is listed as an endangered species both provincially and nationally (COSSARO, 2014; COSEWIC, 2014). This species prefers a mixture of grasslands and pastures with low trees and shrubs (ROM, 2008). This property would not support the foraging or breeding habitat for the loggerhead shrike as the majority of the property is active agricultural fields.

The barn swallow is listed as a threatened species provincially and federally (COSSARO, 2014; COSEWIC, 2014). This species prefers open rural and urban areas where bridges, culverts and buildings are found near rivers, lakes, marshes or ponds. Foraging habitat for this species exists on the property No nesting habitat is present on the property as there are no buildings, currently. The subject property is mainly active agricultural lands and therefore no suitable habitat is found on the property. Nesting habitat will be present after the building is constructed.

The golden-winged warbler is listed as a species of special concern provincially (COSSARO, 2014) and is a federally threatened species (COSEWIC, 2014). This species can be found in early successional habitat of old fields with low deciduous trees bordered by wooded swamps; alder bogs; and shrubby clearings amidst deciduous forests. It requires greater than 10 ha of suitable habitat (OMNR, 2000). No suitable habitat for this species is found on or adjacent to the property as there are no wetlands in the area.

The bobolink is listed as threatened in Ontario (COSSARO, 2014). Loss of habitat and earlier harvesting in current decades has greatly reduced bobolink numbers. The majority of the property is active agricultural fields and does not contain suitable habitat for this species.

The eastern meadowlark is listed as a provincially and federally threatened species (COSSARO, 2014; COSEWIC, 2014). This species prefers grassy meadows and pastures; also in some croplands, weedy fields, grassy roadsides and old orchards. As the majority of the
subject property was actively managed agricultural lands no suitable habitat for the eastern meadowlark is present.

One sensitive species was recorded by NHIC last observed in 1991 within the square containing the subject property. This species was not observed on or adjacent to the property. The species requires wetlands to survive. There were no wetlands on or adjacent the subject property therefore no habitat exists for this species on or adjacent the subject property.

4.2.3 Mammals and Other Wildlife

A review of the list of mammals observed and reported for the study area found that none were considered significant on a national, provincial or regional level.

A review of the list of herpetozoa observed and reported for the study area found that none were considered significant on a national, provincial or regional level.

4.2.4 Surface Water, Groundwater and Fish Habitat

Surface water is suspected to infiltrate into the agricultural lands moving north-east towards the valleylands to the north. A watercourse exists running south-east to north-west of the property. Huntley Creek is at minimum 30m from the woodlot edge and will be protected as it is found at the base of a significant valleyland feature. Groundwater moves in a north-easterly direction with an infiltration area of 39,083 m². No seeps springs, sinkholes and other groundwater discharge/recharge areas were found within the bounds of the property. No obvious signs of erosion existed.

4.2.5 Landforms Soils and Geology

The majority of the property consisted of Grenville loam, with the south-western edge comprised or Grenville loam boulder phase (Agriculture Canada, 1960). These soil types offer good drainage. The geology was comprised of limestone, dolostone, shale, arkose and sandstone.

The significant valleylands found just north-west of the subject property follows Huntley Creek. These lands offer valuable fisheries protection to the creek below and offer important wildlife habitat as they act as a linkage and corridor across the landscape for the movement of wildlife habitat. The groundwater moves in a north-eastern direction as seen
on Figure 3B of the “Precipitation infiltration area-Max. Building area option” sketch done by Houle Chevrier Engineering.

4.2.6 Urban Tree Inventory

As required under Section 4.7.2 of the Official Plan or the Urban Tree Conservation By-Law, a tree conservation report was required for this project. An inventory of the trees (>10cm dbh) currently on the property, including the species composition, size age, and condition and health of the trees was documented during site visits. As the majority of the property was agricultural fields, the two hedgerows bisecting the property were the areas concentrated on during this component of the EIS. The hedgerow adjacent to Oak Creek Road was not inventoried as there were fewer trees and they were younger in age. The centre two hedgerows were seen as more valuable based on age. A list of relevant information for each tree is found below:

Table 1. Urban Tree Inventory

<table>
<thead>
<tr>
<th>Tree #</th>
<th>Species</th>
<th>Scientific Name</th>
<th>Dbh (cm)</th>
<th>Approx. Height (m)</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>White ash</td>
<td><em>Fraxinus americana</em></td>
<td>15</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>2</td>
<td>Manitoba Maple</td>
<td><em>Acer negundo</em></td>
<td>16</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>3</td>
<td>White Ash</td>
<td><em>Fraxinus americana</em></td>
<td>22</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>4</td>
<td>White birch</td>
<td><em>Betula papyrifera</em></td>
<td>10</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>5</td>
<td>American Elm</td>
<td><em>Ulmus americana</em></td>
<td>18</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>6</td>
<td>White ash</td>
<td><em>Fraxinus americana</em></td>
<td>19</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>7</td>
<td>Red Maple</td>
<td><em>Acer rubrum</em></td>
<td>Multi-stemmed</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>8</td>
<td>American elm</td>
<td><em>Ulmus americana</em></td>
<td>14</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>9</td>
<td>American elm</td>
<td><em>Ulmus americana</em></td>
<td>19</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>10</td>
<td>White ash</td>
<td><em>Fraxinus americana</em></td>
<td>16</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>11</td>
<td>American elm</td>
<td><em>Ulmus americana</em></td>
<td>22</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>12</td>
<td>Red maple</td>
<td><em>Acer rubrum</em></td>
<td>Multi-stemmed</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>13</td>
<td>White ash</td>
<td><em>Fraxinus americana</em></td>
<td>31</td>
<td>12</td>
<td>Good</td>
</tr>
<tr>
<td>14</td>
<td>White ash</td>
<td><em>Fraxinus americana</em></td>
<td>41</td>
<td>12</td>
<td>Good</td>
</tr>
<tr>
<td>15</td>
<td>American elm</td>
<td><em>Ulmus americana</em></td>
<td>16</td>
<td>12</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Tree Type</td>
<td>Scientific Name</td>
<td>Diameter (inches)</td>
<td>Height (feet)</td>
<td>Condition</td>
</tr>
<tr>
<td>---</td>
<td>-----------</td>
<td>-----------------</td>
<td>------------------</td>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>16</td>
<td>American elm</td>
<td>Ulmus americana</td>
<td>14</td>
<td>12</td>
<td>Good</td>
</tr>
<tr>
<td>17</td>
<td>White ash</td>
<td>Fraxinus Americana</td>
<td>34</td>
<td>17</td>
<td>Good</td>
</tr>
<tr>
<td>18</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>25</td>
<td>12</td>
<td>Good</td>
</tr>
<tr>
<td>19</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>22</td>
<td>12</td>
<td>Good</td>
</tr>
<tr>
<td>20</td>
<td>American elm</td>
<td>Ulmus americana</td>
<td>38</td>
<td>12</td>
<td>Good</td>
</tr>
<tr>
<td>21</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>12</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>22</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>12</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>23</td>
<td>American elm</td>
<td>Ulmus americana</td>
<td>10</td>
<td>6</td>
<td>Good</td>
</tr>
<tr>
<td>24</td>
<td>Butternut</td>
<td>Juglans cinerea</td>
<td>14</td>
<td>6</td>
<td>Moderate</td>
</tr>
<tr>
<td>25</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>12</td>
<td>6</td>
<td>Good</td>
</tr>
<tr>
<td>26</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>16</td>
<td>10</td>
<td>Good</td>
</tr>
<tr>
<td>27</td>
<td>Red maple</td>
<td>Acer rubrum</td>
<td>Multi-stemmed</td>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>28</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>20</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>Multi-stemmed</td>
<td>10</td>
<td>Good</td>
</tr>
<tr>
<td>30</td>
<td>Red maple</td>
<td>Acer rubrum</td>
<td>Multi-stemmed</td>
<td>10</td>
<td>Good</td>
</tr>
<tr>
<td>31</td>
<td>Manitoba Maple</td>
<td>Acer negundo</td>
<td>32</td>
<td>10</td>
<td>Good</td>
</tr>
<tr>
<td>32</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>Multi-stemmed</td>
<td>10</td>
<td>Good</td>
</tr>
<tr>
<td>33</td>
<td>Manitoba Maple</td>
<td>Acer negundo</td>
<td>Multi-stemmed</td>
<td>10</td>
<td>Good</td>
</tr>
<tr>
<td>34</td>
<td>Manitoba Maple</td>
<td>Acer negundo</td>
<td>13</td>
<td>10</td>
<td>Good</td>
</tr>
<tr>
<td>35</td>
<td>American elm</td>
<td>Ulmus americana</td>
<td>25</td>
<td>10</td>
<td>Good</td>
</tr>
<tr>
<td>36</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>Multi-stemmed</td>
<td>10</td>
<td>Good</td>
</tr>
<tr>
<td>37</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>10</td>
<td>10</td>
<td>Good</td>
</tr>
<tr>
<td>38</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>Multi-stemmed</td>
<td>15</td>
<td>Good</td>
</tr>
<tr>
<td>39</td>
<td>White ash</td>
<td>Fraxinus americana</td>
<td>18</td>
<td>12</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Tree Species</td>
<td>Scientific Name</td>
<td>Multi-stemmed</td>
<td>Diameter (dbh)</td>
<td>Condition</td>
</tr>
<tr>
<td>----</td>
<td>--------------</td>
<td>------------------</td>
<td>----------------</td>
<td>---------------</td>
<td>-----------</td>
</tr>
<tr>
<td>40</td>
<td>Red maple</td>
<td><em>Acer rubrum</em></td>
<td>Multi-stemmed</td>
<td>12</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(9) Avg dbh of 24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>White ash</td>
<td><em>Fraxinus americana</em></td>
<td>13</td>
<td>12</td>
<td>Good</td>
</tr>
<tr>
<td>42</td>
<td>Manitoba maple</td>
<td><em>Acer negundo</em></td>
<td>Multi-stemmed -18</td>
<td>12</td>
<td>Good</td>
</tr>
</tbody>
</table>

Trees 1-5 were found on the north-eastern end of the hedgerow running north-east to south-west. Trees 6-26 were found within the hedgerow running north-west to south-east and trees 27-63 were found in the remainder of the hedgerow running north-east to south-west (Refer to Figure 2 for tree locations).

Ash trees in Ottawa are being impacted by the Emerald Ash borer. The ash trees on site did not show any signs of EAB at the time of our survey. The landowner should contact an arborist regarding options for dealing with EAB and become aware of the management practices associated with EAB control, including not moving the wood off-site.
FIGURE 2: URBAN TREE INVENTORY
Lot 6, Conc 1 Huntley Township
The City of Ottawa
Kemptville MNR District
1 cm = 32 meters

Retained Trees
PROPOSED BUILDING ENVELOPE

TO BE RETAINED

CAD obtained from Watson, MacEwan, Teramura Architects.

NEA ENVIRONMENTAL ASSOCIATES INC.
www.niblett.ca
5.0 Proposed Development

The development proposal is for a proposed severance of 25 acres and a rezoning application to permit the construction of a new facility for the Dave Smith Youth Treatment Centre. The proposed development envelope encompasses the land area in the southeast portion of the severed parcel (Figure 1). The development will consist of a large building with two gravel parking areas, with the main one containing 22 spots, and gravel road entering the facility with access from Bradley Side Road. The septic tank will be located on the north-western side of the facility adjacent to the northern gravel parking area (Refer to Conceptual Plan Drawing by WMT dated March 14, 2014).

The septic bed will be located in the southwest corner of the property due to the infiltration area downstream.

The planning process includes a severance application, Official plan amendment, zoning amendment and site plan approval.

6.0 Impact Assessment

6.1 Tree Cover and Vegetation

The subject property is almost entirely composed of agricultural lands limiting the species diversity within the area. The hedgerows were inventoried for trees greater than 10 cm dbh. Overall there were 63 trees within the subject area bisecting the agricultural fields. The treed rows contain limited value on a landscape level. The treed rows do connect with the Significant Valleylands, however value as a corridor or linkage area is limited due to the narrow nature of them. They exist at only one tree wide and would likely only provide enough cover for small wildlife passing through (e.g. raccoons). On a landscape level the main corridors for wildlife would exist along the creek and valleylands running south-west to north-east. As part of the farming practices the hedgerows were either planted or have naturalized along field stone piles and separations in the fields. The dominant species found within these areas were white ash and American elm.

One significant species on a federal and provincial level was observed within the treed row along the edge of the cedar forest (Community 2). The butternut will be protected with a 25m buffer. No other Species At Risk were observed within the treed row community or using it at the time of the field visit. No rare or unique ecological features were found on or adjacent the property.
The NEA recommended building envelope was utilized however a small portion of the fencerow on the north-eastern portion of the property will need to be removed to accommodate the circular driveway. This portion of the fencerow was sparsely treed and was dominated by shrubs and overgrown vegetation. Only five trees existed in the north eastern end of the fencerow of which three may need to be removed to accommodate for the circular driveway. Species to be removed included two white ash trees and a Manitoba maple. These trees were approximately 8 meters high and ranged from 16-22 dbh. The removal of these three trees will not negatively impact the overall value of the wildlife corridor. Species diversity or canopy cover will not be widely affected by the removal of three trees.

The remaining fencerows will be retained. The proposed youth treatment facility will not negatively affect the overall diversity of the area.

There were no surface water features including wetlands and watercourses found within either of the treed rows. The valleylands were protected by a young cedar forest. The steep slopes associated with the creek valley were predominantly forested with the top of bank located north of the severed lot boundary. The treed rows within the property tableland did not contribute to the protection of the valleyland feature.

There were no Urban Natural Features or Natural Environment Area, or areas evaluated in the Urban Natural Areas Environmental Evaluations Study (UNAEES) found on or adjacent to the property.

There were several trees found within the treed rows with a larger dbh. The larger dbh trees ranged from 30-56cm dbh. As the trees were growing close together they were competing for sunlight resulting in the loss of branches, crooked main stems and multi-stemmed trees. It is for this reason we did not consider any of the trees within the treed rows as specimen trees.

The subject property is not located within any Greenspaces as per the maps in the Greenspace Master Plan (City of Ottawa, 2006).

The cedar forest (Community 2) on the north-western boundary of the property will be retained with a 10 meter buffer from the woodlot edge. This forest provides valuable functions for the protection of the Creek and Significant valley feature and the presence of one species at risk (butternut). In addition this community acts as a valuable wildlife corridor. According to the most recent plan (March 14, 2014) both hedgerows will be
retained with a minimum of 10m setback from each treed row. The development envelope will require removal of the eastern portion of the central hedgerow. The buffer does not extend to this section as it was dominated entirely by shrubs (mostly buckthorn). The critical root zone was not employed as a variety of different ages of trees were identified. The 10 m buffer protects the root zone for approximately 20 dbh trees which was greater than the average identified in the fencerows. It was assumed that the trees along the woodlot edge were of similar maturity as those found in the fencerow therefore the 10 m buffer would be sufficient.

The proposed development is for the construction of a treatment facility, the dedication of parkland is not needed for the construction of one building, as the remainder of the property will be left.

The woodlot cover including the treed row and the cedar forest along the valleyland is 29,469 m². The treed rows make up approximately 14% of the total woodlot cover within the property and adjacent lands (within 120m).

The removal of a portion of the north-eastern fencerow running south-west to north-east will not impact the overall woodlot cover. This portion of the fencerow provides little value for wildlife cover and movement and removal of this will not have a significant impact on the overall woodland cover for the area. Only three common tree species will be removed as part of this plan.

The septic bed is located in the southwest corner of the agricultural field. The bed will be located outside the dripline of the fencerow trees along Oak Creek Road. The location does not impact on the natural environment of the site.

6.2 Wildlife

The wildlife habitat currently provided by the property is minimal. Given the majority of the property is agricultural (planted in soy 2012), there is limited value to it in terms of biological diversity or wildlife habitat. The adjacent forested valleylands however offer more function for wildlife and movement along the corridor. The development will be entirely outside the valley and woodland and a 10m buffer from the woodlot edge will be implemented. As such the valley feature will continue to act as a wildlife corridor and linkage area.

Migratory birds and other wildlife (i.e. white-tailed deer and coyote) will not have a loss in habitat. The proposed building is within the agricultural fields.
No wildlife of conservation concern was observed on or adjacent the property.

The location of the building and the removal of the agricultural field will not have a significant impact on the functions of the valleylands.

The addition of a new treed row is recommended running north-south from the central hedgerow to the Bradley Side Road, west of the proposed gravel driveway (Figure 1) is recommended. This would enhance the linkage between the Huntley Creek valley and the woodlands to the south. It will increase the wildlife movement through the property and provide a natural buffer between the building and the remainder of the property. The trees will also provide a screen as they mature from exterior lighting on the buildings or grounds of the treatment centre for nocturnal wildlife species.

6.3 Surface Water, Groundwater and Fish Habitat

No impacts on the valleyland, slopes or the creek will occur from the development of the site, as the top of bank is over 200 m north. Any grading that is required will not change the current topography.

The plan includes the need for an outlet channel for the stormwater management. The route for this outfall is north along an open swale to the tributary. This outlet to the Huntley Creek, a designated coldwater/coolwater fishery north of the site and warmwater south, is to be designed with specific parameters and mitigation measures.

NEA will work with the engineers on a design that meets the watershed management plan objectives and protects the fishery and water quality. A number of design parameters can be implemented to address these concerns.

With respect to the proposed stormwater management pond on the property, the following conceptual ideas should be incorporated into the draft design. I have reviewed the City of Ottawa’s Carp River Watershed/Sub-watershed Volume 1-Main Report (Robinson Consultants Inc. et. al, 2004) and incorporated those high level guiding principles into our recommendations.

- Huntley Creek is a tolerant coldwater/diverse warmwater fishery community type 1/2. Maximum stream temperatures should not exceed 25 C (coldwater); 28 C (warmwater). The SWMP facility design should incorporate thermal mitigation to minimize potential thermal impacts to Huntley Creek.
- The outlet channel not be located within the mapped woodland and outlet through the riparian habitat.
• The SWM pond outlet channel should be an open design, include dense native riparian plantings, and outlet at Huntley Creek with river stone or riprap at the confluence, if possible. Outlet flows will pass through the riparian vegetation in the channel and outlet into Huntley Creek.
• The outlet channel will not function as direct fish habitat, or for fish access and should not require natural channel design. Channel design enhancements may be created for frogs and terrestrial function that include pools and check dam pondings.
• Where possible site level BMPs/LIDs should be incorporate into the SWMF design. Appropriate BMPs/LIDs include vegetative buffers and natural infiltration, reduced lot grading, and discharge of rainwater leaders to grassed surfaces.
• The inclusion of vegetation, check dams or other measures can reduce the potential for sediment reaching the creek and reduce flows. Infiltration measures can also reduce the volume of runoff reaching the creek and maintain recharge to the watershed and the creek. Infiltration will be limited by the clay soils in the area.

NEA has been working with Novatech engineers on the routing and general location of the stormwater channel and outlet location. The detailed design will be part of the conditions of approval and MVCA and the City will be consulted on the design, in particular the outfall. At this time the route will follow the severance property line and turn east to join Huntley Creek at an angle pointing downstream and avoiding the treed edge of the banks and most of the riparian community. This will retain the existing overhanging trees that provide shade and overhead cover to the creek.

6.4 Significant Valleyland

The significant valleyland will not be negatively affected as a result of the proposed development. The proposed building envelope is a minimum of 190m from valleyland top of bank. This distance will preserve the features and functions of this landform. No alteration of the top of bank or slope will occur from development of this property and all construction is planned on the southeast portion of the severed lot. The cedar forest (Community 2) found on the north-western limits of the property will be protected with a 10m buffer in order to further protect the features and functions of the valleyland.

6.5 Species at Risk

There is no habitat for any other species on the property that will be affected by the footprint of the construction envelope including the stormwater pond, buildings, driveways, stormwater outfall or septic bed. There is no habitat for eastern meadowlark, bobolink, barn swallow, the recently listed bank swallow, Blanding’s turtle, milksnake or
whip-poor-will on this site as it is an active agricultural field.
7.0 Conclusions

The proposed construction of proposed youth treatment facility on the subject property will not have a significant negative impact on the natural features on site provided the recommendations in our report are implemented. No cumulative impacts are expected as a result of this project.

The proposed building envelope will only require the removal of three trees to accommodate for the circular driveway. The planting of a row of trees to the west of the building envelope is recommended to create a screen for wildlife movement and compensate for the removal of the three trees in the north eastern fencerow.

The development of the recommended building envelope will not impact on the features and functions of the valleyland.

The septic bed location will have no impacts on the natural environment, but will be located outside the dripline of the fencerow trees.
8.0 Recommendations

1) Clearing of vegetation occur outside the peak breeding bird season as recommended by Environment Canada (April 15th- August 15th).

2) A silt and snow fence be installed and maintained at the setback limit (community 1 fencerow) along the development north-eastern boundary prior to any site preparation activities.

3) The silt fence be regularly inspected and maintained as necessary until works are completed and the soil stabilized with vegetation.

4) Encourage use of native plantings of trees, shrubs and wildflowers within the landscaping of the development if required.

5) A 10m buffer from the forest/fencerow dripline (Community 1 and 2) identified on Figure 1 for the building and driveway.

6) Use of the proposed building envelope provides adequate buffer from the valleyland and creek.

7) A 25m setback from the endangered butternut tree be maintained with no grading, tree clearing or other works within the setback as per the ESA.

8) Planting of a treed row along the south-western edge of the building envelope (west of the access road) is recommended to connect the forested valleyland to the field/forest south of the Bradley Side Road (Figure 1), to enhance the linkage for wildlife movement. The fencerow is to be planted with native tree and shrub species only, similar to the species found in other fencerows on site. To accommodate the main effluent line connecting to the septic bed a small section of the treed row may be left void of trees in order to protect the line from tree roots.

9) The septic bed in the southwest corner of the property be located outside of the critical root zone of the fencerow trees (No buffer required on this portion of fencerow, see impact section for justification).

10) The design of the stormwater pond and outfall follow our recommendations under section 6.3 and the guidelines in the Carp River Watershed/subwatershed study.
9.0 References


Communities of Southern Ontario.

Brunton, D.F. March, 2005. Appendix A: Vascular plants of the City of Ottawa
(significant species). City of Ottawa Urban Natural Areas Environmental
Evaluation Study.

Muncaster Environmental Planning Inc and Brunton Consulting Services. 2005. City of


official_plan/vol_1/index.html


COSEWIC. 2014. Canadian Species at Risk. Committee on the Status of Endangered
Wildlife in Canada. Environment Canada, Canadian Wildlife Service; Ottawa Canada.

Ministry of Natural Resources.


Houle Chevrier Engineering. August 2012. Figure 3B Precipitation Infiltration Area-Max.
Building Area Option: Project No. 11-493

1998. Ecological Land Classification for Southern Ontario: First Approximation and
its Application. OMNR, South Central Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.


MNR. GIS database mapping. 2010.


SARO. 2014. List of Species At Risk in Ontario. Committee on the Status of Species at Risk in Ontario, OMNR.
Appendix I
Plant List
APPENDIX I - A  Plant Species by Community

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

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

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Total</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>FERN FAMILY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>marginal wood-fern</td>
<td>Dryopteris marginalis</td>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>PINE FAMILY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>eastern white pine</td>
<td>Pinus strobus</td>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CYPRESS FAMILY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>eastern white cedar</td>
<td>Thuja occidentalis</td>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BUTTERCUP FAMILY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>thimbleweed</td>
<td>Anemone virginiana</td>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ELM FAMILY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>common hackberry</td>
<td>Celtis occidentalis</td>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>American elm</td>
<td>Ulmus americana</td>
<td>2</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>WALNUT FAMILY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>butternut</td>
<td>Juglans cinerea</td>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BEECH FAMILY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>red oak</td>
<td>Quercus rubra</td>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BIRCH FAMILY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>white birch</td>
<td>Betula papyrifera</td>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>PINK FAMILY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>common chickweed</td>
<td>Stellaria media</td>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>LINDEN FAMILY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American basswood</td>
<td>Tilia americana</td>
<td>2</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MUSTARD FAMILY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>field mustard</td>
<td>Brassica rapa</td>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>GOOSEBERRY FAMILY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>prickly gooseberry</td>
<td>Ribes cynosbati</td>
<td>1</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Total: Number of communities where plant species was recorded
X: Plant species recorded
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Total</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROSE FAMILY</td>
<td>ROSACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>common strawberry</td>
<td>Fragaria virginiana</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>sulfur cinquefoil</td>
<td>Potentilla recta</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>wild red raspberry</td>
<td>Rubus idaeus</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>PEA FAMILY</td>
<td>FABACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>red clover</td>
<td>Trifolium pratense</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>white clover</td>
<td>Trifolium repens</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>cow vetch</td>
<td>Vicia cracca</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>DOGWOOD FAMILY</td>
<td>CORNACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>red-osier dogwood</td>
<td>Cornus stolonifera</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>BUCKTHORN FAMILY</td>
<td>RHAMNACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>European buckthorn</td>
<td>Rhamnus cathartica</td>
<td></td>
<td>2</td>
<td>X</td>
</tr>
<tr>
<td>glossy buckthorn</td>
<td>Rhamnus frangula</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>GRAPE FAMILY</td>
<td>VITACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wild grape</td>
<td>Vitis riparia</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>MAPLE FAMILY</td>
<td>ACERACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manitoba maple</td>
<td>Acer negundo</td>
<td></td>
<td>2</td>
<td>X</td>
</tr>
<tr>
<td>sugar maple</td>
<td>Acer saccharum ssp.saccharum</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>CASHEW FAMILY</td>
<td>ANACARDIACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>western poison-ivy</td>
<td>Rhus rydbergii</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>staghorn sumac</td>
<td>Rhus typhina</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>CARROT FAMILY</td>
<td>APIACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen-Anne's lace</td>
<td>Daucus carota</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>wild parsnip</td>
<td>Pastinaca sativa</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>MILKWEED FAMILY</td>
<td>ASCLEPIADACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>common milkweed</td>
<td>Asclepias syriaca</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>MINT FAMILY</td>
<td>LAMIACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>henbit</td>
<td>Lamium amplexicaule</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>OLIVE FAMILY</td>
<td>OLEACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>white ash</td>
<td>Fraxinus americana</td>
<td></td>
<td>2</td>
<td>X</td>
</tr>
<tr>
<td>green ash</td>
<td>Fraxinus pennsylvanica var. subintegerr</td>
<td></td>
<td>2</td>
<td>X</td>
</tr>
<tr>
<td>FIGWORT FAMILY</td>
<td>SCROPHULARIACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>butter-and-eggs</td>
<td>Linaria vulgaris</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>common mullein</td>
<td>Verbascum thapsus</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>HONEYSUCKLE FAMILY</td>
<td>CAPRIFOLIACEAE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tartarian honeysuckle</td>
<td>Lonicera tatarica</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>nannyberry</td>
<td>Viburnum lentago</td>
<td></td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Total</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>----------------------------</td>
<td>------------------------------------------------------</td>
<td>-------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>ASTER FAMILY</strong></td>
<td><strong>ASTERACEAE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>common ragweed</td>
<td>Ambrosia artemisiifolia L.</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>common burdock</td>
<td>Arctium minus</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>horseweed</td>
<td>Conyza canadensis L.</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>tall goldenrod</td>
<td>Solidago altissima</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>blue-stemmed goldenrod</td>
<td>Solidago caesia</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Canada goldenrod</td>
<td>Solidago canadensis</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>late goldenrod</td>
<td>Solidago gigantea</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>gray goldenrod</td>
<td>Solidago nemoralis ssp. Nemoralis</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>upland white aster</td>
<td>Solidago ptarmicoides</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>heart-leaved aster</td>
<td>Symphyotrichum cordifolium</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>calico aster</td>
<td>Symphyotrichum lateriflorum var. laterifl</td>
<td>2</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>New England aster</td>
<td>Symphyotrichum novae- angliae</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>purple-stemmed aster</td>
<td>Symphyotrichum puniceum</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>common dandelion</td>
<td>Taraxacum officinale</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>GRASS FAMILY</strong></td>
<td><strong>POACEAE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rough hair grass</td>
<td>Agrostis scabra</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>awnless brome grass</td>
<td>Bromus inermis ssp.inermis</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Canada bluejoint grass</td>
<td>Calamagrostis canadensis</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>acuminate panic grass</td>
<td>Panicum acuminatum var.acuminatum</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>reed canary grass</td>
<td>Phalaris arundinacea</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>timothy</td>
<td>Phleum pratense</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Kentucky blue grass</td>
<td>Poa pratensis</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>yellow foxtail</td>
<td>Setaria pumila</td>
<td>1</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Total Number of Plant Species** 59 53 13

**Number of Plant Species Per Community**
Appendix II

Bird List
APPENDIX II - C  Bird Status Report

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

List Status:
- **END** - endangered
- **END-R** - endangered regulated
- **THR** - threatened
- **SC** - special concern
- **YES** - Area Sensitive

---

List Status:
- **END** - endangered
- **END-R** - endangered regulated
- **THR** - threatened
- **SC** - special concern
- **YES** - Area Sensitive

* Other status levels are not displayed

---

List Sources:
- COSSARO: The Committee on the Status of Species at Risk in Ontario, June 2014.

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

OBSERVED
X -species observed in its breeding season (no evidence of breeding).

POSSIBLE BREEDING
H -species observed in its breeding season in suitable nesting habitat
S -singing male present, or breeding calls heard, in its breeding season in suitable nesting habitat

PROBABLE BREEDING
P -pair observed in their breeding season in suitable nesting habitat
T -permanent territory presumed through registration of territorial song on at least 2 days, a week or more apart, at the same place
D -courtship or display between a male and a female or 2 males, including courtship feeding or copulation
V -visiting probable nest site
A -agitated behaviour or anxiety calls of an adult
B -brood patch on adult female or cloacal protuberance on adult male
N -nest-building or excavation of nest hole

CONFIRMED BREEDING
DD -distraction display or injury feigning
NU -used nest or egg shell found (occupied or laid within the period of study)
FY -recently fledged young or downy young, including young incapable of sustained flight
AE -adults leaving or entering nest site in circumstances indicating occupied nest
FS -adult carrying fecal sac
CF -adult carrying food for young
NE -nest containing eggs
NY -nest with young seen or heard

<table>
<thead>
<tr>
<th>AOU Code</th>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Observed Breeding Status</th>
<th>Breed Evidence Code</th>
<th>Area Sensitive</th>
<th>Region 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOWO</td>
<td>Downy Woodpecker</td>
<td><em>Picoides pubescens</em></td>
<td>B</td>
<td>None</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>AMCR</td>
<td>American Crow</td>
<td><em>Corvus brachyrhynchos</em></td>
<td>B</td>
<td>None</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>HOLA</td>
<td>Horned Lark</td>
<td><em>Eremophila alpestris</em></td>
<td>B</td>
<td>None</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>BCCH</td>
<td>Black-capped Chickadee</td>
<td><em>Poecile atricapillus</em></td>
<td>B</td>
<td>None</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>SOSP</td>
<td>Song Sparrow</td>
<td><em>Melospiza melodia</em></td>
<td>B</td>
<td>None</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>WTSP</td>
<td>White-throated Sparrow</td>
<td><em>Zonotrichia albicolis</em></td>
<td>B</td>
<td>None</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>RWBL</td>
<td>Red-winged Blackbird</td>
<td><em>Agelaius phoeniceus</em></td>
<td>B</td>
<td>None</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL SPECIES OBSERVED:** 7

**BREEDING SPECIES OBSERVED:** 7

0 0 0 0