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# TECHNICAL MEMORANDUM

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**To:** Carmen Fruci, General Manager, Alcar Contracting Services  
Dave Wright, Owner, Tonking Management Inc.  
Paul Neals, Principal, Orion Environmental Solutions  
Darren Vella, President, Innovative Planning Solutions  
Andrea Beatty, Director of Planning and Community Development, Town of Penetanguishene

**From:** Melissa Fuller, Ecologist, Birks Natural Heritage Consultants Inc.

**Subject:** Birks NHC #003-004-2019  
Species at Risk Addendum July 2019 St. Andrew's Village

**Date:** July 19, 2019

Birks Natural Heritage Consultants, Inc. (Birks NHC) was retained by Innovative Planning Solutions (IPS) on behalf of Tonking Management Inc., to undertake natural heritage investigations for a redevelopment site in Penetanguishene. The lands are identified as 1145 Fuller Avenue in the Town of Penetanguishene (Town) and the County of Simcoe (County), hereafter described as the property, the limits of which are defined in Figure 1. This Technical Memorandum has been prepared to address outstanding SAR habitat assessment issues previously identified within the November 2018 Species at Risk Habitat Assessment (Birks NHC, 2018) and the Scoped Environmental Impact Study (EIS; February, 2019) as follows:

### *Blanding's Turtle*

An in-season wetland delineation exercise of the St. Andrew's Provincially Significant Wetland (PSW) limit was recommended in order to define the extent of Category 2 Habitat for Blanding's Turtle on the property, as defined within the General Habitat Description for Blanding's Turtle (*Emydoidea blandingii*; Ontario, 2019).

### *Barn Swallow*

Inspection of all structures prior to demolition was recommended, to ensure that the species are not utilizing buildings for nesting purposes and that demolition would not constitute contravention of the *Endangered Species Act, 2007* (ESA).



### *Whip-poor-Will*

Nocturnal bird surveys in the spring and summer were recommended due to the presence of candidate habitat on the property and reports of species presence within proximity to the property.

### *Endangered Bats (Little Brown Myotis, Northern Long-eared Bat, Tri-colored Bat)*

Winter snag density surveys were recommended to determine if the snag density within the deciduous forest units met the minimum criteria for candidate maternity roosting habitat, as outlined within the Technical Note for Species at Risk Bats. Regional Operations Division of the Ministry of Natural Resources and Forestry (MNRF, 2015). It was also recommended that inspection of structures occur prior to demolition to ensure that Endangered bat species are not utilizing the habitat and that the demolition would not result in contravention of the ESA as it relates to Endangered bat species.

### *Eastern Hog-nosed Snake*

The Ministry of Natural Resources and Forestry (MNRF) requested that additional mitigative considerations be incorporated into the work plan, to reduce potential impact to Eastern Hog-nosed Snake (Threatened) should the species be present in the area. No further assessment of this species was requested by the MNRF.

Some cryptic species, such as Hog-nosed Snake, are extremely difficult to confirm as present or absent from a property. Generally, the only accepted method to confirm habitat use of these species is to capture and radio track individuals for a number of years. However, even if 5 years of study confirmed absence of a species it could appear in a subsequent year. Based on our experience, mitigative measures are the best way to avoid impacts. In systems such as those present on the property these include the following:

- Use of “timing windows” for development activities which avoid work at times when overwintering or inactive individuals may be disturbed or killed;
- Erect exclusion fence to limit access of reptiles to active work areas;
- Providing onsite training for contractors working on the properties to make them aware of the potential for contraventions if appropriate mitigation measures are not followed.

These recommendations have been carried forward through to the applicable section of this memorandum.

## **SPECIES AT RISK ASSESSMENT**

A SAR assessment is presented in the SAR Habitat report (Birks NHC, 2018) which included an analysis of the habitat requirements of all SAR reported to occur in the area and to identify those having potential to utilize the property. This addendum further focusses on habitat assessment of the following species:



- Endangered Bats (Tri-colored, Northern Myotis, Little Brown). The habitat characteristics of the property were not representative of typical habitat for Eastern Small-footed Myotis
- Blanding’s Turtle (Threatened)
- Whip-poor-will (Threatened)
- Barn Swallow (Threatened)

## FIELD SURVEYS - OVERVIEW

The following table outlines the methods and weather conditions under which each of the surveys were completed, including specific provincial protocols utilized. During all surveys, the property was considered for additional incidental wildlife, plant, and habitat observations.

**Table 1. Summary of Field Surveys Conducted**

Dates	Start/End Time	Type of Survey	Biologists
March 1, 2019	9:00-14:00	Bat Snag Density survey (Step 2),	Melissa Fuller, Stephanie Brady
March 1, 2019	12:00-13:00	Inspection of Structures for evidence of Barn Swallow Nests, and access for Endangered Bats	Melissa Fuller, Stephanie Brady
May 17, 2019 June 12, 2019 June 13, 2019	20:30-22:30 21:37-22:00 21:33-22:10	Whip-poor-will Surveys	Melissa Fuller, Stephanie Brady
June 18, 2019	10:30-14:00	St. Andrew’s Lake Provincially Significant Wetland delineation review	Jim Broadfoot (Azimuth Environmental Consulting) Paul Neals (Orion Environmental Solutions)

## ENDANGERED BAT SPECIES

The ‘Technical Note for Species at Risk Bats’, published by the Regional Operations Division of the MNRF in 2015 (‘Technical Note’), provides direction in the assessment of habitat for Species at Risk bats. A site assessment was undertaken with a focus on Little Brown Myotis, Northern Myotis, and Tri-colored Bat. All of these species are considered Endangered under the ESA. As outlined in the Technical Note, important habitat for these species includes hibernacula, maternity roosts, day roosts, and foraging habitat. Birks NHC ecologists conducted habitat surveys in 2019 following the Technical Note. Steps 1 (Identification of ELC polygons) and 2 (snag density) were completed for the property within areas of suitable habitat. Results of the snag density survey is presented in Figure 1 (attached).



*Step 1 - Identification of ELC polygons where Maternity Roost Habitat may occur*

Survey methodology for the identification of potential maternity roost habitat for bats suggests that the following ELC polygons may provide maternity roost habitat:

- Deciduous Forests (FOD)
- Mixedwood Forests (FOM)
- Coniferous Forests (FOC)
- Deciduous Swamps (SWD)
- Mixedwood Swamps (SWM)
- Coniferous Swamps (SWC)

ELC polygons present on the property falling within those vegetative units were evaluated using Snag Density Surveys and included:

- FOD3 - Dry-Fresh Poplar-White Birch Deciduous Forest
- FOD6-5 – Fresh-Moist Sugar Maple – Hardwood Deciduous Forest

The FOC1-2 Dry White Pine – Red Pine Coniferous forest was not evaluated due to the young age of the community (*i.e.* diameter at breast height of trees was generally less than 25cm) and given that the density of the branches would severely inhibit the species' ability to fly through the upper canopy of the community.

*Detailed Snag Density Survey*

Snag density surveys are currently considered to be of importance in the identification of potential maternity roost habitat for Little Brown Myotis and Northern Myotis. Detailed snag density surveys represent Step 5 of the Survey methodology outlined in the Technical Note. Snag density surveys are required to take place while the forest is still in a leaf-off condition. Leaf-off condition in this situation refers to the point in the spring where buds may be emerging, but leaves associated with the deciduous canopy have not emerged fully. All trees with a Diameter at Breast Height (DBH) of  $\geq 25$ cm and decay class between 1-6 were identified within the surveyed ELC communities. Information related to the species of tree, presence of snags and location of snags was recorded for each tree.

**RESULTS**

The majority of the snag trees (58 in total) identified on the property were located in the north-east quadrant of the property, within the St. Andrew's PSW limit and environmental setback to that limit (Figure 1). Approximately 13 snag trees were identified within the Deciduous Sugar Maple forest community (FOD6-5) and the Pine Forest (FOC1-2) along the south-western property limit. Only seven of those trees exhibited suitable roosting features (peeling bark, cavities, split trunk) within the super canopy (>10m) of the forest community. Thus, the maternity roosting habitat for the property is concentrated



within the northern shoreline transition to St. Andrew's PSW. Given the volume and density of suitable snag trees along the shoreline, and the proximity of foraging opportunities provided by St. Andrew's PSW, this location represents candidate high quality maternity roosting habitat for Endangered Bat Species. This habitat will be preserved post development within the Environmental Protection Block (Figure 1, attached). Thus, the proposed development is not expected to impact habitat availability for Endangered Bats, and the development is not expected to result in contraventions of the ESA as it relates to bats or their habitat, provided that tree removal within the remainder of the property occurs outside of the active season of bats (*i.e.* between October and March). This recommendation is provided on the basis that during the active season, there is potential to incidentally encounter individuals within forested areas adjacent to the high quality roosting habitat.

Day roosts are those that are used by males and non-reproductive females as they move across the landscape and can take the form of any tree with appropriate snag features such as loose bark, cracks or crevices. There is no indication that there is any fidelity to specific day roost sites. The loss of potential day roost habitat is unlikely to result in a contravention of the ESA. Thus, maternity roost habitat is the only habitat function considered in detail on the property. Protection of that habitat within the Environmental Protection Blocks and application of timing windows for vegetation removal should negate the potential for inadvertent impact to the species, and thus contravention of Section 9 of the ESA.

### **WHIP-POOR-WILL**

Based on the preliminary identification of potential habitat, species specific surveys for Eastern Whip-poor-will were carried out by Birks NHC in spring/summer 2019 to determine if Eastern Whip-poor-will occurs within the property limits. A modified version of Bird Studies Canada survey protocol for Eastern Whip-poor-will (Bird Studies Canada, 2014) was used for the purpose of this assessment. The survey was focused to a period within 5 days of the full moon. The survey began 30 minutes after sunset, with 10min surveys occurring at each station. Two survey stations were utilized for the assessment (Figure 1). As noted within the protocol, surveys are ideally undertaken on calm clear nights with:

- At least 50% of the visible moon surface illuminated;
- Little or no cloud cover;
- Calm to light winds;
- No precipitation; and,
- Temperatures above 10°C.

A known calling location in the Horseshoe Valley area was used as a control site in the area to demonstrate that any negative identification was not due to poor weather conditions.



## RESULTS

No Whip-poor-will were observed to be calling within 500 meters of the two survey stations, during the three sampling events. Thus, Whip-poor-will habitat is not present on the property, and no further consideration of this species is warranted.

## BLANDING'S TURTLE

Blanding's Turtle is an aquatic turtle that occurs in a variety of wetland habitats, inhabiting 'lakes, permanent ponds, temporary ponds, slow flowing brooks, creeks, marshes, river sloughs, marshy meadows, man-made channels, farm fields, coastal areas, and the bays of Lake Erie' (COSEWIC, 2005). Key habitat also includes areas of fen, marsh, swamp, open areas of sand or fine gravel, and rock barren.

The Blanding's Turtle General Habitat Description Guidance document produced by the MNRF describes habitat as follows:

Category 1 habitat - a confirmed nesting or overwintering location and an area within 30 meters of that site.

Category 2 habitat - the wetland complex that extends up to 2km from an occurrence, and the area 30m around those suitable wetlands or water bodies.

Category 3 habitat an area between 30m and 250 m around suitable wetlands/waterbodies identified in Category 2, within 2km of an occurrence.

The MNRF has provided confirmation of a Blanding's Turtle sighting within 2km of St. Andrew's PSW and thus, the species is considered to be associated with St. Andrew's PSW. In general, preferred wetland sites are eutrophic and characterized by shallow water, organic substrates, and a high density of aquatic vegetation (COSEWIC, 2005). Conditions present within St. Andrew's PSW are suitable for overwintering of the species and the wetland thus the PSW is considered to be Category 2 habitat. No overwintering of the species within St. Andrew's PSW has been confirmed at this time. Category 2 – Overwintering habitat present within the property limits is contained within the Environmental Protection block and will be protected post-development. Thus, the proposed development is not expected to result in contravention the ESA as it relates to protection of candidate overwintering habitat for the species.

Candidate nesting habitat (*i.e.* Category 3 habitat, Category 1 habitat only where nesting is confirmed) may also be present on the property, within the fill pile area in the south. As discussed within our initial SAR assessment (Birks NHC, 2018), this fill pile has been isolated with a 3 foot page wire fence with geotextile sediment protection, which would inhibit access of local turtle species. Thus, though the fill pile represents a proximal nesting site to the species' candidate overwintering habitat, it is unlikely that



individuals have been able to gain access, and no expectation that nesting has occurred. Thus, there is no expectation that removal of the fill pile should represent a contravention of the ESA.

As per the General Habitat Description Guidance document, Category 2 habitat includes the wetland unit and a 30m buffer around that wetlands. The setback functions to maintain microclimate conditions within the wetland and provide basking opportunity for the species. For this property, the wetland unit is defined by the limit of St. Andrew's PSW. The limit was re-confirmed in June 2019 and approved by Midhurst District MNR in July 2019 (Figure 2). In general, the lot configuration of the proposed site plan is such that development and site alteration will occur almost entirely outside of Category 2 habitat for Blanding's Turtle which will ensure that the mature woody vegetation and shrubby understory comprising the setback are retained on the landscape. The Environmental Protection block also incorporates land area outside of this 30m setback. Thus, though a small portion of Category 2 habitat (3721m<sup>2</sup>) will be removed, sufficient habitat will remain adjacent to St. Andrew's Lake PSW to ensure that microclimate conditions and basking habitat is maintained in proximity to the wetland proper.

Blanding's Turtles may traverse upland areas adjacent to Category 1 and 2 habitats to search for suitable nesting sites. Based on the General Habitat Description guidance document, this area is considered Category 3 habitat, which has the highest tolerance to alteration. The proposed development will remove 7.2ha of Category 3 Habitat. Category 3 habitat within the property limits has minimal herbaceous vegetation or leaf litter within the coniferous forest communities that would provide cover for the species should they move through the upland areas of the property and thus are not expected to provide ideal summer aestivation habitat. Approximately 66ha of Category 3 habitat exists surrounding the wetland. Development of the property will result in alteration of approximately 10% of the naturalized lands surrounding St. Andrew's PSW. Provided the recommended mitigation measures are followed, there is no expectation that the development would constitute damage or destruction to Category 3 Habitat.

There is potential for incidental occurrence of Blanding's Turtle on the property. Contractors should implement timing windows for vegetation removal and site alteration so that the initial vegetation clearing and site grading activities occur during winter dormancy. Further, a reptile exclusion fence should be erected along the limit of the Environmental Protection Block to prevent turtle migration into the job site, and nesting within unconsolidated materials. Job site staff should undergo training to ensure that workers can identify SAR and implement proper procedures should a SAR be encountered. These mitigation measures will help to avoid accidental impacts to the Blanding's Turtle, in keeping with ESA.



## MITIGATION RECOMMENDATIONS

### GENERAL

Given the dynamic character of the natural environment, there is constant variation in habitat use. Changes to policy, or the natural environment, could result in shifts, removal, or addition of new areas to the areas identified as potential habitat within this report. While there is no expectation that the assessment should change significantly over the long term, it is the responsibility of the proponent to ensure that they are not in contravention of the ESA at the time that site works are undertaken. A review of the assessment provided in this report by a qualified person should be sufficient to provide appropriate advice at the time of the onset of future site works.

### WORK AREA ISOLATION

Turtle and snake exclusion fence should be constructed around the area of work, during winter dormancy and prior to any site alteration to ensure that individuals do not enter the work area during construction. The exclusion fence shall be constructed of 3 foot sediment fence with page wire backing and should be inspected on a regular basis during the active season of the species to ensure that the exclusion measures remain effective throughout the duration of the construction phase. Exclusion fence composed of mesh netting support is not recommended for this application, due to the potential for snakes to become entangled in the mesh.

### TIMING WINDOWS

Vegetation removal, building demolition and site alteration should occur outside of the active breeding/roosting/nesting season (April 1 – October 31) for all SAR species that may utilize the property. If the work schedule requires that building demolition and site alteration be completed during the active season, screening by an ecologist with knowledge of bird and bat species present in the area should be undertaken to ensure that the risk of impacting SAR species has been evaluated and assumed to be low to non-existent.

### WORKER TRAINING

Worker training would assist the on-site workers in the identification of the SAR with potential to occur in the area. Workers should be instructed to stop work immediately and contact the local Ministry of the Environment, Conservation and Parks (MECP) immediately if any SAR are encountered within the work area. Individuals working on site should ensure that SAR are not harmed during construction or killed by heavy machinery, vehicles or other equipment.





The contractor should ensure that all personnel are educated so that SAR are not accidentally or wantonly injured and damage to features habitat features is avoided. Information conveyed through this education should include:

- Species habitat and identification;
- Requirements under the ESA including avoidance of harm to the species and damage to relevant habitat;
- Appropriate action to take if the species is encountered;
- How to record sightings and encounters; and
- That care should be taken when undertaking construction activities to avoid harming the species or damaging/destroying habitat.

The expert should be a qualified biologist who specializes in ecology/biology, or SAR.



## REFERENCES

Bird Studies Canada. 2014. Guidelines for Conducting Eastern Whip-poor-will Roadside Surveys in Ontario.

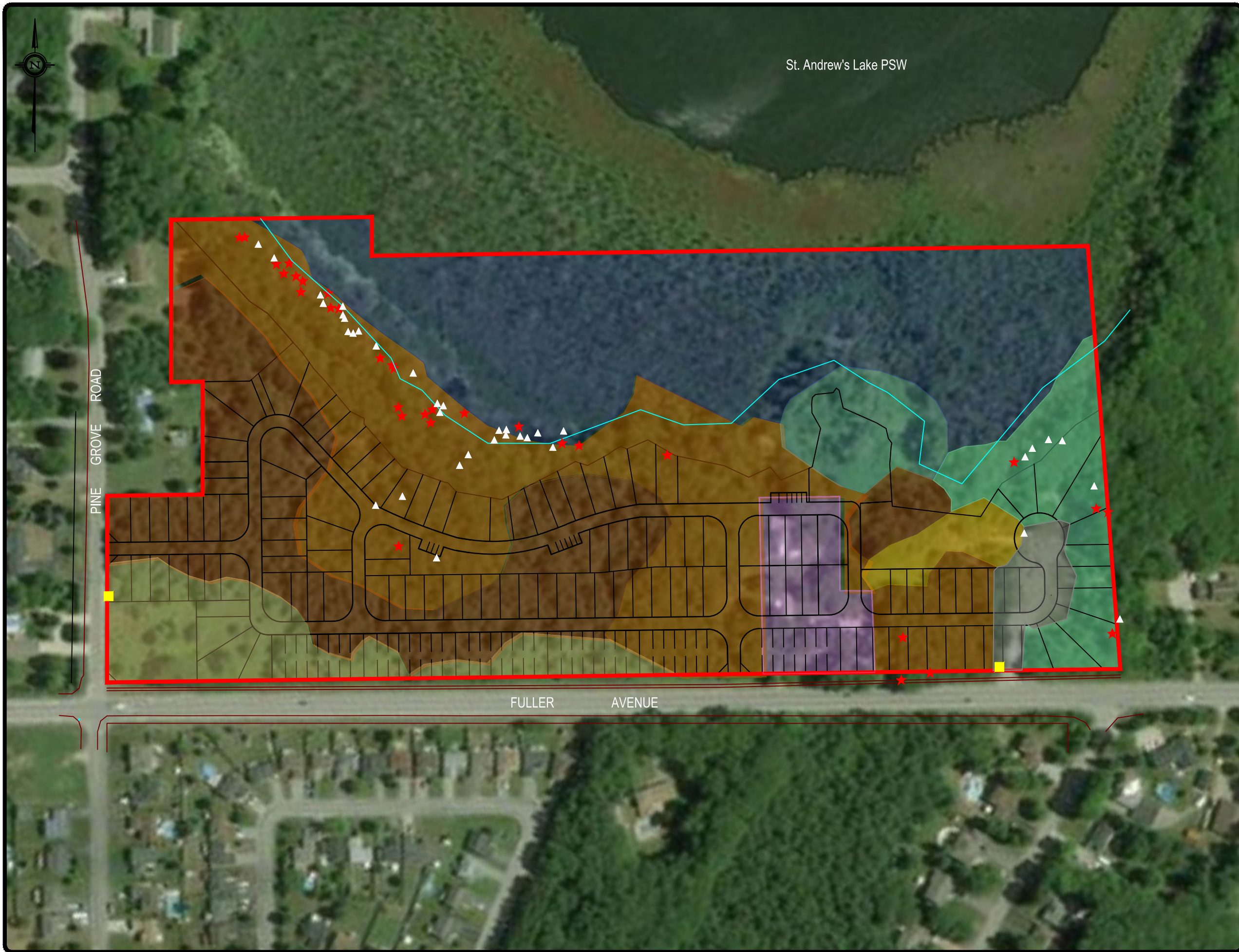
Birks Natural Heritage Consultants, Inc. 2018. Species at Risk Assessment Letter. Issued November 23, 2018.

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COSEWIC 2005. COSEWIC assessment and update status report on the Blanding's Turtle *Emydoidea blandingii* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. 32 pp.

Ministry of Natural Resources and Forestry (MNRF). 2015. Technical Note for Species at Risk Bats. Regional Operations Division of the Ministry of Natural Resources and Forestry

Queen's Printer for Ontario. 2019. General Habitat Description for Blanding's Turtle (*Emydoidea blandingii*). Available: <https://www.ontario.ca/page/blandings-turtle-general-habitat-description>



**Legend:**

- Approx. Property Boundary
- Existing Residential Area
- St. Andrew's PSW Wetland Limit 2019 (Azimuth Environmental Consulting)
- FOD3 Dry - Fresh - Poplar White Birch Deciduous Forest
- FOD6-5 Fresh -Moist Sugar Maple - Hardwood Deciduous Forest
- FOC1-2-Dry White Pine-Red Pine Coniferous Forest
- CUM - Natural Meadow
- CUW - Cultural Woodland
- MAM2 - Graminoid Mineral Meadow Marsh
- SWT2 - Mineral Deciduous Thicket Swamp
- ★ High Quality Cavity Tree
- ▲ Non High Quality Cavity Tree
- Whip-or-will Survey Station

30m 0 60m  
HORIZONTAL SCALE 1:2,000

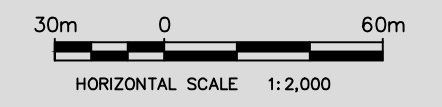


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1145 Fuller Ave  
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Figure 1 - Bat Maternity Roosting Habitat



- Legend:**
- Approx. Property Boundary
  - St. Andrew's PSW Wetland Limit 2019 (Azimuth Environmental Consulting)
  - Wetland Boundary - 30m Setback
  - Blanding's Turtle General Habitat Category 2
  - Blanding's Turtle General Habitat Category 3



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Figure 2 - Blanding's Turtle General Habitat