6171 Hazeldean Road

Environmental Impact Statement / Tree Conservation Report

Prepared for:

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List of Acronyms and Definitions

ABBO - Atlas of Breeding Birds of Ontario
ANSI – Area of Natural and Scientific Interest
BHA - Butternut Health Assessment/Butternut Health Assessor
CC - Co-Efficient of Conservation
CRZ - Critical Root Zone
DBH - Diameter at breast height
EIS – Environmental Impact Statement
ELC - Ecological Land Classification
CUM – Cultural Meadow
ESA - *Endangered Species Act* (Provincial)
GPS – Global Positioning System
NAD 83: North American Datum 1983
UTM: Universal Transverse Mercator
LIO - Land Information Ontario
MECP – Ministry of Environment, Conservation and Parks
MNRF – Ministry of Natural Resources and Forestry
NHIC – Natural Heritage Information Centre
NHRM - Natural Heritage Reference Manual
OMNR/MNRF - Ontario Ministry of Natural Resources (old name)
-Ministry of Natural Resources and Forestry (new name)
OP – Official Plan
OWES - Ontario Wetland Evaluation System
PPS - Provincial Policy Statement
PSW - Provincially Significant Wetlands
SAR - Species at Risk (in this report they refer to species that are provincially or federally listed as endangered or threatened and receive protection under ESA or SARA)
SARA - *Species at Risk Act* (Federal)
SARO - Species at Risk in Ontario
SWH - Significant Wildlife Habitat
SWHCS – Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E
SWHTG - Significant Wildlife Habitat Technical Guide

SRANK DEFINITIONS

S1 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 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 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.

? Inexact Numeric Rank—Denotes inexact numeric rank

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).

S#B Breeding

S#N Non-Breeding

SARA STATUS DEFINITIONS

END Endangered: a wildlife species facing imminent extirpation or extinction.

THR Threatened: a wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

SC Special Concern, a wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.

SARO STATUS DEFINITIONS

END Endangered: A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA.

THR Threatened: A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

SC Special concern: A species with characteristics that make it sensitive to human activities or natural events.

Coefficient of Conservatism Ranking Criteria

0 Obligate to ruderal areas.
1 Occurs more frequently in ruderal areas than natural areas.
2 Facultative to ruderal and natural areas.
3 Occurs less frequent in ruderal areas than natural areas.
4 Occurs much more frequently in natural areas than ruderal areas.
5 Obligate to natural areas (quality of area is low).
6 Weak affinity to high-quality natural areas.
7 Moderate affinity to high-quality natural areas.
8 High affinity to high-quality natural areas.
9 Very high affinity to high-quality natural areas.
10 Obligate to high-quality natural areas.

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1.0 INTRODUCTION

11654128 Canada Inc., hereafter referred to as the proponent, is proposing to build a residential subdivision at 6171 Hazeldean Road, Stittsville, Ontario (Figure 1). It is in part of Lot 23, Concession 12 in the City of Ottawa (formerly Goulbourn Township). The proposed subdivision site includes almost 9 ha of lands that were previously cleared and now consist mostly of fill (naturalizing to meadow habitat) and young deciduous forest. The site is surrounded by developed lands on all sides. The development would be fully serviced.

During the pre-consultation, the City of Ottawa indicated that the client was to complete an Environmental Impact Statement (EIS) along with a Tree Conservation Report (TCR).

Bowfin Environmental Consulting Inc. (Bowfin) was retained to complete the combined EIS/TCR. As per the Official Plan (OP) of the City of Ottawa (2003), an EIS is required to determine if significant natural features have been designated in or adjacent to the subject lands followed by an assessment of the potential impacts to any identified natural environment from the proposed development. The OP follows the guidelines set out in the Provincial Policy Statement (PPS) in which there are several natural features and areas identified as needing protection. These are:

- Significant habitat of Endangered and Threatened Species;
- Significant wetlands;
- Significant woodlands;
- Significant valleylands;
- Significant wildlife habitat;
- Significant Areas of Natural and Scientific Interest; and
- Fish habitat.

The City indicated that the EIS could be scoped to address significant woodlands, and the potential for significant wildlife habitat and endangered and threatened species and their habitats.

The locations of known significant features along with other locally significant features (identified as part of the City's Natural Heritage System) are identified on OP schedules A, B, K and L. Note that the presence/absence of habitat for endangered (END) or threatened (THR) Species as well as some significant wildlife habitats (SWH) are not depicted on the OP schedules. Their presence/absence must be determined based on the criteria in the OP or the appropriate MNRF methodology [i.e. species-specific surveys, presence of preferred habitats and the MNR's *Natural Heritage Reference Manual* (OMNR, 2010)]. Where identified, the boundaries of any significant features are noted and the potential for the proposed land

development to cause negative impacts is assessed. For those features which may be negatively impacted, mitigation measures and where appropriate compensation measures are recommended.

The following report includes an assessment of the natural environment habitats within the subject lands and discusses the potential for negative impacts. The PPS states that a negative impact signifies:

> *"a) in regard to policy 2.2, degradation to the quality and quantity of water, sensitive surface water features and sensitive ground water features, and their related hydrologic functions, due to single, multiple or successive development or site alteration activities;*
> *c) in regard to other natural heritage features and areas, degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities."*

This EIS portion follows the *City of Ottawa Environmental Impact Statement Guidelines* (City of Ottawa, 2012) and the TCR sections follow the *City of Ottawa Tree Conservation Report Guidelines* (City of Ottawa, 2019).

The intention of the TCR is to determine what woody vegetation needs to be retained and protected on site.

The field work for EIS was led by Michelle Lavictoire who has a Master of Science in Natural Resource Sciences and over 23 years of experience in completing natural environment assessments. The TCR field work was completed by Cody Fontaine, a Fish and Wildlife Technologist with 10 years of experience.

The paragraphs below outline the methods, followed by a review of the available background information and a description of the site's existing conditions. This information is used to evaluate the potential impacts to the features and to make recommendations in terms of the EIS and TCR.

Figure 1: General Location of the Study Area

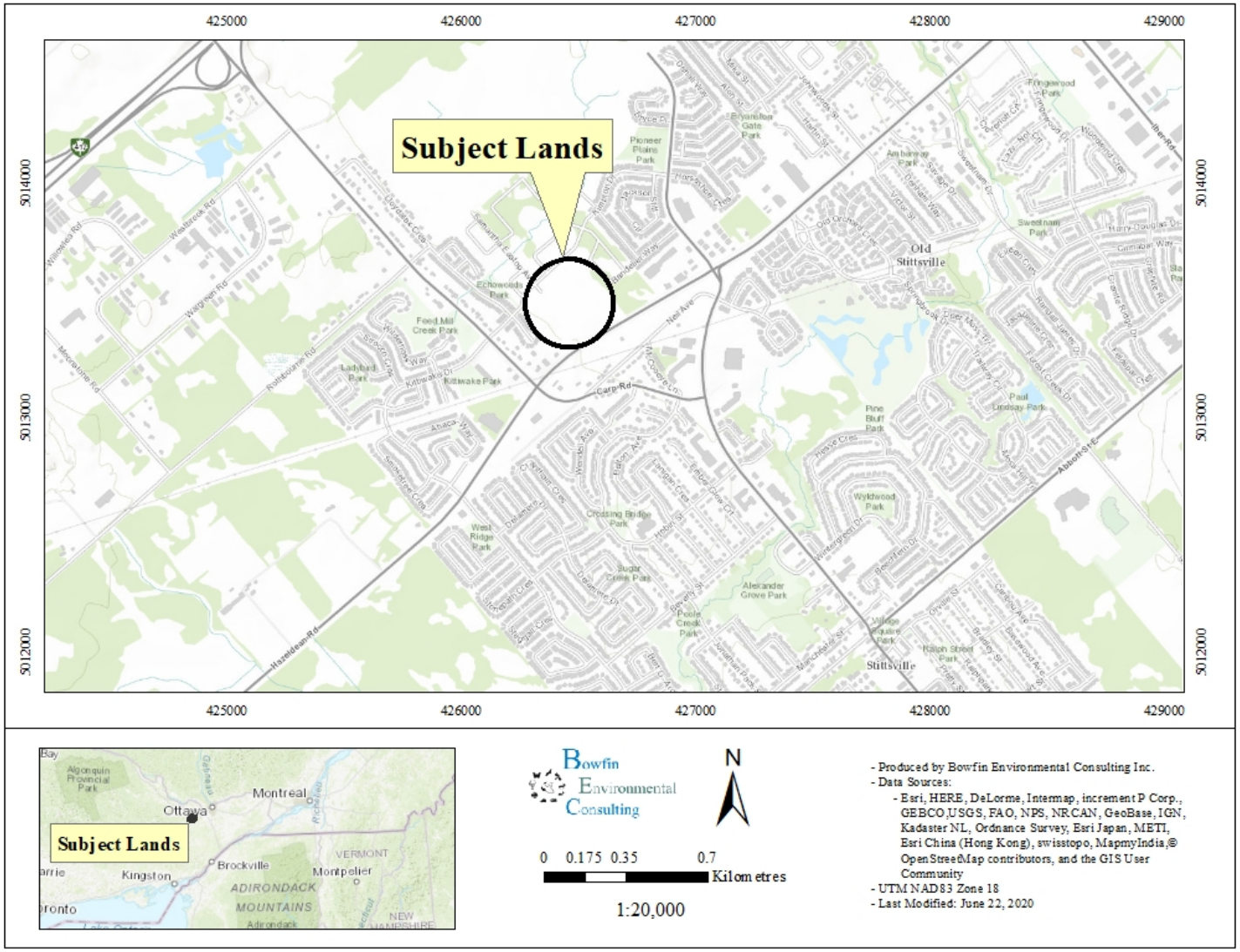
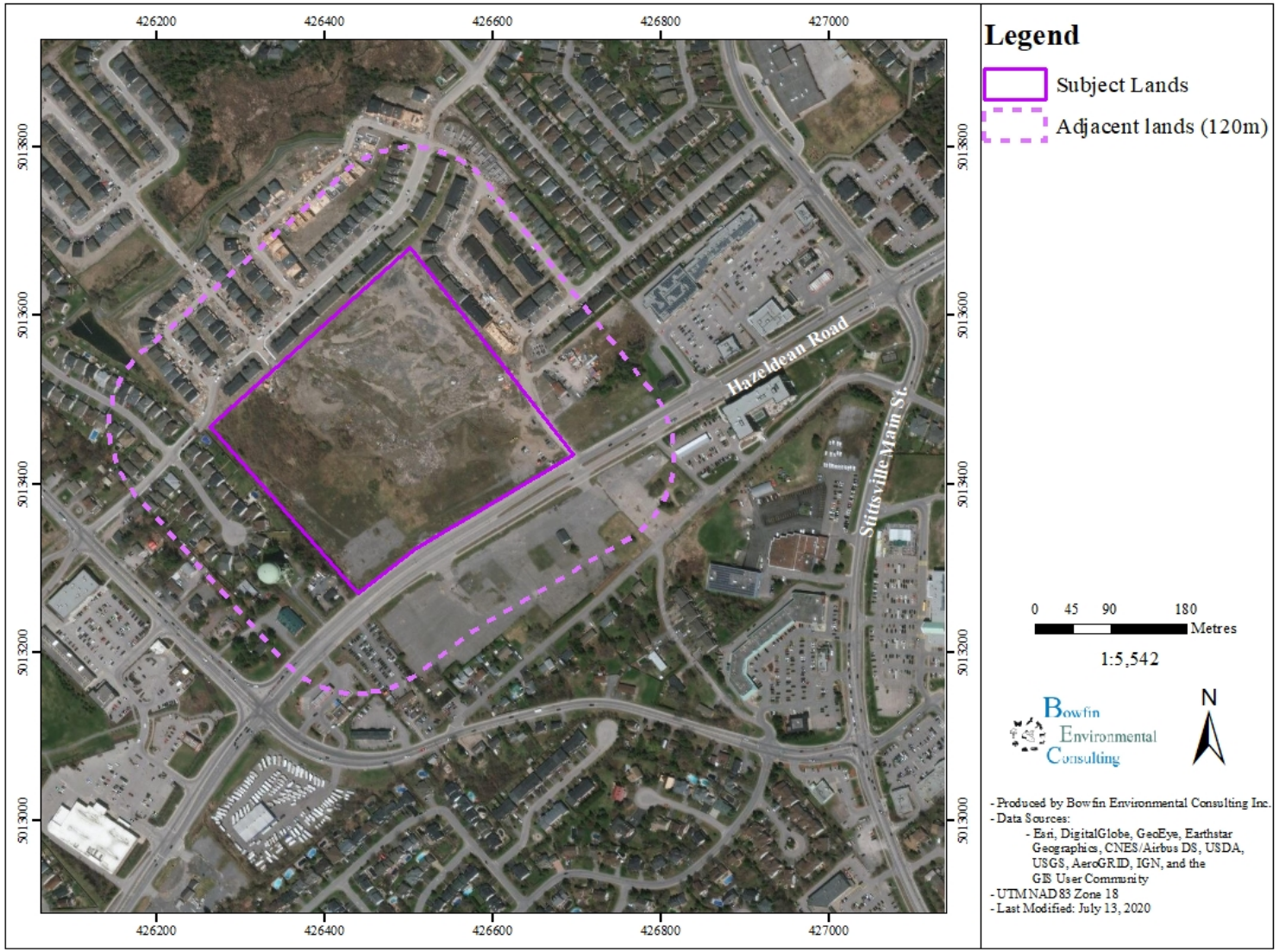


Figure 2: Location of the Study Area



2.0 METHODS

Work undertaken for the completion of this project included a background review of existing information and field investigations.

2.1 Study Area

The study area (Figure 2) varied with the item being surveyed. For the most part, the OP calls for an evaluation of the subject lands and the adjacent 120 m. The detailed field investigations, and assessments were completed within the subject lands (area proposed to be developed). These investigations also included general observations within the adjacent lands. The background review and consideration for the potential for species at risk (SAR) included a larger study area. The study area for each item is described in the methods or ESA discussion sections.

2.2 Background Review

The background review began with preliminary mapping of the vegetation communities, in the subject lands and the adjacent 120 m, as a desktop exercise. The search of databases and available background data also included the adjacent ±5 km.

The background search of available records and consulting reports was made to gather information on the known and potential occurrences of SAR within the project area. The following web sources were reviewed during the background review: Natural Heritage Information Centre (NHIC), species at risk in Ontario website, and Land Information Ontario (LIO). In the City of Ottawa, natural heritage features are designated on Schedules A, B, K, and L of the OP. As such these were reviewed along with the geoOttawa website. Citizen science databases such as iNaturalist and Atlas of Breeding Birds of Ontario were also analysed.

2.3 Field Studies

Following discussions with City of Ottawa, MECP and through a review of the imagery for the site, it was determined that the field investigations would be limited to description of communities, butternut inventory, incidental observations, and tree inventory. Avoidance and mitigation measures have been put in place to eliminate impacts to other species relieving the proponent of the need to complete additional surveys.

2.3.1 Description of Vegetation Communities and Flora Observations

To assess the potential for SAR or their habitat, the vegetation communities within the subject lands and the adjacent 120 m were described. Sufficient level of detail was collected to provide general habitat descriptions and identify preferred habitats for various SAR and significant wildlife habitat.

The field studies were completed by systematically travelling through the study area and by ground truthing the results from the preliminary mapping exercise. Habitat descriptions were based on the appropriate methodologies such as: *Ontario Wetland Evaluation System, Southern Manual* (OWES) (OMNR, 2013a) for wetland habitats and the *Ecological Land Classification for Southern Ontario* 1st approximation for terrestrial habitats (ELC) (Lee *et al*., 1998). Note that OWES took precedent over the ELC where an OWES wetland community was present. The OWES definition of wetland habitat is:

> *"Lands that are seasonally or permanently flooded by shallow water as well as lands where the water table is close to the surface; in either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic or water tolerant plants".*

OWES defines the wetland boundary as the location where over 50% of the plant community consists of upland species with the woody vegetation layer (trees and shrubs) taking precedence over the herbaceous layer (OMNR, 2013a). Furthermore, the presence of large numbers of obligate upland species requires an upland classification. Unless they contain a special feature or function wetlands smaller than 0.5 ha were not delineated.

No delineation of community's boundaries was completed for this work. All boundaries were created using satellite imaging. Delineation of forests includes habitats classified as forest using ELC (regardless of the age of the tree species). It also includes treed swamps, low shrub and tall swamps using OWES when the cover provided by trees met the definitions of a forest under ELC. Forest is defined in the ELC as communities where the tree species provide >60% cover (regardless of the age of the individuals).

Plants that could not be identified in the field were collected for a more detailed examination in the laboratory. Nomenclature used in this report follows the Southern Ontario Plant List (Bradley, 2009) for both common and scientific names which are based on Newmaster *et al.* (1998). Authorities for scientific names are given in Newmaster *et al.* (1998). Specific attention was paid to locating SAR or species of conservation value (any S1-S3 species) listed as potentially occurring within the study area. Any specimen observed was photographed and its coordinates were recorded on a GPS using NAD83.

2.3.2 Butternut Inventory

The Ontario government's mandatory protocol for the assessment of butternuts was followed. The assessment is referred to as a Butternut Health Assessment (BHA) and must be completed by a Butternut Health Assessor certified by the Ministry of Environment, Conservation and Parks (MECP). The first step is to search in and within 50 m of the subject lands. For this site, the subject lands themselves, and the trees along Hazeldean Road were surveyed. The adjacent lands are separated

from tall, wooden fences and are fully developed (residential) diminishing the potential for butternuts in the adjacent lands. Any individuals noted would be marked with white spray paint and flagging tape and numbered sequentially. Their UTMs, using a GPS unit set at NAD83, would be recorded and the individual would be assessed according the BHA protocol by a qualified Butternut Health Assessor. As will be noted further on, no butternuts were found.

2.3.3 Incidental Fauna Observations

During all visits, any wildlife observations were recorded. Incidental observations included observations of an individual, its tracks, burrows, feces and/or kill sights.

2.3.4 Tree Inventory

As part of the TCR, the individual trees were assessed and a description of the environmental value of the trees within the site and their ecological function recorded. Information collected on the individual trees included:

- Their location (UTM, NAD83);
- Identified to species for native specimens;
- Diameter at breast height (DBH);
- Presence/absence of Butternuts; and
- Health.

Where the density of trees with a DBH > 10 cm was high, they were grouped and described as a whole.

This information including maps of the individual trees present and one that shows tree to be removed is provided in the TCR which is found in Appendix A. The mitigation measures recommended are embedded within this EIS to facilitate review.

3.0 RESULTS

A summary of the results from the background review and site visits are provided in the paragraphs below followed by a discussion on potential to impact natural heritage features.

3.1 Background Information

3.1.1 Location

The study area is situated at 6171 Hazeldean Road, in part of Lot 23, Concession 12 in the City of Ottawa, former township of Goulbourn. The proposed subdivision includes approximately 9 ha. It is bordered by Hazeldean Road to the south and residential developments to the west (along Lloydalex Crescent), north (Kimpton Drive) and east (Stittsville Main Street).

3.1.2 Natural Heritage Features

Schedule B of the OP indicates that the study area is designated as General Urban Area. There are no natural features depicted on Schedules B, K, or L of the OP in the subject lands. The adjacent lands show wetland/organic soils to the north and east and wooded area to the east but much of this has already been developed (Figure 2). Though the geoOttawa site shows the Stittsville Wetland Complex, a PSW, to be immediately adjacent to the site this area has been developed into a subdivision. The nearest remaining portion of the PSW is about 200 m to the north and the area between that remnant wetland and this site is fully developed. There are no remaining wetlands within 120 m of this site. The wooded area in the eastern adjacent lands is <0.2 ha and would not be considered significant due to its size. There are no watercourses in or within 120 m. The closest Areas of Natural and Scientific Interest is the earth science site Queensway Extension Sandstone and is over 4 km from the site.

Table 1: Summary of Available Background Information on the Identified Natural Features (PSW, Woodlands, Valleylands, ANSIs, ESA, SWH, and Fish Habitat)

Natural Heritage Feature	Present within Subject Lands Impact	Present within 120 m of Subject Lands	Present nearby (±5 km)
Provincially Significant Wetlands (PSW)	None		Yes [Stittsville Wetland Complex (0.2 km)]
Areas of Natural and Scientific Interest (ANSIs)	None		Yes [Queensway Extension Sandstone (4.1 km]

Natural Heritage Feature	Present within Subject Lands Impact	Present within 120 m of Subject Lands	Present nearby (±5 km)
Habitats or species designated by ESA (Provincial)	No known occurrences		Blanding's Turtles >1 km to east and west (iNaturalist)
Significant Woodlands	None	None (schedules show as wooded, but geoOttawa mapping shows it is developed except for a small treed area < 0.2 ha in size)	There are wooded areas within 1 km to the north, west and south and within 2 km to the southeast.
Significant Valleylands	No		
Significant Wildlife Habitat (SWH)	Potential is discussed in Section 4		
Fish Habitat	No		

Sources of background information: OP (City of Ottawa), Google Satellite Imaging

Figure 3: Location of Unevaluated and Evaluated Wetlands and Woodland taken from LIO

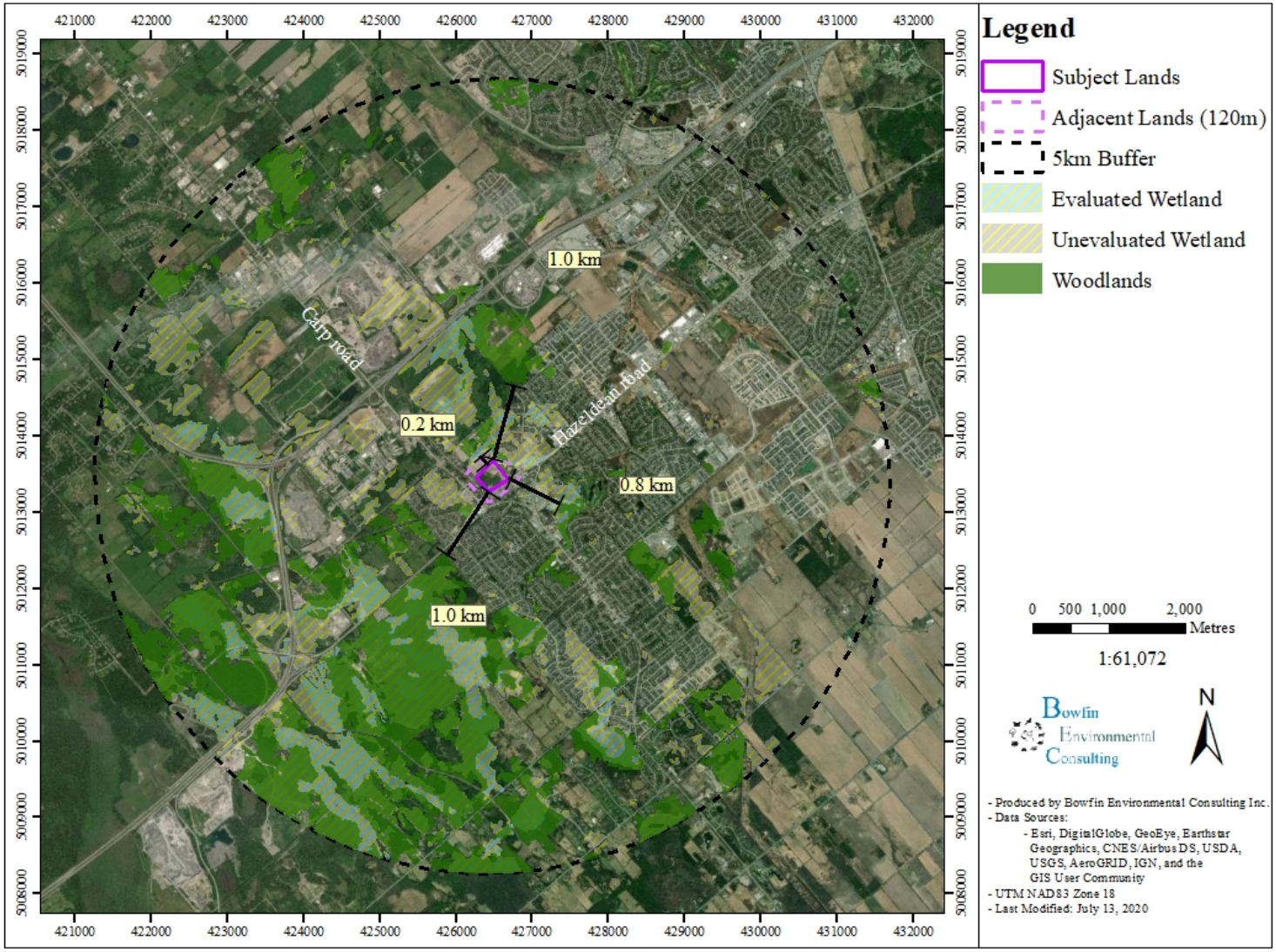
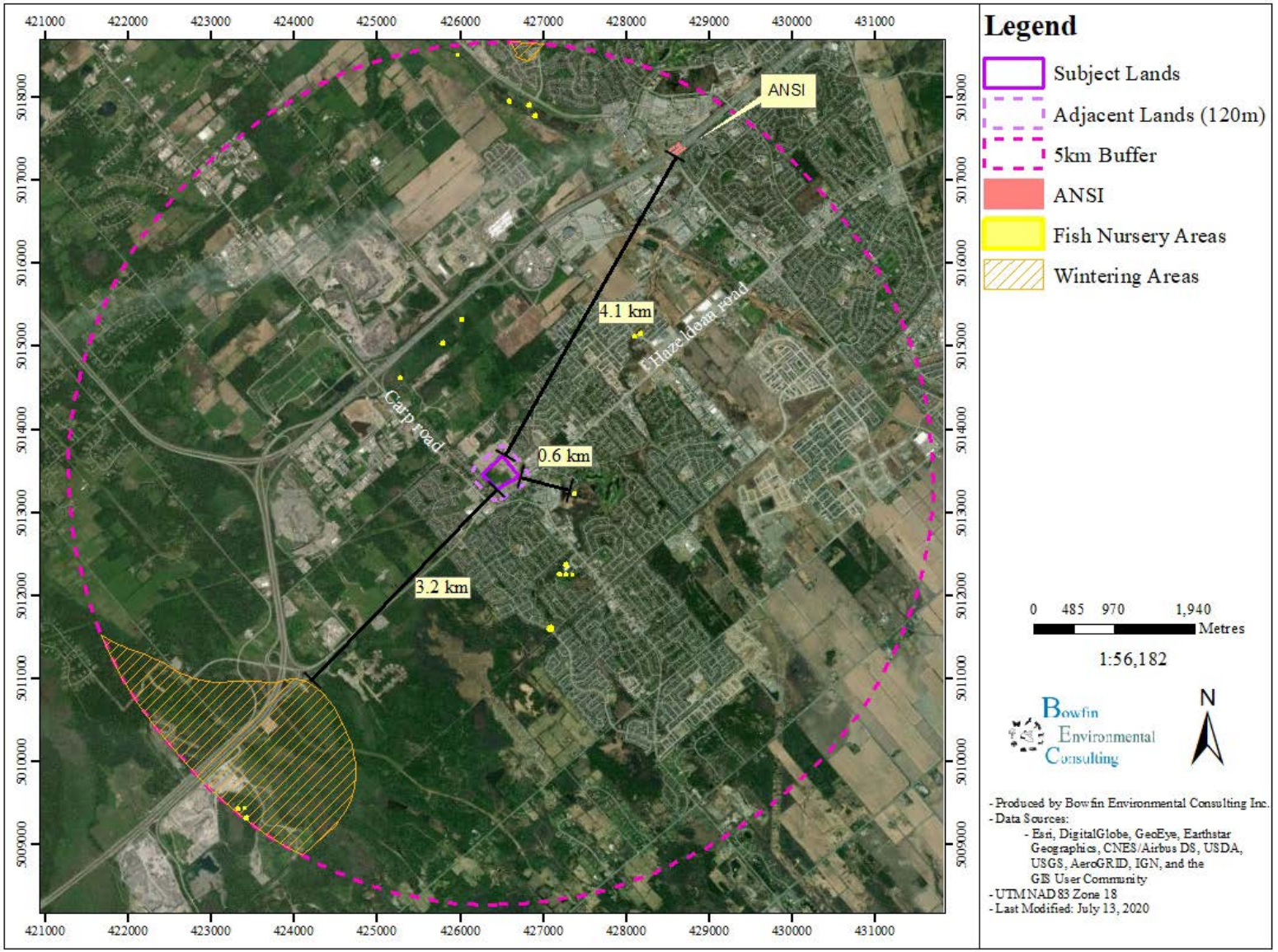


Figure 4: Location of other Natural Heritage Features from LIO



3.2 Vegetation Communities

The study area consisted primarily of cultural meadows (fallow fields) with inclusions of tree groupings. These communities are depicted on Figure 5.

Cultural Meadows

The review of the various geoOttawa mapping and satellite images demonstrates that the site was cleared between 1976 and 1999 and again between 2002 and 2005. Fill was present throughout much of the site in 2017. This fill has mostly been levelled and some areas have been naturalized by broadleaf, herbaceous meadow species. The most common species were bird's-foot trefoil, and white sweet clover. Other frequently encountered species were: black medick, common plantain, cow vetch, smooth brome, wild carrot, ragweed, quack grass, sow thistle, yellow rocket, campion bladder, foxtail barley, purple clover, white clover, chicory, viper's bugloss, common milkweed and other grasses.

Photo 1: Looking west from the near the access road (June 26, 2020)

Photo 2: Looking at the access road (June 26, 2020)

Photo 3: Looking east from near the northwest corner at the disturbed area and adjacent lands (June 26, 2020)

In the cultural meadow were a few small copses of balsam poplar. These inclusions were much smaller than the 0.5 ha minimum size for vegetation community descriptions. In general, they consisted of young [1-3 m tall; up to 10 cm in diameter-at-breast-height (dbh)] balsam poplars in dense stands. The other vegetation included ground cover such as: grasses, smooth brome, wild parsnip, campion bladder, bird's-foot trefoil followed by common milkweed, quack grass, wild

grape, wild carrot, cow vetch and common mullein. A few individual honeysuckles were also present.

Photo 4: Looking west at one of the small copses (June 26, 2020)

Deciduous Forest (Fresh-Moist Poplar Deciduous Forest Type)

The largest community of trees consisted of the deciduous forest in the northwest portion of the site. This community was near 0.8 ha in size. It was heavily disturbed by trails, couches, and previous clearings (as noted above). The community is less than 60 year old (based on the review of geoOttawa mapping). The most applicable ELC community that matches this disturbed area is that of a Fresh-Moist Poplar Deciduous Forest Type (FOD8-1). The canopy was 3-5 m tall and provided up to 90% cover. The dominant species in this layer were balsam poplar and trembling aspen followed by largetooth aspen and Bebb's willow, common buckthorn, and glossy buckthorn. There was no sub-canopy. The understory (0.5-1.0 m tall; 5-15% cover) consisted of wild red raspberry and black raspberry followed by thimbleberry, honeysuckle, trembling aspen, and American elm. The ground cover (20-90% cover) was variable. More commonly noted species were poison ivy, cow vetch, late goldenrod, wild parsnip, common milkweed. Spreading dogvane and white poplar (non-natives) were noted.

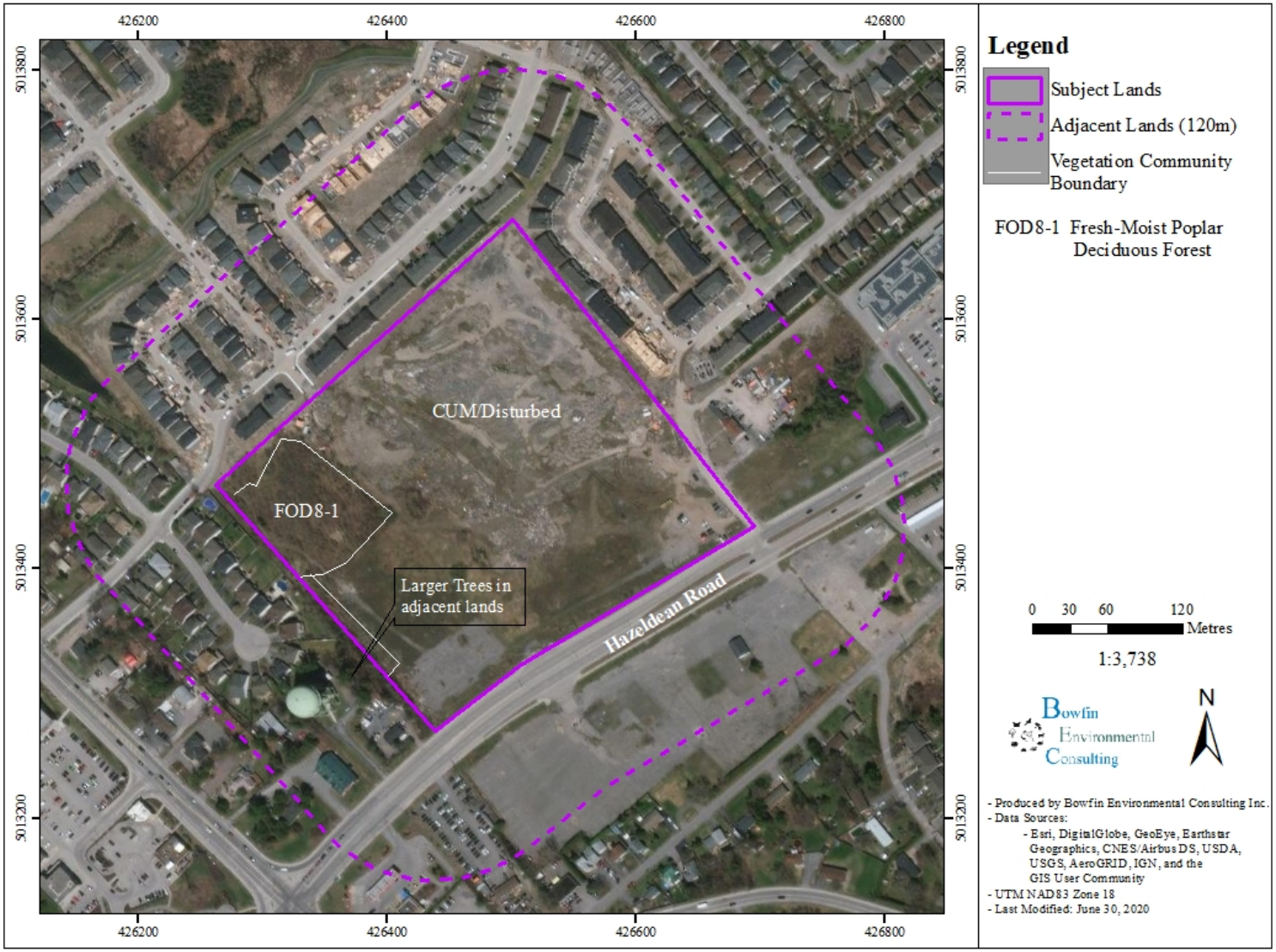
Photo 5: Looking south at the northwest side of the small FOD8-1 stand (June 26, 2020)

Deciduous Windrow (adjacent lands)

In the adjacent lands, on the west border of the site, was a narrow well-treed area that was disturbed by gardens, spoil piles, trails, and garden cuttings. There were a few larger trees on the south side. A review of the geoOttawa images shows that only a small area near the water tower have been present since 1976 but even these appeared to have been selectively harvested (the 2014 images shows only a couple of remaining trees). They were 8-14 m tall and provided full canopy cover. The most common species were American basswood, ironwood, trembling aspen followed by white pine, eastern white cedar, sugar maple and white birch.

Photo 6: Looking at the larger trees in the adjacent lands near water tower (June 26, 2020)

Figure 5: Vegetation Community Descriptions



3.3 Incidental Observations of Fauna and Flora

During the June 26, 2020 site visit the following species were noted: American goldfish, common grackle, northern cardinal, song sparrow, and American robin.

All plant species were common species for the area or non-natives (i.e. spreading dogvane, honeysuckle, white poplar, common buckthorn). No remnants of rare vegetation communities or large specimen trees were encountered. No SAR, including butternuts, were found.

4.0 EVALUATION OF NATURAL HERITAGE FEATURES

The following section looks at the identified or potential natural features and the results from the field work to assess whether the feature is present and if present, whether it is significant based on the OP, the *Natural Heritage Reference Manual* (OMNR, 2010), SWHTG (OMNR, 2000) and/or the SWHCS; (OMNRF, 2015). As mentioned in Section 3.0, the only natural features identified as significant on the OP schedules were wetlands and wooded areas. All of the wetlands and the majority of the wooded areas within 120 m of the subject lands have been developed. The potential for habitat of other endangered and threatened species and significant wildlife habitat needed to be assessed in the field.

4.1 Significant Woodlands

The *Draft Significant Woodland: Guidelines for Identification, Evaluation and Impact Assessment* (not dated) indicates that all forests that are a minimum of 0.8 ha and at least 60 years old in the urban area are to be considered significant. As discussed above, the geoOttawa mapping shows that the site was cleared between 1976 and 1999 and again between 2002 and 2005. The treed area on-site does not meet the minimum age.

4.2 Endangered and Threatened Species Discussion

Terrestrial and wetland Endangered and Threatened Species at Risk, on private land, are protected under provincial *Endangered Species Act*. It is noted that bird species protected under the *Species at Risk Act* (SARA) are protected by the *Migratory Bird Convention Act* (MBCA) on private lands. Mitigation measures to protect bird nests are included in Section 5.

Within this report, the acronym SAR refers to only Endangered or Threatened species. Special Concern species do not receive protection from ESA or SARA and are discussed under Significant Wildlife Habitat.

A list of potential SAR was compiled using various sources. The NHIC database provides information available to the public on those SAR documented as occurring within the general area. It should be noted that not all information for all species is available to the public.

Furthermore, the absence of a recording does not necessarily indicate that the species is absent from the area. The purpose of the NHIC database is to serve as a guide to help determine the potential species which may occur within the project area. The background review also included looking at the list of birds observed as part of the Atlas of Breeding Birds of Ontario (ABBO), and any species from iNaturalist and any SAR species listed on these lists were considered as potentially occurring within the subject lands. Added to this list were species that based on personal experience, often occur within the general area. The resulting list includes 11 potential SAR: 1 reptile (Blanding's turtle), 6 birds (eastern whip-poor-will, chimney swift, bank swallow, barn swallow, bobolink, and eastern meadowlark), four mammals (little brown myotis, northern myotis, eastern small-footed myotis, and the tri-colored bat), and 1 plant (butternut) (Table 2).

NOTE: The ESA has now been transferred to the Ministry of Environment, Conservation and Parks (MECP) (as of April 1, 2019). To date MECP has not changed the protocols or process for assessing the potential to impact SAR. References to dealing with MNRF have been left in this report as they were the responsible Ministry at the time of the field work.

Reptiles

Blanding's Turtle

Blanding's turtle is associated with a variety of shallow slow aquatic habitats with submergent and emergent plants. These turtles require basking sites located near the water such as exposed rocks or partially submerged logs. The nesting sites are located within areas of loose substrates varying from sand to cobblestone and may occur along roadways as far as 400 m away. Marsh habitat is important for the juveniles for protection from predators. The species overwinters within permanent water bodies (COSEWIC, 2005). This species can migrate far distances of up to 6 km (OMNR, 2013c). Migration routes can include overland movement.

The habitat guidelines for Blanding's turtle provide protection to the areas surrounding a nest, or perceived nest area. The level of protection varies with the distance from the nest and has been categorized by MNRF into three categories. These along with their protection level are:

Category 1	Nest and the area within 30 m or Overwintering sites and the area within 30 m
Category 2	The wetland complex (i.e., all suitable wetlands or waterbodies within 500 m of each other) that extends up to 2 km from an occurrence, and the area within 30 m around those suitable wetlands or waterbodies
Category 3	Area between 30 m and 250 m around suitable wetlands/waterbodies identified in Category 2, within 2 km of an occurrence

There is no aquatic or wetland features on-site. The adjacent lands and further are entirely developed (residential, commercial development) with a heavily travelled road network. The

nearest wetland habitat is over 200 m to the north of Kimpton Drive and the nearest known occurrences of this species are over 1.2 km away (to west and east). Given that the area is heavily developed with a large amount of traffic, the potential for Blanding's Turtles to use this site for any purpose is limited. Other than general mitigation measures on education and best practices during construction (discussed in Section 5), no mitigation measures are needed for this species.

Birds

Through the background review, six species of birds were listed as potentially occurring: eastern whip-poor-will, chimney swift, bank swallow, barn swallow, bobolink and eastern meadowlark. No SAR were identified during the site investigations.

Eastern Whip-poor-will

The whip-poor-will is a well camouflaged species can be found in a multitude of forest types. Its requirements consist of areas that are semi-open forests or sites with a closed forest intermixed with other open habitats. It also needs some areas with little ground cover. Its minimum habitat size requirement is 9 ha (COSEWIC, 2009b). The G*eneral Habitat Description for Eastern Whip-poor-will* (MNRF on-line document) indicates that the protected habitat for this species includes three categories:

Category 1	known nests and 20 m of the nest
Category 2	the area between 20 m and 170 m from the nest or the approximate centre of the defended territory
Category 3	the area of suitable habitat between 170 m and 500 m of the nest or approximate centre of the defended territory

There are no 9 ha forest stands in or within 500 m of the site. This species is considered absent. No mitigation measures are required.

Chimney Swift (*Chaetura pelagica)*

The chimney swift can often be found in developed areas and prefers to utilize structures such as large (>50 cm diameter) trees or man-made structures such as chimneys for its nesting habitat (COSEWIC, 2007a). Few large diameter trees (dbh > 50 cm) were identified during the tree inventory (Appendix A) and no buildings/chimneys were present. No chimney swifts were observed during any of the visits. This species is easily identified when present, it is very vocal and forages often. This species is considered absent.

Bank Swallow (*Riparia riparia)*

Bank swallows are known to nest in vertical banks including those along riverbanks, and sand pits. Habitat for this species is absent. This species is considered absent.

Barn Swallow (*Hirundo rustica)*

The barn swallow can often be found nesting on man-made structures. No structures were present on-site. This species is considered absent.

Bobolink (*Dolichonyx oryzivorus)*

This species is grassland-breeding-bird requiring a minimum of 4 ha of uncut meadow or field. The *Bobolink* G*eneral Habitat Description* (OMNRF, 2018) indicates that the protected habitat for this species includes three categories:

Category 1	known nests and 10 m of the nest
Category 2	the area between 10 m and 60 m from the nest or the approximate centre of the defended territory
Category 3	the area of continuous suitable habitat between 60 m and 300 m of the nest or approximate centre of the defended territory

The site is naturalizing with broadleaf meadow species, not suitable for grassland breeding birds such as this species. None were observed during the site investigations. This species is considered absent.

Eastern Meadowlark

Like the bobolink, this is a grassland breeding birds requiring a minimum of 4 ha of uncut meadow or field. The G*eneral Habitat Description for Eastern Meadowlark* (OMNRF, 2018) indicates that the protected habitat for this species includes three categories:

Category 1	known nests and 10 m of the nest
Category 2	the area between 10 m and 100 m from the nest or the approximate centre of the defended territory
Category 3	the area of continuous suitable habitat between 100 m and 300 m of the nest or approximate centre of the defended territory

The site is naturalizing with broadleaf meadow species, not suitable for grassland breeding birds such as this species. None were observed during the site investigations. This species is considered absent.

Bats

The potential SAR bats within the general area are: little brown myotis, northern myotis, eastern small-footed myotis and tri-colored bat. There are three types of habitats required by bats: hibernation, maternity sites and day-roost sites. The latter is not considered critical habitat.

These four bats species prefer to hibernate in caves or mines. They can hibernate in buildings but that is rare for these species (COSEWIC, 2013a). No caves or mines were present. No buildings were present on-site.

The northern myotis tends to prefer larger expanses of older forests (late successional or primary forests) and chose maternity sites in snags that are in the mid-stage of decay. They prefer habitat with intact interior habitat and is shown to be negatively correlated with edge habitat (Menzel et al., 2002; Broders et al., 2006; Yates et al., 2006; OMNRF, 2015). The small, young treed area on-site is slightly less than 0.8 ha and young. As such, the preferred habitat was not present and as such, this species' maternity habitat is considered absent.

The recovery strategy for the eastern small-footed myotis indicates that the preferred maternity habitat of this species consists of open rock habitats and that it rarely uses old buildings as roosting/maternity sites (Humphrey, 2017). There was suitable maternity habitat present. Based on this information, this species' maternity sites are considered absent.

The Atlas of Mammals of Ontario (Dobbyn, 1994) suggests that the tri-colored bat is not present within this part of Ontario however, the NatureServe mapping in the COSSARO (2015) includes all of southeastern Ontario. The City of Ottawa summary of Species at Risk in Ottawa (September 2019) indicates that only historical records of this species are available, there are no recent sightings. Based on this information, this species is considered to have a very low potential of occurring.

This leaves only the little brown myotis as potentially using the study area for maternity sites. The SWHCS (OMNRF, 2015) indicates that consideration for maternity sites, for species that utilise tree cavities, should be made when the vegetation community consists of a mature deciduous or mixed forest with >10/ha of large trees (>25 cm DBH). MRNF guidelines for bat maternity sites require a minimum of >10 snags (with a minimum DBH of 25 cm) / ha. The tree inventory found that this site was small (< 1 ha of treed area) and that most trees were < 25 cm in dbh. As such, it does not provide a high potential for bat maternity sites.

There remains the potential for various species to
the trees on-site for day-roosts. Mitigation measures will be included discussed further below.

Plants

Butternuts

As discussed above, no butternuts were identified in or within 50 m of this site. This species is considered absent. Note that butternut inventories are good for 2-years (in this case until June 26, 2022).

4.2.1 SAR Conclusions

Based on the habitat descriptions in the sections above and following numerous field investigations from 2020, no confirmed SAR were present. While no other species was confirmed, there remains the potential for a variety of bat species to use trees for day-roosts.

Table 2: Summary of Potential SAR

Common Name	Scientific Name	Preferred Habitat	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	References
REPTILES						
Blanding's Turtle	*Emydoidea blandingii*	Shallow water, large marshes, shallow lakes or similar such water bodies.	S3, SNR (Great Lakes/St-Lawrence pop.)	THR	THR	COSEWIC 2005
BIRDS						
Eastern Whip-poor-will	*Antrostomus vociferus*	Rock or sand barrens with scattered trees, savannahs, old burns or other disturbed sites in a state of early to mid-forest succession, or open conifer plantations	S4B	THR	THR	COSEWIC 2009b
Chimney Swift	*Chaetura pelagica*	Cities, towns, villages, rural, and wooded areas.	S4B, S4N	THR	THR	COSEWIC 2007a
Bank Swallow	*Riparia riparia*	Variety of forest types, most common in wet, mixed deciduous-coniferous forest with a well-developed shrub layer. It is often found in shrub marshes, red maple stands, cedar stands, conifer swamps dominated by black spruce and larch and riparian woodlands along rivers and lakes. It is also associated with ravines and steep brushy slopes near these habitats	S4B	THR	THR	COSEWIC 2013b
Barn Swallow	*Hirundo rustica*	Open or semi-open lands: farms, field, marshes.	S4B	THR	THR	COSEWIC 2011a, Peterson 1980
Bobolink	*Dolichonyx oryzivorus*	Primarily in forage crops, and grassland habitat.	S4B	THR	THR	COSEWIC 2010b

Common Name	Scientific Name	Preferred Habitat	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	References
Eastern Meadowlark	*Sturnella magna*	Fields, meadows and prairies.	S4B	THR	THR	COSEWIC 2011b, Peterson 1980
MAMMALS						
Little Brown Myotis	*Myotis lucifugus*	Buildings, attics, roof crevices and loose bark on trees or under bridges. Always roost near waterbodies.	S4	END	END	COSEWIC 2013a
Northern Myotis	*Myotis septentrionalis*	Older (late successional or primary forests) with large interior habitat.	S3	END	END	COSEWIC 2013a, Broders et al, 2006, Menzel et al. 2002
Eastern Small-footed Myotis	*Myotis leibii*	Found within deciduous or coniferous forests in hilly areas.	S2, S3	END		Eder 2002
Tri-colored Bat	*Perimyotis subflavus*	Prefers shrub habitat or open woodland near water.	S3?	END	END	COSEWIC 2013a
PLANTS						
Butternut	*Juglans cinerea*	Variety of sites, grows best on well-drained fertile soils in shallow valleys and on gradual slopes	S2?	END	END	COSEWIC 2003a

Status Updated September 2019

SRANK DEFINITIONS

S2 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 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.

SAB Breeding accidental.

? Inexact Numeric Rank—Denotes inexact numeric rank

S#B Breeding

S#N Non-Breeding

SARO STATUS DEFINITIONS

END Endangered: A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA.

THR Threatened: A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

SARA STATUS DEFINITIONS

END Endangered, a wildlife species facing imminent extirpation or extinction.

THR Threatened, a wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

4.3 Significant Wildlife Habitat

The PPS indicates that no development or site alteration is permitted within significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural feature or its ecological functions. It defines wildlife habitat as:

"Areas where plants, animals and other organisms live and find adequate amounts of food, water, shelter and space needed to sustain their populations. Specific wildlife habitat of concern may include areas where species concentrate at a vulnerable point in their annual or life cycle; and areas which are important to migratory or non-migratory species"

The OP schedules did not include any significant wildlife habitat present within the study area. The vegetation communities were compared to MNRF's SWHTG (2000) and its appendices and the SWHCS (OMNRF, 2015). No significant wildlife habitats were observed.

4.4 Natural Heritage Features Summary

The background review and site investigations determined that there were no confirmed significant natural heritage features on-site and that the only potentially occurring habitat was for bats (Table 3).

Table 3: Summary of Potential for Natural Heritage Features after Field Investigations

Natural Heritage Feature	Present within Subject Lands Impact	Present within 120 m of Subject Lands
Provincially Significant Wetlands (PSW)	No	No
Areas of Natural and Scientific Interest (ANSIs)	No	No
Habitats or species designated by ESA (Provincial)	None confirmed. Potential for bat habitat remains and avoidance measures are included below.	
Significant Woodlands	No	
Significant Valleylands	No	
Significant Wildlife Habitat (SWH)	No confirmed or potential SWH	None – fully developed.

Natural Heritage Feature	Present within Subject Lands Impact	Present within 120 m of Subject Lands
Fish Habitat		None

Sources of background information: LIO mapping, MNRF (email), Atlas of Breeding Birds of Ontario Website, OP (City of Ottawa), Google Satellite Imaging

5.0 IMPACT ASSESSMENT

5.1 Project Summary

The proponent is proposing to build a residential subdivision at 6171 Hazeldean Road, Stittsville, Ontario (Figure 1). The proposed subdivision includes approximately 9 ha. The development would be fully serviced. Construction is anticipated to begin fall 2021 and to take 2-3 years to fully construct.

The land use is designated as General Urban Area and while natural heritage features of unevaluated wetlands and wooded areas were depicted in the background data, the site investigations confirmed that none were present on or within 120 m of the site. A review of the potential endangered and threatened species and their habitats and of significant wildlife habitat identified the potential (low) for little brown myotis (bat) to be present. The woodland on-site did not meet the age criteria to be considered significant.

Note that while not significant habitat, almost all birds in Ontario are protected by the *Migratory Bird Convention Act* (MBCA) and/or *Fish and Wildlife Conservation Act* (FWCA). Mitigation measures for these items are also included below for completeness.

5.2 Assessment Methods

The significance of the potential impacts to these natural heritage features can be measured using four different criteria:

1. Area affected may be:
    a. local in extent signifying that the impacts will be localized within the project area
    b. regional signifying that the impacts may extend beyond the immediate project area.

2. Nature of Impact:
    a. negative or positive
    b. direct or indirect

3. Duration of the impact may be rated as:

a. short term (construction phase, 2-3 years)
b. medium term (4-5 years)
c. long term (>5 years).
d. permanent

4. Magnitude of the impact may be:
   a. negligible signifying that the impact is not noticeable
   b. minor signifying that the project's impacts are perceivable and require mitigation
   c. moderate signifying that the project's impacts are perceivable and require mitigation as well as monitoring and/or compensation
   d. major signifying that the project's impacts would destroy the environmental component within the project area.

5.3 Evaluation of Potential to Impact Natural Heritage Features

5.3.1 Species at Risk

SAR that are listed as endangered or threatened under the provincial *Endangered Species Act* (all species) or the federal *Species at Risk Act* (SARA) (only "fish" as defined under the *Fisheries Act* in this case fish and mussel species) are protected in this study area. Together, provincially and federally protected species are referred to as SAR. The only species considered as potentially occurring are bats. Note that Blanding's Turtle has also been included below since this species could occur nearby.

Turtle (Blanding's Turtle)

There is no suitable Blanding's Turtle habitat on-site however, this species is known to occur within 2 km of the site and there are wetlands (Stittsville Complex) within 0.2 km of the project area. Because that wetland and this project's site are surrounded by dense residential neighborhoods, the area is not considered Category 3 habitat. But this species does like to wander, and education of workers is considered recommended.

Mitigation Measures:

- Educate construction workers of the potential for Blanding's Turtle to be present and that this is a protected species from harm and injury under the provincial *Endangered Species Act*.
- If a turtle is observed, then all work that may harm the individual must stop and the worker should notify their supervisor. Try to take a photograph but do not chase the turtle in order to do so.
- Turtles encountered on-site cannot be harmed or harassed.
- Turtles should be allowed to leave the area on their own.

- It is also important that the individual be watched, from afar, to ensure that it does not enter an area where it may come to harm.
- The supervisor should contact MECP (and if applicable the project biologist) immediately.

Area	Nature	Duration	Magnitude
Local	Negative Direct	Short	Unlikely to occur (very low potential for species to be present)

Bats

The SAR bats are: little brown myotis, northern myotis, eastern small-footed myotis and tri-coloured. No hibernacula were found on site and the potential for maternity sites for all but little brown myotis is considered absent. The potential for little brown myotis maternity habitat is considered very low. Bats can also use any treed area for day-roots sites. The habitat for bats is not limiting in the area.

Mitigation Measures:

- Educate contractors by informing them that most bats in Ontario are protected.
- Clearing of trees is to take place between October 1 and March 30. If this is not possible, conduct exit survey (acoustic survey preferred) would be required prior to clearing. If a bat is observed leaving the trees, then stop clearing vegetation and wait until after September 30th for any additional tree clearing or obtain authorization from MECP.

Area	Nature	Duration	Magnitude
Local	Negative Direct	Permanent Term (removal of tree)	Low potential (young, small forest)

5.3.3 Other

As mentioned above, almost all birds in Ontario are protected by either MBCA or FWCA.

Potential Impacts and Mitigation Measures:

- Almost all breeding birds are protected under the MBCA and/or FWCA. The only species not protected are: American crow, brown-headed cowbird, common grackle, house sparrow, red-winged blackbird and starling. It is prohibited to destroy or disturb an active nest of other birds, or to take or handle nests, eggs, or nestlings. In this part of Ontario, the current standard nesting period is between April 12th to August 28th. Outside of this timing window, it is considered unlikely that birds would be nesting. Note, there are some birds (birds of prey, herons etc.) that do begin nesting earlier in the year. It should also be noted, that if an active nest is present before or after the above dates that it is still protected. These dates only serve as a guideline.
- There is the potential for ground nesters to occur within the subject lands once grading activities occur should bare soil be left (i.e. killdeer). Perform regular walks of the cleared areas looking for ground nesters. If any are present, the contact a biologist for guidance.
- Work during the daytime hours to prevent light disturbances.
- Ensure that all equipment have the appropriate mufflers to reduce noise disturbances.

6.0 TREE CONSERVATION AND PLANTING PLAN

A summary of individual trees and groupings along with Maps 1 and 2 as per the City's TCR requirements are provided in Appendix A. All trees situated on site will be removed.

Mitigation Measures for Trees to be Retained

- A permit for the removal of trees that are 10 cm or larger is required from the City of Ottawa.
- The edge of the property, were not already fenced by neighbours, should be clearly delineated on the site plans and in the field;
- All trees on-site will be removed. When clearing near trees on neighbouring lands, mitigation measures to prevent harm to the root systems of trees adjacent to the proposed works will be implemented to protect them from indirect harm:
    - Sturdy fencing will be installed outside of the Critical Root Zone (CRZ) (defined by the City as 10 x the DBH) of the trunk of the closest trees to the work area.

  - No grading or activities that may cause soil compaction (such as heavy machinery and stockpiling of materials) will be allowed within the fenced area.
  - Furthermore, no machinery maintenance or refueling or stockpiling is permitted within 5 m of the outer edge of this fencing.
  - If necessary, clearing of vegetation within the CRZ will be completed with hand tools.
  - Exhaust fumes from all equipment will be directed away from the canopy of the trees to be retained.
  - If roots of trees, on adjacent lands become exposed during site alterations, they will be buried immediately with soil or covered with filter cloth or woodchips and kept moist until the roots can be buried permanently.
  - Any roots that must be cut will be cut cleanly to allow for healing.
- No signs, notices or posters should be attached to any trees;
- The removal of trees is to occur between October 1 and March 30. This is to avoid both the active bat season and the breeding bird season (see timing and measures from above).
- Any landscape plans should include native species as much as possible various species could be used.

Table 4 Summary of Impacts, Mitigation Measures and Residual Effects

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
Construction				
Vegetation Clearing in preparation development	Bird nests protected by MBCA or FWCA While not considered likely, as the site is fully surrounded by residential areas and heavily travelled roadways, Blanding's Turtles have been sighted within 2 km of the site. Given their wandering ways, there is slim potential that one could be encountered.	Removal of woody vegetation and in some cases herbaceous vegetation would destroy (temporarily or permanently) breeding habitat. Potential for interaction with migrating Blanding's Turtles	A permit for the removal of trees that are 10 cm or larger is required from the City of Ottawa. The edge of the property, were not already fenced by neighbours, should be clearly delineated on the site plans and in the field; All trees on-site will be removed. When clearing near trees on neighbouring lands, mitigation measures to prevent harm to the root systems of trees adjacent to the proposed works will be implemented to protect them from indirect harm: Sturdy fencing will be installed outside of the Critical Root Zone (CRZ) (defined by the City as 10 x the DBH) of the trunk of the closest trees to the work area. No grading or activities that may cause soil compaction (such as heavy machinery and stockpiling	None anticipated

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
			of materials) will be allowed within the fenced area. Furthermore, no machinery maintenance or refueling or stockpiling is permitted within 5 m of the outer edge of this fencing. If necessary, clearing of vegetation within the CRZ will be completed with hand tools. Exhaust fumes from all equipment will be directed away from the canopy of the trees to be retained. If roots of trees, on adjacent lands become exposed during site alterations, they will be buried immediately with soil or covered with filter cloth or woodchips and kept moist until the roots can be buried permanently. Any roots that must be cut will be cut cleanly to allow for healing. No signs, notices or posters should be attached to any trees; The removal of trees is to occur between October 1 and March 30. This is to avoid both the active bat	

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
			season and the breeding bird season (see timing and measures from above). Any landscape plans should include native species as much as possible various species could be used. Almost all bird nests, eggs and young are protected by the MBCA until the young fledge. All vegetation clearing should occur outside of breeding bird season (April 12- August 29) and the removal of all trees >10cm dbh must occur outside of the active bat season (no clearing between April 1st and September 30th, inclusive). If this is not possible, then have a biologist complete a bird nest surveys a maximum of 5 days (for birds) and exit survey would be needed during the bat active season.	

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
			Almost all bird nests and their eggs and young are protected under the MBCA. No impacts to provincial SAR bird nests or their eggs is permitted under the provincial *Endangered Species Act*. If a provincially-listed bird species at risk is encountered, then work must stop and MECP contacted (sarontario@ontario.ca). Should a nest be discovered, stop all work that may disturb the birds (i.e. that cause the adults to fly off the nest) and contact a biologist or MECP or Environment Canada, as appropriate for the species. Educate construction workers of the potential for Blanding's Turtle to be present and that this is a protected species from harm and injury under the provincial *Endangered Species Act*.	

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
			If a turtle is observed, then all work that may harm the individual must stop and the worker should notify their supervisor. Try to take a photograph but do not chase the turtle in order to do so. Turtles encountered on-site cannot be harmed or harassed. Turtles should be allowed to leave the area on their own. It is also important that the individual be watched, from afar, to ensure that it does not enter an area where it may come to harm. The supervisor should contact MECP (and if applicable the project biologist) immediately. Educate contractors by informing them that most bats in Ontario are protected. Clearing of trees is to take place between October 1 and March 30. If this is not possible, conduct exit survey (acoustic survey preferred) would be required prior to	

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
			clearing. If a bat is observed leaving the trees, then stop clearing vegetation and wait until after September 30th for any additional tree clearing or obtain authorization from MECP.	
Construction of infrastructure, buildings and Grading	Bird nesting habitat.	Once the area has been cleared and graded, then the bare soil or gravel areas could create new habitat for ground nesters such as killdeer. Their nests would be protected until young are fully fledged.	There is the potential for ground nesters to occur within the subject lands once grading activities occur should bare soil be left (i.e. killdeer). Perform regular walks of the cleared areas looking for ground nesters. If any are present, the contact a biologist for guidance.	None provided that mitigation measures are properly implemented and maintained.
Accidents or Malfunctions	There are no natural heritage features on site or in the adjacent lands.	Spills or accidents during construction could impact the soil.	All equipment should be well maintained, clean and free of leaks. Maintenance of construction equipment should occur at a minimum of 30m from the top of the bank. It is to be in an area where all precautions have been made to prevent oil, grease,	Unlikely

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
			antifreeze or other materials from inadvertently entering the ground. Any machine coming from offsite should be cleaned and free of mud (to prevent the transfer of non-native vegetation). Emergency spill kits should be located on site and the crew trained on their use. Any spills will be reported immediately to MECP Spills Action Centre (1.800.268.6060).	

7.0 CONCLUSIONS AND RECOMMENDATION

The proponent is proposing to build a residential development at 6171 Hazeldean Road, Stittsville, Ontario (Figure 1). The proposed subdivision includes approximately 9 ha. The development would be fully serviced.

The lands were previously cleared and filled. Much of the fill is beginning to naturalize with broadleaf species. There is a small wooded area on-site, but it is young and does not provide significant woodland habitat.

No SAR were documented in the study area. No raptor nests were found within this area.

No trees requiring retention were identified within the area to be cleared.

All of the impacts can be mitigated through the use of common mitigation measures and no residual negative impacts to the natural environment are anticipated as a result of the development. This proposed development can be accepted as planned.

I trust that this report will meet your requirements. Should you have any questions or comments, please contact the undersigned.

Sincerely,

Bowfin Environmental Consulting Inc.

Michelle Lavictoire,
Biologist / Principal

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Appendix A: Tree Conservation Report

Carmine Zayoun
11654128 Canada Inc.
190 Lisgar Street
Ottawa, Ontario K2P 0C4

July 7, 2020

Re.: Tree Conservation Report for 6171 Hazeldean, Stittsville, Ontario

Mr. Zayoun:

Bowfin Environmental Consulting Inc. (Bowfin) was retained by Latitude Homes to prepare a Tree Conservation Report. This report follows the *City of Ottawa Tree Conservation Report Guidelines*. The field work was completed by Cody Fontaine who has his Fisheries and Wildlife Technology Diplome and has 10 years of experience completing field work. Mr. Fontaine is also a certified Butternut Health Assessor (#723). Bowfin was also retained to complete an Environmental Impact Statement (EIS) and this letter will form part of that report. The EIS was completed by Michelle Lavictoire who has a M.Sc. in Natural Resource Sciences, a B.Sc. in Wildlife Biology and over 23 years of experience in completing natural environment assessments.

The intention of this report is to determine what woody vegetation should be retained and protected on site. In the paragraphs below, we have outlined the background and project description, field methodology and findings and recommendations. Any mitigation measures will also be included in the main body of the EIS.

BACKGROUND AND PROJECT DESCRIPTION

The subject lands are roughly 8.9 ha situated at 6171 Hazeldean Road, Stittsville. They form part of Lot 23 Concession 12 in the Township of Goulbourn. The proposal calls for the development of this parcel into residential development and will require the removal of all trees from the site.

METHODOLOGY

The tree inventory was undertaken on June 3rd, 2020 by Cody Fontaine. The weather conditions consisted of overcast skies and light air. The air temperature ranged from 13 to 14°C. During this visit the individual trees were assessed and a description of the environmental value of the

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trees within the site and their ecological function recorded. Information collected on the individual trees included:

- Their location (GPS coordinates, NAD83);
- Identified to species for native specimens;
- Diameter at breast height (DBH);
- Presence/absence of Butternuts;
- Health; and
- Height

This information is appended at the end of this letter and the locations of the individual trees are shown on Maps 1 and 2. One small stand along with a few copses and a windrow were placed into separate tree groupings with information on the larger trees in each grouping provided in the table below.

Nomenclature used in this report follows the Southern Ontario Plant List (Bradley, 2007) for both common and scientific names which are based on Newmaster *et al.* (1998). Authorities for scientific names are given in Newmaster *et al.* (1998).

EXISTING CONDITIONS

The site is currently mostly meadow on fill with some areas of bare fill and small groupings of trees. Spoil piles were encountered, mostly on the west side of the site. The overall topography is flat. The adjacent lands are fully developed (residential). The southern edge of the property is bordered by Hazeldean Road. Most of the trees were situated in the northwest corner of the site. Several planted trees were present along the southern border along the sidewalk of Hazeldean Road.

In addition to six groupings of trees, there were 29 individual trees assessed on-site with a DBH of 10 cm or greater. The most common species were: gray birch, trembling and largetooth aspen. A summary of these is provided in Table 1. Most of the trees were healthy apart from some dead aspens.

Table 1: Summary of Individual Trees On-Site

Species	Count	Size Range (DBH cm)	Height Range (m)	No. Live	No. Unhealthy	No. Dead	No. to be Removed
American Elm	2	19	6	2	0	0	2
Aspen Species	2	30-48	12-13	1	0	1	2

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Species	Count	Size Range (DBH cm)	Height Range (m)	No. Live	No. Unhealthy	No. Dead	No. to be Removed
Cherry Species	5	12-24	6-8	5	0	0	5
Cottonwood	4	13-56	7-16	4	0	0	4
Honey Locust	3	10-11	5	3	0	0	3
Largetooth Aspen	5	22-40	15-17	5	0	0	5
Maple Species	3	10-11	5-6	3	0	0	3
Ornamental	1	12	5	1	0	0	1
Trembling Aspen	1	23	10	1	0	0	1
White Pine	1	16	8	1	0	0	1
White Spruce	1	22	9	1	0	0	1
Willow Species	1	100+	6	1	0	0	1
Total	**29**	**10-100+**	**5-17**	**29**	**0**	**1**	**29***

* Note that all trees will be removed, including those described together as groupings (see Table 2).

The following were <u>not present</u> on site:

- Surface water features (i.e. wetlands or watercourses)
- Steep slopes (i.e. valleys or escarpments)
- Valued woodlots
- Greenspace linkages
- High quality, specimen trees
- Rare communities or unique ecological features
- Species at Risk or their habitat

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Map 1: Location of Existing Trees

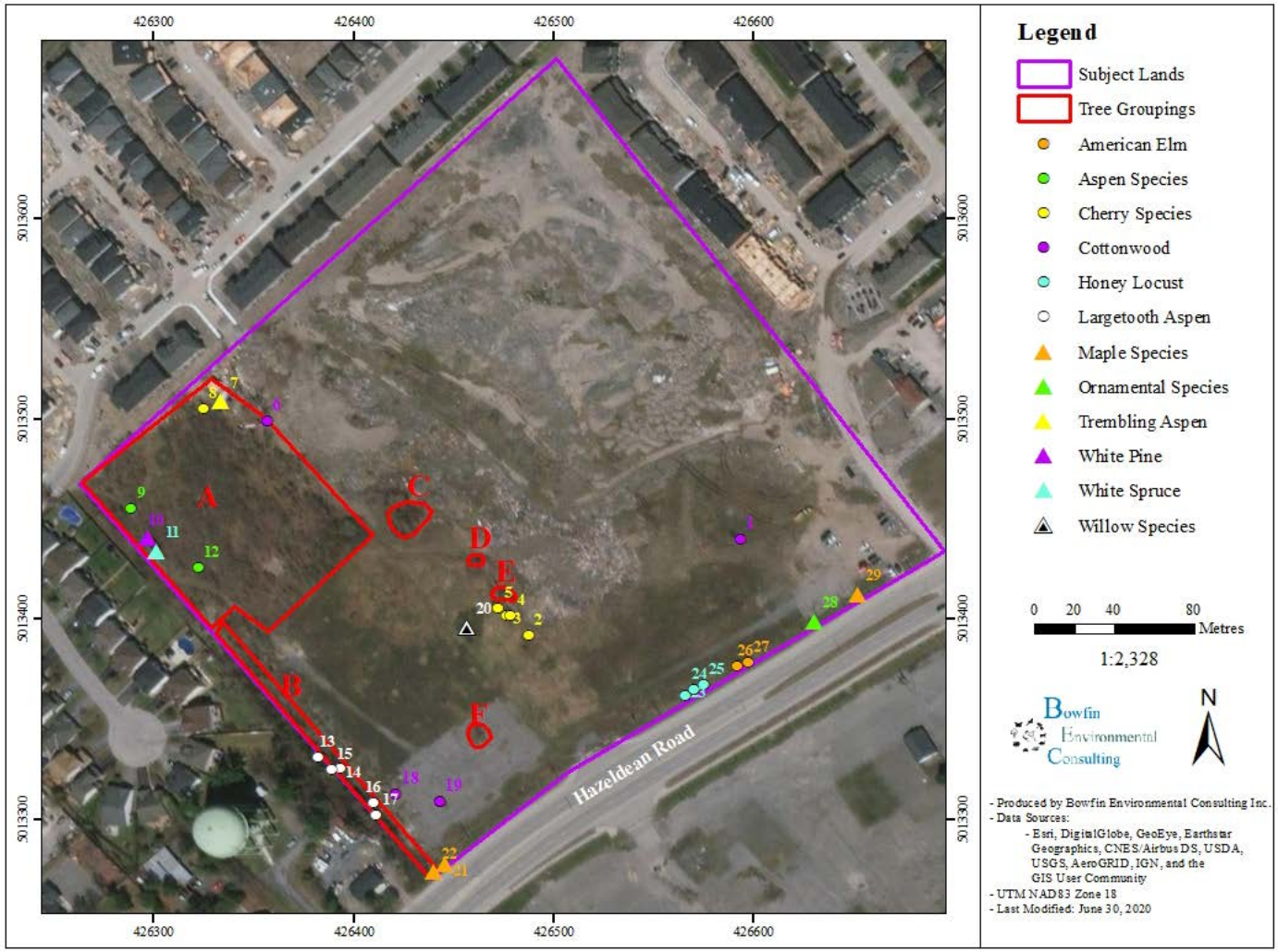

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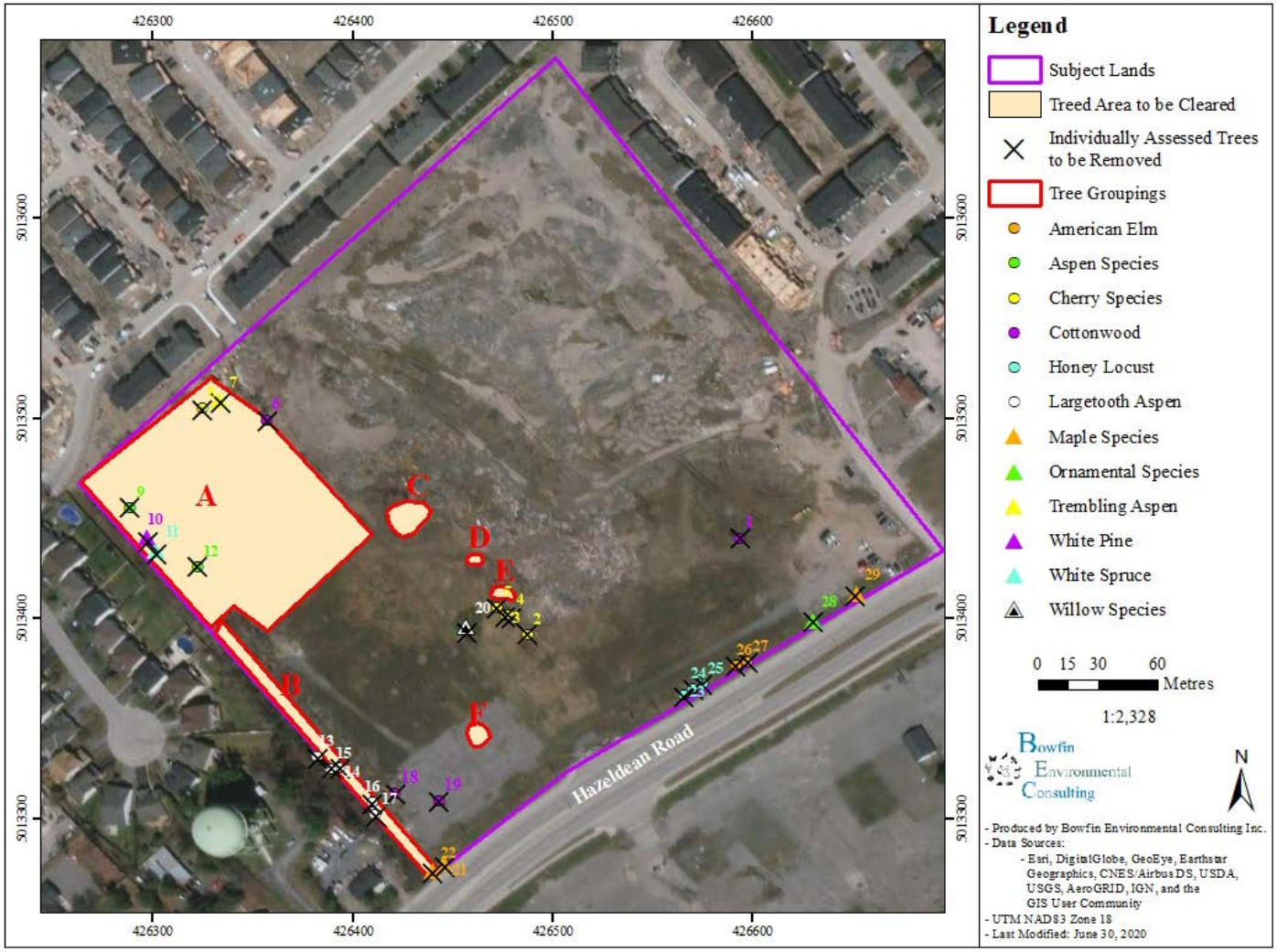
Figure 6: Location of Trees to be Removed



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Summary of Findings

The site and surrounding habitats are disturbed or non-existent. The vast majority of the site was cleared and filled and much of this fill has now revegetated with meadow species. Some trees remain along the west edge of the site, at the property line, along with the one small stand and individual trees elsewhere. In total 29 individual trees were assessed along with the six tree groupings. Overall the health of the trees on site was good. No species of conservation value or at risk were identified and no specimens were recommended for retention.

All trees will be removed. Trees are neighbouring lands are separated by fences and those were not assessed. Grading, infilling and underground works should be limited to outside of Critical Root Zone of the neighbouring lands to prevent root damage to trees meant to be left in place.

Note that the recommended mitigation measures have been included in the main body of this report.

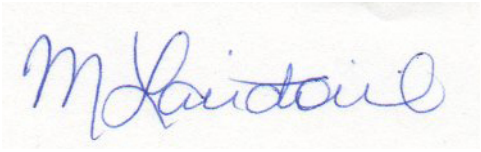
Concluding Statement

There were no trees identified for retention on-site. Removal of trees can proceed provided that the measures above, including obtaining the permit from the City, can take place as planned once work is approved by the City.

I trust that this report will meet your requirements. Should you have any questions or comments, please contact the undersigned.

Sincerely,

Bowfin Environmental Consulting Inc.



Michelle Lavictoire,
Biologist / Principal

References

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Bradley, David. 2007. Southern Ontario Vascular Plant Species List. Prepared by Southern Science and Information Section, Ontario Ministry of Natural Resources, Peterborough, Ontario. 57pp.

Newmaster, S.G., A. Lehela, P.W.C Uhlig, S. McMurray and M.J. Oldham. (1998). Ontario plant list. Ontario Ministry of Natural Resources, Ontario Forest Research Institute, Sault Ste. Marie, ON, Forest Research Information Paper No. 123. 550 pp. + appendices.

Official Plan of the City of Ottawa. 2009.

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Table 2: Tree Details

Tree ID	Species	UTM Coordinates (NAD 83)	DBH (cm)	Height (m)	Health	Comments	Ownership	To Be Removed
Tree Groupings								
A	American Elm Cherry Species Gray Birch Largetooth Aspen Trembling Aspen White Birch	18 T 426323 5013425	<10-21	6-12	Good	Most individuals had a dbh <10 cm (average DBH was 5 cm).	Latitude Homes	Y
B	Cherry Species Largetooth Aspen Trembling Aspen White Birch White Pine White Spruce	18 T 426393 5013325	10-16	7-15	Good	80-150 trees in grouping. Average DBH: 13cm	Latitude Homes	Y
C	Gray Birch	18 T 426433 5013456	10-25	7-10	Good	33 trees in grouping. Average DBH: 15 cm	Latitude Homes	Y
D	Cherry Species	18 T 426459 5013428	10-20	7	Good	9 trees in grouping. Average DBH: 15 cm	Latitude Homes	Y
E	Trembling Aspen	18 T 426476 5013409	10-22	7-10	Dead	15 trees in grouping. Average DBH: 17 cm	Latitude Homes	Y
F	Cottonwood	18 T 426461 5013337	15-29	13	Good	6 trees in grouping. Average DBH: 21 cm	Latitude Homes	Y
Individual Trees								

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Tree ID	Species	UTM Coordinates (NAD 83)	DBH (cm)	Height (m)	Health	Comments	Ownership	To Be Removed
1	Cottonwood	18 T 426594 5013440	56	7	Good	4 stems	Latitude Homes	Y
2	Cherry species	18 T 426487 5013392	18	6	Good	3 stems	Latitude Homes	Y
3	Cherry species	18 T 426477 5013402	12	7	Good		Latitude Homes	Y
4	Cherry species	18 T 426478 5013402	24	8	Good	4 stems	Latitude Homes	Y
5	Cherry species	18 T 426472 5013406	18	7	Good	3 stems	Latitude Homes	Y
6	Cottonwood	18 T 426357 5013499	61	16	Good		Latitude Homes	Y
7	Trembling Aspen	18 T 426333 5013510	23	10	Good		Latitude Homes	Y
8	Cherry species	18 T 426325 5013506	13	8	Good		Latitude Homes	Y
9	Aspen species	18 T 426289 5013455	48	12	dead		Latitude Homes	Y
10	White Pine	18 T 426298 5013441	16	8	Good		Latitude Homes	Y
11	White Spruce	18 T 426300 5013436	22	9	Good		Latitude Homes	Y
12	Aspen species	18 T 426323 5013425	30	13	Good	2 stems	Latitude Homes	Y
13	Largetooth Aspen	18 T 426383 5013331	22	16	Good	On west side of ditch	Latitude Homes	Y

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Tree ID	Species	UTM Coordinates (NAD 83)	DBH (cm)	Height (m)	Health	Comments	Ownership	To Be Removed
14	Largetooth Aspen	18 T 426393 5013325	23	15	Good	In ditch	Latitude Homes	Y
15	Largetooth Aspen	18 T 426389 5013325	40	16	Good	In ditch	Latitude Homes	Y
16	Largetooth Aspen	18 T 426410 5013308	27	17	Good	On west side of ditch	Latitude Homes	Y
17	Largetooth Aspen	18 T 426412 5013302	25	15	Good	On west side of ditch	Latitude Homes	Y
18	Cottonwood	18 T 426421 5013314	13	7	Good		Latitude Homes	Y
19	Cottonwood	18 T 426444 5013309	18	8	Good		Latitude Homes	Y
20	Willow species	18 T 426457 5013395	100+	6	Good	20 individual stems branching from main stem. DBH range: 10-26. Some stems running parallel to ground	Latitude Homes	Y
21	Maple species	18 T 426445 5013277	10	5	Good	Planted along sidewalk	Latitude Homes	Y
22	Maple species	18 T 426440 5013274	11	5	Good	Planted along sidewalk	Latitude Homes	Y
23	Honey locust	18 T 426566 5013362	11	5	Good	Planted along sidewalk	Latitude Homes	Y
24	Honey locust	18 T 426570 5013365	11	5	Good	Planted along sidewalk	Latitude Homes	Y
25	Honey locust	18 T 426575 5013368	10	5	Good	Planted along sidewalk	Latitude Homes	Y

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Tree ID	Species	UTM Coordinates (NAD 83)	DBH (cm)	Height (m)	Health	Comments	Ownership	To Be Removed
26	American Elm	18 T 426592 5013377	19	6	Good	Planted along sidewalk	Latitude Homes	Y
27	American Elm	18 T 426596 5013379	19	6	Good	Planted along sidewalk	Latitude Homes	Y
28	Ornamental	18 T 426651 5013412	12	5	Good	Planted along sidewalk	Latitude Homes	Y
29	Maple species	18 T 426629 5013399	11	6	Good	4 stems. Planted along sidewalk	Latitude Homes	Y