

Prepared By:



Scoped Environmental Impact Study

St. Andrew's Village

Town of Penetanguishene

County of Simcoe

Project No. 003-004-2018

February 5, 2019

23 HERRELL AVENUE, BARRIE ON L4N 6T5

WWW.BIRKSNHC.CA

23 Herrell Avenue
Barrie, Ontario
L4N 6T5



February 5, 2019

Carmen Fruci
16-155 William St.
Midland, Ontario
L4R 5N1

**RE: BIRKS NHC 003-004-2018
Scoped Environmental Impact Study
St. Andrew's Village
1145 Fuller Ave, Penetanguishene, Simcoe**

Dear Mr. Fruci,

Thank you for retaining Birks Natural Heritage Consultants, Inc. (Birks NHC) to prepare a Scoped Environmental Impact Study (EIS) Update for a property located at 1145 Fuller Ave, Penetanguishene. It is our understanding that the update has been requested to accompany an application for an amendment to the applicable zoning by-law for the property. This letter provides an update to the EIS report originally prepared by Azimuth Environmental Consulting Inc. (Azimuth), dated March 28, 2007. Where there is additional or updated information available to supplement that presented within the 2007 EIS, we have included that information herein. Site specific data was collected by Birks NHC in fall 2018. Through assessment of the field data, background information, and applicable policies and regulations, we have determined that the property and adjacent lands provide natural heritage features and functions relating to the presence of wetland habitat, woodland habitat, fish habitat, candidate Significant Wildlife Habitat, and potential habitat for Species at Risk.

The report provides an assessment of potential impacts associated with the construction of the proposed subdivision and provides mitigation measures to reduce the potential impacts that could result to those natural heritage features identified. At

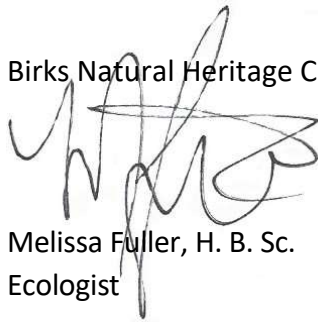


this time, while no impacts are expected, additional surveys are recommended to ensure that all features have been appropriately considered. The results of these surveys will be provided as an addendum following their completion in summer 2019.

If you have any questions or concern regarding this report, please do not hesitate to contact the undersigned.

Yours truly,

Birks Natural Heritage Consultants Inc.



Melissa Fuller, H. B. Sc.
Ecologist



Brad Baker, H. B. Sc.
Ecologist

Attach:

cc: Tyler Searls, Innovative Planning Solutions.
Dave Wright, Tonking Management, Inc.

<https://birksnhc.sharepoint.com/sites/BirksNHC/Shared Documents/MMF Projects/03-004-2018 St Andrews Penetang/Scoped EIS Update/Final Report/003-004-2018 Scoped EIS 20190206.docx>



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1 INTRODUCTION

Birks Natural Heritage Consultants, Inc. (Birks NHC) was retained by Innovative Planning Solutions (IPS) to undertake a Scoped Environmental Impact Study (EIS) for the lands identified as 1145 Fuller Avenue in the Town of Penetanguishene (Town) and the County of Simcoe (County), hereafter described as the property (Figure 1). The objective of this Scoped EIS is to provide an update to the EIS completed by Azimuth Environmental Consulting (Azimuth) in March 2007 for the purpose of addressing natural heritage legislation and policy changes that have occurred since release of the 2007 EIS. This EIS update identifies potential natural heritage features and functions associated with the property, including wetland habitat, fish habitat, candidate Significant Wildlife Habitat, candidate Significant Woodland, and potential habitat for Species at Risk (SAR). An assessment of the potential impacts of the proposed development to those natural heritage features is provided herein.

2 POLICY FRAMEWORK

The following summarizes the planning policies and regulations related to natural heritage that apply to the proposed development.

2.1 PROVINCIAL PLANNING STATEMENT (2014)

Ontario's *Planning Act*, 1990 requires that planning decisions shall be consistent with the *Provincial Policy Statement*, 2014 (PPS). The original EIS was written under the 2005 PPS. The updated PPS provides additional criteria related to protection of natural heritage features, as follows.

Section 2.1 of the PPS specifies policy related to protection of natural heritage features and functions. According to the PPS, development and site alteration shall not be permitted in:

- a) Significant wetlands in Ecoregions 5E, 6E; and 7E; and
- b) Significant coastal wetlands.

Section 2.1.5 of the PPS states that, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall not be permitted in:

- a) Significant woodlands in Ecoregions 6E; and 7E;
- b) Significant valleylands in Ecoregions 6E; and 7E;
- c) Significant wildlife habitat (SWH);
- d) Significant areas of natural and scientific interest; and



e) Coastal wetlands in Ecoregions 5E, 6E; and 7E that are not subject to policy 2.1.4(b)

While many of these features are mapped and direction is available to allow for candidate features and functions to be identified, it remains the responsibility of the Province and/or the Municipality to designate areas identified within Section 2.1.4 and 2.1.5 of the PPS as significant. The Natural Heritage Reference Manual (MNR, 2010) and Ecoregion 6E Significant Wildlife Habitat Criterion Schedule (MNRF, 2015) were used within this report to identify candidate features and functions.

Sections 2.1.6 and 2.1.7 of the PPS state that development and site alteration is not permitted in fish habitat or habitat of Endangered and Threatened species except in accordance with federal and provincial requirements.

Section 2.1.8 extends protections of the PPS to adjacent lands, typically those within 120 metres of the potential impact. Section 2.1.8 states that development and site alteration shall not be permitted on adjacent lands to natural heritage features identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological function.

2.2 ENDANGERED SPECIES ACT, 2007

Ontario's *Endangered Species Act, 2007* (ESA) provides regulatory protection Endangered and Threatened species, prohibiting harassment, harm and/or killing of individuals and destruction of their habitats. This legislation was not in place at the time of issue of the 2007 ESA. Thus, consideration of the legislation and its implications to future development of the property has been incorporated into this EIS Update.

Under the ESA, habitat for Endangered and Threatened species is broadly characterized within the ESA as the area prescribed by a regulation as the habitat of the species, or, an area on which the species depends, directly or indirectly, to carry on its life processes including reproduction, rearing of young, hibernation, migration or feeding.

Ontario Regulation (O. Reg.) 230/08 of the ESA identifies SAR in Ontario. These includes species listed as Extirpated, Endangered, Threatened, and Special Concern. As noted above, only species listed as Endangered and Threatened receive species and habitat protection through the ESA. Species designated as Special Concern may receive habitat protection under the SWH provisions of the PPS.



2.3 THE COUNTY OF SIMCOE OFFICIAL PLAN (2016)

Schedule 5.1 of the County of Simcoe's Official Plan (2016) identifies the property as being within an area of settlement. Thus, the County defers to the applicable natural heritage policies within the Official Plan of the lower tier municipality for direction relating to development within and adjacent to natural heritage features (Policy 3.8.17).

2.4 TOWN OF PENETANGUISHENE

The Town of Penetanguishene (Town) has identified the property as both Neighbourhood Area and Environmental Protection Area (Schedule A of the Town's Draft Official Plan); this designation has occurred through prior land use amendment and thus has been incorporated into the proposed concept plan considered herein. The Environmental Protection Area has been identified due to the presence of St. Andrew's Lake Provincially Significant Wetland (PSW); Section 3.10.3 of the current Official Plan (2011) and Section 3.10.1.1 of the Draft Official Plan (2018) outline the Town's policies as they relate to PSWs. In summary, the Town does not permit development within PSWs, but will permit development on adjacent lands, provided that the ecological function of the feature will not be impaired both during construction and by the future land use, as assessed through the completion of an EIS.

The 2011 OP also identifies areas located within an Environmental Protection Overlay (Schedule A2). As per Schedule A2, no Environmental Protection Overlay Areas have been identified within the property limits; however, the 2018 update identifies the presence of Environmental Protection Overlay within the Neighbourhood Area of the property (Schedule B1), likely due to the presence of mapped of a large woodland feature (Simcoe Interactive Maps website, Appendix A).

The 2011 Official Plan states that the Environmental Protection Overlay is comprised of natural heritage features including Category 2 Woodland and has been identified to "minimize the loss or fragmentation of significant woodland features and the habitats and ecological functions they provide" and protect a significant wildlife habitat function (Policy 3.11.2 of the 2011 Official Plan). Given the existing conditions of the property (as discussed below), and that the 2018 Update of the Environmental Protection Overlay includes the property (Schedule B1), our EIS will consider the impact of development as it relates to the potential impact to significant woodland and significant wildlife habitat. Both iterations of the Official Plan permit development within the Environmental Protection Overlay, subject to the completion of an EIS (2011 OP Policy 3.11.1 and Draft Plan Policy 3.10.6).



3 STUDY APPROACH

The following activities and assessments were undertaken to fulfill the objectives of this EIS update.

3.1 STUDY AREA

For the purpose of this EIS, the study area is focussed on an area approximately 120 m surrounding the property boundary illustrated in Figure 1. The Ministry of Natural Resources and Forestry (MNRF) published the Natural Heritage Reference Manual (MNR, 2010) to provide technical guidance for the implementation of the natural heritage policies of the PPS which recommends a distance of 120m for use in consideration of impacts to adjacent features. To allow for the consideration of any other Natural Heritage Features in the area a landscape level screening was also undertaken through a review of air photos within approximately one kilometre (km) surrounding the study area.

3.2 DATA SOURCES

Background documents provide information on site characteristics, habitat, wildlife, rare species and communities, and other aspects of the study area. For the purpose of this EIS, the following sources were considered:

- Aerial images (Google);
- Atlas of the Breeding Birds of Ontario [website - <http://www.birdsontario.org/atlas/index.jsp>] (Bird Studies Canada, 2006)];
- Atlas of the Mammals of Ontario - [Dobbyn J., (1994)];
- Birks NHC field data collected on October 11, 2018;
- Azimuth's 2007 EIS;
- MNRF Natural Heritage Information Centre [website - <https://www.ontario.ca/page/make-natural-heritage-area-map>] (MNRF, 2018);
- MNRF's Species at Risk in Ontario list [website - <http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/246809.html>] (MNRF, 2018);
- Ontario Nature – Ontario Reptile and Amphibian Atlas [website - https://www.ontarionature.org/protect/species/reptiles_and_amphibians/index.php] (Ontario Nature, 2018)
- Simcoe County Interactive Maps [website - <https://maps.simcoe.ca/public/>];
- Simcoe County Official Plan (2016) and maps; and,
- Town of Penetanguishene Draft Official Plan (2018) and maps.



4 EXISTING CONDITIONS

4.1 LAND USE

4.1.1 On-site Land Use

The land use of the property has not changed significantly from that documented in 2007. A dwelling, storage yard and accessory structure are present in the southern portion of the property, identified as residential area in Figures 1 and 2. During the interim ten years, the cultural meadow and cultural woodland communities have succeeded into cultural woodland (CUW) and coniferous forest (FOC) respectively. The area of sand/gravel extraction has been filled and is currently isolated with sediment fence. As noted within the 2007 EIS, a portion of the St. Andrew's Lake Provincially Significant Wetland (PSW) extends into the eastern portion of the property (Figure 1).

4.1.2 Adjacent Land Use

The adjacent land use has not significantly changed during the intervening years. Residential subdivisions and natural lands (woodlands and St. Andrew's Lake PSW) are present off property.

4.2 VEGETATION COMMUNITIES AND PLANTS

4.2.1 Vegetation

An update to the mapped vegetation communities was completed during the October 2018 site visit. Communities were classified according to the Ecological Land Classification for Southern Ontario Protocols (Lee *et al.*, 1998). Seven community types were identified on the property: two deciduous forests (FOD3 and FOD6-5), a coniferous forest (FOC1-2), a cultural meadow (CUM1-1), a cultural woodland (CUW) a swamp thicket (SWT2) and a meadow marsh (MAM2). The location of the communities is presented in Figure 2. No formal update to the vegetation inventory was completed given the late season site visit; however, those plants that were identifiable were noted and are documented below.

A coniferous forest community (FOC1-2) is present within the northern portion of the property (Figure 2). A small inclusion of this unit is also present adjacent to the fill piles. This community is densely vegetated with young Red and White Pine, with the branches of the trees quite dense throughout the forest canopy layers. The understory was sparsely vegetated with herbaceous specimens such as Virginia Strawberry, Bracken Fern, Juniper, and Canada Mayflower.

The remainder of the forested lands are dominated by Trembling Aspen (FOD3) with occurrences of Black Cherry, Black Walnut, Red Maple and Sugar Maple (Figure 2). Understory



species noted included Bracken Fern, Enchanters Nightshade, Black Raspberry, Virginia Strawberry, River Grape, Large Leaf Aster, Yarrow, Periwinkle and Common Milkweed. One large patch (approximately 80m by 40m) of Japanese Knotweed was observed immediately north-east of the residential lands.

A Sugar Maple/Red Oak (FOD6-5) forest extends onto the southern portion of the property (Figure 2). Woody associates include Basswood, White Ash, Yellow Birch and Tamarack. Herbaceous species observed include Large Leaf Aster, Bracken Fern, Canada Mayflower, Rose sp., Virginia Strawberry, and Zigzag Goldenrod.

One small cultural meadow inclusion was observed between the residential area and the fill pile (Figure 2). The community was comprised of graminoid and forb species including Orchard Grass, Viper's Bugloss, Queen Anne's Lace, Kentucky Blue Grass, Spotted Knapweed, Strawberry, and Daisy Fleabane, and Beebalm. The cultural woodland in the north-west corner of the property contained these herbaceous plants, as well as Red Pine, Staghorn Sumac and White Ash.

4.2.2 Candidate Significant Woodland

The County of Simcoe identifies the woodland communities (FOC1-2, FOD6-5, FOD3) as part of a larger woodland feature (Appendix A). This woodland is likely to be considered significant, based on the Province's criteria for significance as they relate to size and ecological function, as outlined within the Natural Heritage Reference Manual for Natural Heritage Policies of the PPS. (MNR, 2010). The entire woodland feature is quite large (>57ha), provides interior habitat, is located adjacent to a PSW, and provides a linkage function for species migrating from the wetland to upland habitat. That said, the woodland habitat located within the property limits represents a small portion of the feature and has limited ecological function. The property's woodland communities provide edge habitat for local fauna and serves as a buffer to the PSW habitat bordering the property's eastern limit. The woodland habitat within the property limits would be considered 'Category 2 Woodland' given this habitat function.

4.2.3 Wetland Habitat

The 2007 EIS identifies wetland habitat along the eastern border of the property, contained within the St Andrew's Lake PSW (MAM2, SWT2). This wetland continues to persist on the landscape, though there appears to be a slight alteration to the 2007 PSW limit, versus that identified through ELC community mapping in October 2018 (Figure 2). The MNRF has advised that the PSW limit should be confirmed prior to finalization of a site plan (Appendix D). Confirmation should occur in summer 2019 when the majority of wetland indicator species have established.



Given the late season vegetation survey that occurred, we default to the description of the wetland habitat presented within the 2007 EIS when considering impact to the habitat.

4.3 FISHERIES/WATERCOURSES

As in 2007, no watercourses were observed on the property. The fisheries information presented within the 2007 EIS remains relevant. As such, no update is deemed warranted at this time.

4.4 AREAS OF NATURAL AND SCIENTIFIC INTEREST (ANSI)

The ANSI information presented within the 2007 EIS remains relevant; the Discover Simcoe web application indicates that the Penetang Lake Regionally Significant Life Science ANSI continues to be present on the landscape. No additional information to that previously reported by Azimuth is available at this time.

4.5 WILDLIFE HABITAT

Incidental wildlife observations were noted during the October 2018 site visit; no additional fauna targeted surveys have been completed at this time. Thus, we rely on the information presented within the 2007 EIS update to assess wildlife habitat function under current policy. To this end, the MNRF has released habitat criteria schedules to assist in the identification of SWH within the province. The schedule applicable to this site is the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015).

An SWH assessment of the property is presented in Table 1. In summary, the following candidate SWH functions may be associated with the property:

- Bat Maternity Colonies, associated with deciduous woodland habitat (FOD3 and FOD6-5 communities)
- Other Rare Vegetation Communities (Fen) within the St. Andrew's Lake PSW
- Bald Eagle and Osprey Nesting, Foraging and Perching Habitat, associated with woodland habitat (FOD3, FOC1-2 and FOD6-5 communities)
- Amphibian Breeding Habitat (Woodland) within St. Andrew's Lake PSW
- Amphibian Breeding Habitat (Wetlands) within St. Andrew's Lake PSW
- Special Concern and Rare Wildlife Species
 - Birds: Bald Eagle, Black Tern, Canada Warbler, Golden-winged Warbler, Olive-sided Flycatcher, Red-headed Woodpecker, Wood Thrush, Eastern Wood-pewee, Yellow Rail
 - Reptiles: Snapping Turtle, Musk Turtle, Ribbon Snake
 - Insects: Monarch



4.6 SPECIES AT RISK

The potential for SAR to be utilizing the property and/or adjacent lands was assessed through an independent report that provides an analysis of the habitat requirements of SAR reported to occur in the area (Appendix B).

In summary, of the species identified with potential to exist within the broader landscape, the following have candidate habitat within and adjacent to the property, and have the potential to occur on site:

- Mammals: Little Brown Myotis (Endangered), Northern Long-eared Bat (Endangered), Tri-colored Bat (Endangered);
- Birds: Bald Eagle (Special Concern), Black Tern (Special Concern), Barn Swallow (Threatened), Canada Warbler (Special Concern), Chimney Swift (Threatened), Eastern Wood-pewee (Special Concern), Golden-winged Warbler (Special Concern), Least Bittern (THR), Olive-sided Flycatcher (Special Concern), Red-headed Woodpecker (Special Concern), Whip-poor-will (Threatened), Wood Thrush (Special Concern), Yellow Rail (Special Concern);
- Insects: Monarch Butterfly (Special Concern); and
- Reptiles: Blanding's Turtle (Threatened), Eastern Foxsnake (Threatened), Eastern Musk Turtle (Special Concern), Eastern Hog-nosed Snake (Threatened), Eastern Ribbon Snake (Special Concern), Massasauga (Threatened), Snapping Turtle (Special Concern).

4.7 HYDROLOGY, HYDROGEOLOGY AND WATER BALANCE

An update to the hydrology, hydrogeology and water balance presented in Azimuth's 2007 EIS has been prepared by Jones Consulting Group. We will consider the updated reports when assessing development impact of those natural heritage features influenced by surface and groundwater resources.

5 NATURAL HERITAGE FEATURE ASSESSMENT

Through review of the 2007 EIS, additional background information review, and a 2018 site visit, we have determined that the following natural heritage features and functions are associated with the property:

- Candidate Significant Woodland
- St. Andrew's Lake PSW/Penetang Lake ANSI
- Candidate Significant Wildlife Habitat
 - Bat Maternity Colonies
 - Other Rare Vegetation Communities (Fen)



- Bald Eagle and Osprey Nesting, Foraging and Perching Habitat
- Amphibian Breeding Habitat (Woodland)
- Amphibian Breeding Habitat (Wetlands)
- Special Concern and Rare Wildlife Species
- Fish Habitat
- Potential habitat of Endangered and Threatened species

Our impact assessment will consider potential impacts to the features and functions summarized here.

6 DEVELOPMENT PLAN

A 7.42ha low and medium density residential development, with commercial and parkland space, is proposed for the property (Appendix C). The 2018 conceptual plan appears to retain the same development footprint as the 2007 concept, however, there has been some modification to the number and layout of the units and roads. A three phased buildout approach is proposed, with Phase 1 of the development beginning in the north. The second phase will include the central portion of the property. The third phase will include undeveloped lands south of the first two phases. The development will utilize privately owned sanitary and water infrastructure that will be tied into the Town's existing infrastructure (Jones, 2019). The conceptual plan incorporates consideration for St. Andrew's Lake PSW with the inclusion of an Environmental Protection block along the eastern property boundary; the boundary of the PSW is based on that surveyed in 2006 plus a 30m setback. This boundary is to be confirmed in 2019, at which point it is recommended that this Scoped EIS be updated to include figures illustrating the site plan in relation to current aerial photography and updated ELC community mapping to ensure that all potential impacts have been appropriately considered.

6.1 STORMWATER MANAGEMENT

Specific details regarding storm water management of the proposed development can be found within the Preliminary Servicing and Stormwater Management Report prepared by Jones (2019). Generally, events up to the 5 year storm event will be conveyed to the storm sewer system and treated within two stormwater management ponds. One will be located at the north end of the development and one at the south (GP-1, GP-2). Both ponds will be outfitted with a bottom draw 'Hickenbottom' style outlet. The emergency overflow weir of the southern pond will be constructed entirely within the developable area. A portion of the emergency overflow weir for the northern pond is proposed within the 30m setback to the wetland (Jones, 2019). Flows from larger storm events will be conveyed to designated outlets via overland flow (Jones, 2019). All runoff will be treated to "Enhanced" level protection, as required by the



Ministry of the Environment, Conservation and Parks (MECP), and release of the runoff will be controlled such that erosion potential is negligible.

6.2 WATER BALANCE

Specific details regarding water balance of the proposed development can be found within the Preliminary Servicing and Stormwater Management Report prepared by Jones (2019). Jones anticipates that the development can achieve comparable water quality, infiltration and flows pre to post development through the implementation of a combination of oil/grit separator units, dry ponds that permit groundwater infiltration and rain gardens (Jones, 2019). Given the numerous opportunities the proposed design has provided for infiltration of precipitation, Jones has concluded that groundwater recharge can be maintained post development (Jones, 2019).

7 IMPACT ASSESSMENT

The following presents an assessment of impact to the candidate natural heritage features associated with the property.

7.1 CANDIDATE SIGNIFICANT WOODLAND

The Town's Official Plan (OP) states that Category 2 Woodland is a component of the Environmental Overlay. As discussed above, Category 2 Woodland habitat comprises a portion of the Candidate Significant Woodland. Thus, this impact assessment will consider impact to the Candidate Significant Woodland Feature. The Town's Draft Official Plan (2018) defines Significant Woodland as an ecologically important area, in terms of species composition, age of trees and stand history and states that development may be permitted within Significant Woodlands, if it can be demonstrated that there will be no negative impact to the feature and its ecological function. The Draft Official Plan specifically identifies the ecological function of woodlands as providing wildlife habitat.

The proposed development calls for disturbance of a portion of the Candidate Significant Woodland. The main ecological function of the lands proposed for removal is to provide edge habitat and protective buffering to species utilizing the St. Andrew's Lake PSW. This habitat function will continue to persist post development, as a portion of the woodland habitat will be retained within the 30m PSW setback. Given the historical disturbance of the property, ecological function beyond the provision of edge habitat is limited. The vegetation community is quite young and does not offer the habitat complexity associated with mature forests such as diversity in age class of the canopy and subcanopy, large standing and fallen cavity trees, and established understory habitat. Further, the habitat is in close proximity to suburban residential development and roadways and has a very high disturbance regime. The removal of



a portion of the edge habitat will not alter the habitat function of the remainder of the candidate Significant Woodland feature; interior habitat, habitat connectivity and woodland diversity present on adjacent lands will not be altered a result of the proposed development. Thus, the proposal will not be detrimental to the function of the Candidate Significant Woodland and development can occur without impact to the ecological function of the feature.

7.2 ST. ANDREW'S LAKE PSW AND PENETANG LAKE ANSI

St. Andrew's Lake PSW and Penetang Lake ANSI proper will be preserved on the landscape post development as the feature, plus a 30m setback to the PSW limit (as established through previous planning processes) will be preserved within an Environmental Protection block. Thus, no direct alteration of the feature is proposed as a result of the development.

Studies completed in 2007 indicated that the alteration of site imperviousness would have no measurable impact to the PSW (Azimuth, 2007). Jones prepared an update to these studies (Jones, 2019) and confirms that this statement holds when considering the conceptual site plan under current policy. As discussed above, the Servicing and Stormwater Report (Jones, 2019) confirms that the proposed design can meet current standards for the treatment of water quality and quantity, and that the water balance (and thus groundwater recharge) can be maintained. Thus, there is no expectation that the development will affect the hydrological regime of the wetland, and no indirect impact to the feature is anticipated.

7.3 FISH HABITAT

No fish habitat was identified within the development footprint; the fish habitat associated with the property is reported to occur within St. Andrew's Lake PSW (Azimuth, 2007). As discussed above, this feature plus a 30m setback, will be retained on the landscape and no direct alteration to the habitat is anticipated. Surface runoff directed towards the wetland will be comparable to that currently present as the runoff will be sourced from the rear yards of the residential development and outlets of the stormwater management dry ponds (Jones, 2019). All runoff will be further detained within the 30m setback for such a time that any potential contaminants and sediments acquired from the residential lots will be removed prior to entering the feature or groundwater resources. Thus, no indirect impact to fish habitat is anticipated as a result of the proposed development.

7.4 SIGNIFICANT WILDLIFE HABITAT

The SWH identified on the property is associated with various habitat components (*i.e.* woodland and wetland) observed on the property. Thus, the discussion of potential impact to SWH is closely linked to the anticipated impact to these habitats, as presented below.



7.4.1 Woodland Habitat

Candidate SWH functions associated with woodland habitat include Bat Maternity Colonies, Bald Eagle and Osprey Nesting, Foraging and Perching Habitat, and Habitat for Special Concern and Rare Wildlife Species. As discussed in Section 7.1, the majority of the woodland habitat proposed for removal is quite young and of poor quality, due to the presence of numerous exotic species. Thus, the likelihood that the woodland habitat provides habitat opportunity for bats, Bald Eagle and Osprey, which require the presence of tall mature trees, is quite low. The majority of the higher quality, more mature deciduous forest units observed on the property will be retained within the 30m setback of St Andrew's Lake PSW. The small area of mature forest to be removed (FOD6-5) will not significantly impact habitat availability in the area. Further, a large forest tract (approximately 57ha) south and east of St. Andrew's Lake PSW will not be affected by the proposal and thus will maintain these habitat functions on the landscape and within the larger woodland feature.

Likewise, habitat of Special Concern and Rare Wildlife Species that depend on mature woodland habitat, including Bald Eagle, Red-headed Woodpecker, Wood Thrush, and Eastern Wood-pewee will be retained post-development.

Golden-winged Warbler is more commonly observed within early successional woodlands and Olive-sided Flycatcher within openings in mature forest. The proposal calls for removal of habitat openings (cultural meadow) and successional habitat (cultural woodland) on site. The candidate habitat is located in highly disturbed areas of the property, adjacent to the residential development, a fill pile and Fuller Ave. Thus, though the communities satisfy the basic vegetation community composition requirements for the species, the habitat quality is not sufficient due to the presence of exotic species and high levels of disturbance. Therefore, removal of the cultural meadow and cultural woodland is unlikely to have a detrimental effect on the local populations of either the Golden-winged Warbler or the Olive-sided Flycatcher

7.4.2 Wetland Habitat

Wetland habitat on the property is associated with the following Candidate SWH functions:

- Other Rare Vegetation Communities (Fen);
- Amphibian Breeding Habitat (Woodland and Wetland); and
- Habitat for Special Concern and Rare Species (Black Tern, Canada Warbler, Yellow Rail, Musk Turtle, Ribbon Snake)

All of the above noted functions are associated with the wetland, proper, and the proposed 30m setback. As discussed above, the wetland habitat and setback are proposed to be retained post-development. Thus, no direct impact to the habitat, and therefore the SWH habitat



function is anticipated. The development has the potential to alter the hydrological regime of the property and the upland/lowland habitat interface along the shoreline of St. Andrew's Lake PSW. This in turn could affect SWH habitat functions closely linked to the local hydrology and quality of water entering the feature: Fen Habitat and Amphibian Breeding Habitat. The Servicing and Stormwater Report (Jones, 2019) states that the water balance of the site can be achieved, and that runoff entering the feature will be treated to current provincial environmental standards. Further, the stormwater management plan has been designed such that the existing flow and infiltration conditions will be mimicked; there is not one concentrated outlet and thus contributions to the wetland will occur along the entirety of the wetland perimeter, through both groundwater infiltration and overland flow. Therefore, no direct or indirect impact to the wetland habitat, and thus the candidate SWH functions, is anticipated.

7.5 SPECIES AT RISK HABITAT

A full SAR assessment for the property is presented in the SAR Habitat Assessment appended to this report. In summary, the report revealed that future development of the property may impact SAR species and/or their habitat, including Endangered Bats, Blanding's Turtle, Barn Swallow, and Whip-poor-will. It is recommended that prior to any site alteration (including building demolition, tree removal, site grading) and submission of the final site plan, additional habitat assessment and agency consultation occur as summarized within the SAR Habitat Assessment. The specific recommendations relating to SAR have been included within the recommendations section of this report.

8 RECOMMENDATIONS

The following recommendations are suggested to ensure that development impact is mitigated during and post construction.

8.1 ADDITIONAL FIELD SURVEYS

Given that Birks NHC was retained in late fall of 2018 to undertake the EIS update, no updated flora and fauna surveys have been completed at this time. Upon review of background information, including Azimuth's 2007 EIS, Birks NHC has determined that additional species-specific surveys targeting SAR (as outlined below) are required prior to finalization of the impact assessment. Given the disturbed nature of the developable lands, and the retention of the St. Andrew's Lake PSW, it is our opinion that additional field surveys (*i.e.* amphibian breeding surveys, bird nesting surveys) would not significantly influence our assessment of potential impact of the proposal and are not required. Completion of an in-season vegetation inventory (summer) may allow for identification of populations of sensitive plant species not



previously noted, and thus may influence future mitigative and restoration measures. However, given the history of disturbance of the property, the likelihood of finding sensitive plant species within the development footprint is low.

8.2 PROVINCIALY SIGNIFICANT WETLAND

A wetland delineation exercise of the St. Andrew's PSW limit, and the application of a 30m setback will be required prior to finalization of the site plan to ensure that the PSW is appropriately protected during construction and into the future.

Prior to any site alteration, a sediment fence should be installed along the 30m setback in order to prevent accidental encroachment into the feature and setback. This will also alleviate the risk of sediment entering the retained natural lands. Sediment and erosion controls should be maintained throughout construction and until all exposed soils have been stabilized. No development activities (material and equipment storage, grading, equipment activity, etc.) are permitted outside of the identified development limit

At the time of reporting, it is not clear if the installation of underground site services, or construction of the residences will be influenced by the groundwater table. If in the future it is determined that dewatering will be required, all water should be pumped to a filter bag (*i.e.*, enviobag or equivalent) prior to being released, specifically if the stormwater treatment system is not yet functional. Filter bags should be placed on a stable, vegetated ground to allow fines to settle out of the water. Monitoring of dewatering operations should occur throughout the construction process to ensure water is free of fines before entering the retained lands.

8.3 TREATMENT OF THE FILL PILE

The fill area identified in the south of the property will be removed to allow for buildout of Phase 3. The fill currently has a 3foot page wire sediment fence surrounding the pile which prevents sediment from entering the adjacent forest habitat, and likely inhibits turtles from nesting in the fill. However, the presence of fencing does not guarantee isolation of the feature, particularly since it is unlikely that ongoing monitoring of the fence and stored materials has occurred. The fill pile has the potential to provide turtle nesting habitat if the sediment fence isolating the pile falls into disrepair. Thus, in order to minimize impact to nesting turtles and potential hatchlings, the sediment fence should be inspected and repaired, if required, in spring 2019 (prior to May 1) to prevent turtles from entering the fill area and attempting to nest. The fill piles should be inspected twice weekly during the spring to confirm that any overwintering hatchlings are located and removed from the isolated area. The fill should be removed in fall 2019 to prevent future nesting. If eggs are found during removal, the Midhurst District MNRF, or the consulting Ecologist should be contacted for further direction.



8.4 MIGRATORY BIRDS

Construction activities involving the removal of vegetation should be restricted from occurring during the bird breeding season. Migratory birds, nests, and eggs are protected by the *Migratory Birds Convention Act, 1994* and the *Fish and Wildlife Conservation Act, 1997*. Environment Canada outlines dates when activities in any region have potential to impact nests at the Environment Canada Website (http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=4F39A78F-1#_03). For this site, vegetation clearing should be avoided between April 1st and August 30th of any given year. If vegetation clearing is required between these dates, screening by an ecologist with knowledge of bird species present in the area could be undertaken to ensure that the vegetation has been confirmed to be free of nests prior to clearing.

8.5 SPECIES AT RISK MITIGATION

8.5.1 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.

8.5.2 Timing Windows

Building demolition and site alteration (tree removal) should occur outside of the active breeding/roosting/nesting season (April 1 – October 31) for 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 species has been evaluated and assumed to be low to non-existent.

8.5.3 Endangered Bats

Winter snag density surveys are proposed to determine if the snag density within the deciduous forest units meets the minimum criteria for candidate maternity roosting habitat, as outlined within the Technical Note (MNR, 2015). If it is determined that the deciduous forest units meet minimum density, acoustic surveys to determine species presence may be required in the spring/summer.



All structures should be inspected prior to demolition to ensure that Endangered bat species are not utilizing the habitat and that the activity is not in contravention of the ESA as it relates to Endangered bat species. We suggest the completion of exit surveys, which can occur concurrently with the acoustic surveys noted above.

8.5.4 Whip-poor-will

Nocturnal bird surveys are proposed in the spring and summer to confirm if Whip-poor-will are present on the property. If Whip-poor-will are not present, the development may continue as planned, with no impact to this SAR species. If Whip-poor-will are confirmed, a 17 (2)(c) Overall Benefit Permit, issued under the ESA, will be required prior to development approval. The surveys will assist in the characterization of the species' habitat and will inform conditions set out within the permit

8.5.5 Barn Swallow

All structures should be inspected for species' use prior to demolition, to ensure that the species are not utilizing the habitat, and that the removals do not constitute contravention of the ESA.

8.5.6 Threatened Reptiles

A wetland delineation exercise of the St. Andrew's PSW limit, and the application of a 30m setback will be required prior to finalization of the site plan, to confirm the extent of Category 2 Habitat for Blanding's Turtle. If the site plan calls for alteration of lands within the PSW limit and the 30m setback (Category 2 habitat), an Overall Benefit Permit, under Section 17 (2) (c) of the ESA will be required.

Exclusion fence should be constructed around the area of work, during winter dormancy and prior to any site alteration to ensure that Blanding's Turtle and Eastern Hog-nosed Snake do not enter the work area during construction. The exclusion fence 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.

8.5.7 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 MNRF office (Midhurst District) 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;
- Daily machine inspection during spring and fall;
- 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.

9 CONCLUSIONS

This Scoped EIS utilized background information available through web sources and previous environmental studies of the property, as well as a site visit in October 2018 to undertake a characterization of the property. Through the assessment, it has been determined that numerous natural heritage features are associated with the property including Candidate Significant Woodland, PSW, Candidate SWH, Fish Habitat. Our assessment indicates that the development may proceed without negative impact to these natural heritage features. Further consideration of SAR species habitat usage is required in order to fully understand the potential impact of the development upon habitat of Endangered and Threatened Species. Birks NHC will provide an EIS addendum addressing the outstanding items when the full scope of the potential impact of the development is understood.



10 REFERENCES

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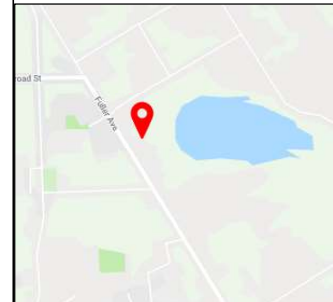
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Town of Penetanguishene. 2011. Official Plan Office Consolidation, September 22, 2011.





Town of Penetanguishene. 2018. Final Draft Plan Proposed with modifications, consolidated with County Modifications. November 2018



Key Map



Legend

-  Property Boundary
-  Unevaluated Wetland (MNRF)
-  St Andrew's Provincially Significant Wetland (MNRF)
-  Existing Residential Area

Source: NHC Biodiversity Explorer

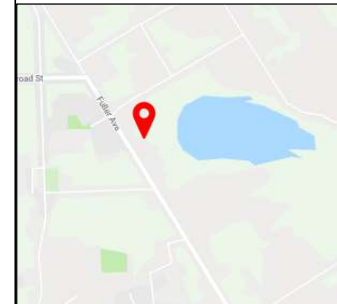


BIRKS NHC 003-004-2018
 1145 Fuller Ave,
 Penetanguishene

Figure 1 – Mapped Features



Key Map



Legend

- Property Boundary
- Existing Residential Area
- 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 – Cultural Meadow
- CUW – Cultural Woodland
- MAM2 – Graminoid Mineral Meadow Marsh
- SWT2 – Mineral Deciduous Thicket Swamp
- Fill Pile

Source: NHC Biodiversity Explorer



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 Penetanguishene

Figure 2 – 2018 ELC Communities



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Seasonal Concentrations of Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Waterfowl Stopover and Staging Areas (Terrestrial)</p> <p>Rationale: Habitat important to migrating waterfowl.</p>	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	CUM1 CUT1 Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	Fields with sheet water during Spring (mid-March to May). <ul style="list-style-type: none"> Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. Reports and other information available from Conservation Authorities Sites documented through waterfowl planning processes Field Naturalist Clubs Ducks Unlimited Canada Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area 	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” <ul style="list-style-type: none"> Any mixed species aggregations of 100 or more individuals required. The flooded field ecosite habitat plus a 100-300m radius area, dependant on local site conditions and adjacent land use is the significant wildlife habitat. Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). Significant Wildlife Habitat Mitigation Support Tool Index #7 provides development effects and mitigation measures. 	Habitat within and adjacent to the property does not meet criteria related to wildlife species and annual spring flooding. No further evaluation undertaken.
<p>Waterfowl Stopover and Staging Areas (Aquatic)</p> <p>Rationale: Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.</p>	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback Ruddy Duck	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	<ul style="list-style-type: none"> Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water) <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Environment Canada. Naturalist clubs often are aware of staging/stopover areas. OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. Sites documented through waterfowl planning processes Ducks Unlimited projects Element occurrence specification by Nature Serve: http://www.natureserve.org Natural Heritage Information Centre (NHIC) Waterfowl Concentration Areas 	Studies carried out and verified presence of: <ul style="list-style-type: none"> Aggregations of 100 or more of listed species for 7 days, results in > 700 waterfowl use days. Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH The combined area of the ELC ecosites and a 100m radius area is the SWH Wetland area and shorelines associated with sites identified within the Significant Wildlife Habitat Technical Guide Appendix K are significant wildlife habitat. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). Significant Wildlife Habitat Mitigation Support Tool Index #7 provides development effects and mitigation measures. 	St. Andrew’s Lake PSW may provide opportunity for staging of waterfowl during migration, however, the species and quantity required to be considered SWH has not been documented at this time. Regardless, this habitat feature, plus a 30m setback, will be retained on the landscape post construction, and thus no further evaluation is deemed warranted at this time.



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Shorebird Migratory Stopover Area</p> <p>Rationale: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.</p>	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	<ul style="list-style-type: none"> Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. Sewage treatment ponds and storm water ponds do not qualify as a SWH. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Western hemisphere shorebird reserve network. Canadian Wildlife Service (CWS) Ontario Shorebird Survey. Bird Studies Canada Ontario Nature Local birders and naturalist clubs Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area 	<p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of 3 or more of listed species and > 1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" Significant Wildlife Habitat Mitigation Support Tool Index #8 provides development effects and mitigation measures. 	<p>St. Andrew's Lake PSW may provide opportunity for staging during migration, However, the species and quantity required to be considered SWH has not been documented at this time. Regardless, this habitat feature, plus a 30m setback, will be retained on the landscape post construction, and thus no further evaluation is deemed warranted at this time.</p>
<p>Raptor Wintering Area</p> <p>Rationale: Sites used by multiple species, a high number of individuals and used annually are most significant</p>	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl	<p><u>Hawks/Owls:</u> Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC.</p> <p>Upland: CUM; CUT; CUS; CUW.</p> <p><u>Bald Eagle:</u> Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).</p>	<ul style="list-style-type: none"> The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Raptor wintering sites (hawk/owl) need to be > 20 ha with a combination of forest and upland. Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands Field area of the habitat is to be wind swept with limited snow depth or accumulation. Eagle sites have open water, large trees and snags available for roosting <p><u>Information Sources:</u></p> <ul style="list-style-type: none"> OMNRF Ecologist or Biologist Field Naturalist Clubs Natural Heritage Information Center (NHIC) Raptor Winter Concentration Area Data from Bird Studies Canada Results of Christmas Bird Counts Reports and other information available from Conservation Authorities. 	<p>Studies confirm the use of these habitats by:</p> <ul style="list-style-type: none"> One or more Short-eared Owls or; One or more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species. To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" Significant Wildlife Habitat Mitigation Support Tool Index #10 and #11 provides development effects and mitigation measures. 	<p>No meadow/forest communities of sufficient size are located within proximity to the property. Thus, though woodland and meadow habitat are present, the habitat function as Raptor Wintering Area is not likely satisfied and no further evaluation is deemed warranted at this time.</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Bat Hibernacula</p> <p>Rationale: Bat hibernacula are rare habitats in all Ontario landscapes.</p>	<p>Big Brown Bat Tri-coloured Bat</p>	<p>Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)</p>	<ul style="list-style-type: none"> Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. Active mine sites should not be considered as SWH The locations of bat hibernacula are relatively poorly known. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF for possible locations and contact for local experts Natural Heritage Information Center (NHIC) Bat Hibernaculum Ministry of Northern Development and Mines for location of mine shafts. Clubs that explore caves (e.g. Sierra Club) University Biology Departments with bat experts. 	<ul style="list-style-type: none"> All sites with confirmed hibernating bats are SWH. The habitat area includes a 200m radius around the entrance of the hibernaculum, for most development types and 1000m for wind farms Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects. Significant Wildlife Habitat Mitigation Support Tool Index #1 provides development effects and mitigation measures. 	<p>No caves, mine shafts, karst or underground foundations have been identified on the property. No further evaluation undertaken.</p>
<p>Bat Maternity Colonies</p> <p>Rationale: Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.</p>	<p>Big Brown Bat Silver-haired Bat</p>	<p>Maternity colonies considered SWH are found in forested Ecosites.</p> <p>All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM</p>	<ul style="list-style-type: none"> Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). Maternity roosts are not found in caves and mines in Ontario. Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3. Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF for possible locations and contact for local experts University Biology Departments with bat experts. 	<ul style="list-style-type: none"> Maternity Colonies with confirmed use by; >10 Big Brown Bats[®] >5 Adult Female Silver-haired Bats The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies. Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”. Significant Wildlife Habitat Mitigation Support Tool Index #12 provides development effects and mitigation measures. 	<p>Forest communities are likely to provide roosting habitat for bat species. Field investigations are recommended in winter 2018/2019 to confirm this habitat function.</p>
<p>Turtle Wintering Areas</p> <p>Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.</p>	<p>Midland Painted Turtle</p> <p>Special Concern: Northern Map Turtle Snapping Turtle</p>	<p>Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO</p> <p>Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.</p>	<ul style="list-style-type: none"> For most turtles, wintering areas are in the same general area as their core habitat. Water must be deep enough not to freeze and have soft mud substrates. Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> EIS studies carried out by Conservation Authorities. Local field naturalists and experts, as well as university herpetologists may also know where to find some of these sites. OMNRF Ecologist or Biologist Field Naturalist clubs Natural Heritage Information Center (NHIC) 	<ul style="list-style-type: none"> Presence of 5 over-wintering Midland Painted Turtles is significant. One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH. Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May) Congregation of turtles is more common where wintering areas are limited and therefore significant Significant Wildlife Habitat Mitigation Support Tool Index #28 provides development effects and mitigation measures for turtle wintering habitat. 	<p>There is high probability that St. Andrew’s Lake PSW provides this habitat function. This habitat feature, plus a 30m setback, will be retained on the landscape post construction, and thus no further evaluation is deemed warranted at this time.</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Reptile Hibernaculum</p> <p>Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.</p>	<p>Snakes: Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake Milksnake</p> <p>Special Concern: Eastern Ribbonsnake</p> <p>Lizard: Special Concern (Southern Shield population): Five-lined Skink</p>	<p>For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats.</p> <p>Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.</p> <p>For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3</p>	<ul style="list-style-type: none"> For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures . <p>Information Sources</p> <ul style="list-style-type: none"> In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells). Reports and other information available from Conservation Authorities. Field Naturalists clubs University herpetologists Natural Heritage Information Center (NHIC) OMNRF ecologist or biologist may be aware of locations of wintering skinks 	<p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct) Note: If there are Special Concern Species present, then site is SWH Note: Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH Significant Wildlife Habitat Mitigation Support Tool Index #13 provides development effects and mitigation measures for snake hibernacula. Presence of any active hibernaculum for skink is significant. Significant Wildlife Habitat Mitigation Support Tool Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat. 	<p>Reptile Hibernaculum may be present within the St. Andrew's Lake PSW and the adjacent upland habitat. No specific field surveys have been conducted to confirm presence or absence of the feature, however, if this habitat function is associated with the property, it is likely located within the 30m setback of St. Andrew's Lake PSW and the function will be retained post development. Thus, no further evaluation is deemed warranted at this time.</p>
<p>Colonially -Nesting Bird Breeding Habitat (Bank and Cliff)</p> <p>Rationale: Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow populations are declining in Ontario.</p>	<p>Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)</p>	<p>Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns.</p> <p>Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1</p>	<ul style="list-style-type: none"> Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. Does not include a licensed/permitted Mineral Aggregate Operation. <p>Information Sources</p> <ul style="list-style-type: none"> Reports and other information available from Conservation Authorities. Ontario Breeding Bird Atlas Bird Studies Canada; <i>NatureCounts</i> http://www.birdscanada.org/birdmon/ Field Naturalist Clubs. 	<p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. A colony identified as SWH will include a 50m radius habitat area from the peripheral nests Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" Significant Wildlife Habitat Mitigation Support Tool Index #4 provides development effects and mitigation measures 	<p>Habitat within and adjacent to the property does not meet key criteria to be considered significant – cliffs or banks were observed on the property. No further evaluation undertaken.</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Colonially -Nesting Bird Breeding Habitat (Tree/Shrubs)</p> <p>Rationale: Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p>	<p>Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron</p>	<p>SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1</p>	<ul style="list-style-type: none"> Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. Most nests in trees are 11 to 15 m from ground, near the top of the tree. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ontario Breeding Bird Atlas, colonial nest records. Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). Natural Heritage Information Center (NHIC) Mixed Wader Nesting Colony Aerial photographs can help identify large heronries. Reports and other information available from CAs. MNRF District Offices. Local naturalist clubs. 	<p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of 5 or more active nests of Great Blue Heron or other listed species. The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells Significant Wildlife Habitat Mitigation Support Tool Index #5 provides development effects and mitigation measures. 	<p>Though St. Andrew’s Lake PSW may provide suitable habitat, this habitat function has not been identified on the property. Thus, no further evaluation is deemed warranted at this time.</p>
<p>Colonially -Nesting Bird Breeding Habitat (Ground)</p> <p>Rationale: Colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p>	<p>Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer’s Blackbird</p>	<p>Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map).</p> <p>Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer’s Blackbird)</p> <p>MAM1 – 6; MAS1 – 3; CUM CUT CUS</p>	<ul style="list-style-type: none"> Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ontario Breeding Bird Atlas , rare/colonial species records. Canadian Wildlife Service Reports and other information available from CAs. Natural Heritage Information Center (NHIC) Colonial Waterbird Nesting Area MNRF District Offices. Field Naturalist clubs. 	<p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. Presence of 5 or more pairs for Brewer’s Blackbird. Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH Studies would be done during May/June when actively nesting. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” Significant Wildlife Habitat Mitigation Support Tool Index #6 provides development effects and mitigation measures. 	<p>Habitat does not meet key criteria to be considered significant – no rocky islands or peninsulas were documented on site. No further evaluation undertaken.</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Migratory Butterfly Stopover Areas</p> <p>Rationale: Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.</p>	<p>Painted Lady Red Admiral</p> <p><u>Special Concern</u> Monarch</p>	<p>Combination of ELC Community Series; need to have present one Community Series from each land class:</p> <p><u>Field:</u> CUM CUT CUS</p> <p><u>Forest:</u> FOC FOD FOM CUP</p> <p>Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.</p>	<p>A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present and will be located within 5 km of Lake Ontario.</p> <ul style="list-style-type: none"> The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF (NHIC) Agriculture Canada in Ottawa may have list of butterfly experts. Field Naturalist Clubs Toronto Entomologists Association Conservation Authorities 	<p>Studies confirm:</p> <ul style="list-style-type: none"> The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. Significant Wildlife Habitat Mitigation Support Tool Index #16 provides development effects and mitigation measures. 	<p>Property is not located within 5km of Lake Ontario and thus this habitat function is not applicable in the context of this property.</p>
<p>Landbird Migratory Stopover Areas</p> <p>Rationale: Sites with a high diversity of species as well as high numbers are most significant.</p>	<p>All migratory songbirds.: Canadian Wildlife Service Ontario website.</p> <p>All migrant raptor species:</p> <p>Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)</p>	<p>All Ecosites associated with these ELC Community Series;</p> <p>FOC FOM FOD SWC SWM SWD</p>	<p>Woodlots need to be >10 ha in size and within 5 km of Lake Ontario.</p> <ul style="list-style-type: none"> If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant Sites have a variety of habitats; forest, grassland and wetland complexes. The largest sites are more significant Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Ontario are Candidate SWH . <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Bird Studies Canada Ontario Nature Local birders and naturalist club Ontario Important Bird Areas (IBA) Program 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" Significant Wildlife Habitat Mitigation Support Tool Index #9 provides development effects 	<p>Property is not located within 5km of Lake Ontario and thus this habitat function is not applicable in the context of this property.</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Deer Yarding Areas</p> <p>Rationale: Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in “yards” to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.</p>	White-tailed Deer	<p>Note: OMNRF to determine this habitat.</p> <p>ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC.</p> <p>Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT</p>	<ul style="list-style-type: none"> Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. OMNRF determines deer yards following methods outlined in “Selected Wildlife and Habitat Features: Inventory Manual” Woodlots with high densities of deer due to artificial feeding are not significant. 	<p>No Studies Required:</p> <ul style="list-style-type: none"> Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. Deer Yards are mapped by OMNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by OMNRF will be available at local MNRF offices or via Land Information Ontario (LIO). Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an “average” winter. MNRF will complete these field investigations. If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined within this Schedule. Significant Wildlife Habitat Mitigation Support Tool Index #2 provides development effects and mitigation measures. 	<p>The property is not mapped as core/Stratum 1 deeryard by the MNRF (Allan <i>et al.</i> 2005). No browse lines or signs of intensive browsing of shrubs/saplings characteristic of core deer yard habitat observed. No further evaluation undertaken.</p>
<p>Deer Winter Congregation Areas</p> <p>Rationale: Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.</p>	White-tailed Deer	<p>All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p> <p>Conifer plantations much smaller than 50 ha may also be used.</p>	<ul style="list-style-type: none"> Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on MNRF studies or assessment. Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands . If deer are constrained by snow depth refer to the Deer Yarding Area habitat. Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha . Woodlots with high densities of deer due to artificial feeding are not significant. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNRF District Offices LIO/NRVIS 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey. If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined below. Significant Wildlife Habitat Mitigation Support Tool Index #2 provides development effects and mitigation measures. 	<p>Site is located in the northern part of Ecoregion 6E in an area that receives >20cm of snow accumulation per year. Thus, this criterion is not applicable to the site</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Rare Vegetation Communities

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
<p>Cliffs and Talus Slopes</p> <p>Rationale: Cliffs and Talus Slopes are extremely rare habitats in Ontario.</p>	<p>Any ELC Ecosite within Community Series:</p> <p>TAO TAS TAT CLO CLS CLT</p>	<p>A Cliff is vertical to near vertical bedrock >3m in height.</p> <p>A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris</p>	<p>Most cliff and talus slopes occur along the Niagara Escarpment.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> The Niagara Escarpment Commission has detailed information on location of these habitats. OMNRF District Natural Heritage Information Center (NHIC) has location information available on their website Field Naturalist clubs Conservation Authorities 	<ul style="list-style-type: none"> Confirm any ELC Vegetation Type for Cliffs or Talus Slopes Significant Wildlife Habitat Mitigation Support Tool Index #21 provides development effects and mitigation measures. 	<p>Habitat within and adjacent to the property does not meet key criteria to be considered significant. No further evaluation undertaken.</p>
<p>Sand Barren</p> <p>Rationale: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry</p>	<p>ELC Ecosites: SBO1 SBS1 SBT1</p> <p>Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%</p>	<p>Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.</p>	<p>A sand barren area >0.5ha in size.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF Districts. Natural Heritage Information Center (NHIC) has location information available on their website. Field Naturalist clubs Conservation Authorities 	<ul style="list-style-type: none"> Confirm any ELC Vegetation Type for Sand Barrens Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.) Significant Wildlife Habitat Mitigation Support Tool Index #20 provides development effects and mitigation measures. 	<p>Habitat within and adjacent to the property does not meet key criteria to be considered significant. No further evaluation undertaken.</p>
<p>Alvar</p> <p>Rationale: Alvars are extremely rare habitats in Ecosregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.</p>	<p>ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2</p> <p>Five Alvar Species:</p> <ol style="list-style-type: none"> <i>Carex crawei</i> <i>Panicum philadelphicum</i> <i>Eleocharis compressa</i> <i>Scutellaria parvula</i> <i>Trichostema brachiatum</i> <p>These indicator species are very specific to Alvars within Ecoregion 6E</p>	<p>An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover</p>	<p>An Alvar site > 0.5 ha in size.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Alvars of Ontario (2000), Federation of Ontario Naturalists. Ontario Nature – Conserving Great Lakes Alvars. Natural Heritage Information Center (NHIC) has location information available on their website OMNRF Districts Field Naturalist clubs. Conservation Authorities. 	<ul style="list-style-type: none"> Field studies that identify four of the five Alvar Indicator Species at a Candidate Alvar site is Significant. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses Significant Wildlife Habitat Mitigation Support Tool Index #17 provides development effects and mitigation measures. 	<p>Habitat within and adjacent to the property does not meet key criteria to be considered significant. No further evaluation undertaken.</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
<p>Old Growth Forest</p> <p>Rationale: Due to historic logging practices, extensive old growth forest is rare in the Ecoregion. Interior habitat provided by old growth forests is required by many wildlife species.</p>	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest. <u>Information Sources</u> <ul style="list-style-type: none"> OMNRF Forest Resource Inventory mapping OMNRF Districts. Field Naturalist clubs Conservation Authorities Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. Municipal forestry departments 	Field Studies will determine: <ul style="list-style-type: none"> If dominant trees species of the are >140 years old, then the area containing these trees is SWH The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present) The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH. Determine ELC vegetation types for the forest area containing the old growth characteristics Significant Wildlife Habitat Mitigation Support Tool Index #23 provides development effects and mitigation measures. 	Forest communities within the property limits do not meet key criteria related to Woodland areas. Woodland habitat is not considered to be old growth forest. No further evaluation undertaken.
<p>Savannah</p> <p>Rationale: Savannahs are extremely rare habitats in Ontario.</p>	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.	No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> <ul style="list-style-type: none"> Natural Heritage Information Center (NHIC) has location information available on their website OMNRF Districts Field Naturalist clubs. Conservation Authorities. 	Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used. <ul style="list-style-type: none"> Area of the ELC Ecosite is the SWH. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). Significant Wildlife Habitat Mitigation Support Tool Index #18 provides development effects and mitigation measures. 	Habitat within and adjacent to the property does not meet key criteria to be considered significant. No further evaluation undertaken.
<p>Tallgrass Prairie</p> <p>Rationale: Tallgrass Prairies are extremely rare habitats in Ontario.</p>	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.	No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> <ul style="list-style-type: none"> Natural Heritage Information Center (NHIC) has location information available on their website OMNRF Districts Field Naturalist clubs. Conservation Authorities. 	Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 6E should be used <ul style="list-style-type: none"> Area of the ELC Ecosite is the SWH. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). Significant Wildlife Habitat Mitigation Support Tool Index #19 provides development effects and mitigation measures. 	Habitat within and adjacent to the property does not meet key criteria to be considered significant. No further evaluation undertaken.
<p>Other Rare Vegetation Communities</p> <p>Rationale: Plant communities that often contain rare species which depend on the habitat for survival.</p>	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the Significant Wildlife Habitat Technical Guide. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M The OMNRF/NHIC will have up to date listing for rare vegetation communities. <u>Information Sources</u> <ul style="list-style-type: none"> Natural Heritage Information Center (NHIC) has location information available on their website OMNRF Districts Field Naturalist clubs. Conservation Authorities. 	Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of Significant Wildlife Habitat Technical Guide. <ul style="list-style-type: none"> Area of the ELC Vegetation Type polygon is the SWH. Significant Wildlife Habitat Mitigation Support Tool Index #37 provides development effects and mitigation measures. 	<p>Fen habitat is to occur within St. Andrew's Lake PSW. The development has the potential to alter the hydrological regime of the PSW, and therefore the fen community. Potential impact to the feature is discussed within the body of the report.</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Specialized Habitat for Wildlife

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Waterfowl Nesting Area</p> <p>Rationale: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.</p>	<p>American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard</p>	<p>All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4</p> <p>Note: includes adjacency to Provincially Significant Wetlands</p>	<p>A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur.</p> <ul style="list-style-type: none"> Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ducks Unlimited staff may know the locations of particularly productive nesting sites. OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. Reports and other information available from Conservation Authorities. 	<p>Studies confirmed:</p> <ul style="list-style-type: none"> Presence of 3 or more nesting pairs for listed species excluding Mallards, or; Presence of 10 or more nesting pairs for listed species including Mallards. Any active nesting site of an American Black Duck is considered significant. Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. Significant Wildlife Habitat Technical Guide Index #25 provides development effects and mitigation measures. 	<p>Habitat within and adjacent to the property provides nesting opportunity for waterfowl. Though Wood Ducks were confirmed to be nesting in 2006 within the 2006 delineated limit of St. Andrew’s PSW, only one nesting pair of water fowl was observed and thus the habitat was not considered to be significant. Confirmation of species use may be useful, however, St. Andrew’s Lake PSW and a 30m setback comprised of woodland habitat will be retained on the landscape. Thus, the communities that provide this habitat function will not be altered during development and no further evaluation is warranted.</p>
<p>Bald Eagle and Osprey Nesting, Foraging and Perching Habitat</p> <p>Rationale: Nest sites are fairly uncommon in Eco-region 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.</p>	<p>Osprey Special Concern Bald Eagle</p>	<p>ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands</p>	<p>Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water.</p> <ul style="list-style-type: none"> Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree’s canopy. Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Natural Heritage Information Center (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat. Nature Counts, Ontario Nest Records Scheme data. OMNRF Districts. Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented Reports and other information available from Conservation Authorities. Field Naturalists clubs 	<p>Studies confirm the use of these nests by:</p> <ul style="list-style-type: none"> One or more active Osprey or Bald Eagle nests in an area. Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH , maintaining undisturbed shorelines with large trees within this area is important . For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. , Area of the habitat from 400-800m is dependent on-site lines from the nest to the development and inclusion of perching and foraging habitat To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” 	<p>There is a possibility that St. Andrew’s Lake PSW and adjacent upland habitat provides this habitat function. The forest communities within the property limits are quite young and thus do not provide suitable nesting support for the species. However, species may utilize the wooded communities for perching, and St. Andrew’s Lake PSW for foraging.</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
				<ul style="list-style-type: none"> Significant Wildlife Habitat Technical Guide Index #26 provides development effects and mitigation measures 	
<p>Woodland Raptor Nesting Habitat</p> <p>Rationale: Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.</p>	<p>Northern Goshawk Cooper’s Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk</p>	<p>May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3</p>	<p>All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer</p> <ul style="list-style-type: none"> Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF Districts. Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. Check data from Bird Studies Canada. Reports and other information available from Conservation Authorities. 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 1 or more active nests from species list is considered significant. Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH (the 28ha habitat area would be applied where optimal habitat is irregularly shaped around the nest) Barred Owl – A 200m radius around the nest is the SWH. Broad-winged Hawk and Coopers Hawk– A 100m radius around the nest is the SWH. Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. Significant Wildlife Habitat Technical Guide Index #27 provides development effects and mitigation measures. 	<p>Cooper’s Hawk was observed on the property in 2006 however, the forest communities present are not of sufficient size to provide interior forest habitat. Thus this habitat function is not present, and no further evaluation is deemed required.</p>
<p>Turtle Nesting Areas</p> <p>Rationale: These habitats are rare and when identified will often be the only breeding site for local populations of turtles.</p>	<p>Midland Painted Turtle</p> <p><u>Special Concern Species</u> Northern Map Turtle Snapping Turtle</p>	<p>Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1</p>	<ul style="list-style-type: none"> Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. Natural Heritage Information Center (NHIC) Field Naturalist clubs 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 5 or more nesting Midland Painted Turtles One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH. Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat. Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. <p>Significant Wildlife Habitat Technical Guide Index #28 provides development effects and mitigation measures for turtle nesting habitat.</p>	<p>Opportunity for turtle nesting occurs within the fill area in the south of the property, however, likelihood of nesting is low, given the presence of sediment and erosion control fencing encircling the fill pile. Thus impact to the feature is not considered within the body of the report. Regardless, measures to mitigate potential impact to nesting turtles have been recommended.</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Seeps and Springs</p> <p>Rationale: Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.</p>	<p>Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.</p>	<p>Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.</p>	<p>Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system.</p> <ul style="list-style-type: none"> Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Topographical Map. Thermography. Hydrological surveys conducted by Conservation Authorities and Ministry of the Environment, Conservation and Parks. Field Naturalists clubs and landowners. Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped. 	<p>Field Studies confirm:</p> <ul style="list-style-type: none"> Presence of a site with 2 or more seeps/springs should be considered SWH. The area of an ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat. Significant Wildlife Habitat Technical Guide Index #30 provides development effects and mitigation measures 	<p>Seep and spring type habitat was not confirmed on the property. Thus this habitat function is not present, and no further evaluation is deemed required.</p>
<p>Amphibian Breeding Habitat (Woodland).</p> <p>Rationale: These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations</p>	<p>Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog</p>	<p>All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p> <p>Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians</p>	<ul style="list-style-type: none"> Presence of a wetland, pond or woodland pool (including vernal pools) >500m² (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. OMNRF District. OMNRF wetland evaluations Field Naturalist clubs Canadian Wildlife Service Amphibian Road Call Survey Ontario Vernal Pool Association: http://www.ontariovernalpools.org 	<p>Studies confirm;</p> <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. Significant Wildlife Habitat Technical Guide Index #14 provides development effects and mitigation measures. 	<p>Amphibian breeding was confirmed within St. Andrew's Lake PSW in 2006, though not with sufficient species diversity to be considered significant. No additional field assessments have been completed at this time to confirm if amphibian populations have changed since issue of the 2007 EIS. The development has the potential to alter hydrologic regime of the property. Further consideration of this impact is warranted, and is presented within the body of the report.</p>
<p>Amphibian Breeding Habitat (Wetlands)</p> <p>Rationale:</p>	<p>Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog</p>	<p>ELC Community Classes SW, MA, FE, BO, OA and SA.</p> <p>Typically these wetland ecosites will be isolated (>120m) from</p>	<ul style="list-style-type: none"> Wetlands>500m² (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. or; 	<p>Amphibian breeding was confirmed within St. Andrew's Lake PSW 2006, though not with sufficient species diversity to be considered significant. No additional field assessments have been completed at this time to confirm if amphibian populations</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands.	<ul style="list-style-type: none"> Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. Bullfrogs require permanent water bodies with abundant emergent vegetation. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ontario Herpetofaunal Summary Atlas (or other similar atlases) Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. OMNRF Districts and wetland evaluations Reports and other information available from Conservation Authorities. 	<p>Wetland with confirmed breeding Bullfrogs are significant.</p> <ul style="list-style-type: none"> The ELC ecosite wetland area and the shoreline are the SWH. A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined below. Significant Wildlife Habitat Technical Guide Index #15 provides development effects and mitigation measures. 	have changed since issue of the 2007 EIS. The development has the potential to alter hydrologic regime of the property. Further consideration of this impact is warranted.
<p>Woodland Area-Sensitive Bird Breeding Habitat</p> <p><u>Rationale:</u> Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.</p>	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren Special Concern: Canada Warbler	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha, <ul style="list-style-type: none"> Interior forest habitat is at least 200 m from forest edge habitat. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Local bird clubs. Canadian Wildlife Service (CWS) for the location of forest bird monitoring. Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species Reports and other information available from Conservation Authorities. 	Studies confirm: <ul style="list-style-type: none"> Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. Note: any site with breeding Canada Warblers is to be considered SWH. Conduct field investigations in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" Significant Wildlife Habitat Technical Guide Index #34 provides development effects and mitigation measures. 	Forest communities on the property do not contain any interior habitat. Breeding bird surveys confirmed only one of the listed species (<i>i.e.</i> , Veery) in 2006. No additional field assessments are deemed necessary as the woodland habitat on the property does not meet habitat criteria relating to age and size. No further evaluation required.



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Marsh Breeding Bird Habitat</p> <p>Rationale: Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.</p>	<p>American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan</p> <p>Special Concern: Black Tern Yellow Rail</p>	<p>MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1</p> <p>For Green Heron: All SW, MA and CUM1 sites.</p>	<ul style="list-style-type: none"> Nesting occurs in wetlands. All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF District and wetland evaluations. Field Naturalist clubs Natural Heritage Information Center (NHIC) Records. Reports and other information available from Conservation Authorities. Ontario Breeding Bird Atlas. 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes; or breeding by any combination of 5 or more of the listed species. Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. Area of the ELC ecosite is the SWH. Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” Significant Wildlife Habitat Technical Guide Index #35 provides development effects and mitigation measures 	<p>St. Andrew’s Lake PSW may provide breeding opportunity for marsh birds, however, the species and quantity required to be considered SWH has not been documented at this time. Regardless, this habitat feature, plus a 30m setback, will be retained on the landscape post construction, and thus no further evaluation is deemed warranted at this time.</p>
<p>Open Country Bird Breeding Habitat Sources Defining Criteria</p> <p>Rationale: This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.</p>	<p>Upland Sandpiper Vesper Sparrow Northern Harrier Savannah Sparrow</p> <p>Special Concern Short-eared Owl Grasshopper Sparrow</p>	<p>CUM1 CUM2</p>	<p>Large grassland areas (includes natural and cultural fields and meadows) >30 ha</p> <ul style="list-style-type: none"> Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years). Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Agricultural land classification maps, Ministry of Agriculture. Local bird clubs. Ontario Breeding Bird Atlas Reports and other information available from Conservation Authorities. 	<p>Field Studies confirm:</p> <ul style="list-style-type: none"> Presence of nesting or breeding of 2 or more of the listed species. A field with 1 or more breeding Short-eared Owls or Grasshopper Sparrow is to be considered SWH. The area of SWH is the contiguous ELC ecosite field areas. Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” Significant Wildlife Habitat Technical Guide Index #32 provides development effects and mitigation measures 	<p>Habitat within and adjacent to the property does not meet key criteria to be considered significant. No further evaluation undertaken.</p>
<p>Shrub/Early Successional Bird Breeding Habitat</p> <p>Rationale: This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.</p>	<p><u>Indicator Spp:</u> Brown Thrasher Clay-coloured Sparrow</p> <p><u>Common Spp.</u> Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher</p> <p>Special Concern: Golden-winged Warbler</p>	<p>CUT1 CUT2 CUS1 CUS2 CUW1 CUW2</p> <p>Patches of shrub ecosites can be complexed into a larger habitat for some bird species</p>	<p>Large field areas succeeding to shrub and thicket habitats >10ha in size.</p> <ul style="list-style-type: none"> Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years). Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Agricultural land classification maps, Ministry of Agriculture. Local bird clubs. Ontario Breeding Bird Atlas Reports and other information available from Conservation Authorities. 	<p>Field Studies confirm:</p> <ul style="list-style-type: none"> Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. A habitat with breeding Golden-winged Warbler is to be considered as Significant Wildlife Habitat. The area of the SWH is the contiguous ELC ecosite field/thicket area. Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” Significant Wildlife Habitat Technical Guide Index #33 provides development effects and mitigation measures. 	<p>Habitat within and adjacent to the property does not meet size criteria for significance. No further reevaluation is deemed necessary at this time.</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Terrestrial Crayfish</p> <p>Rationale: Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.</p>	<p>Chimney or Digger Crayfish; (<i>Fallicambarus fodiens</i>)</p> <p>Devil Crayfish or Meadow Crayfish; (<i>Cambarus Diogenes</i>)</p>	<p>MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM</p> <p>CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.</p>	<p>Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish.</p> <ul style="list-style-type: none"> Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water. Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998 	<p>Studies Confirm:</p> <ul style="list-style-type: none"> Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult Significant Wildlife Habitat Technical Guide Index #36 provides development effects and mitigation measures. 	<p>St. Andrew's Lake PSW may provide this habitat function. This habitat feature, plus a 30m setback, will be retained on the landscape post construction, and thus no further evaluation is deemed warranted at this time.</p>
<p>Special Concern and Rare Wildlife Species</p> <p>Rationale: These species are quite rare or have experienced significant population declines in Ontario.</p>	<p>All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.</p>	<p>All plant and animal element occurrences (EO) within a 1 or 10km grid.</p> <p>Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy</p>	<p>When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. NHIC Website "Get Information" : http://nhic.mnr.gov.on.ca Ontario Breeding Bird Atlas Expert advice should be sought as many of the rare spp. have little information available about their requirements. 	<p>Studies Confirm:</p> <ul style="list-style-type: none"> Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs to be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. Significant Wildlife Habitat Technical Guide Index #37 provides development effects and mitigation measures. 	<p>Special Concern species may be associated with the property. See the appended SAR Assessment Letter for further information.</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Animal Movement Corridors

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
<p>Amphibian Movement Corridors</p> <p>Rationale: Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.</p>	<p>Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog</p>	<p>Corridors may be found in all ecosites associated with water.</p> <ul style="list-style-type: none"> Corridors will be determined based on identifying the significant breeding habitat for these species 	<p>Movement corridors between breeding habitat and summer habitat.</p> <ul style="list-style-type: none"> Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH (Amphibian Breeding Habitat –Wetland) <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNRF District Office. Natural Heritage Information Center (NHIC). Reports and other information available from Conservation Authorities. Field Naturalist Clubs. 	<ul style="list-style-type: none"> Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m . Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. Significant Wildlife Habitat Technical Guide Index #40 provides development effects and mitigation measures 	<p>Significance of habitat, in regard to amphibian use, has not been confirmed at this time. Thus no conclusions regarding the presence of amphibian movement corridors can be made at this time. Given the proximity of the road network and residential development, the likelihood of a movement corridor existing is low. Thus, no further evaluation has been undertaken.</p>
<p>Deer Movement Corridors</p> <p>Rationale: Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.</p>	<p>White-tailed Deer</p>	<p>Corridors may be found in all forested ecosites.</p> <p>A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.</p>	<p>Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH</p> <ul style="list-style-type: none"> A deer wintering habitat identified by the OMNRF as will have corridors that the deer use during fall migration and spring dispersion. Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNRF District Office. Natural Heritage Information Center (NHIC). Reports and other information available from Conservation Authorities. Field Naturalist Clubs. 	<ul style="list-style-type: none"> Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas. Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. Corridors should be at least 200m wide with gaps <20m and if following riparian area with at least 15m of vegetation on both sides of waterway. Shorter corridors are more significant than longer corridors. Significant Wildlife Habitat Technical Guide Index #39 provides development effects and mitigation measures 	<p>No deer wintering habitat is present on the property. Thus, no further evaluation has been undertaken.</p>



Table 1. Significant Wildlife Habitat Criteria Schedule for EcoRegion 6E

Exceptions for EcoRegion 6E

EcoDistrict	Wildlife Habitat and Species	Candidate			Confirmed SWH	Assessment
		Ecosites	Habitat Description	Habitat Criteria and Information	Defining Criteria	
6E-14 Rationale: The Bruce Peninsula has an isolated and distinct population of black bears. Maintenance of large woodland tracts with mast-producing tree species is important for bears.	Mast Producing Areas Black Bear	All Forested habitat represented by ELC Community Series: FOM FOD	<ul style="list-style-type: none"> Black bears require forested habitat that provides cover, winter hibernation sites, and mast-producing tree species. Forested habitats need to be large enough to provide cover and protection for black bears 	Woodland ecosites >30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech), <u>Information Sources</u> Important forest habitat for black bears may be identified by OMNRF.	All woodlands > 30ha with a 50%composition of these ELC Vegetation Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 Significant Wildlife Habitat Technical Guide Index #3 provides development effects and mitigation measures.	Not applicable, property is not located on the Bruce Peninsula.
6E- 17 Rationale: Sharp-tailed grouse only occur on Manitoulin Island in Eco-region 6E, Leks are an important habitat to maintain their population	Lek Sharp-tailed Grouse	CUM CUS CUT	<ul style="list-style-type: none"> The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography. Leks are typically a grassy field/meadow >15ha with adjacent shrublands and >30ha with adjacent deciduous woodland. Conifer trees within 500m are not tolerated. 	Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland. <ul style="list-style-type: none"> Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying) Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting <u>Information Sources</u> <ul style="list-style-type: none"> OMNRF district office Bird watching clubs Local landowners Ontario Breeding Bird Atlas 	Studies confirming lek habitat are to be completed from late March to June. <ul style="list-style-type: none"> Any site confirmed with sharp-tailed grouse courtship activities is considered significant The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitat Significant Wildlife Habitat Technical Guide Index #32 provides development effects and mitigation measures 	Not applicable, property is not located on Manitoulin Island.

APPENDIX A

Simcoe County Woodland Mapping



1145 Fuller Ave. County of Simcoe Woodland Mapping (general property location indicated by the red oval)

The screenshot displays a web-based GIS application interface. At the top left is the County of Simcoe logo and a search bar. The main map area shows an aerial view of a residential neighborhood with various streets labeled, including Byrnes Cres, Marquand Cres, Higham Rd, Pine Grove Rd, Sherbrooke St, Maple St, and Cambridge St. A red oval highlights a specific property located near the intersection of Maple St and Pine Grove Rd. The map is overlaid with green areas representing 'Forested Area/Woodlands', which are further categorized into 'Wooded Area' and 'Hedgerow'. The left-hand 'Layers' panel lists various geographic information system layers, with 'Forested Area/Woodlands' checked and expanded. The right-hand panel shows map style options (Imagery, Topo, Streets) and a 'Toggle Streets Layer' checkbox. At the bottom right, there are controls for 'Print', 'Legend', 'Feedback', and 'Terms', along with a scale of 1:9,028.

APPENDIX B

Species at Risk Habitat Assessment

Birks Natural Heritage Consultants

November 2018





23 Herrell Avenue
Barrie, Ontario
L4N6T5

November 23, 2018

Carmen Fruci
16-155 William St.
Midland, Ontario
L4R 5N1

RE: BIRKS NHC 003-004-2018
Species at Risk Assessment
1145 Fuller Ave, Penetanguishene, Simcoe

Dr. Mr. Fruci,

Thank you for retaining Birks Natural Heritage Consultants Inc. (Birks NHC) to prepare a Species at Risk (SAR) assessment for a property located at 1145 Fuller Ave, Penetanguishene (Figure 1). It is our understanding that the assessment has been requested to accompany an application for an amendment to the applicable zoning by-law for the property. This letter provides an assessment of the habitat on the property, in terms of the potential for it to function as habitat for Endangered (END) and Threatened (THR) SAR currently protected under the *Endangered Species Act, 2007* (ESA).

Ontario's ESA provides regulatory protection to END and THR species, prohibiting harassment, harm and/or killing of individuals (Section 9) and destruction of their habitats (Section 10). Habitat of the species is defined as follows:

1. As the habitat features prescribed by Ontario Regulation 242/08 of the ESA, or,
2. Areas on which the species depends, directly or indirectly, to carry on its life processes, as described within reference documents such as species status reports, technical reports, scientific articles, and based on internal data available from applicable agencies.



STUDY APPROACH

The following activities were undertaken during the completion of the assessment:

- Attended the property on October 11, 2018 to complete a preliminary characterization of the existing habitat and search for evidence of SAR use of the property, including Butternut (Endangered) and bats (Endangered);
- Utilized aerial photography to obtain a broad understanding of the local habitat matrix and assist with Ecological Land Classification System mapping, which was then confirmed by Birks NHC staff onsite;
- Queried web resources, the Severn Sound Environmental Association (SSEA) and the Midhurst District Ministry of Natural Resources and Forestry (MNRF) to determine if there are any SAR species occurrences on file;
- Conducted a SAR habitat screening to determine at-risk species with potential to be present in the area.

EXISTING CONDITIONS

LAND USE

The property is largely comprised of deciduous and coniferous forest. A portion of the St. Andrew's Lake Provincially Significant Wetland (PSW) extends into the eastern portion of the property (Figure 1). A dwelling, storage yard and accessory structure are present in the southern portion of the property, identified as residential area in Figures 1 and 2. A fill area is located immediately south of the residence (Figure 2)

The adjacent landscape is comprised of residential subdivisions and continuation of the St. Andrew's Lake PSW.

VEGETATION

Vegetation communities were classified according to the Ecological Land Classification for Southern Ontario Protocols (Lee *et al.*, 1998). Seven community types were identified on the property: two deciduous forests (FOD3 and FOD6-5), a coniferous forest (FOC1-2), a cultural meadow (CUM1-1), a cultural woodland (CUW) a swamp thicket (SWT2) and a meadow marsh (MAM2). The location of the communities is presented in Figure 2.

A coniferous forest community (FOC1-2) is present within the northern portion of the property (Figure 2). A small inclusion of this unit is also present adjacent to the fill piles. This community is densely vegetated with young Red and White Pine, with branches of the trees quite dense throughout the forest canopy layers. The understory was sparsely vegetated with herbaceous specimens such as Virginia Strawberry, Bracken Fern, Juniper, and Canada Mayflower.



The remainder of the forested lands are dominated by Trembling Aspen (FOD3) with occurrences of Black Cherry, Black Walnut, Red Maple and Sugar Maple (Figure 2). Understory species noted included Bracken Fern, Enchanters Nightshade, Black Raspberry, Virginia Strawberry, River Grape, Large Leaf Aster, Yarrow, Periwinkle and Common Milkweed. One large patch (approximately 80m by 40m) of Japanese Knotweed was observed immediately north-east of the residential lands

A Sugar Maple/Red Oak (FOD6-5) forest extends onto the southern portion of the property (Figure 2). Woody associates include Basswood, White Ash, Yellow Birch and Tamarack. Herbaceous species observed include Large Leaf Aster, Bracken Fern, Canada Mayflower, Rose sp., Virginia Strawberry, and Zigzag Goldenrod.

One small cultural meadow inclusion was observed between the residential area and the fill pile (Figure 2). The community was comprised of graminoid and forb species including Orchard Grass, Viper's Bugloss, Queen Anne's Lace, Kentucky Blue Grass, Spotted Knapweed, Strawberry, and Daisy Fleabane, and Beebalm. The cultural woodland in the north-west corner of the property contained these herbaceous plants, as well as Red Pine, Staghorn Sumac and White Ash.

The entire eastern border of the property was contained within wetland communities including meadow marsh (MAM2) and swamp thicket (SWT2). The meadow marsh community was dominated by graminoid species, most of which were not identifiable to species, given the timing of the site visit. The swamp thicket was dominated by Speckled Alder and American Elm with occurrences of River Grape, Sensitive Fern, Royal Fern, Poison Ivy, Crack Willow and Yellow Birch.

SPECIES AT RISK

The potential for SAR to be utilizing the property and/or adjacent lands was assessed through an analysis of the habitat requirements of SAR reported to occur in the area (Table 1).

In addition to this, correspondence has been sent to the Midhurst District MNRF and SSEA requesting additional SAR data which may not available through internet sources (Natural Heritage Information Centre, Ontario Breeding Bird Atlas, Ontario Reptile and Amphibian Atlas Program). The MNRF's and SSEA's response has been appended to this letter.

Of the species identified with potential to exist within the broader landscape, the following have candidate habitat within and adjacent to the property, and have the potential to occur on site:

- Mammals: Little Brown Myotis (END), Northern Long-eared Bat (END), Tri-colored Bat (END);
- Birds: Bald Eagle (SC), Black Tern (SC), Barn Swallow (THR), Canada Warbler (SC), Chimney Swift (THR), Eastern Wood-pewee (SC), Golden-winged Warbler (SC), Least Bittern (THR), Olive-sided Flycatcher (SC), Red-headed Woodpecker (SC), Whip-poor-will (THR), Wood Thrush (SC), Yellow Rail (SC);
- Insects: Monarch Butterfly (SC); and
- Reptiles: Blanding's Turtle (THR), Eastern Foxsnake (THR), Eastern Musk Turtle (SC), Eastern Ribbon Snake (SC), Massasauga (THR), Snapping Turtle (SC).



PROPOSED DEVELOPMENT

A low and medium density residential development with commercial and parkland space is proposed for the property. The conceptual plan incorporates consideration for St. Andrew's Lake PSW with the inclusion of an Environmental Protection block along the eastern property boundary. A three phased buildout approach is proposed, with Phase 1 of the development beginning in the north. The second phase will include the central portion of the property. The third phase will include undeveloped lands south of the first two phases. The current conceptual site plan is included as an attachment.

SPECIES AT RISK HABITAT IMPACT ASSESSMENT

ENDANGERED BATS

Potential habitat for END bat species (maternity roosting and day roosting habitat) was identified on the property, characterized by the existing residential structures and the deciduous forest communities. Typically, coniferous forest units also provide maternity roosting habitat for bats. However, the mature trees present within the coniferous forest (FOC 1-2) on site are quite small (<25cm) and short (<10m). They would not meet the minimum requirements of snags that would be considered high quality candidate roosting habitat for bats. The trees retain all of the lower branches resulting in a thick understory which is not regularly associated with bat habitat use. Therefore, we do not consider the coniferous forest to provide suitable habitat for END bats and no further consideration of this forest unit is required, as it relates to the protection of bats and bat habitat.

It is recommended that additional surveys be conducted to characterize the species' habitat use of the remainder of the property in accordance with the Technical Note for Species at Risk Bats' (Technical Note; MNRF, 2015). Additional surveys may include:

- Winter snag density surveys within the deciduous forest units (FOD3 and FOD6-5);
- Summary acoustic surveys targeting areas that meet the minimum density criteria for maternity roosting habitat (if required); and
- Summer exit surveys of the residential structures or inspection prior to demolition.

BARN SWALLOW AND CHIMNEY SWIFT

Potential nesting habitat for Barn Swallow is associated with the existing residential structures. It is recommended these structures be inspected prior to demolition to ensure that Barn Swallow are not present and using the structures at the time of demolition.

There is no expectation that Chimney Swift will utilize the structures as the chimneys have been capped and thus, the species does not have access to the candidate nesting habitat.

Foraging habitat for the species is associated with St. Andrew's Lake PSW. We anticipate that this feature, plus a naturalized setback, will remain post development.



WHIP-POOR-WILL

Potential nesting and foraging habitat for Whip-poor-will is present within the deciduous and coniferous forest communities. It is recommended that summer Whip-poor-will surveys be conducted to determine if the species is present and utilizing the property.

Foraging habitat for the species is also associated with St. Andrew's Lake PSW. We anticipate that this feature, plus a naturalized setback, will remain post development.

LEAST BITTERN

Nesting and foraging habitat for Least Bittern is likely to be present within St. Andrew's Lake PSW. This feature will remain post development, and thus there is no expectation that habitat of species will be damaged or destroyed. Regardless, it is recommended that appropriate timing windows are considered while working in areas adjacent to potential habitat to avoid direct and/or indirect impact to the species, as described in in the Recommendations section below.

MASSASAUGA

Potential overwintering and foraging habitat for these species may be present within St. Andrew's Lake PSW. This feature will remain post development, and thus there is no expectation that this habitat component will be damaged, or destroyed, in accordance with Section 10 of the ESA. There is no expectation that the upland deciduous forest and woodland units (CUW, FOC1-2, FOD3, FOD6-5) would provide important habitat functions for the species.

St. Andrew's Lake PSW will remain post development, and thus there is no expectation that habitat of species will be damaged or destroyed. Regardless, it is recommended that appropriate timing windows are considered while working in areas adjacent to potential habitat to avoid direct and/or indirect impact to the species, as described in the Recommendations section below.

BLANDING'S TURTLE

The MNRF has confirmed a Blanding's Turtle sighting within 500m of St. Andrew's Lake PSW and as a result, without further study, the wetland must be considered as overwintering habitat for the species. The General Habitat Description for Blanding's Turtle, prepared by the MNRF, defines a wetland and a 30m setback to the feature as Category 2 Habitat for the species. The development, as currently proposed, may encroach into Category 2 habitat and the 30m setback. An Overall Benefit Permit, under Section 17 (2) (c) of the ESA, will likely be required if the proposed development encroaches into Category 2 habitat of Blanding's Turtle. As such, the limit of St. Andrew's Lake PSW should be delineated with the MNRF, and a 30m setback to the limit applied.

Lands within 250m of Category 2 habitat provide opportunities for movement and nesting as defined within the General Habitat Description for Blanding's Turtle. These lands are identified as Category 3 habitat within the General Habitat Description. Thus, the remainder of the property, outside of those lands considered to be Category 2 habitat, could be considered Category 3 habitat.



Given the presence of Fuller Ave, residential, and industrial development immediately west of the property, there is minimal nesting or dispersal opportunity for the species beyond the western property limit. Upland areas along the western limit of the property provide minimal nesting opportunity, including the area of fill observed in the south. The fill piles were isolated from the adjacent habitat with typical 3 foot sediment/exclusion fencing on page wire. Given the poor quality habitat onsite and the lack of habitat beyond the western property limit, it is unlikely that the remainder of the property functions as Category 3 habitat and development of these lands will not affect habitat availability of the species. Regardless, there is potential for the species to incidentally occur in the area. It is recommended that exclusion fence 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.

SPECIES OF SPECIAL CONCERN

While SC species do not receive protection under the ESA, it is recommended that appropriate timing windows are considered while working in areas where these species have the potential to occur, to avoid direct and/or indirect impact to the species, as described below. Species listed as Special Concern with potential to be impacted are summarized below:

- Birds: Bald Eagle, Black Tern, Canada Warbler, Golden-winged Warbler, Olive-sided Flycatcher, Red-headed Woodpecker, Wood Thrush, Eastern Wood-pewee, Yellow Rail
- Reptiles: Snapping Turtle, Musk Turtle, Ribbon Snake
- Insects: Monarch

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.

TIMING WINDOWS

Building demolition and site alteration (tree removal) 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.

ENDANGERED BATS

Winter snag density surveys should occur to determine if the snag density within the deciduous forest units meets the minimum criteria for candidate maternity roosting habitat, as outlined within the Technical Note (MNRF, 2015). If it is determined that the deciduous forest units meet minimum density, acoustic surveys to determine species presence may be required in the spring/summer.

All structures should be inspected prior to demolition to ensure that END bat species are not utilizing the habitat and that the activity is not in contravention of the ESA as it relates to END bat species. We suggest the completion of exit surveys, which can occur concurrently with the acoustic surveys noted above.

WHIP-POOR-WILL

Nocturnal bird surveys should occur in the spring and summer to confirm if Whip-poor-will are present on the property. If they are determined to be present, surveys will assist in the characterization of habitat and will inform subsequent permit acquisition, if required.

BARN SWALLOW

All structures should be inspected for species' use prior to demolition, to ensure that the species are not utilizing the habitat, and that the removals do not constitute contravention of the ESA.

BLANDING'S TURTLE

A wetland delineation exercise of the St. Andrew's PSW limit, and the application of a 30m setback will be required prior to finalization of the site plan, to confirm the extent of Category 2 Habitat for the species. If the site plan calls for alteration of lands within the PSW limit and the 20m setback (Category 2 habitat), an Overall Benefit Permit, under Section 17 (2) (c) of the ESA will be required.

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 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.

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 MNRF office (Midhurst District) 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.

CLOSURE

Our investigation revealed that future development of the property may impact SAR species and/or their habitat, including END Bats, Blanding's Turtle, Barn Swallow, and Whip-poor-will. It is recommended that prior to any site alteration (including building demolition, tree removal, site grading) and submission of the development application, additional habitat assessment and agency consultation occur, as described herein.

If you have any questions or concerns regarding this correspondence, please do not hesitate to contact me.

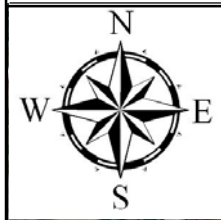
Birks Natural Heritage Consultants Inc.

Melissa Fuller
Ecologist, Consulting Arborist



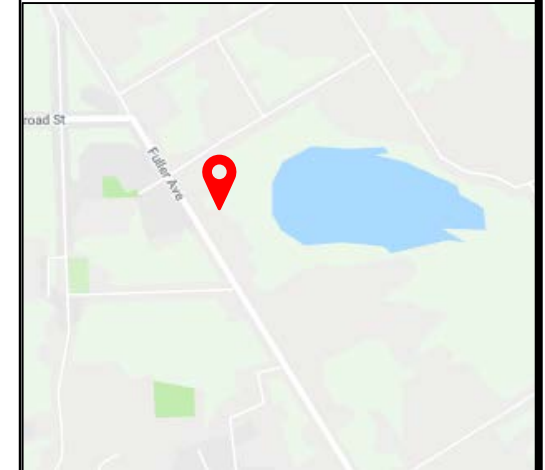
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- Ministry of Natural Resources and Forestry (MNRF). Technical Note for Species at Risk Bats. Regional Operations Division of the Ministry of Natural Resources and Forestry
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BIRKS NHC 003-004-2018

Key Map



Legend

-  Property Boundary
-  Unevaluated Wetland (MNR)
-  St Andrew's Provincially Significant Wetland (MNR)
-  Existing Residential Area

Source: NHIC Biodiversity Explorer

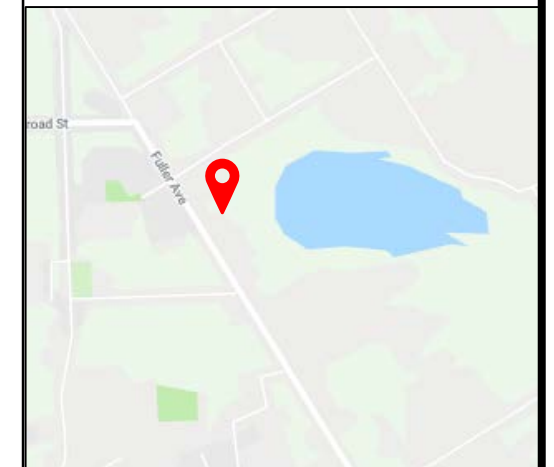


Project:
1145 Fuller Ave,
Penetanguishene

Figure 1 – Mapped Features



Key Map



Legend

- Property Boundary
- Existing Residential Area
- 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 – Cultural Meadow
- CUW – Cultural Woodland
- MAM2 – Graminoid Mineral Meadow Marsh
- SWT2 – Mineral Deciduous Thicket Swamp
- Fill Pile

Source: NHIC Biodiversity Explorer



Project:
1145 Fuller Ave,
Penetanguishene

Figure 2 – ELC Communities

Table 1: Species at Risk Habitat Summary

Common Name	Species Name	MNR	SARA	Key Habitats Used By Species	Assessment
American Badger	<i>Taxidea taxus</i>	END	END	American Badger is typically associated with Tallgrass Prairie, Sand Barren, and Farmlands with an abundance of Groundhogs, Rabbits and other small mammals.	No tall grass prairie, sand barren or farmland habitat was present on the property.
Bald Eagle	<i>Haliaeetus leucocephalus</i>	SC	NAR	Bald Eagle nests in a variety of habitats and forest types Winter perching areas are typically found around winter feeding areas	Potential foraging habitat is present within St. Andrew's Lake. Potential perching habitat is present within forest vegetation units.
Bank Swallow	<i>Riparia riparia</i>	THR	THR	Bank Swallows nest in burrows excavated in natural and human-made settings with vertical sand and silt faces. Colonies are commonly found in sand or gravel pits, lakeshores, and along river banks	No sand or gravel pits were observed on the property. The wetland shoreline does not provide sufficient vertical relief to be suitable for bank swallow nesting.
Barn Swallow	<i>Hirundo rustica</i>	THR	THR	Barn Swallows build nests on ledges and walls of man-made structures such as buildings, barns, boathouses. When not in anthropogenic structures, they are commonly associated with cliffs or caves.	Potential nesting habitat is present on the existing residential structures. Potential foraging habitat is associated with St. Andrew's Lake PSW.
Black Tern	<i>Chlidonias niger</i>	SC	NAR	Black Terns are colonial nesters that typically create floating nests within cattail marshes and other shallow marsh types.	Potential nesting and foraging habitat is present within St. Andrew's Lake PSW.
Blanding's Turtle	<i>Emydoidea blandingii</i>	THR	THR	Blanding's Turtles are a primarily aquatic species that prefer wetland habitats, lakes, ponds, and slow-moving streams. They often utilize upland areas to search for suitable basking and nesting sites. In general, preferred wetland sites are eutrophic and characterized by shallow water, organic substrates, and a high density of aquatic vegetation.	Correspondence from the MNRF confirms that St. Andrew's Lake PSW is considered habitat for the species.
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	Not Listed	Bobolink prefer to nest in large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields and marshes. They are generally considered to requires tracts of grassland >4ha.	No grassland habitat is present within the property limits. Thus, there is no expectation that the species would be utilizing the property.
Branched Bartonian	<i>Bartonia paniculata</i>	THR	THR	Branched Bartonian are typically observed along shorelines within nutrient poor environs including fen and sphagnum bogs	No fen or sphagnum bog wetland habitats were observed within the property limits.
Broad Beech Fern	<i>Phyopteris hexagonoptera</i>	SC	Not Listed	Broad Beech Fern is observed in rich soils of deciduous forests, such as Maple-Beech forests.	No deciduous forests with rich soils were observed on the property. The forested habitat is highly disturbed, with minimal opportunity for the plant to establish.
Butternut	<i>Juglans cinerea</i>	END	END	Butternut trees occurs on a variety of sites, including dry rocky soils (particularly those of limestone origin). They grow best on well-drained fertile soils in shallow valleys and on gradual slopes; singly or in small groups mixed with other species.	No Butternut trees were observed on the property during the site visit.
Canada Warbler	<i>Wilsonia canadensis</i>	SC	THR	Canada Warblers are typically associated with wet, mixed deciduous-coniferous forests with a well developed shrub layer. Shrub marshes, red-maple stands, cedar stands, black spruce swamps, larch and riparian woodlands along rivers and lakes.	Potential habitat is present within the SWT2 community. Habitat will be retained post-development.
Cerulean Warbler	<i>Dendroica cerulea</i>	END	SC	Cerulean Warblers are usually associated with large forests. Typically they are found in those forests with large mature deciduous trees and an open understory.	Forest habitat observed on the property was not considered to be mature with a dense understory, and therefore not suitable for Canada Warbler.

Table 1: Species at Risk Habitat Summary

Common Name	Species Name	MNR	SARA	Key Habitats Used By Species	Assessment
Chimney Swift	<i>Chaetura pelagica</i>	THR	THR	Chimney Swift nests primarily in chimneys though some populations in rural areas may nest in cavity trees.	All Chimneys present on the residential structures are capped, therefore no nesting opportunity for the species is present. Potential foraging habitat exists within St. Andrew's Lake PSW.
Common Five-lined Skink	<i>Eumeces fasciatus</i>	SC	SC	Five-lined Skinks are typically observed within rock-barren and sandy habitats in dry-mesic Oak-Pine woods	No rock barren or sandy habitats observed within the property limits. No Oak-Pine woods were observed on the property.
Common Nighthawk	<i>Chordeiles minor</i>	SC	THR	Common Nighthawks are associated with open habitats including sand dunes, beaches, recently logged/burned over areas, forest clearings, short grass prairies, pastures, open forests, bogs, marshes, lakeshores, gravel roads, mine tailings, quarries, and other open relatively clear areas.	No suitable habitat openings were observed within the property limits. The only open habitats present are cultural meadow and fill pile, neither of which are good candidate habitat for the species.
Eastern Foxsnake	<i>Elaphe gloydii</i>	THR	END	Foxsnake habitat includes shoreline with structure, as well as marsh, swamp, fen (bog) and rock barrens, predominantly in the Georgian Bay Island region	Potential overwintering habitat may be associated with St. Andrews Lake PSW, however, the species is more often associated with the Georgian Bay Shoreline. Thus, there is no expectation that the species would occur on the property.
Eastern Hog-nosed Snake	<i>Heterodon platirhinos</i>	THR	THR	Eastern Hog-nosed snakes are associated with open areas of sand or fine gravel and rock-barrens	No suitable habitat for Hog-nosed was observed on the property, vegetation present was quite dense with no sandy, fine gravel or rock barren openings.
Eastern Meadowlark	<i>Sturnella magna</i>	THR	Not Listed	Eastern Meadowlark nest in open, grassy meadows, farmland, pastures, hayfields or grasslands with elevated singing perches. They can also be associated with cultivated land and weedy areas with trees or old orchards with adjacent, open grassy areas >4 ha in size.	No large grassland habitat is present within the property limits. Thus, there is no expectation that the species would be present.
Eastern Musk Turtle	<i>Sternotherus oderatus</i>	SC	THR	Eastern Musk Turtles are found in ponds, lakes, marshes and rivers that are generally slow-moving and have abundant emergent vegetation.	Potential nesting, foraging and overwintering habitat is associated with St. Andrews Lake PSW
Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	SC	SC	Eastern Ribbonsnake prefers to live in close proximity to water, particularly marshes and areas with shallow water.	Potential nesting, foraging and overwintering habitat is associated with St. Andrews Lake PSW
Eastern Small-footed Bat	<i>Myotis Llebii</i>	END	END	Most literature suggests that Eastern Small-footed Bats generally occurs in mountainous or rocky regions where it has been noted to roost in large boulders and beneath slabs of rock and stones. Hibernation is typically confined to caves and abandoned mine adits.	Property is not mountainous and does not have caves or mine adits that would be suitable for the species.
Eastern Wood-pewee	<i>Contopus virens</i>	SC	SC	Eastern Wood-pewee are typically associated with deciduous and mixed forests with little understory vegetation and are often found in clearings or on edges of deciduous and mixed forests.	Potential habitat present within deciduous and coniferous forest units.
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	SC	THR	Golden-winged Warblers are found in areas of early successional scrub surrounded by Mature Forests including dry uplands, swamp forests, and marshes.	Potential habitat present within swamp thicket (SWT) community along the shoreline of St. Andrew's Lake PSW.
Henslow's Sparrow	<i>Ammodramus henslowii</i>	END	END	Henslow's Sparrow nests in large, open, usually moist to wet, often flat fields with a high graminoid to forb/shrub ratio.	The property does not contain suitable habitat for the species, no large moist flat fields, dominated by forb species were observed on the property.

Table 1: Species at Risk Habitat Summary

Common Name	Species Name	MNR	SARA	Key Habitats Used By Species	Assessment
Least Bittern	<i>Ixobrychus exilis</i>	THR	THR	Least Bitterns prefer large, freshwater marshes with dense aquatic vegetation, often cattails, with interspersed clumps of woody vegetation and open water.	Fresh water marsh is present within St. Andrew's Lake PSW, therefore potential habitat for the species is present.
Little Brown Myotis	<i>Myotis lucifugus</i>	END	END	Little Brown Myotis use large older trees within forests as maternity roost sites. They are also regularly associated with attics of older buildings and barns for summer maternity roost colonies. Overwintering sites are characteristically mines or caves, but can often include buildings.	Potential maternity and day roosting habitat is associated with the deciduous forest units.
Massasauga	<i>Sistrurus catenatus</i>	THR	THR	Massasauga is observed within multiple habitats including Fen (bog)s, swamps, marshes and upland forest	Potential habitat is associated with St. Andrews Lake PSW
Monarch Butterfly	<i>Danaus plexippus</i>	SC	THR	Caterpillars are associated with milkweed commonly found in meadows and open areas. Adults forage in meadows and diverse habitats with a variety of wildflowers.	Potential habitat present within cultural meadow and meadow marsh
Northern Bobwhite	<i>Colinus virginianus</i>	END	END	Bobwhite can be found within early successional habitat interspersed with grassland, cropland, and brushy cover	No early successional habitat, with interspersed open lands was observed on the property.
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	END	END	Maternity roost sites for Northern Long-eared Bat are generally located within deciduous and mixed forests and focused in snags including loose bark, cavities of trees and occasionally in leaf clusters, older structures or barns. Overwintering sites are characteristically mines or caves.	Potential maternity and day roosting habitat is associated with the deciduous forest units.
Northern Map Turtle	<i>Graptemys geographica</i>	SC	SC	Northern Map Turtles prefer rivers and lakeshores with available emergent rocks and fallen trees for basking. Deep, slow-moving sections of rivers are utilized for hibernation.	St. Andrew's Lake PSW is not typical habitat for the species.
Olive-sided Flycatcher	<i>Contopus cooperi</i>	SC	THR	Olive-sided Flycatcher can be found within natural forest openings, forest edges near natural openings (such as wetlands) or open to semi-open forest stands. They are occasionally observed within human made openings (such as clear cuts). Presence of tall snags and residual live trees is essential	Potential habitat is associated with the deciduous forest units and meadow marsh/cultural meadow openings
Peregrine Falcon	<i>Falco peregrinus</i>	THR	SC	Peregrine Falcons nest on tall, steep cliff ledges close to large bodies of water. Urban falcons raise their young on ledges of tall buildings.	No tall buildings or cliff ledges are present on the property.
Red-Headed Woodpecker	<i>Melanerpes erythrocephalus</i>	SC	THR	Red-headed Woodpecker utilizes Oak and Beech Forests, grasslands, forest edges, orchards, pastures, riparian forests, roadsides, urban parks, golf courses, cemeteries, beaver ponds and burns.	Potential habitat is present within deciduous and coniferous forest units.
Short Eared Owl	<i>Asio flammeus</i>	SC	SC	Short-eared Owls prefer large, dense, well-drained grasslands (such as tallgrass prairie) for breeding and nesting, preferably in proximity to large, coastal wetland units. Often Nest on the ground.	No large grasslands are present within the property limits.

Table 1: Species at Risk Habitat Summary

Common Name	Species Name	MNR	SARA	Key Habitats Used By Species	Assessment
Showy Goldenrod	<i>Solidago speciosa</i>	THR /Boreal population and END Great Lakes Plains Population	END	Prairie grasslands and Oak savannahs on fine sandy loams within southwestern Ontario. Prairie grassland on southfacing slopes bordered by jack and white pine in northwestern Ontario.	No prairie grasslands or oak savannahs were observed on the property.
Snapping Turtle	<i>Chelydra serpentina</i>	SC	SC	Snapping Turtles utilize a wide variety of aquatic habitat, but prefer shallow waters with abundant leaf litter. Females travel overland during the nesting season in search of suitable nesting sites such as gravel shoulders of roadways, dams, and aggregate pits.	Potential overwintering and foraging habitat is associated with St. Andrews Lake PSW. Turtles may use fill piles for nesting.
Tri-colored Bat	<i>Perimyotis subflavus</i>	END	END	Maternity roosts for the Tri-colored Bat in natural landscapes are regularly found in dead clusters of leaves on trees. In more modified landscapes, maternity colonies can also be located in barns or other similar human-made structures.	Potential maternity and day roosting habitat is associated with the deciduous forest units.
Whip-Poor-Will	<i>Caprimulgus vociferus</i>	THR	THR	Whip-poor-will prefer areas with a mix of open and forested habitat, open woodlands, or openings in mature forests.	Potential nesting and foraging habitat present within deciduous and coniferous forest units.
Wood Thrush	<i>Hylocichla mustelina</i>	SC	THR	Wood Thrushes are typically associated with larger moist mature deciduous and mixed forests with a well developed understory.	Potential nesting habitat present within deciduous and coniferous forest units.
Yellow-breasted Chat	<i>Icteria virens</i>	SC	END (Southern Mountain Population)	Yellow-breasted Chats are typically found within early successional habitats including dense, low deciduous or coniferous vegetation	Forest habitat is not considered to be early successional and therefore is not suitable for the species.
Yellow Rail	<i>Coturnicops noveboracensis</i>	SC	SC	Yellow Rails are often found in shallow wetlands dominated by reeds or sedges. Overlying dry mat of dead vegetation important for nesting.	Potential nesting and foraging habitat is associated with St. Andrews Lake PSW.

Melissa Fuller

From: Benvenuti, Jodi (MNRF) <jodi.benvenuti@ontario.ca>
Sent: October 29, 2018 2:45 PM
To: Melissa Fuller
Cc: abetty@penetanguishene.ca; Michelle Hudolin
Subject: RE: SAR Information Request for 1145 Fuller Ave, Penetanguishene
Attachments: Property Location.pdf; MNRF request 20181026.pdf

Hi Melissa,

I have reviewed the attached species at risk information request for 1145 Fuller Avenue in Penetanguishene and offer the following comments.

- In the spring of 2016, an adult Blanding's Turtle was observed at the intersection of Tay Point Road and Zoschke Drive. As a result, the Ministry of Natural Resources and Forestry has reason to believe that St. Andrews Lake is likely habitat for this species. Blanding's Turtle are listed as "Threatened" on the Species at Risk in Ontario List and as a result have both species and habitat protection under the *Endangered Species Act*.
- St. Andrew's Lake is both an **Area of Natural and Scientific Interest (ANSI)** and a **Provincially Significant Wetland (PSW)**. The wetland boundary in the area of the subject property should be confirmed and any additional wetland incorporated into the PSW. Appropriate protective buffers should be applied to reflect both the ANSI and PSW designations.
- In addition to the species outlined in your attached request dated Oct 26, 2018, I would also add for consideration in breeding bird surveys; Golden-winged Warbler (Special Concern) and Red-headed Woodpecker (Special Concern) within the riparian edge.
- Lastly, if the intention is for any existing structures to be removed, then these structures should also be surveyed for bats.

Best Regards,

Jodi Benvenuti
Management Biologist
Ministry of Natural Resources and Forestry
Midhurst District
Phone: (705) 725-7513

From: Benner, Kim (MNRF)
Sent: October-26-18 4:51 PM
To: Benvenuti, Jodi (MNRF)
Subject: FW: SAR Information Request for 1145 Fuller Ave, Penetanguishene

Hi Jodi,

Would you please respond to Melissa?

Thanks!

Kim

From: Melissa Fuller [mfuller@birksnhc.ca]

Sent: October 26, 2018 3:41 PM

To: Benner, Kim (MNRF)

Subject: SAR Information Request for 1145 Fuller Ave, Penetanguishene

Good Afternoon,

Please find attached an SAR information request for a property located in Penetanguishene. Please provide comment, as requested, at your earliest convenience.

Regards,

Melissa Fuller, H. B.Sc

Ecologist, ISA Certified Arborist

Birks Natural Heritage Consultants Inc.

mfuller@birksnhc.ca

Cell: 705-994-4824

Melissa Fuller

From: Michelle Hudolin <MHudolin@severnsound.ca>
Sent: November 1, 2018 1:06 PM
To: Melissa Fuller
Cc: 'Andrea Betty'
Subject: RE: SAR Information Request for 1145 Fuller Ave, Penetanguishene

Hello Melissa,

The Severn Sound Environmental Association (SSEA) does not have access to any Species At Risk data sets that the MNRF would not also have. We usually recommend that the local Ministry of Natural Resources and Forestry (MNRF) office be contacted, since they sometimes have records that have not yet been incorporated into the Natural Heritage Information Centre (NHIC) mapping and database. In this case, you have already contacted Jodi at Midhurst District MNRF.

In terms of other general natural heritage information, the SSEA produced a report for the Town in 2017, which is available [online](#). This may be useful to you for this or other projects in the Town of Penetanguishene.

Kind regards,
Michelle

Michelle Hudolin

Wetlands & Habitat Biologist
Severn Sound Environmental Association
489 Finlayson St
PO Box 460
Port McNicoll ON L0K 1R0
Tel: 705-534-7283 ext. 202
Fax: 705-534-7459
Email: MHudolin@severnsound.ca
Web-site: www.severnsound.ca
Twitter: @SSEA_SSRAP

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Be Green! Read from the screen.

Please don't print this email or attachments unless you really need to.

From: Melissa Fuller [mailto:mfuller@birksnhc.ca]
Sent: October-30-18 1:37 PM
To: Michelle Hudolin
Subject: FW: SAR Information Request for 1145 Fuller Ave, Penetanguishene

Hi Michelle,

For the sake of being thorough, is there any thing else you would like to add to Jodi's comments or our information request?

Any data or insight you can offer would be greatly appreciated.

Thanks,

Melissa Fuller, H. B.Sc

Ecologist, ISA Certified Arborist
Birks Natural Heritage Consultants Inc.
mfuller@birksnhc.ca
Cell: 705-994-4824

From: Benvenuti, Jodi (MNRF) <jodi.benvenuti@ontario.ca>
Sent: October 29, 2018 2:45 PM
To: Melissa Fuller <mfuller@birksnhc.ca>
Cc: abetty@penetanguishene.ca; Michelle Hudolin <MHudolin@severnsound.ca>
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Best Regards,

Jodi Benvenuti
Management Biologist
Ministry of Natural Resources and Forestry
Midhurst District

Phone: (705) 725-7513

From: Benner, Kim (MNRF)
Sent: October-26-18 4:51 PM
To: Benvenuti, Jodi (MNRF)
Subject: FW: SAR Information Request for 1145 Fuller Ave, Penetanguishene

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From: Melissa Fuller [mfuller@birksnhc.ca]
Sent: October 26, 2018 3:41 PM
To: Benner, Kim (MNRF)
Subject: SAR Information Request for 1145 Fuller Ave, Penetanguishene

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Regards,

Melissa Fuller, H. B.Sc

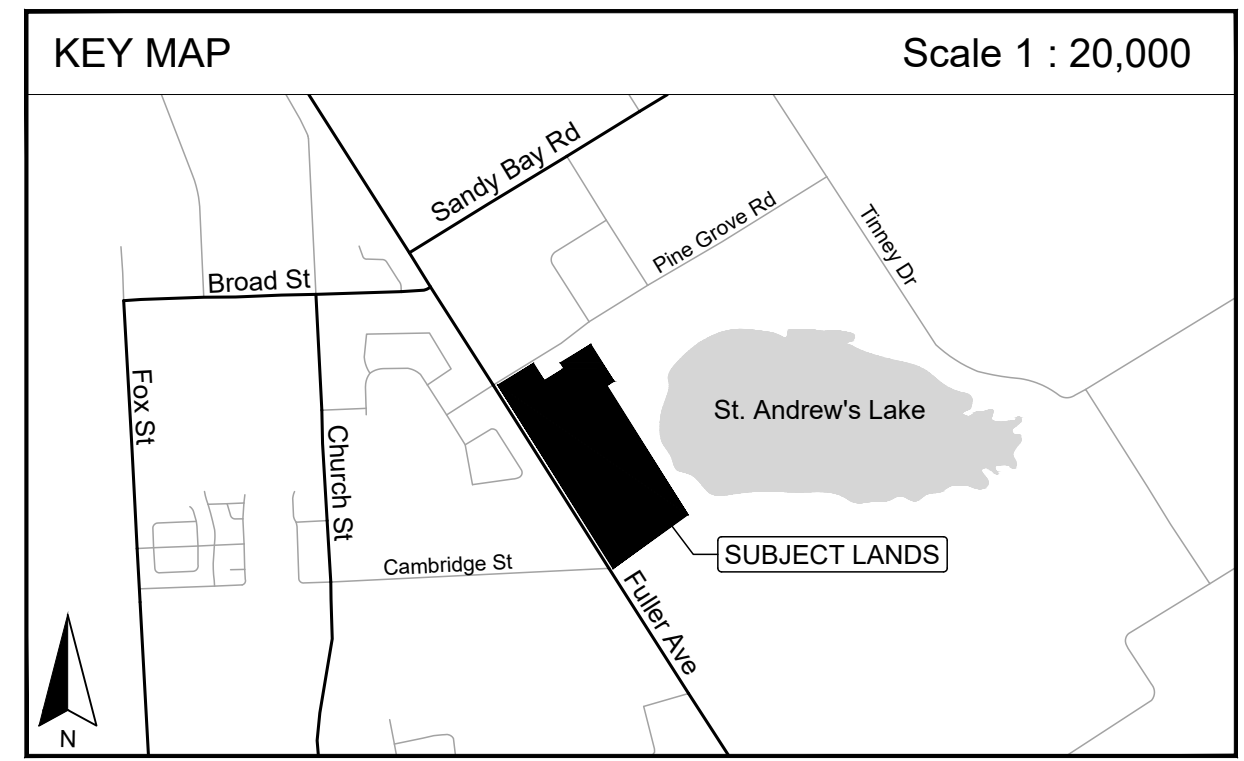
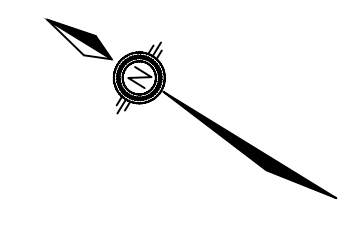
Ecologist, ISA Certified Arborist
Birks Natural Heritage Consultants Inc.
mfuller@birksnhc.ca
Cell: 705-994-4824

This email was scanned by Bitdefender

APPENDIX C

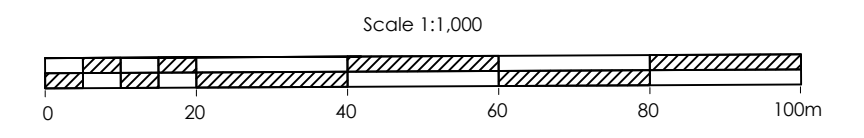
Conceptual Site Plan





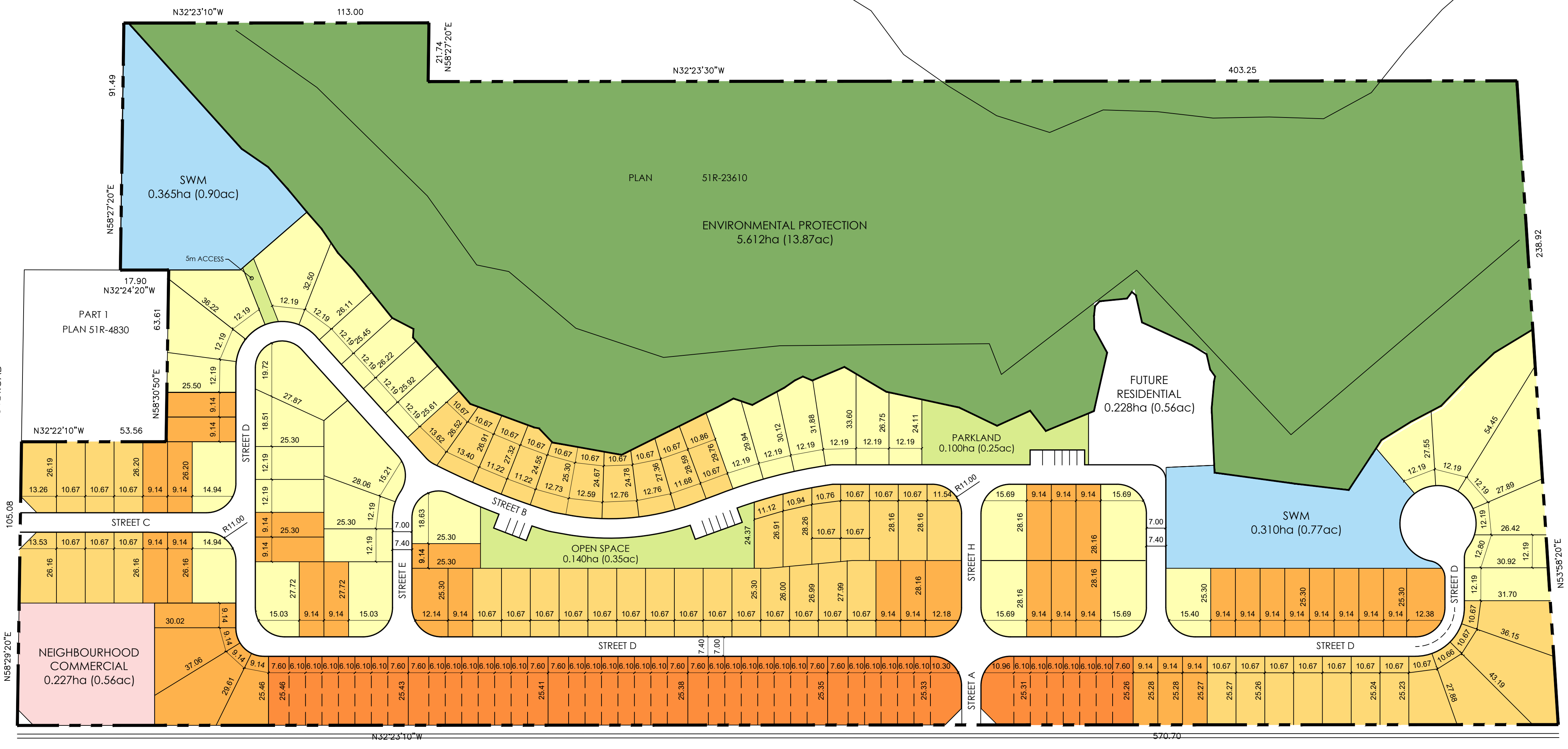
SITE PLAN

LOTS 21B, 53B, 63B, & PART OF LOT 77B
 REGISTERED PLAN 69
 FORMERLY IN THE TOWNSHIP OF TAY
 NOW IN THE
 TOWN OF PENETANGUISHENE
 COUNTY OF SIMCOE
 2018



- LEGEND**
- SUBJECT LANDS
Area: 13.038 ha (32.22 ac)
Visitor Parking: 16
 - 38 Lots SINGLE DETACHED LOTS (40')
 - 50 Lots SINGLE DETACHED LOTS (35')
 - 38 Lots SINGLE DETACHED LOTS (30')
 - 47 Units TOWNHOUSE UNITS (20')
 - FUTURE RESIDENTIAL BLOCK
 - NEIGHBOURHOOD COMMERCIAL
 - STORMWATER MANAGEMENT
 - PARKLAND/OPEN SPACE
 - ENVIRONMENTAL PROTECTION

Note: 3.0m servicing easements will be created in all yards abutting lanes.
 This drawing is for discussion purposes only.



PROPOSED ZONING

	REQUIRED R3 (ROW HOUSE)	PROPOSED R3-XX (ROW HOUSE)		REQUIRED R3 (SINGLE DETACHED)	PROPOSED R3-XX (SINGLE DETACHED)
Min. Lot Frontage	30.0m	30m	Min. Lot Frontage	15.0m	9.0m
Min. Lot Area	230.0m ²	150m ²	Min. Lot Area	511.0m ²	225m ²
Max. Lot Coverage	35%	60%	Max. Lot Coverage	35%	55%
Min. Front Yard Setback	6.0m	4.5m/6.0m	Min. Front Yard Setback	6.0	4.5m/6.0m
Min. Interior Side Yard Setback	4.0m and 6.0m other side	1.5m	Min. Interior Side Yard Setback	1.0m	0.6m
Min. Exterior Side Yard Setback	4.5m	3.0m	Min. Exterior Side Yard Setback	4.5m	3.0m
Min. Rear Yard Setback	7.5m	5.0	Min. Rear Yard Setback	7.5m	5.0m
Max. Height	11.0m	11.0m	Max. Height	11.0m	11.0m
Max. Accessory Building Height	4.0m	4.0m	Max. Accessory Building Height	4.0m	4.0m
Min. Gross Floor Area			Min. Ground Floor Area	74.0m ²	74.0m ²
Bachelor	32.0 m ²	32.0 m ²			
1 Bedroom	51.0 m ²	51.0 m ²			
2 Bedroom	65.0 m ²	65.0 m ²			
	(+ 10.0m ² for each additional bedroom over 2)	(+ 10.0m ² for each additional bedroom over 2)			

ST. ANDREW'S LAKE VILLAGE (173 LOTS) TOWN OF PENETANGUISHENE

SCHEDULE OF REVISIONS			
No.	Date	Description	By

IPS INNOVATIVE PLANNING SOLUTIONS
 PLANNERS • PROJECT MANAGERS • LAND DEVELOPERS
 150 DUNLOP STREET EAST, SUITE 201, BARRIE, ONTARIO L4M 1B1
 Tel: 705 • 812 • 3281 fax: 705 • 812 • 3438 e: info@ipsconsultinginc.com www.ipsconsultinginc.com

Date: November 20, 2018 Drawn By: AM
 File: 05-137 Reviewed By: TS

APPENDIX D

MNRF Correspondence



Melissa Fuller

From: Benvenuti, Jodi (MNRF) <jodi.benvenuti@ontario.ca>
Sent: October 29, 2018 2:45 PM
To: Melissa Fuller
Cc: abetty@penetanguishene.ca; Michelle Hudolin
Subject: RE: SAR Information Request for 1145 Fuller Ave, Penetanguishene
Attachments: Property Location.pdf; MNRF request 20181026.pdf

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- Lastly, if the intention is for any existing structures to be removed, then these structures should also be surveyed for bats.

Best Regards,

Jodi Benvenuti
Management Biologist
Ministry of Natural Resources and Forestry
Midhurst District
Phone: (705) 725-7513

From: Benner, Kim (MNRF)
Sent: October-26-18 4:51 PM
To: Benvenuti, Jodi (MNRF)
Subject: FW: SAR Information Request for 1145 Fuller Ave, Penetanguishene

Hi Jodi,

Would you please respond to Melissa?

Thanks!

Kim

From: Melissa Fuller [mfuller@birksnhc.ca]

Sent: October 26, 2018 3:41 PM

To: Benner, Kim (MNRF)

Subject: SAR Information Request for 1145 Fuller Ave, Penetanguishene

Good Afternoon,

Please find attached an SAR information request for a property located in Penetanguishene. Please provide comment, as requested, at your earliest convenience.

Regards,

Melissa Fuller, H. B.Sc

Ecologist, ISA Certified Arborist

Birks Natural Heritage Consultants Inc.

mfuller@birksnhc.ca

Cell: 705-994-4824

Melissa Fuller

From: Benvenuti, Jodi (MNRF) <jodi.benvenuti@ontario.ca>
Sent: November 30, 2018 2:02 PM
To: Melissa Fuller
Subject: RE: 1145 Fuller Avenue, Penetanguishene
Attachments: 03-004-2018 SAR Habitat Assessment 20181123.pdf; MNR_Line.pdf; Appendix 4_MNR PSW boundary acceptance e-mail.pdf

Sorry Melissa,

I meant to cc you on this.

Jodi

From: Benvenuti, Jodi (MNRF)
Sent: November-30-18 1:50 PM
To: Tyler Searls <tsearls@ipsconsultinginc.com>; abetty@penetanguishene.ca
Subject: RE: 1145 Fuller Avenue, Penetanguishene

Hi Tyler,

As MNRF is the approval authority for wetland boundaries we recommend the boundary be revisited given the passage of time. Wetlands are dynamic systems that can change over time, with changes to hydrological properties and vegetation communities altering the outer boundaries. The last time the wetland boundary was confirmed was 12 years ago in 2006. As a result, MNRF feels that revisiting the wetland boundary on the subject property would be appropriate.

MNRF agrees with the Species at Risk Assessment that Category 2 and Category 3 habitat for Blanding's Turtle would extend onto the subject property and incorporate St. Andrews Lake PSW. As described, Category 2 habitat extends 30m around the wetland complex. Since the wetland is habitat, the boundary should be defined and a 30m buffer applied. It should be noted that an authorization (permit) under the *Endangered Species Act* requires a proponent meet the legal test that there is no other reasonable alternative to the activity that will damage/destroy habitat or harm the species. In situations where planning approvals are not advanced, avoidance of habitat damage within the 30m buffer should be the main objective.

Lastly, the Species at Risk Assessment should consider that Eastern Hog-nosed Snake are present in the wider area and therefore any future construction activities should mitigate for this species.

Jodi Benvenuti
Management Biologist
Ministry of Natural Resources and Forestry (MNRF)
Midhurst District
Phone: (705) 725-7513

From: tsearls@ipsconsultinginc.com <tsearls@ipsconsultinginc.com>
Sent: November-22-18 5:21 PM
To: Benvenuti, Jodi (MNRF) <jodi.benvenuti@ontario.ca>
Cc: mfuller@birksnhc.ca
Subject: 1145 Fuller Avenue, Penetanguishene

Evening Jodi,

With respect to your comments related to the PSW boundary and the completed SAR (Draft) report:

Be advised the boundary has been independently confirmed on two occasions. Please advise if this is to the satisfaction of the MNR, or what the next steps might be otherwise.

Thanks in advance,

Tyler



Tyler Searls, BCD

PLANNER

150 Dunlop Street East, Suite 201, Barrie, ON L4M 1B1

Tel: 705-812-3281 x. 29 Fax: 705-812-3438

E-mail: tsearls@ipsconsultinginc.com

Website: www.ipsconsultinginc.com

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