1927 MAPLE GROVE

Scoped Environmental Impact Statement

Prepared For:
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Date:
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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 Assessments/Butternut Health Assessor
CC - Co-Efficient of Conservation
COSEWIC - Committee on the Status of Endangered Wildlife in Canada
CRZ – Critical Root Zone
DBH - Diameter at breast height
EIS – Environmental Impact Statement
ELC - Ecological Land Classification
ESA - *Endangered Species Act* (Provincial)
FWCA – *Fish and Wildlife Conservation Act*
GPS – Global Positioning System
NAD 83: North American Datum 1983
UTM: Universal Transverse Mercator
LIO - Land Information Ontario
MMP - Marsh Monitoring Program
NHIC – Natural Heritage Information Centre
NHRM - Natural Heritage Reference Manual
MBCA - Migratory Bird Convention Act (Federal)
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
PSW - Provincially Significant Wetlands
RVCA - Rideau Valley Conservation Authority
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
SWHCS - Significant Wildlife Habitat Criteria Schedules
SWHTG - Significant Wildlife Habitat Technical Guide
SWH - Significant Wildlife Habitat
UNF – Urban Natural Feature

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

SNA Not Applicable, A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

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

Maple Grove Towns Inc. is proposing to re-develop the lot located at 1927 Maple Grove. The current land-use is a single lot residential unit. The proposal is to convert this into 38 townhouses. These lands are situated in Lot 1, Concession 1 in the former municipality of West Carleton, Township of Huntley. They are bordered by Maple Grove Road to the southeast, residential lots to the east, and west and by natural lands to the north. The property is within the Community Design Plan (CDP) of Kanata West. That CDP is 725 ha including the 2.2 ha property discussed herein. The CDP identifies the natural heritage systems for Kanata West as: the local White Pine grove and ancient Eastern Hemlock, White Cedar grove, wetlands upstream of fish habitat, fish and wildlife corridors along Poole Creek, Feedmill Creek and the Carp River. None of these features are present in or within 120 m of 1927 Maple Grove. Communications from the City, following the pre-consultation, indicated that a scoped Environmental Impact Statement (EIS) is required to address the potential to impact species at risk (SAR) and significant wildlife habitat (SWH). The habitat of endangered or threatened species must be determined based on the appropriate methodology [i.e. species-specific surveys, presence of preferred habitats]. The City's guidelines indicate that SWH are to be assessed following the province's *Significant Wildlife Habitat Criteria Schedules for Ecoregions 6E* (SWHCS) (OMNRF, 2015).

Bowfin Environmental Consulting (Bowfin) has been retained to prepare this scoped EIS and, under a separate cover, a Tree Conservation Report (TCR Report). The report begins with a descriptions of the methodologies used, followed by a summary of existing information on SAR or SWH, and then by the findings from site investigations completed in 2021 by Bowfin for this proposed development and ends with an evaluation of potential impacts to any identified SAR or SWH.

Figure 1: General Location of Site

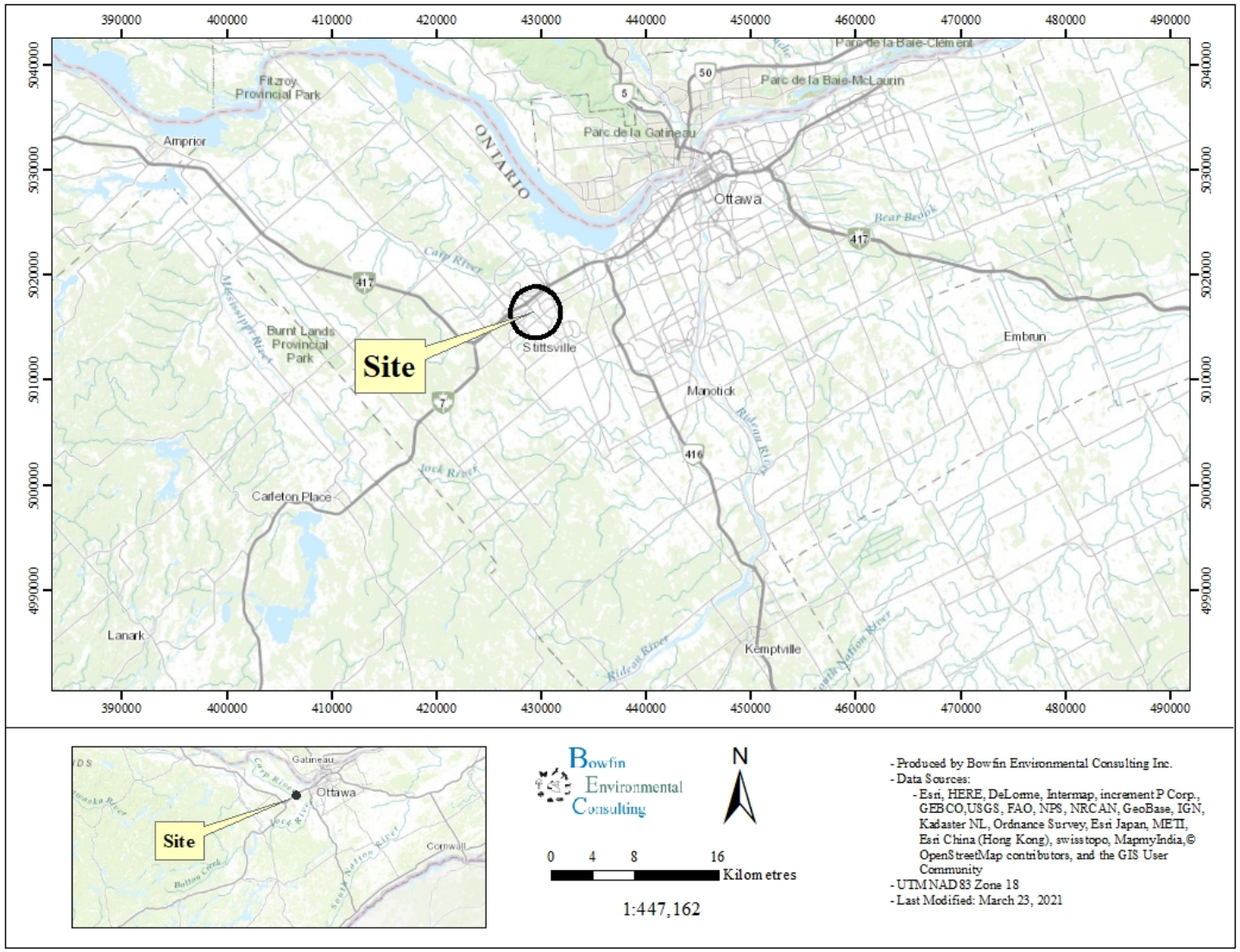
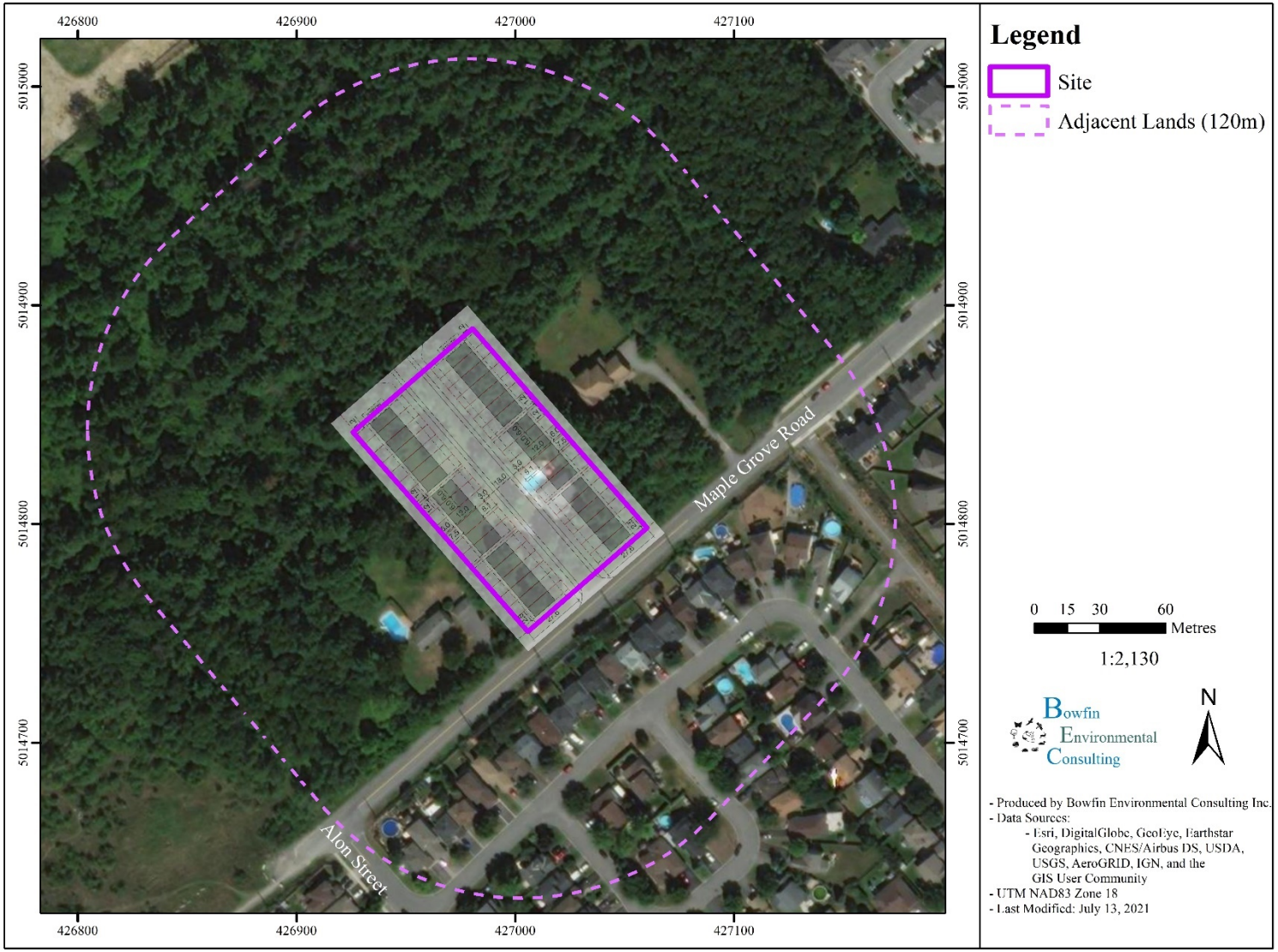


Figure 2: Proposed Site Layout and the Adjacent Lands



2.0 METHODOLOGY

2.1 Study Area

For the most part, the OP calls for an evaluation of the areas to be impacted directly and the adjacent 120 m. This is adjusted when analyzing the potential for species at risk (SAR) as their protected habitats vary with the species being considered.

2.2 Background Review

CDP for Kanata West and other information collected from outside sources was used to help inform the functions of features identified as present or potentially present. Outside sources included: Natural Heritage Information Centre (NHIC) database, iNaturalist, Atlas of Breeding Birds of Ontario (ABBO), Make-a-Map Land Information Ontario (LIO), and LIO databases. Information from personal knowledge has also been included as appropriate. The desktop review included a larger area (~5 km).

2.3 Field Studies

2.3.1 Habitat Descriptions and Flora Observations

Habitat mapping was completed through the use of satellite imaging and ground truthed during the field visits. The field studies were completed by systematically cruising the study area. Specific habitat types within the study area, identified during the preliminary mapping exercise were also targeted for community description. Habitat descriptions were based on the appropriate methodologies such as: *Ontario Wetland Evaluation System, Southern Manual* (OWES) for wetland habitats and the *Ecological Land Classification for Southern Ontario* (ELC) for terrestrial habitats. The MNRF's ELC and OWES definition of wetlands do not match one another. Since wetlands are to be evaluated following OWES, the determination of the presence/absence of wetland habitat was based on the OWES definition of wetland habitat:

> *"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 favored the dominance of either hydrophytic or water tolerant plants".*

Specific attention was paid to locating species at risk (SAR) or species of conservation value listed as potentially occurring within the study area. If these species were observed, they would be photographed, and their coordinates recorded on a hand-held GPS using NAD83. 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, 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).

2.3.2 Turtle Surveys

The methodology was based on the MNRF's *Blanding's Turtle Survey Protocol* (MNRF, 2015). The site visits consisted of five visual surveys of areas within the project area and adjacent lands outlined as being potential turtle habitat using Blanding's Turtle general habitat description by MNRF. The survey period begins following ice-melt and ends on June 15th. The spacing of surveys should be such that a minimum period of 3 weeks is covered.

The province requires that basking surveys be completed between 8 am and 5 pm during sunny periods and when air temperature is at least 5°C (partially cloudy is accepted if air temperature is above 15°C and is warmer than the water temperature). When possible, surveys should target days immediately following inclement weather, when turtles would be more prone to basking. Information collected included: date of survey, start and stop time, weather conditions, number and species of turtles observed, and their location was noted using a hand-held GPS. A map would be produced identifying the location of the turtles. None were noted.

2.3.3 Bird Surveys

Information on bird use of the area was collected through a raptor nest survey, daytime breeding bird surveys and nighttime surveys for eastern whip-poor-will. The raptor nest survey consisted of looking for evidence of nesting (such as stick nests, food caches, whitewashing of branches and foliage, accumulation of feathers/fur or prey remains on the ground or in shrubs as per the *Significant Wildlife Habitat Technical Guide* (SWHTG) Appendix O) as well as the raptors themselves. The general daytime breeding bird surveys methods were as follows:

- Two visits were completed for the forest and swamp habitats and these two visits were a minimum of 15 days apart.
- Surveys began no earlier than 30 minutes after dawn and completed by midday.
- Visits were conducted on days with no rain, little to no wind and good visibility.
- The survey type was point counts.
    - Consisted of 5-min point count stations spaced 300 m apart (or as near as 100 m if needed to obtain information from all habitat types)
    - Point counts consisted of listening and observing over the specified time period and recording the number of birds heard/seen, their sex, location, behavior and interactions with others; and
    - While walking between points, any additional observations were recorded.
- Birds were identified by sound and/or sight.

Nighttime eastern whip-poor-will surveys were completed as per the province's guidelines.

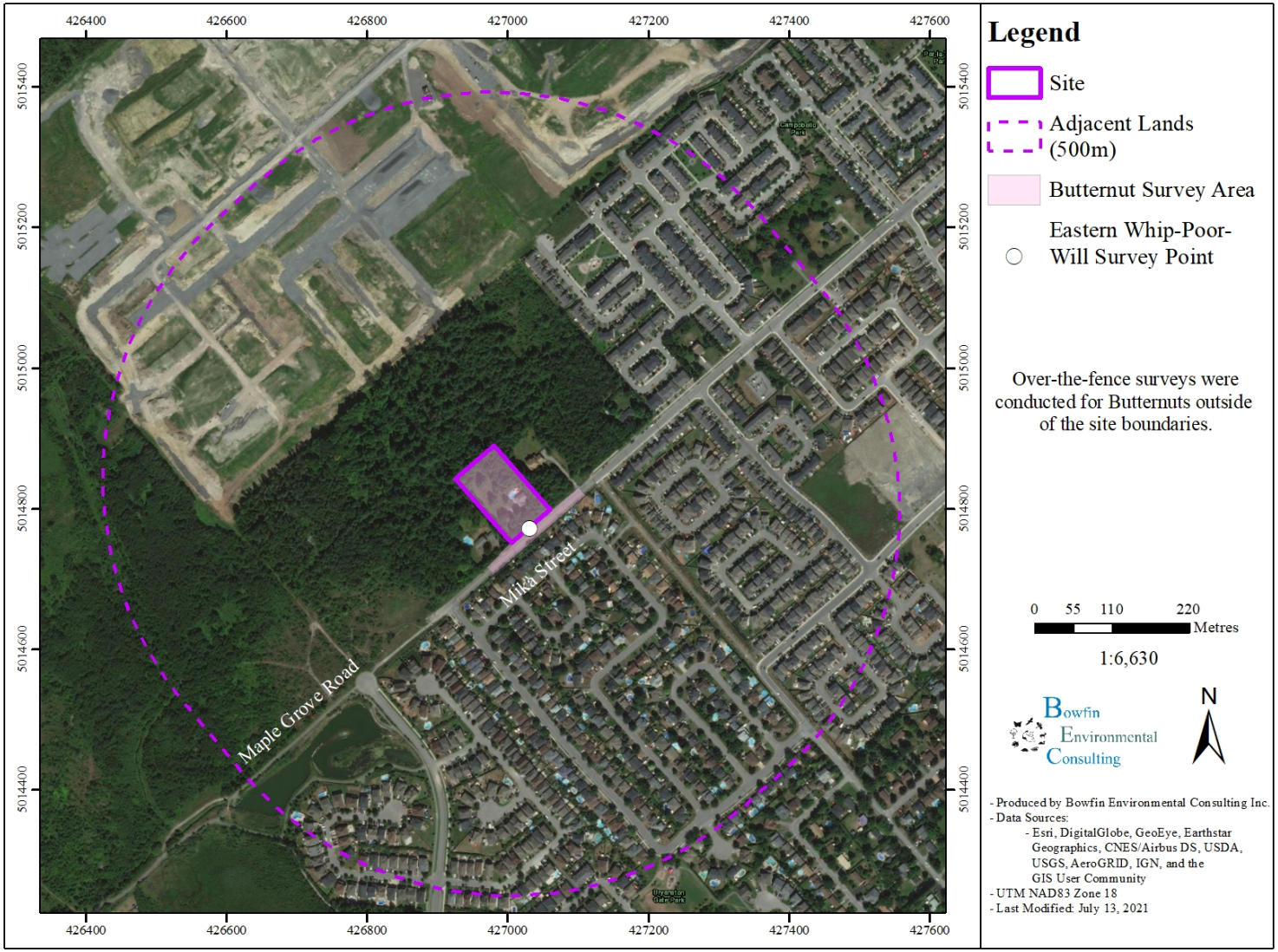
These methods consist of:

- Three surveys to be completed at least 1 week apart between May 18th and June 30th and on nights with appropriate conditions [over 10°C, calm winds (less than 3 on the Beaufort Scale), 50% or more visible moon face illuminated & moon over the horizon].
- Begin at least 30 minutes after sunset and no later than 15 minutes before sunrise.
- Completed when the moon is above the horizon.
- Point observations consisted of a minimum of 6 minutes/station spaced approx. 500 m apart (Figure 3)

2.3.4 Butternut Inventory

Butternuts are an endangered species. While the Ministry of Environment, Conservation and Parks (MECP) is now responsible for the *Endangered Species Act* (ESA), they have not provided new guidelines. Previously, the Ministry Natural Resources and Forestry (MNRF) certified Butternut Health Assessors (BHA) to complete Butternut Health Assessments as per MNRF's guidelines. This BHA was completed by a qualified Butternut Health Assessor (#117). The search included the entire original site and the adjacent 50 m around the site (where access was possible) (Figure 3). Any individuals noted would be marked with white spray paint and flagging tape and numbered sequentially. For those on-site, or where permission is granted in the adjacent lands, the UTMs, using a GPS unit set at NAD83, would be recorded and the individual would be assessed according the BHA protocol. Any others are only discussed when the proposed works has the potential to harm the individual or its habitat.

Figure 3: Butternut Survey Area and Eastern Whip-Poor-Will Survey Point



3.0 BACKGROUND INFORMATION

3.1 Location

This project is located at 1927 Maple Grove Road, which is east of the Maple Grove Road and Alon Street intersection (Figure 2). It is in part of Lot 1, Concession 1, in the former municipality of West Carleton, the Geographic Township of Huntley (UTM 18T 426980 m E; 5014827 m N, and Latitude 45.283148 Longitude -75.931067). It is bordered by coniferous forest to the north, single lot residences to the east and west, and dense residential areas to the south. It is also understood that at least a portion of the adjacent lands to the west, east, and north (1919 and 1981 Maple Grove Road) are proposed to be developed by others.

3.2 Natural Heritage Features

During the pre-consultation, the City commented that the triggers for this EIS were the potential for Species at Risk (SAR) and significant wildlife habitat (SWH). The potential SAR, most likely to occur on this Site, would be eastern whip-poor-will, bats and/or butternuts. SAR and SWH are discussed following the review of available habitat and species-specific survey results.

3.3 Geology and Hydrologic Conditions

In general, the area is flat and is identified as Sand Plains in the mapping from the *Characterization of Ottawa's Watershed: An Environment Foundation Document with Supporting Information Base* (March 2011). A summary of the information from the above-mentioned report and maps is provided in Table 3.

The information for the soils map of the area shows the site as having an Ironside soil with Farmington clay loam in the adjacent lands (*Soils of Regional Municipality of Ottawa-Carleton*).

There were no watercourses, lakes, ponds, or groundwater seeps on the property. The neighbouring property to the west (1939 Maple Grove Road) has a very small (<50 m^2) pond in their back northeast corner. It appears to be man-made.

Table 1: Summary of Soil and Geology Information Available from the Characterization of Ottawa's Watershed Maps

Map	Classification
Bedrock	Limestone with some shaly partings
Surficial Geology	Fine sand or loamy fine sand marine material over glacial till material
Physiography Unit	Sand Plains
Permeability	Medium

Map	Classification
Overburden Depth	Shallow to Deep
Hydrological Soil Group	B and C

4.0 SITE INVESTIGATION RESULTS

4.1 Site Investigation Dates and Purpose

The site investigations took place between early April and late June 2021. The table below provides a summary of the dates, weather conditions and purpose of the site investigations.

Table 2: Summary of Dates, Times, Conditions and Purpose of Site Investigations

Date	Time (h)	Staff	Air Temperature (Min-Max) °C	Cloud Cover (%) Beaufort Wind Scale [Descriptor (scale)]	Moon Visibility (%)	Purpose
April 7, 2021	1430-1515	M. Lavictoire	17.0 (0.5-18.8)	Clear sky Wind: light breeze (2)	n/a	-Initial Visit -Raptor Nest Survey -Turtle Basking Survey
April 13, 2021	1600-1610	S. Lafrance	17.0 (8.6-18.4)	Partially cloudy Wind: light air (1)	n/a	-Turtle Basking Survey
April 23, 2021	1510-1520	S. Lafrance	13.0 (0.0-16.2)	Clear sky Wind: light breeze (2)	n/a	-Turtle Basking Survey
April 29, 2021	1100-1125	S. Lafrance	15.0 (7.3-16.5)	Hazy Wind: light air (1)	n/a	-Turtle Basking Survey
May 6, 2021	1330-1345	S. Lafrance	11.0 (3.0-13.8)	Mostly cloudy Wind: light breeze (2)	n/a	-Turtle Basking Survey
May 19, 2021	2300-2315	M. Lavictoire	21 (9.9-30.2)	Clear, no wind (0)	52.1	-Eastern Whip-poor-will Survey
May 25, 2021	0135-0145	S. Lafrance	13.0 (11.0-27.3)	Light haze Wind: light breeze (2)	97.4	-Eastern Whip-poor-will Survey
May 25, 2021	0705-0720	M. Lavictoire	16.0 (11.0-27.3)	Light haze Wind: light air (1)	n/a	-Breeding Bird Survey
June 10, 2021	0835-0855	A. Quinsey	18.0 (11.8-24.0)	Light haze Wind: light breeze (2)	n/a	-Breeding Bird Survey
June 22, 2021	2215-2225	A. Quinsey	12.0 (7.0-17.0)	Mainly Clear Wind: light air (1)	96.1	-Eastern Whip-poor-will

Date	Time (h)	Staff	Air Temperature (Min-Max) °C	Cloud Cover (%) Beaufort Wind Scale [Descriptor (scale)]	Moon Visibility (%)	Purpose
						Survey
June 23, 2021	2130-2145	A. Quinsey	20.8 (5.9-22.1)	Mostly Cloudy Wind: light breeze (2)	98.3	-Eastern Whip-poor-will Survey
June 29	0600-1130	M. Lavictoire, J. Malcolm, A. Quinsey	21.0 (11.0-27.3)	Mostly Cloudy Wind: light breeze (1)	n/a	-Vegetation Survey -Butternut Inventory/ Assessment

M. Lavictoire –Michelle (Nunas) Lavictoire – B.Sc. Wildlife Resources and M.Sc. Natural Resources
S. Lafrance – Sophie Lafrance – B.Sc. Biology and graduate diploma in Ecosystem Restoration
A. Quinsey – Al Quinsey – B.Sc. Environmental Biology

*Min-Max Temp Taken From: Environment Canada. National Climate Data and Information Archive. Ottawa International Airport. Available http://climate.weatheroffice.gc.ca/ [June 25, 2021]

4.2 Habitat Description

The majority of the site consisted of a residential lot with manicured lawn and a scattering of trees (white pine, white birch, and eastern white cedar) (Photo 1). On the west fence line there was a narrow windrow of white pine, eastern white cedar, and spruce (Photo 2). As previously mentioned, there was also a small constructed pond on the northwest corner of the adjacent property (Photo 3). The northern 25 m of the 1927 Maple Grove property included the edge of a coniferous, primarily white pine forest with just under 25% deciduous trees (Dry-Fresh White Pine Coniferous Forest). Based on available satellite and aerial images, the strong domination of the canopy layers by white pine continues further north and east. Along the Maple Grove Road frontage, the east side of the driveway was left more natural with a small Dry-Fresh White Birch-Poplar Mixed Forest inclusion to the main coniferous forest (Photo 4). The portion of the forest adjacent to this, further to the east, was a managed coniferous forest on the neighbour's property consisting solely of white pine and eastern white cedars (cedars were a fencerow along Maple Grove) (no other vegetation) (Photo 5). Below is a description of the only on site community, the dry-fresh white pine coniferous forest. Photographs of the adjacent lands are also included (from the fence line).

Photo 1: Manicured Lawn looking towards Maple Grove Road (June 29, 2021)

Photo 2: West windrow and west edge of Site (lawn) (April 7, 2021)

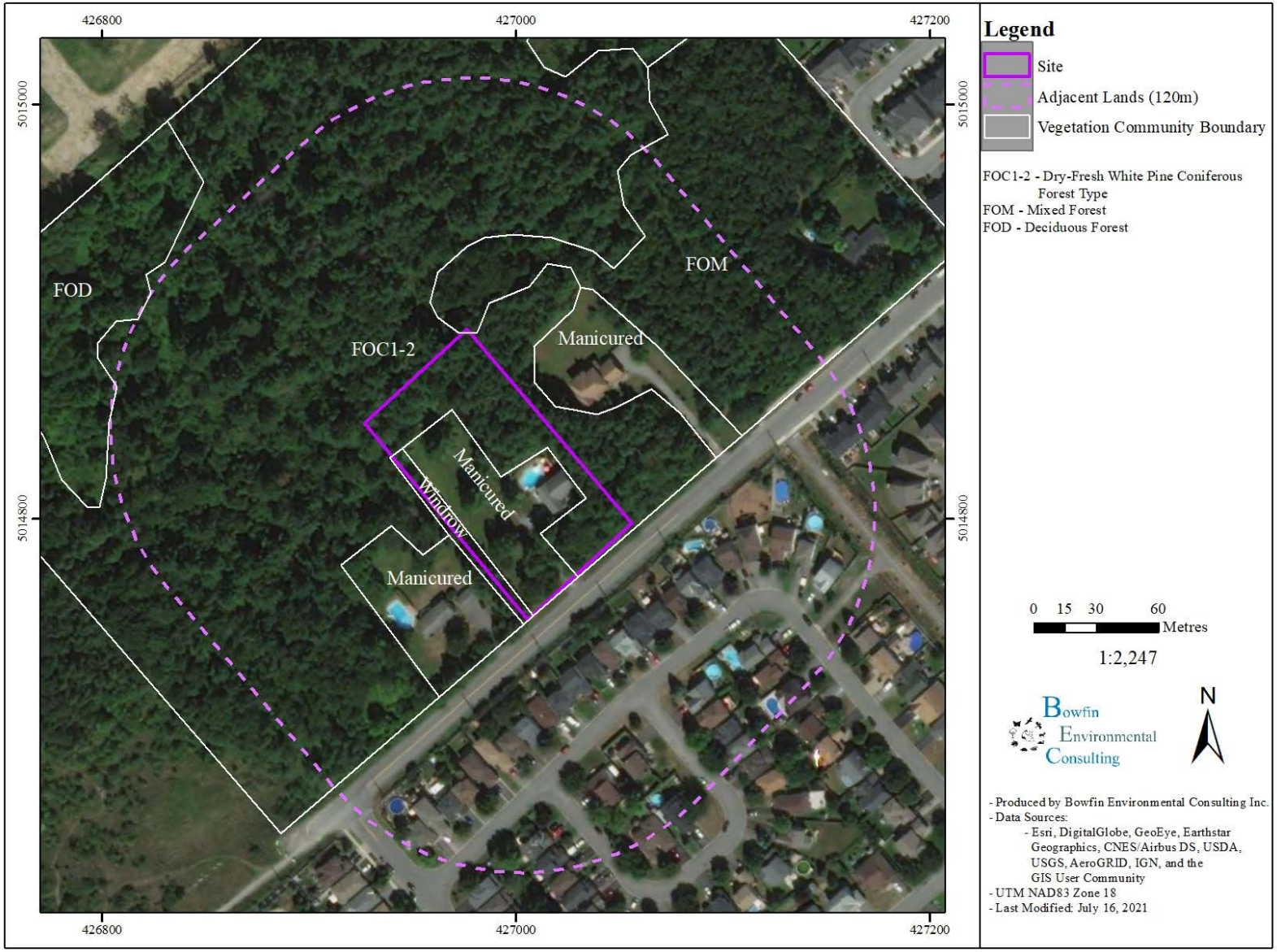
Photo 3: Pond in northwest corner of neighbour's property to the west (April 7, 2021)

Photo 4: Inclusion of a Mixed Forest NE of driveway (June 29, 2021)

Photo 5: Managed portion of Dry-Fresh Coniferous Forest (1919 Maple Grove) (April 7, 2021)

Photo 6: Mixed Forest in the east adjacent lands (as seen from Maple Grove Road) (April 7, 2021)

Figure 4: Vegetation Communities



Dry-Fresh White Pine Coniferous (FOC1-2)

The treed community covered roughly 0.97 ha of the property. This community continued offsite towards the east and north. The habitat on Site is edge habitat and was also disturbed by trail clearing and selective logging. The most applicable ELC community code for the whole community was Dry-Fresh White Pine Coniferous Forest. As mentioned above, it included a mixed inclusion along the Maple Grove Road and a portion of the eastern lands (Photo 4). This narrow portion of the community included more than 25% cover by white birch, trembling aspen and some freeman's maple. For the remainder, there was a strong presence of white pine in the canopy and just under 25% deciduous trees. Satellite/aerial imagery for the full community (including that further north, in the adjacent lands) suggests that the most common species was white pine. The deciduous trees were mostly younger species found in the openings where the pine had died. There was a strong presence of mature common buckthorn (up to 5 m tall). Overall, the community is described as a coniferous forest with a canopy layer that was 10-14 m tall and provided 80% cover. It was characterised by white pines along with a few white birch, trembling aspen, eastern white cedar, and freeman maples. The subcanopy (6-9 m tall; 30% cover) was composed of white birch and eastern white cedar. The understory (1-5 m tall, 70% cover) was primarily common buckthorn with some Tartarian honeysuckle, red raspberry, and prickly gooseberry. Ground cover was composed of Virginia creeper, poison ivy, and sensitive fern.

Photo 7: Coniferous Forest (June 29, 2029)

Plant Species Discussion

The Site was disturbed by selective logging, clearing of trails, and plantings of non-native vegetation. The property and adjacent lands had also been without trees in 1976. The plants observed were reviewed in terms of their provincial rank (SRank), presence of species of conservation value (provincial SRank of S1-S3 or listed as special concern), and species at risk (endangered or threatened provincially). There were no species of conservation value or SAR within the Site or in an area that could be indirectly impacted by the work activities associated with the Site.

4.3 Species-Specific Surveys

4.3.1 Blanding's Turtle Surveys

The surveys were completed as per the provincial protocol and on days with appropriate weather conditions. The surveyed area only included the pond located west of the site in its adjacent lands. The pond could be clearly seen/monitored from 1927 Maple Grove. No turtles were observed of any species. There are occurrences in the general area on NHIC and as such, this species is discussed further in Section 5.

4.3.2 Bird Survey

Daytime Surveys

Two daytime surveys were completed in 2021 (May 25 and June 10). Both visits took place during the morning on days with appropriate weather conditions. A total of 10 species were observed on the property during the breeding bird survey period. The observations were typically males calling (eastern phoebe, great crested flycatcher, red-eyed vireo, yellow warbler, chestnut-sided warbler) and foraging individuals (black-capped chickadee, white-breasted nuthatch, cedar waxwing, common grackle, and American goldfinch). An additional 11 birds were heard calling from the adjacent properties (warbling vireo, blue jay, American crow, common raven, red-breasted nuthatch, American robin, American redstart, ovenbird, chipping sparrow, song sparrow, and northern cardinal). Sharp-shined hawks were observed. One individual in April and two at the end of June. No nest could be confirmed, but it is often hard to locate nests in conifer trees. This species is discussed further under SWH.

No endangered, or threatened species were observed. No species of conservation value were observed.

No concentrations of colonial nesters were noted during the surveys.

Nighttime Surveys

Four eastern whip-poor-will visits were completed in 2021 during the appropriate period and under good conditions. No eastern whip-poor-will were heard.

4.3.3 Butternuts

The butternut inventory and assessment took place during the appropriate timing and weather conditions (June 29, 2021). There were no butternuts on Site and none that could be impacted by the project's activities.

5.0 ANALYSIS OF POTENTIAL TO IMPACT THE NATURAL FEATURES

As per the background information and communications with the City, this EIS was scoped to review the potential for SAR and SWH. The following summarizes these items based on the appropriate criteria and the field investigations results. For those that were deemed present, the potential to impact the features were assessed based on the methods listed below.

5.1 Review of Project Activities

The assessment of the potential impacts is completed by analyzing the impact of various activities associated with the project. The development of the residences would include the following activities:

- Clearing of all terrestrial vegetation. Note that it is anticipated that series of rear yard catch basis will be required. This will necessitate the clearing of vegetation across the entire site to allow for appropriate grading.
- Excavation, grading, and backfilling
- Construction of residences and services.

5.2 Impact Assessment Methods

The purpose of the EIS is to identify natural features, and provide guidance in the form of avoidance, mitigation or enhancement measures. For those features which may be negatively impacted, mitigation measures and, where appropriate, the next steps for compensation measures are recommended. The Provincial Policy Statement describes a negative impact as:

> *"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 fish habitat, any permanent alteration to, or destruction of fish habitat, except where, in conjunction with the appropriate authorities, it has been authorized under the Fisheries Act;*
> *d) 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."

The site will be fully serviced and is expected to take roughly one year to construct.

The significance of the potential impacts is 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 years)
    b. medium term (3-7years)
    c. long term (>7 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. Likelihood
    a. Whether an impact is likely to occur is described.

Cumulative Impacts:
Note that the potential for impacts to specific features to be cumulative are described for each natural feature. The cumulative impacts are considered based on the residual impact.

For this Site, the review of the available images indicate that in 1976, this property was agricultural and had no trees. At that time, there were a few single lots along Maple Grove Road. By 1999, additional the single lots were being developed and the high density housing project to the south was constructed. Additional high density residential housing continued

along Maple Grove Road to the east prior to 2008. In 2018, a large part of the forest to the north was cleared in preparation for additional development. As mentioned previously, it is understood that there are additional proposals for high density residential developments on both 1919 and 1981 Maple Grove. These properties would include impact the vegetation in the adjacent lands of 1927 Maple Grove (affecting vegetation to the north, west and east).

5.3 Evaluation of Potential Impacts

5.3.1 Endangered and Threatened Species

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. Within this report, the acronym SAR refers to only Endangered or Threatened species. Special Concern species do not receive protection from ESA or SARA.

A list of potential SAR was compiled using various sources and identified up to roughly 5 km from the Site. The resulting list includes 15 potential SAR: 1 insect (transverse lady beetle), 1 reptile (Blanding's turtle), 8 birds (least bittern, eastern whip-poor-will, chimney swift, loggerhead shrike, bank swallow, barn swallow, bobolink, and eastern meadowlark), 4 mammals (little brown myotis, northern myotis, eastern small-footed myotis, and the tri-colored bat), and 1 plant (butternut) (Table 3). Of these, many were determined not to be present or had no triggers for review based on guidance from the province. Table 3 notes the relevant MECP guidelines and triggers and indicates whether the species is brought forward for discussion.

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.

Table 3: Summary of Potential Endangered and Threatened Species

Common Name/ Population	Scientific Name	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	Preferred Habitat	Reference	MECP Guidelines/Triggers for Review	Brought Forward (Yes/No)
INSECTS								
Transverse Lady Beetle	*Coccinella transversoguttata*	S1	END	No status	Habitat generalists, primarily feeding on aphids and occurring across a wide range of habitats. Inhabits agricultural areas, suburban gardens, parks, coniferous forests, deciduous forests, prairie grasslands, meadows, riparian areas, and other natural areas.	COSEWIC 2016, COSSARO 2017	No occurrences with 2 km (no sightings in Ontario since 1985 according to CASSARO). The City of Ottawa SAR table (April 27, 2021) also has no further sightings of this species within the City's boundaries.	No
REPTILES								
Blanding's Turtle	*Emydoidea blandingii*	S3	THR	THR	Shallow water, large marshes, shallow lakes or similar such water bodies.	COSEWIC 2016a	There are occurrences within NHIC 1 km squares that are 2 km from the property. There is possible Category 2 habitat within the adjacent lands of the site which is 485 m from the next nearest waterbody or wetland. However, that habitat is the pond and is <50 m^2 and no turtles were observed during basking surveys (which began early after ice-off). Additional discussion below.	Yes
BIRDS								
Least Bittern	*Ixobrychus exilis*	S4B	THR	THR	Freshwater marshes, ditches, creeks, rivers and lakes with tall emergent vegetation.	COSEWIC 2009	No occurrences with 2 km. There is no suitable habitat in or near the property.	No
Eastern Whip-poor-will	*Caprimulgus vociferus*	S4B	THR	THR	Rock or sand barrens with scattered trees, savannahs, old	COSEWIC 2009	Surveys completed as per protocol. No individuals within 500 m but some were	No

Common Name/ Population	Scientific Name	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	Preferred Habitat	Reference	MECP Guidelines/Triggers for Review	Brought Forward (Yes/No)
					burns or other disturbed sites in a state of early to mid-forest succession, or open conifer plantations		noted within 5 km.	
Chimney Swift	*Chaetura pelagica*	S4B, S4N	THR	THR	Cities, towns, villages, rural, and wooded areas.	COSEWIC 2007	Surveys completed. No individuals observed in 2021 (or during CDP Phase)	No
Loggerhead Shrike	*Lanius ludovicianus*	S2B	END	END	Loggerhead Shrike breeding habitat is characterized by open areas dominated by grasses and/or forbs, interspersed with scattered shrubs or trees and bare ground. Suitable habitat includes pasture, old fields, prairie, savannah, pinyon-juniper woodland, shrub-steppe and alvar.	COSEWIC 2014	No occurrences within 2 km and none observed during 2021 or during CDP Phase. No suitable habitat for this species is present.	No
Bank Swallow	*Riparia riparia*	S4B	THR	THR	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	COSEWIC 2013	Surveys completed. No individuals observed in 2021 (or during CDP Phase). No suitable habitat is present.	No
Barn Swallow	*Hirundo rustica*	S4B	THR	THR	Open or semi-open lands: farms, field, marshes.	COSEWIC 2011a	Surveys completed. No individuals observed in 2021 (or during CDP Phase)	No

Common Name/ Population	Scientific Name	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	Preferred Habitat	Reference	MECP Guidelines/Triggers for Review	Brought Forward (Yes/No)
Bobolink	*Dolichonyx oryzivorus*	S4B	THR	THR	Primarily in forage crops, and grassland habitat.	COSEWIC 2010	There are no grassland habitats on or adjacent to the site. No sightings of this species during the breeding bird surveys or any other survey completed for the project in 2021.	No
Eastern Meadowlark	*Sturnella magna*	S4B	THR	THR	Fields, meadows and prairies.	COSEWIC 2011b	There are no grassland habitats on or adjacent to the site. No sightings of this species during the breeding bird or any other surveys completed for the project in 2021.	No
MAMMALS								
Little Brown Myotis	*Myotis lucifugus*	S4	END	END	Buildings, attics, roof crevices and loose bark on trees or under bridges. Always roost near waterbodies.	Eder 2002	MECP strongly recommends the use of avoidance timing window for clearing of trees (>10 cm in diameter) if this can be accomplished then no impacts.	Yes
Northern Myotis/Northern Long-eared Bat	*Myotis septentrionalis*	S3	END	END	Older (late successional or primary forests) with large interior habitat.	Menzel et al. 2002, Broders et al. 2006, SWH 6E Ecoregion Criterion Schedule		
Eastern Small-footed Myotis	*Myotis leibii*	S2S3	END	No Status	Found within deciduous or coniferous forests in hilly areas.	Eder 2002		
Tri-colored Bat	*Perimyotis subflavus*	S3?	END	END	Prefers shrub habitat or open woodland near water.	Eder 2002		
PLANTS								
Butternut	*Juglans cinerea*	S3?	END	END	Variety of sites, grows best on well-drained fertile soils in shallow valleys and on gradual slopes	COSEWIC 2003	The BHA was completed during June 2021 and no Butternuts were located in an area that would be impacted by this project. The BHA is valid until June 29, 2023.	Yes

Status updated: March 24, 2021

SRANK DEFINITIONS

S1 Critically Imperiled, Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.

S2 Imperiled 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

SNA Not Applicable, A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

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.

NAR Not at Risk, a wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.

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.

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, 2013b). 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

The NHIC database identifies Blanding's Turtles in a 1 km square that is within 2 km of the Site. The exact locations are obscured. There are no wetlands or waterbodies within the property. There is tiny pond (<50 m^2) in the adjacent lands to the west. This pond was surveyed 5 times during the appropriate time of the year and no turtles (of any species) were seen. This pond is just within the 500 m range of Feedmill Creek and just within the 2 km range of the entire NHIC 1 km square. However, based on our knowledge from other projects near the NHIC occurrence, the sightings of Blanding's turtle are likely just over 2 km of this site. This combined with the land-uses around the NHIC occurrences, the location of the nearest potential habitat to 1927 Maple Grove (the adjacent pond) and the surrounding fully developed lands (residential area, manicured lawn), this particular pond is unlikely to provide Category 1-2 habitat. Further, it does not lead to any other potential habitat) and is thus unlikely to provide Category 3 habitat. This will be confirmed with MECP.

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 bat 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.

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). There is no interior habitat present, and forest was not present until after 1976.

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 no suitable rocky habitat present. The house on site is still occupied by people. 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. 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 high quality candidate maternity consists of a mature deciduous or mixed forest with >10/ha of large trees (>25 cm DBH). This Site was a coniferous forest with the deciduous trees coming up as younger individuals. There remains the potential for various species to utilise the trees on-site for day-roosts. Mitigation measures will be included discussed further below.

Butternuts

There are no butternuts on site and no potential to impact other protect butternuts or their habitat. Butternuts are normally assessed based on the amount of canker (the disease which is killing the species), their size and health, as per the MNRF BHA protocol. This method classes the individual trees as one of three categories:

- Category 1 are those that are heavily infected to the point that they are not expected to survive. Once reported to MECP and after a 30-day review period, these individuals can be removed without any offsetting.
- Category 2 may have some canker but are still considered healthy. Offsetting required following submission of BHA.
- Category 3 are the same as Category 2, but these are larger individuals situated near heavily cankered trees and MECP believes that some may be showing immunity to the disease. Offsetting required following submission of BHA.

Butternut inventories are good for 2-years (in this case until June 29, 2023).

SAR Mitigation Measures

General:

- Endangered and Threatened species are protected and cannot be harmed, harassed, or killed and in some cases their habitats are also protected. These individuals will only be handled by qualified person and only if the individual is in imminent threat of harm. An authorization under the ESA 2007 would be required to handle individuals that are not in imminent threat of harm.
- If a SAR enters the work area during the construction period, any work that may harm the individual is to stop immediately and the supervisor will be contacted. No work will continue until the individual has left the area.
- Should an individual be harmed or killed then work will stop, and the Ministry of Environment, Conservation and Parks (MECP) will be contacted immediately.
- Educate staff and contractors on the potential for SAR to be in the area and their significance.
- Mitigation measures listed elsewhere in this report are also applicable to this section.
- If a SAR is encountered, this information will be provided to the Natural Heritage Information Centre (Report rare species (animals and plants) | Ontario.ca)

SAR Turtles: The measures below will be shared with MECP. Note that these measures also apply for SWH turtle wintering areas and turtles in general.

Construction:

- During construction, temporary turtle exclusion fencing will be installed around the west, north and east sides with turn-arounds along the south (Maple Grove Road frontage). Reptile and Amphibian Exclusion Fencing: Best Practices (OMNR, 2013d) will be followed for exclusion fence design.
- The temporary fencing can consist of sediment fencing that is properly countersunk and maintained.
- Clearing of vegetation will take place during the turtle inactive season when they are hibernating. Since hibernation typically occurs between April 16-October 15, clearing of vegetation is to occur between October 16 and April 15. Otherwise, additional surveys (sweeps for turtles by fish and wildlife technician or biologist familiar with the species are needed). Further note that the timing constraint for tree removal is more restriction (see bats).
- 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. Ensure to inform workers that there is a high potential for the species to occur in this area.

- Educate workers, that this species is known to travel far from aquatic habitats and as such, they are to perform a daily sweep of the work area when they first arrive on-site during the turtle active season (typically April 16-October 15; timing affected by weather conditions).
- A speed limit of 15 km/h is recommended for vehicles used during construction or to access the stormwater management facility. The speed limit is to be posted.
- Additional fencing is recommended around any stockpiles that might provide suitable nesting substrate (i.e. gravel, soil) to help prevent turtles from nesting in the work area. Note that should suspected Blanding's Turtle nesting occur, the work would be shut down until hatching and MECP would need to be contacted for guidance. As such, it is imperative that the temporary exclusion fence and this additional fencing be maintained.
- 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.
- If an individual has been impacted, the supervisor should contact MECP (and if applicable the project biologist) immediately.

Activity	Area	Nature	Duration	Magnitude/Likelihood
Construction	Local	Negative Direct (accidental harm to individual)	Permanent if an individual is killed.	If temporary turtle exclusion fence is installed and maintained then there is a low potential of interaction. Further, if the work within the Blanding's Turtle habitat takes place during outside of the active turtle season, then it is unlikely to impact this species.

Cumulative Impacts: Overall, the potential for residual impacts to Blanding's turtle to occur is very low considering the habitat on-site (mowed lawn), the location of the Site (on edge of fully developed lands to east and south) and as the nearest sightings are just over 2 km away. The turtles do not need to access the property in order to reach nesting or overwintering habitat.

SAR Birds: As the natural vegetation will be permanently removed, any impact to SAR or their habitat would be permanent. But no SAR birds were identified as occurring or likely to occur.

- No impacts to federal SAR bird nests, or their eggs is permitted under the federal *Species at Risk Act*. If a federally listed bird species at risk nest is encountered, then work must stop until the young have fledged. If the nest/young have been harmed, then Environment Canada must be notified immediately for guidance.
- 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.

Area	Nature	Duration	Magnitude
Local	Negative Direct	Permanent (Removal of vegetation)	Unlikely to occur

Cumulative Impacts: Not applicable, no SAR birds identified for the site. The loss of an additional <1 ha of coniferous with mixed forest inclusions, much of which is dominated by invasive species (common buckthorn) will not result in cumulative impacts to SAR birds.

Bats: The Site is unlikely to provide bat maternity habitat. The most likely interaction with SAR bats would be restricted to day-roosts. Recent discussions with MECP on this species indicate that they do not need to be approached if the timing window below can be adhered to.

- Educate contractors by informing them that most bats in Ontario are protected.
- **Remove trees (>10 cm in diameter) between October 1 and March 31 (Bat active season is currently assumed to be April 1 to September 30).** If this is not possible, conduct exit survey prior to cutting them down. If the exit survey identifies bats, contact MECP or biologist for additional guidance. Note that there are other species that are also protected by this timing window. Additional measures would be required to ensure that they are not impacted (see turtles (above) and other (below)).

Area	Nature	Duration	Magnitude
Local	Negative Direct	Permanent Term (removal of trees)	Low potential (since no maternity or hibernacula are present)

Cumulative Impacts: Discussions with MECP indicate that habitat is not limited in the Kemptville District and that their main concern is with removing suitable bat habitat during the active season. The removal of the small area associated with this project is not anticipated to have cumulative impacts on SAR bats or bats in general.

Plants: The only SAR (Endangered or Threatened) plant species in the area was butternuts. None are present on Site, and none will be impacted by this development.

Mitigation Measures:

- Note that BHAs are only good for 2-years as such if work is not completed prior to June 29, 2023, a new BHA would be required. If a new BHA is required, plan to complete the BHA during the green-leaf period (mid-May to end of August) to confirm lack of butternuts no earlier than 2 years prior to construction.
- If a butternut is situated within 25 m or 50 m (for Category 3s), then a sturdy fence (highly visible such as snow fencing) is to be erected along the edge of the appropriate buffer (25 m for Category 1s and 2s and 50 m for Category 3s). Note that if a BHA is submitted to MECP, Category 1s can be removed following a 30-day review period. No activities that disturb the vegetation or soil (including movement of vehicles or stockpiling of material) are permitted beyond this area.
- Educate contractors by informing them that butternuts are protected. Note that there is a large number of walnuts on-site and these are similar in appearance to butternuts, but walnuts are not protected.

Area	Nature	Duration	Magnitude
Local	Negative Direct	Permanent Term (removal of trees)	Low potential since none have been found to date near the work area and as there are well-known measures for offsetting should any be identified

Cumulative Impacts: At this time, it is anticipated that there will be no impacts to butternuts. No cumulative impacts for this species likely.

5.3.2 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 organized 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 *Significant Wildlife Habitat Ecoregion 6E Criterion Schedule (*OMNRF, 2015) was reviewed. The vegetation communities encountered were coniferous forest with inclusions of mixed forest. The deciduous trees were typically younger, growing in openings left by dead white pines. The woodland stand is roughly 20 ha (on and offsite) and did not contain any interior habitat (widest area was 220 m). There were no rare communities or species documented. There were no species of conservation value found. The only species of note was the sharp-shined hawks. While no nests could be confirmed, they are difficult to find. However, the minimum standards for a woodland to be considered candidate woodland raptor habitat are not meet (must be more than 30 ha in size, with more than 10 ha of interior habitat after a buffer of 200 m is removed). This stand did not meet the minimum requirements to be considered candidate habitat for woodland raptors. No additional measures are required, those listed under SAR and Other are sufficient.

5.3.3 Other

The measures outlined above serve to protect the identified or potentially present natural features identified in the background review and/or site investigations. However, there are also some other items that should be mentioned.

1. Almost all birds in Ontario are protected by either MBCA or FWCA.
2. Most reptiles are protected by the FWCA

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 5th 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. Note that due to the vegetation on the back and east side of the site, looking for active bird nests at this site would be difficult and could lead to false negatives. Proponent is strongly encouraged to follow timing windows.

- During construction, there is a potential for suitable habitat for ground nesting birds (i.e. killdeer) to be created. These include bare soil or gravel areas. 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.
- If a turtle nest is suspected, then flag a 10 m buffer to protect the nest. Contact MECP (for SAR) and MNRF (all other species).

5.3.4 Accidents and Malfunctions

Although the likelihood of accidents and malfunctions occurring would be minimized by following the mitigation measures outlined below, should accidents and/or malfunctions occur they have the possibility of presenting serious impacts and require consideration.

Contaminant and Spill Management

- All equipment will be clean and free of mud to help prevent the spread of invasive plant species.
- All equipment working in or near the water should be well maintained, clean and free of leaks. Maintenance on construction equipment such as refueling, oil changes or lubrication would only be permitted in designated area located at a minimum of 30 m from the shoreline in an area where erosion and sediment control measures and all precautions have been made to prevent oil, grease, antifreeze or other materials from inadvertently entering the ground or the surface water flow.
- Emergency spill kits will be located on site. The crew will be fully trained on the use of clean-up materials to minimize impacts of any accidental spills. The area would be monitored for leakage and in the unlikely event of a minor spillage the project manager would halt the activity and corrective measures would be implemented. Any spills would be immediately reported to the MOECC Spills Action Centre (1800 268-6060).
- Following the completion of construction, all construction materials will be removed from site.

Table 4 Summary of Impacts, Mitigation Measures and Residual Effects

Note that the reader is directed to Section 5.2 for a more thorough list of mitigation measures. Any discrepancies between those listed in Section 5.2 and this table, those in 5.2 shall be considered accurate.

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
Construction				
Vegetation Clearing in preparation development	Bird nests protected by MBCA or FWCA Trees to be retained on neighbouring lands.	Most of the habitat present is considered unsuitable for SAR (mowed lawn). The exceptions are the potential for individual Blanding's Turtle to wander to enter the area and for bats to day-roost. Removal of vegetation would destroy (temporarily or permanently) breeding habitat for birds. Accidental harm to trees on neighbouring lands.	There are no trees to be retained on Site. Those in the adjacent habitats will be protected with sturdy fencing erected outside of their CRZ. A permit from the City will be required prior to removing trees greater than 10 cm DBH. No impact to trees on neighbouring lands is permitted without prior consultation with neighbours. No signs, notices or posters should be attached to any trees;	None

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
			Any landscape plans will include native species as much as possible. Various species could be used including: white pine, sugar maple, hickory, bur oak, nannyberry. Where possible the woody vegetation should be planted in groupings to maximize wildlife benefit. All vegetation clearing must occur outside all timing windows (Blanding's turtle active season, breeding birds, all species, and bat active season). Vegetation is to be cleared between October 16 and March 31. Temporary turtle	

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
			exclusion fencing shall be installed around the site during construction to prevent turtles from entering the site. Turn-arounds to be added to opening along the Maple Grove frontage (as per the MNRF guidelines). Workers will be educated on the potential for SAR in general. If a SAR enters the work area during the construction period, any work that may harm the individual is to stop immediately and the supervisor will be contacted. No work will continue until the individual has left the area. These sightings	

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
			will be reported to MECP and NHIC. Should an individual be harmed or killed then work will stop and MECP will be contacted immediately. Sightings will be reported to NHIC. Educate workers, that Blanding's Turtle is known to travel far from aquatic habitats and as such, they are to perform a daily sweep of the work area when they first arrive on-site during the turtle active season (typically April 16-October 15; timing affected by weather conditions). Also note that nests of other turtle species (i.e. Snapping Turtle) are protected.	

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
			Contractor is to refer to the City of Ottawa Protocol for Wildlife Protection during Construction (August 2015).	
Construction of infrastructure, buildings, and Grading	Urban wildlife habitat	Noise from machinery may also cause a disturbance to wildlife.	The recommended temporary exclusion fence during construction will also help keep other reptiles out of the site. Maintain sediment fencing as needed. No work outside of limit of development. Work during the daytime hours to prevent light disturbances. Ensure that all equipment have the appropriate mufflers to	None provided that mitigation measures are properly implemented and maintained.

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
			reduce noise disturbances. Construction staff will be informed of the SAR in the area (Appendix C). No permanent turtle exclusion fencing is required for this project as it is outside of the Blanding's Turtle habitat.	
Accidents or Malfunctions	Soil and groundwater. Vegetation	Spills or accidents during construction could impact the soil/groundwater. Equipment brought in from other areas can increase the spread of invasive plant species.	All equipment should be well maintained, clean and free of leaks. Maintenance of construction equipment should occur where all precautions have been made to prevent oil, grease, antifreeze or other materials from inadvertently entering the ground or surface	Unlikely

Activity	Natural Heritage Feature/Function	Potential Effect	Proposed Mitigation	Residual Effect
			water. 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).	

6.0 CONCLUSION

The lands to be developed are situated at 1927 Maple Grove Road are mostly manicured lawn with individual trees, and remnant forest. The back 25 m included a portion of the greater dry-fresh white pine coniferous forest. This forest is roughly 20 ha and had no interior habitat. There were no aquatic features.

With respect to the potential for Endangered or Threatened habitat or species the most likely candidates are butternuts and day-roosts for bats. There is also a very small potential for wandering Blanding's turtle. No butternuts were found in the area to be impacted. Timing window for clearing of vegetation will need to be adhered to **(no clearing of vegetation between April 1 and October 15).**

The TCR did not identify any trees to be retained (separate document) but it was noted that the entire 1927 Maple Grove Road property will need to be cleared and graded. This has the potential to impact trees on the neighbouring properties (not City property) and discussions will be required with the adjacent landowners, if trees are still present, at detailed design.

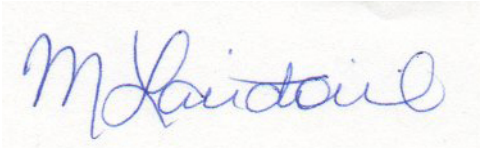
Since butternut health assessments are only valid for 2-years, it is recommended that a new BHA be completed between 1-2 years prior to construction.

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 of the items included within this report. 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

7.0 REFERENCES

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Appendix A: Background Information

ATLAS OF Breeding Birds in Ontario
Squares 18VR821, 18VR31, 18VR20, and 18VR30

Common Name	Scientific Name	ABBO Category	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status
Canada Goose	*Branta canadensis*	Confirmed	S5	no status	no status
Wood Duck	*Aix sponsa*	Confirmed	S5	no status	no status
Gadwall	*Anas strepera*	Confirmed	S4	no status	no status
American Wigeon	*Anas americana*	Possible	S4	no status	no status
American Black Duck	*Anas rubripes*	Confirmed	S4	no status	no status
Mallard	*Anas platyrhynchos*	Confirmed	S5	no status	no status
Northern Pintail	*Anas acuta*	Confirmed	S5	no status	no status
Green-winged Teal	*Anas crecca*	Probable	S4	no status	no status
Blue-winged Teal	*Anas discors*	Confirmed	S4	no status	no status
Hooded Merganser	*Lophodytes cucullatus*	Probable	S5B,S5N	no status	no status
Common Merganser	*Mergus merganser*	Probable	S5B,S5N	no status	no status
Ruddy Duck	*Oxyura jamaicensis*	Confirmed	S4B,S4N	no status	no status
Gray Partridge	*Perdix perdix*	Confirmed	SNA	no status	no status
Ruffed Grouse	*Bonasa umbellus*	Confirmed	S4	no status	no status
Wild Turkey	*Meleagris gallopava*	Confirmed	S5	no status	no status
Common Loon	*Gavia immer*	Probable	S5B, S5N	no status	no status
Pied-billed Grebe	*Podilymbus podiceps*	Confirmed	S4B, S4N	no status	no status
American Bittern	*Botaurus lentiginosus*	Confirmed	S4B	no status	no status
Great Blue Heron	*Ardea herodias*	Possible	S4	no status	no status
Green Heron	*Butorides virescens*	Confirmed	S4B	no status	no status
Turkey Vulture	*Cathartes aura*	Confirmed	S5B	no status	no status
Osprey	*Pandion haliaetus*	Confirmed	S5B	no status	no status
Northern Harrier	*Circus cyaneus*	Confirmed	S4B	no status	no status
Sharp-shinned Hawk	*Accipiter striatus*	Probable	S5	no status	no status
Cooper's Hawk	*Accipiter cooperii*	Confirmed	S4	no status	no status
Northern Goshawk	*Accipiter gentilis*	Confirmed	S4	no status	no status
Broad-winged Hawk	*Buteo platypterus*	Possible	S5B	no status	no status

Common Name	Scientific Name	ABBO Category	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status
Red-tailed Hawk	*Buteo jamaicensis*	Confirmed	S5	no status	no status
American Kestrel	*Falco sparverius*	Confirmed	S4	no status	no status
Merlin	*Falco columbarius*	Confirmed	S5B	no status	no status
Virginia Rail	*Rallus limicola*	Confirmed	S5B	no status	no status
Sora	*Porzana carolina*	Confirmed	S4B	no status	no status
Common Gallinule	*Gallinula galeata*	Confirmed	S4B	no status	no status
American Coot	*Fulica americana*	Probable	S4B	no status	no status
Killdeer	*Charadrius vociferus*	Confirmed	S5B, S5N	no status	no status
Spotted Sandpiper	*Actitis macularia*	Confirmed	S5	no status	no status
Upland Sandpiper	*Bartramia longicauda*	Confirmed	S4B	no status	no status
Common Snipe	*Gallinago delicata*	Confirmed	S5B	no status	no status
American Woodcock	*Scolopax minor*	Confirmed	S4B	no status	no status
Rock Pigeon	*Columba livia*	Confirmed	SNA	no status	no status
Mourning Dove	*Zenaida macroura*	Confirmed	S5	no status	no status
Black-billed Cuckoo	*Coccyzus erythropthalmus*	Probable	S5B	no status	no status
Eastern Screech-Owl	*Megascops asio*	Possible	S4	no status	no status
Great Horned Owl	*Bubo virginianus*	Confirmed	S4	no status	no status
Barred Owl	*Strix varia*	Probable	S5	no status	no status
Long-eared Owl	*Asio otus*	Possible	S4	no status	no status
Northern Saw-whet Owl	*Aegolius acadicus*	Probable	S4	no status	no status
Common Nighthawk	*Chordeiles minor*	Probable	S4B	SC	THR
Whip-poor-will	*Caprimulgus vociferus*	Possible	S4B	THR	THR
Ruby-throated Hummingbird	*Archilochus colubris*	Confirmed	S5B	no status	no status
Belted Kingfisher	*Ceryle alcyon*	Confirmed	S4B	no status	no status
Red-headed Woodpecker	*Melanerpes erythrocephalus*	Probable	S4B	SC	THR
Yellow-bellied Sapsucker	*Sphyrapicus varius*	Confirmed	S5B	no status	no status
Downy Woodpecker	*Picoides pubescens*	Confirmed	S5	no status	no status
Hairy Woodpecker	*Picoides villosus*	Confirmed	S5	no status	no status

Common Name	Scientific Name	ABBO Category	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status
Northern Flicker	*Colaptes auratus*	Confirmed	S4B	no status	no status
Pileated Woodpecker	*Dryocopus pileatus*	Confirmed	S5	no status	no status
Eastern Wood-Pewee	*Contopus virens*	Confirmed	S4B	SC	SC
Alder Flycatcher	*Empidonax alnorum*	Confirmed	S5B	no status	no status
Willow Flycatcher	*Empidonax traillii*	Confirmed	S5B	no status	no status
Least Flycatcher	*Empidonax minimus*	Probable	S4B	no status	no status
Eastern Phoebe	*Sayornis phoebe*	Confirmed	S5B	no status	no status
Great Crested Flycatcher	*Myiarchus crinitus*	Confirmed	S4B	no status	no status
Eastern Kingbird	*Tyrannus tyrannus*	Confirmed	S4B	no status	no status
Blue-headed Vireo	*Vireo solitarius*	Possible	S5B	no status	no status
Yellow-throated Vireo	*Vireo flavifrons*	Probable	S4B	no status	no status
Warbling Vireo	*Vireo gilvus*	Confirmed	S5B	no status	no status
Red-eyed Vireo	*Vireo olivaceus*	Confirmed	S5B	no status	no status
Blue Jay	*Cyanocitta cristata*	Confirmed	S5	no status	no status
American Crow	*Corvus brachyrhynchos*	Confirmed	S5B	no status	no status
Common Raven	*Corvus corax*	Confirmed	S5	no status	no status
Horned Lark	*Eremophila alpestris*	Confirmed	S5B	no status	no status
Purple Martin	*Progne subis*	Confirmed	S3S4B	no status	no status
Tree Swallow	*Tachycineta bicolor*	Confirmed	S4B	no status	no status
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	Confirmed	S4B	no status	no status
Bank Swallow	*Riparia riparia*	Confirmed	S4B	THR	THR
Cliff Swallow	*Petrochelidon pyrrhonota*	Confirmed	S4B	no status	no status
Barn Swallow	*Hirundo rustica*	Confirmed	S4B	THR	THR
Black-capped Chickadee	*Poecile atricapilla*	Confirmed	S5	no status	no status
Red-breasted Nuthatch	*Sitta canadensis*	Confirmed	S5	no status	no status
White-breasted Nuthatch	*Sitta carolinensis*	Confirmed	S5	no status	no status
Brown Creeper	*Certhia familiaris*	Confirmed	S5B	no status	no status
House Wren	*Troglodytes aedon*	Confirmed	S5B	no status	no status
Winter Wren	*Troglodytes troglodytes*	Probable	S5B	no status	no status

Common Name	Scientific Name	ABBO Category	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status
Sedge Wren	*Cistothorus platensis*	Probable	S4B	no status	no status
Marsh Wren	*Cistothorus palustris*	Probable	S4B	no status	no status
Golden-crowned Kinglet	*Regulus satrapa*	Possible	S5B	no status	no status
Eastern Bluebird	*Sialia sialis*	Confirmed	S5B	no status	no status
Veery	*Catharus fuscescens*	Probable	S4B	no status	no status
Hermit Thrush	*Catharus guttatus*	Probable	S5B	no status	no status
Wood Thrush	*Hylocichla mustelina*	Confirmed	S4B	SC	THR
American Robin	*Turdus migratorius*	Confirmed	S5B	no status	no status
Gray Catbird	*Dumetella carolinensis*	Confirmed	S4B	no status	no status
Brown Thrasher	*Toxostoma rufum*	Confirmed	S4B	no status	no status
European Starling	*Sturnus vulgaris*	Confirmed	SNA	no status	no status
Cedar Waxwing	*Bombycilla cedrorum*	Confirmed	S5B	no status	no status
Nashville Warbler	*Vermivora ruficapilla*	Confirmed	S5B	no status	no status
Yellow Warbler	*Dendroica petechia*	Confirmed	S5B	no status	no status
Chestnut-sided Warbler	*Dendroica pensylvanica*	Confirmed	S5B	no status	no status
Magnolia Warbler	*Dendroica magnolia*	Confirmed	S5B	no status	no status
Cape May Warbler	*Dendroica tigrina*	Possible	S5B	no status	no status
Black-throated Blue Warbler	*Dendroica caerulescens*	Possible	S5B	no status	no status
Yellow-rumped Warbler	*Dendroica coronata*	Probable	S5B	no status	no status
Black-throated Green Warbler	*Dendroica virens*	Probable	S5B	no status	no status
Blackburnian Warbler	*Dendroica fusca*	Possible	S5B	no status	no status
Pine Warbler	*Dendroica pinus*	Probable	S5B	no status	no status
Black-and-white Warbler	*Mniotilta varia*	Confirmed	S5B	no status	no status
American Redstart	*Setophaga ruticilla*	Confirmed	S5B	no status	no status
Ovenbird	*Seiurus aurocapillus*	Confirmed	S4B	no status	no status
Northern Waterthrush	*Seiurus noveboracensis*	Confirmed	S5B	no status	no status
Mourning Warbler	*Oporornis philadelphia*	Confirmed	S4B	no status	no status
Common Yellowthroat	*Geothlypis trichas*	Confirmed	S5B	no status	no status

Common Name	Scientific Name	ABBO Category	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status
Eastern Towhee	*Pipilo erythrophthalmus*	Probable	S4B	no status	no status
Chipping Sparrow	*Spizella passerina*	Confirmed	S5B	no status	no status
Clay-colored Sparrow	*Spizella pallida*	Probable	S4B	no status	no status
Field Sparrow	*Spizella pusilla*	Confirmed	S4B	no status	no status
Vesper Sparrow	*Pooecetes gramineus*	Confirmed	S4B	no status	no status
Savannah Sparrow	*Passerculus sandwichensis*	Confirmed	S4B	no status	no status
Grasshopper Sparrow	*Ammodramus savannarum*	Confirmed	S4B	SC	no status
Le Conte's Sparrow	*Ammodramus leconteii*	Possible	S4B	no status	no status
Song Sparrow	*Melospiza melodia*	Confirmed	S5B	no status	no status
Swamp Sparrow	*Melospiza georgiana*	Confirmed	S5B	no status	no status
White-throated Sparrow	*Zonotrichia albicollis*	Confirmed	S5B	no status	no status
Dark-eyed Junco	*Junco hyemalis*	Possible	S5B	no status	no status
Scarlet Tanager	*Piranga olivacea*	Confirmed	S4B	no status	no status
Northern Cardinal	*Cardinalis cardinalis*	Confirmed	S5	no status	no status
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	Confirmed	S4B	no status	no status
Indigo Bunting	*Passerina cyanea*	Confirmed	S4B	no status	no status
Bobolink	*Dolichonyx oryzivorus*	Confirmed	S4B	THR	THR
Red-winged Blackbird	*Agelaius phoeniceus*	Confirmed	S4	no status	no status
Eastern Meadowlark	*Sturnella magna*	Confirmed	S4B	THR	THR
Common Grackle	*Quiscalus quiscula*	Confirmed	S5B	no status	no status
Brown-headed Cowbird	*Molothrus ater*	Confirmed	S4B	no status	no status
Baltimore Oriole	*Icterus galbula*	Confirmed	S4B	no status	no status
Purple Finch	*Carpodacus purpureus*	Confirmed	S4B	no status	no status
House Finch	*Carpodacus mexicanus*	Confirmed	SNA	no status	no status
Red Crossbill	*Loxia curvirostra*	Possible	S4B	no status	no status
Pine Siskin	*Carduelis pinus*	Possible	S4B	no status	no status
American Goldfinch	*Carduelis tristis*	Confirmed	S5B	no status	no status
Evening Grosbeak	*Coccothraustes*	Confirmed	S4B	SC	SC

Common Name	Scientific Name	ABBO Category	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status
	vespertinus				
House Sparrow	*Passer domesticus*	Confirmed	SNA	no status	no status

Status updated March 24, 2021

SRANK DEFINITIONS

S3 Vulnerable, Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4 Apparently Secure, Uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5 Secure, Common, widespread, and abundant in the nation or state/province.
SNR Unranked, Nation or state/province conservation status not yet assessed.
SU Unrankable, Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
SNA Not Applicable, A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
S#S# Range Rank, A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).
? Inexact Numeric Rank—Denotes inexact numeric rank
S#B Breeding
S#N Non-Breeding

SARO STATUS DEFINITIONS

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.

SARA STATUS DEFINITIONS

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

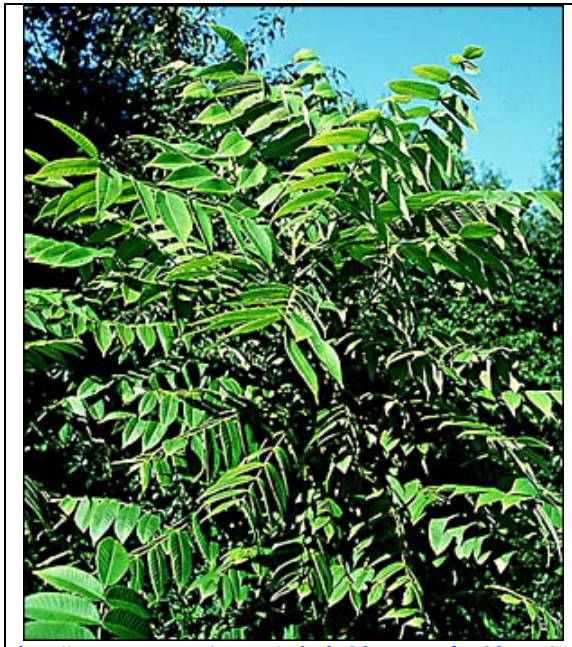
Appendix B: SAR Hand-Out

The following table provides photographs and general descriptions of potential species at risk that may occur within the project area and information on what actions to take should any of these species be observed.

- Endangered and Threatened species are protected and cannot be harmed, harassed, or killed and in some cases their habitats are also protected. These individuals will only be handled by qualified person and only if the individual is in imminent threat of harm. An authorization under the ESA 2007 would be required to handle individuals that are not in imminent threat of harm.
- If a SAR enters the work area during the construction period, any work that may harm the individual is to stop immediately and the supervisor will be contacted. No work will continue until the individual has left the area.
- Should an individual be harmed or killed then work will stop, and the Ministry of Environment, Conservation and Parks (MECP) will be contacted immediately.
- Educate staff and contractors on the potential for SAR to be in the area and their significance.
- Mitigation measures listed elsewhere in this report are also applicable to this section.
- If a SAR is encountered, this information will be provided to the Natural Heritage Information Centre (Report rare species (animals and plants) | Ontario.ca)

Photograph	Description	Action to be Taken
 http://birdweb.org/Birdweb	**Barn Swallow** • Swallow with a long tail which is deeply forked in adult males • An orange front (no white on the forehead) • Narrow pointed wings • Juveniles have a white band across the top of the tail. THREATENED	• Stop any activity that may cause harm to this specie and contact project Supervisor. • Individuals should only be encouraged to move if it is in immediate harm's way. These animals can only be handled by a qualified biologist when it is in imminent threat of harm, otherwise an ESA 2007 authorization will be required.

Photograph	Description	Action to be Taken
 Photo: Royal Ontario Museum website http://www.rom.on.ca/ontario/risk.php	**Blanding's Turtle** • Medium sized turtle (12.5-28 cm) • Bright yellow on chin and throat • Shall is dark light-coloured sports or lines THREATENED	• Take a photograph and record the date observed, name of person who observed it • If turtle is located within the construction site, then construction activities that may impact it must STOP until the turtle is clear of the site. • Contact supervisor

 http://www.rom.on.ca/ontario/risk.php?doc_type=fact&lang=&id=298	**Butternut** • Medium sized tree with multiple leaflets. • Similar to walnuts, but walnuts usually have a small or missing leaflet at the tip **ENDANGERED**	• Note that none have been found on-site. • If any are located, any construction activities within 50 m of an induvial to be retained shall be carried out carefully in order to ensure that no harm comes to the tree (i.e. no heavy machinery, no excavation or stockpiling within 50 m of the tree, no braking of branches, leaves).