



Scoped Environmental Impact Study
1056 Fuller Avenue
Town of Penetanguishene
December 2021





RIVERSTONE

ENVIRONMENTAL SOLUTIONS INC.

December 23, 2021
RS#2021-240

Ed & Flo Benneyworth
c/o **Victoria Lemieux, MCIP RPP**
MORGAN Planning & Development Inc.
via email: vlemieux@morganplanning.ca

SUBJECT: Scoped Environmental Impact Study – 1056 Fuller Avenue, Town of Penetanguishene

Dear Victoria:

RiverStone Environmental Solutions Inc. is pleased to provide you with the attached Scoped Environmental Impact Study.

Please contact us if there are any questions regarding the report, or if further information is required.

Best regards,

RiverStone Environmental Solutions Inc.

Report prepared by:

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Ecologist

NON-TECHNICAL SUMMARY

Type of Study Environmental Impact Study		Date December 23, 2021
Project Manager Bev Wicks	Civic Address 1056 Fuller Avenue	Development Proposed Single Consent
	Planning Authority Town of Penetanguishene	Client / Agent Victoria Lemieux

Report Summary

This study has been prepared to assess natural heritage constraints associated with a property described as 1056 Fuller Avenue in the Town of Penetanguishene. It is our understanding that the proponent is preparing an application for consent to sever one residential building lot from an existing lot of record. The subject property is situated in a residential area but contains natural heritage features representing potential constraints to development. It is our understanding that the Town requires that an Environmental Impact Study be prepared to assess potential impacts of the proposed activities on applicable natural heritage features. Based on both a desktop assessment and on-site investigation, RiverStone has determined that:

1. A portion of the subject property is located within one or more natural heritage features, including an area designated as significant woodland, and potential habitat of endangered and threatened species.
2. The proposed severance of a single building lot from the existing parcel will confer the right to construct an additional dwelling on the created lot. The details of potential impacts to natural heritage features as a result of any future development on the proposed new lot are unknown; however, potential impacts can be estimated.
3. Potential future construction of the proposed new lot would inherently result in a loss of vegetation/woodland cover within the identified significant woodland feature.
4. A series of measures have been presented in this report to mitigate potential negative impacts to significant natural heritage features and promote retention of existing ecological functions associated with such features.

Based on our assessment, it is RiverStone's opinion that the proposed works can be implemented without resulting in negative impacts to the integrity and function of identified significant natural heritage features. It is our opinion that the development can be carried out in a manner that meets the intent of applicable policies, regulations, and bylaws for the protection of natural heritage features.

Table of Contents

1 BACKGROUND..... 1

2 APPROACH AND METHODS 1

2.1 Background Information Review 2

2.2 Site Investigation 2

2.2.1 Habitat-based Wildlife Assessment..... 2

2.2.2 Topography, Surficial Geology, & Drainage 3

2.2.3 Vegetation Communities 3

2.3 Significant Natural Heritage Feature Assessment 3

2.4 Impact Assessment and Mitigation Measures 4

2.5 Assessment of Conformance with Applicable Environmental Policies 4

3 EXISTING CONDITIONS..... 4

3.1 General Site Conditions and Land-uses..... 4

3.2 Topography, Physiography, & Drainage 5

3.3 Vegetation Communities 5

3.3.1 ANTH: Anthropogenic 5

3.3.2 FOD2-4: Dry – Fresh Oak – Hardwood Deciduous Forest Type 5

3.3.3 FOD3-1: Dry – Fresh Poplar Deciduous Forest Type 5

3.3.4 CUP3-1: Red Pine Coniferous Plantation Type 6

4 SIGNIFICANT NATURAL HERITAGE FEATURE ASSESSMENT 6

4.1 Wetlands 6

4.2 Area of Natural and Scientific Interest 6

4.3 Significant Woodland 6

4.4 Significant Wildlife Habitat..... 7

4.5 Habitat of Endangered and Threatened Species 8

4.5.1.1 Endangered Bat Species (*Myotis lucifugus*, *Myotis septentrionalis*, *Perimyotis subflavus*) 8

4.5.1.2 Massasauga (*Sistrurus catenatus*)..... 8

5 IMPACT ASSESSMENT & MITIGATION PLANNING..... 9

5.1 Wetlands 10

5.2 Significant Woodlands..... 10

5.3 Habitat of Endangered and Threatened Species 12

5.3.1 Endangered Bats 12

5.4 General Impact Assessment and Mitigation 12

6 CONFORMANCE WITH APPLICABLE ENVIRONMENTAL POLICIES..... 13

6.1 Federal *Migratory Birds Convention Act*, S.C. 1994, c. 22..... 13

6.2 Provincial Policy Statement, pursuant to the *Planning Act*, R.S.O. 1990, c. P. 13 13

6.3 Provincial *Endangered Species Act*, S.O. 2007, c. 6 14

6.4 Town of Penetanguishene Official Plan (2018)..... 14

6.5 Town of Penetanguishene Zoning By-law (2019)..... 15

7 CONCLUSIONS..... 15

8 REFERENCES 15

List of Figures

Figure 1. Property Location & Landscape Context 17

Figure 2. Existing Conditions & Proposed Development..... 18

List of Appendices

Appendix 1 Select Photos from the Site Investigation

1 BACKGROUND

RiverStone Environmental Solutions Inc. (hereafter, “RiverStone”) was retained to complete a scoped Environmental Impact Study (EIS) as part of an application for consent to sever an existing lot of record to create one retained lot and one severed lot on a property described as 1056 Fuller Avenue., Town of Penetanguishene (hereafter, “subject property”; **Figure 1**). The subject property is approximately 2.1 ha in size and contains an existing dwelling structure and associated amenities, including a pool, shed, gardens, and general manicured space (*i.e.*, grass lawn). The proposed severance would divide the existing parcel in two, assigning the existing dwelling to the retained parcel (accessed via Fuller Avenue). The created lot would measure approximately 1.18 ha and be accessed via Mercer Crescent. It is our understanding that no specific development is proposed on the created lot at this time.

As per Schedule A to the Township Zoning Bylaw, the subject property is presently zoned Deferred Development – D. Through discussion with Town planning staff (call to Owen Taylor, Junior Planner, Dec 8 2021), it is our understanding that this zone represents a form of a ‘hold’ mechanism until a more appropriate zone can be assigned. Schedule A to the Town Official Plan (OP; 2019) designates the subject property as part of a broader ‘Neighborhood Area’, while Schedule B1 assigns an overlay of ‘Environmental Protection’ (EP) to those portions of the parcel that are not presently developed. It is assumed that the EP overlay has been assigned to reflect a woodland feature that comprises the majority of the existing parcel and portions of adjacent lands.

This EIS has been prepared to inform the Town’s review of the application for consent, with consideration for potential impacts to natural heritage features that may result from severance of the lands. Based on RiverStone’s background review, our assessment has generally been scoped to focus on the woodland feature associated with the subject property and general habitat features that may be associated with this woodland, including potential habitat for threatened or endangered species protected under the provincial *Endangered Species Act* (ESA). RiverStone’s assessment is intended to fulfill the requirements of Section 3.10.8 of the Town of Penetanguishene Official Plan (November 2018).

2 APPROACH AND METHODS

The approach and methods used to carry out this study are detailed in this section and include the following:

1. Gathering background biophysical information for the study area to become familiar with existing natural heritage feature mapping and records of features and species of conservation interest prior to the site investigation.
2. Conducting an on-site investigation to field-verify the presence or absence of natural heritage features identified during background information gathering, and to identify any additional significant features (if present).
3. Determining whether implementation of the proposed development plan will result in adverse impacts to natural heritage features, and to identify ways in which such negative impacts can be mitigated via avoidance, minimization, and/or compensation measures.
4. Providing an assessment of consistency and conformity of the proposed development plan with applicable municipal, provincial, and federal environmental policies.

2.1 Background Information Review

Background biophysical information pertaining to the study area was collected from a variety of sources. These include:

- **Town of Penetanguishene Zoning Bylaw (2019)**
- **Town of Penetanguishene Official Plan (2018)**
- **Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) Natural Heritage Areas and Natural Heritage Information Centre (NHIC) database** regarding information on occurrences of SAR and provincially tracked species (squares: 17NK8559, 17NK8560); accessed Dec 7, 2021, at: http://www.gisoeapp.lrc.gov.on.ca/Mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US.
- **Species at Risk (SAR) range maps** (accessed Dec 2021 at: <http://www.ontario.ca/environment-and-energy/species-risk-ontario-list>).
- **Ontario Breeding Bird Atlas (OBBA) database and the Atlas of the Breeding Birds of Ontario, 2001–2005** (Cadman et al. 2007) (accessed at: <http://www.birdsontario.org/atlas/squareinfo.jsp>).
- **Ontario Reptile and Amphibian Atlas** (accessed at: http://www.ontarioinsects.org/herpatlas/herp_online.html).
- **Distribution of Aquatic Species at Risk** mapping generated by Fisheries and Oceans Canada in 2015 (accessed at: <http://www.conservation-ontario.on.ca/what-we-do/watershed-stewardship/aquatic-species-at-risk>).
- **Atlas of the Mammals of Ontario** (Dobbyn 1994).
- **Current and historical aerial photographs.**

2.2 Site Investigation

The results of the background review outlined in **Section 2.1** informed the scoping of a single site investigation carried out by a RiverStone Ecologist (Sept 30, 2021). The site investigation was focused on characterizing and delineating natural heritage features that are considered relevant under the policy context, including woodlands and potential habitat for threatened or endangered species. Overall, the on-site data collection effort was considered appropriate given the location and scale of the proposed development plan. In general, discrete feature boundaries (*e.g.*, wetlands) were delineated with a high-accuracy GPS receiver capable of 2 m accuracy, and all relevant features were photographed and catalogued for inclusion in this report (**Appendix 1**). Existing conditions, as characterized during our on-site investigation, are described in **Section 3**.

2.2.1 *Habitat-based Wildlife Assessment*

RiverStone’s primary approach to site assessment is habitat-based. We first focus on evaluating the potential for significant features and species within an area of interest, prior to undertaking any targeted assessments or surveys. An area is considered potential habitat if it satisfies several criteria, usually specific to a species, but occasionally characteristic of a broader group (*e.g.*, several species of turtles use sandy shorelines for nesting, several species of bats use cavity trees as day roosts and maternity sites, etc.).

Physical attributes of a site that can be used to assess habitat function include structural characteristics (e.g., age and composition of forest canopy, water depth), ecological community (e.g., meadow marsh, rock barren, coldwater stream), and structural connectivity to other habitat features required by a species of interest or indicator species. Species-specific habitat preferences and/or affinities are determined from status reports produced by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Cadman et al. (2007), unpublished documents, and direct experience.

Where appropriate, RiverStone explores further species-specific assessments in accordance with applicable standard methods and protocols. Targeted survey efforts may be undertaken due to one or more triggers, such as a specific request from an approval authority, an existing record for a species of interest, or a limitation to a habitat-based assessment. In consideration of the scale and context of proposed development, targeted survey methodologies were not considered necessary to appropriately characterize habitat features on and adjacent to the subject property.

2.2.2 Topography, Surficial Geology, & Drainage

The geophysical setting of the subject property was determined using topographic mapping, soils mapping, aerial photography, and descriptions gathered through on-site investigations. Drainage features (where present) are identified through the review of background mapping resources and/or delineated in the field.

2.2.3 Vegetation Communities

Vegetation communities on the subject property were delineated according to Ecological Land Classification (ELC) community tables (Lee et al. 1998). Vegetation communities were delineated via aerial photo interpretation and subsequently confirmed and refined in the field. Wetland boundaries (where present) were delineated in accordance with the “50% wetland vegetation rule” as directed by the Ontario Wetland Evaluation System (OWES).

2.3 Significant Natural Heritage Feature Assessment

Provincial and local planning policies employ varying terms for natural heritage features and designations that have recognized ‘statuses’ within the relevant planning jurisdiction. This report refers to relevant features as ‘significant natural heritage features’ (SNHF), consistent with the terminology of Ontario’s Provincial Policy Statement (PPS). RiverStone conducted a review of the background information sources identified in **Section 2.1** to determine if relevant SNHF have been identified in association with the subject property by the province and/or local planning authority. Based on our background review, SNHF that may be present within the subject property or adjacent lands (*i.e.*, within 120 m), include the following:

- Wetlands
- Area of Natural and Scientific Interest
- Significant Woodlands
- Significant Wildlife Habitat
- Habitat of Endangered and Threatened Species

RiverStone assesses the potential presence of SNHF in accordance with provincial guidance documents, including the *Natural Heritage Reference Manual (NHRM) for the Natural Heritage*

Policies of the Provincial Policy Statement (NDMNR 2010) and the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (NDMNR 2015). The potential presence/absence of habitat for endangered and/or threatened species was assessed using a combination of the background information review outlined in **Section 2.1** and the habitat-based approach outlined in **Section 2.2.1**.

2.4 Impact Assessment and Mitigation Measures

To carry out a defensible assessment of development suitability and potential development impacts, RiverStone employs the following approach:

1. *Predict* impacts to identified natural heritage features within the study area based on the proposed development plan (from construction to post-completion), including both direct (*e.g.*, vegetation clearance) and indirect (*e.g.*, light pollution, encroachment post-development) impacts.
2. *Evaluate the significance* of predicted impacts to identified natural heritage features based on their spatial extent, magnitude, timing, frequency, and duration.
3. *Assess the probability or likelihood* that the predicted impacts will occur at the level of significance expected (*e.g.*, high, medium, low probability).

In instances where the potential for negative impacts to natural heritage features exists, mitigation measures are offered to avoid, minimize, and/or compensate for such impacts. RiverStone's impact assessment and recommended mitigation measures are provided in **Section 5**.

2.5 Assessment of Conformance with Applicable Environmental Policies

There are several relevant environmental policies (*e.g.*, statutes, regulations, plans, guidance documents, etc.) that may apply to the study area and proposed development, which are listed below. An assessment of the proposed development's consistency and conformity with these environmental policies is offered in **Section 6**.

- Town of Penetanguishene Zoning Bylaw (2019)
- Town of Penetanguishene Official Plan (2018)
- Provincial Policy Statement, 2020, pursuant to the *Planning Act*, R.S.O. 1990, c. P.13
- Provincial *Endangered Species Act*, S.O. 2007, c. 6
- Federal *Fisheries Act*, R.S.C. 1985, c. F-14
- Federal *Migratory Birds Convention Act*, S.C. 1994, c. 22

3 EXISTING CONDITIONS

3.1 General Site Conditions and Land-uses

At the time of the site visit the subject property contained an existing dwelling, accessed by a private driveway fronting onto Fuller Avenue. The developed portion of the property includes typical residential amenities, including a pool, shed, gardens, and general manicured space (*i.e.*, grass lawn). West of the existing dwelling, the property contains a mix of woodland cover, encompassing maintained recreational trails, including an additional access to Mercer Crescent. Land uses in the

vicinity of the subject property are primarily mixed residential, with a variety of urban forest features and parks. The broader landscape includes various portions of the settlement area of Penetanguishene. Representative photos of existing structures and site conditions are contained in **Appendix 1**.

3.2 Topography, Physiography, & Drainage

Topography across the subject property is consistently flat, with a moderate drop in elevation occurring within the adjacent forested lands to the west. No slopes are present within or directly adjacent to the subject property. The Ontario Soil Survey classifies soils within the area of the subject property as a loamy sand, part of the Tioga series. Tioga series soils are generally deep, well-draining, and provide minimum potential for surface runoff. No drainage features were identified on the subject property through our background review or on-site investigation.

3.3 Vegetation Communities

Existing vegetation communities within the subject property were assessed during the on-site investigation. A desktop exercise was undertaken to map vegetation community boundaries using background information sources and current aerial photographs; the mapped vegetation communities were then ground-truthed to a high level and refined where necessary during the site investigation. Vegetation community mapping in accordance with Lee et al (1998) is provided on **Figure 2**. In addition to natural vegetation communities, manicured/landscaped (anthropogenic) areas and features were noted. The following sections provide descriptions for each of the unique vegetation communities identified on site.

3.3.1 ANTH: Anthropogenic

This area classified as ANTH includes maintained/manicured amenity areas surrounding the existing dwelling and access driveway.

3.3.2 FOD2-4: Dry – Fresh Oak – Hardwood Deciduous Forest Type

This community is part of a complex of upland hardwood forest occurring on the subject property and adjacent lands. The dominant species is Red Oak (*Quercus rubra*), with other mixed hardwood species occurring throughout, including Sugar Maple (*Acer saccharum*), White Birch (*Betula papyrifera*), Ironwood (*Ostrya virginiana*), and others. Groundcover includes generic upland species such as Trillium (*Trillium grandiflorum*), False Solomon's Seal (*Maianthemum racemosum*), Blue-stemmed Goldenrod (*Solidago caesia*), Poison Ivy (*Toxicodendron radicans*), etc. Soils are described as loamy sand. The canopy in this community is semi-mature to mature and is largely limited to the southern and western edge of the subject property. A portion of the community is represented by a broad row of mature Red Oak along the southern property limit, potentially a former hedge/fencerow.

3.3.3 FOD3-1: Dry – Fresh Poplar Deciduous Forest Type

This community has a similar composition as FOD2-4 described above, with a younger canopy containing more abundant Aspen (*Populus tremuloides*) than Red Oak. The structure and age of this community indicates a state of early woodland succession, potentially the result of recent regeneration from a former agricultural field or otherwise open area. Associate canopy species are the same as described for FOD2-4, while the groundcover in this community appears to be dominated by colonial Aspen growth.

3.3.4 CUP3-1: Red Pine Coniferous Plantation Type

This community occurs along the northern portion of the subject property, adjacent to Mercer Crescent. The canopy includes young, plantation-grown Red Pine averaging ~15cm diameter at breast height. Minimal groundcover is present, with regeneration of hardwood seedlings scattered throughout.

4 SIGNIFICANT NATURAL HERITAGE FEATURE ASSESSMENT

4.1 Wetlands

RiverStone's on-site investigation did not document any wetland vegetation communities; however, based on available background mapping, two wetland features have been identified by the province on lands adjacent to the subject property (**Figure 1**). One of these features is an evaluated provincially significant wetland (PSW) feature associated with St. Andrews Lake. The limit of the designated PSW feature is measured to be approximately 120 m east of the subject property, with intervening development including both a paved roadway and an area of active residential subdivision construction. Due to the distance and functional separation between the subject property and the PSW, the feature is not considered relevant to this assessment.

An additional wetland feature is mapped west of the subject property and is contained within the associated area of woodland cover. This feature is considered 'unevaluated' and, to our knowledge, has not been ground-truthed to confirm its presence or extent. In RiverStone's experience, the provincial layer for unevaluated wetland features is frequently found to be inaccurate following site-level review. In this scenario, based on interpretation of aerial imagery and soil classification mapping, it is possible that no wetland feature exists in this location.

Notwithstanding the above, RiverStone did not have direct access to the area of mapped unevaluated wetland west of the subject property. The Town OP identifies an adjacent land width of 120 m to unevaluated wetlands over 2 ha in size ('locally-significant features'). On this basis, RiverStone provides an assessment of potential impacts and to the mapped unevaluated wetland feature that may result from implementation of the development plan (**Section 5.2.1**).

4.2 Area of Natural and Scientific Interest

Based on available background mapping, it is our understanding that a portion of an ANSI known as 'St. Andrews Lake/Penetang Lake' is present east of Fuller Avenue (**Figure 1**). ANSIs are recognized and designated due to their unique representation of ecological, hydrological, and/or geological conditions on the landscape, and these features generally represent restrictive constraints to development under relevant provincial policy. As noted in **Section 4.1** pertaining to an overlapping PSW feature, the limit of the designated ANSI area is measured to be approximately 120 m east of the subject property, with intervening development including both a paved roadway and an area of active residential subdivision construction. Due to the distance and functional separation between the subject property and the ANSI, the feature is not considered relevant to this assessment.

4.3 Significant Woodland

Significant woodlands represent areas of forested cover with recognized significant attributes, such as large contiguous blocks of woodland, woodlands with unique characteristics, and/or woodlands that support economic values, cultural values or other ecosystem services. It is generally the responsibility of the relevant planning authority to designate significant woodland on a comprehensive basis;

however, where appropriate, site-specific designation of these features can also be undertaken using standardized criteria endorsed by the province and/or the planning authority.

The woodland feature associated with the subject property, as outlined in **Figure 1**, measures approximately 12 ha. The general composition of woodland vegetation communities within the subject property is described in **Section 3.3**. Schedule B1 of the Town OP assigns an EP overlay to the woodland feature associated with the subject property. It is our understanding that natural heritage-related designations within the Town boundaries are largely derived from a Natural Heritage Study Update undertaken in 2017 for the Town of Penetanguishene by the Severn Sound Environmental Association (SSEA). Based on a review of this study, the woodland feature is classified as a significant woodland for the purposes of applying applicable municipal and provincial planning policies.

As discussed in Section 4.1 of the SSEA study, the Town contains approximately 50% woodland cover by area. Map 2 of the Natural Heritage Study depicts the results of an analysis of significant woodland features within the Town. The majority of woodland cover within the municipality has been classified as significant woodland based on satisfying one or more criteria as recommended by the province in the Natural Heritage Reference Manual. Based on a review of Map 2, it appears that the woodland feature associated with the subject property is of a relatively small size, measuring well below the applicable minimum size threshold (*i.e.*, 50 ha). Due to the small size and irregular configuration of the feature, it does not support interior woodland habitat functions (*i.e.*, minimum 100 m from a woodland edge). The feature is also generally isolated by surrounding urban development and does not support any connective linkages between other significant features. Notwithstanding these points, portions of the feature are situated within a significant groundwater recharge area, and the feature as a whole meets a minimum area threshold applied by the SSEA (10 ha) for features that support groundwater protection. On this basis, the feature has been designated as a significant woodland.

Through review of the above assessment, as well as RiverStone's own background review and on-site investigation, it is assumed that the primary importance of this feature is reflective of its groundwater protection services, and not its ecological functions. It is recognized that the woodland also likely supports some localized wildlife habitat functions, including potential general habitat for endangered and/or threatened species, as discussed further in this report. RiverStone provides an assessment of potential impacts to the significant woodland feature that may result from implementation of the development plan (**Section 5.2**).

4.4 Significant Wildlife Habitat

SWH represents a range of habitat features that are recognized as providing specialized or otherwise important functions for various forms of wildlife. Designation of confirmed SWH is ultimately the responsibility of the relevant planning authority and, to our knowledge, no confirmed SWH features or functions have been identified within the subject property or associated woodland feature by the Town or other planning authority.

Notwithstanding the above, it is acknowledged that SWH features and functions are generally impractical to identify and designate on a broad scale, and can require review on a site-specific basis. RiverStone defers to guidance in Section 9.3 of the provincial Natural Heritage Reference Manual, which outlines the recommended process for identifying SWH, including a list of 'triggers' which aid in identifying development scenarios that warrant a site-specific SWH assessment. As specified in Section 9.3.2 of the manual, an application for a single consent within a settlement area does not represent a trigger for a site-specific SWH assessment. On this basis, and in the absence of any

confirmed SWH associated with the subject property, no further assessment of candidate SWH is undertaken.

4.5 Habitat of Endangered and Threatened Species

As a component of this scoped EIS, RiverStone undertook further review of the subject woodland feature to determine if the feature represents potential habitat for any endangered or threatened species protected under the *Endangered Species Act* (ESA). Staff first conducted a review of the list of species designated as endangered and threatened in Ontario, as per Schedules 2 and 3 of Ontario Regulation 230/08, located here: <https://www.ontario.ca/laws/regulation/080230>, to determine if any listed species may be relevant to the subject property. RiverStone further reviewed the NHIC database for records of element occurrences for endangered or threatened species (data squares 17NK8559, 17NK8560). Background information review was followed by the on-site investigation, which documented vegetation conditions and potential habitat features for further habitat-based assessment.

The on-site assessment did not document the presence of any readily-identifiable species that may be expected to occur in the general area, e.g., Butternut. The NHIC database contains records of multiple threatened species, two of which are not considered relevant to areas of woodland habitat. Specifically, local NHIC records for Eastern Meadowlark (*Sturnella magna*), and Bobolink (*Dolichonyx oryzivorus*) are not considered relevant to this assessment. The potential presence of most other provincially endangered and/or threatened species can be ruled out based on their limited geographical ranges in the province and/or a lack of specific habitat conditions which they require to carry out key life processes. Through a review of site-specific data, background information, and application of staff knowledge and experience, RiverStone provides an assessment of the following species.

4.5.1.1 Endangered Bat Species (*Myotis lucifugus*, *Myotis septentrionalis*, *Perimyotis subflavus*)

These species, assessed as a guild (multiple related species with similar habitat characteristics), include multiple bat species listed as endangered in Ontario that are generally ubiquitous within areas of mature tree cover. Mature woodlands often provide trees with cavities or other features that can support seasonal ‘roosting’ activity of bats. Conditions within portions of the woodland on the subject property offer potentially suitable habitat. Further discussion, including an assessment of potential impacts to these species resulting from implementation of the proposed development plan, is provided in **Section 5.3.1**.

4.5.1.2 Massasauga (*Sistrurus catenatus*)

The NHIC database lists one or more records of element occurrence for Massasauga within data squares on the surrounding landscape. This species may be associated with a broad range of habitat types and is known to occur locally across the eastern Georgian Bay coast, and parts of southern Georgian Bay. Occurrences of Massasauga have experienced significant declines across the southern portion of its range; however, the Inaturalist database contains numerous current records of observations along the northern portions of the Penetanguishene peninsula and nearby islands (e.g., Beausoleil Island).

Massasaugas rely on a mix of cover throughout the active season, but generally require open semi-habitats such as wetlands, forest edges, and rock barrens for thermoregulation. This species is also fairly dependent on large tracts of natural cover, and individuals are highly susceptible to mortality by road kill. The woodland feature associated with the subject property is small and lacks the mix of

habitat conditions that would be required to sustain a population of Massasauga. The feature is also isolated within an urban area and bordered by busy roadways and residential development.

Based on the above, it is assumed that the NHIC record associated with the subject property is related to either a historical observation, or an observation recorded elsewhere within the large (1 km²) data square that overlaps the subject property. There is no expectation that the subject property and associated woodland feature is supporting habitat for this species, and no further assessment is undertaken in this regard.

5 IMPACT ASSESSMENT & MITIGATION PLANNING

Based on a site plan drawing provided by the proponent, it is our understanding that proposed development is limited to a single severance of an existing lot of record, the subject property. The severance would divide the parcel in two (as per **Figure 2**), assigning the existing dwelling to the retained parcel (accessed via Fuller Avenue). The created lot would measure approximately 1.18 ha and be accessed via Mercer Crescent. Approximately 120 m of the northern boundary of the created lot would have frontage on Mercer Crescent. It is our understanding that no specific development is being contemplated for the proposed new lot at this time. For this reason, our impact assessment is general in nature, and has been framed to assess the feasibility of *any* future development on the proposed new lot. Recommendations are provided herein to identify if specific areas may be suited for development and/or if specific areas warrant protections under the relevant policy context.

As discussed in **Section 4**, the subject property and/or adjacent lands contain or have the potential to contain multiple biophysical features that receive protections from development under relevant policies, regulations, and/or bylaws. The following sections outline the potential impacts of development to relevant natural heritage features and functions. RiverStone highlights specific requirements and provides recommended mitigation measures to direct appropriate placement of potential development, and to avoid or minimize the potential for negative impacts to the natural environment where appropriate. In assessing and identifying potential negative impacts to a natural heritage feature through a development process, it is important to understand how the PPS defines negative impacts. For most significant natural heritage features protected under the PPS, including significant woodlands, negative impacts are defined as:

“...degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities”

The NHRM provides more detailed guidance to practitioners in determining what constitutes a negative impact in the context of development and site alteration. Section 13.2 of the NHRM states the following:

“To determine negative impacts on a significant natural heritage feature or area, the cumulative negative impacts from development or site alteration activities (e.g., impacts that adversely affect the stability of the feature and its ability to continue) must be considered against the integrity of the feature. The current and future ecological functions of the natural feature or area as they relate to the surrounding natural heritage system (e.g., connectivity) must be considered as well. The PPS definition for “negative impacts” does not state that all impacts are negative, nor does it preclude the use of mitigation to prevent, modify or alleviate the impacts to the significant natural heritage feature or area”.

RiverStone’s impact assessment is intended to be reflective of the above guidance, with consideration for the integrity and function of the feature as a whole, and in acknowledgement that not all development and site alteration represents a negative impact. Ultimately, RiverStone’s assessment is intended to inform a review of the above proposal by the appropriate approval authority. Our assessment is based on a review of existing conditions at the time of site investigation, as illustrated on **Figure 2** and in the photo record contained in **Appendix 1**. The severance concept depicted by RiverStone in **Figure 2** should not be considered survey grade (*i.e.*, for reference purpose only); formal site plan drawings should be cited for specific details on future proposed development footprint(s).

5.1 Wetlands

In general, development and/or site alteration activities that occur in proximity to wetlands have the potential to cause negative impacts via the following pathways:

- Alterations of surface water and/or groundwater contributions that may result during construction (e.g., dewatering, etc.), from increased coverage of impervious surfaces (e.g., roads, roofs, etc.), and/or modifications to existing topography or drainage;
- Increased sediment and/or nutrient loadings to features via runoff exiting the development area from construction to post-completion of the project. This may adversely affect water quality via increased turbidity, nutrient enrichment, contamination by toxic substances, changes in pH, etc.;
- Loss of habitat for wetland-dependent wildlife, as well as constructed-related impacts to such wildlife during the construction process; and,
- Increased human activity/encroachment within the wetland, which may result in soil compaction, dumping, vandalism, or other disturbances.

As discussed, a mapped unevaluated wetland feature is located 70 m or more from the western limit of the subject property. The intervening space is composed of upland forest cover, with well-draining soils and no evidence of connecting surface drainage. If a wetland feature is present in the mapped location, there is assumed to be no functional hydrologic connection to areas of the subject property. Given the flat topography associated with the subject property, any potential future construction on the proposed lot would not present a risk to the wetland via sedimentation from runoff. The separation distance of 70 m would be more than sufficient to buffer the wetland feature from any anthropogenic stressors or influences associated with potential future development on the proposed new lot. Moreover, given the existing landscape context, any wetland-dependent wildlife that may be associated with the mapped feature would be expected to be tolerant of urban settings. In general, there is no expectation that potential future development of the proposed new lot would negatively impact or influence functions of the mapped unevaluated wetland feature. No specific mitigation recommendations are required in this regard.

5.2 Significant Woodlands

As discussed in **Section 4.3**, the woodland feature that encompasses most of the subject property is classified as a significant woodland as per the Town of Penetanguishene Natural Heritage Study (SSEA 2017). The policy overlay of EP on Schedule B1 of the Town’s OP is assumed to be reflective of this designation. As per Map 2 of the Natural Heritage Study, the subject woodland feature falls into a category of significant woodland described as “*Woodland >10 ha and <20 ha with groundwater protection functions*”. It is interpreted that designation of the subject woodland as significant woodland is largely reflective of its ecosystem services (*i.e.*, groundwater recharge), and not necessarily its

ecological functions. From an ecological perspective, the feature is relatively small in comparison to other woodland features within the Town boundaries. The feature also lacks interior woodland habitat and does not support linkages between other significant natural heritage features. For the portion of woodland contained within the subject property, most of the canopy cover is relatively young, including a second-growth hardwood community and a coniferous plantation (see **Section 3.3** and **Figure 2**) that are estimated at approximately ~30 years old (based on review of historical images on County of Simcoe Interactive Map).

Any potential future development on the proposed new lot would inherently result in some degree of tree removal from the woodland feature. On a functional level, and based on the assessment above, removal of trees would not necessarily result in a negative impact to important or sensitive ecological functions. For example, development of the proposed new lot would not reduce the extent of interior woodland, as the feature presently contains no such areas. Likewise, there would be no potential for loss of any wildlife movement corridors/linkages, as the feature does not presently support this function. The extent of general local wildlife habitat may be reduced; however, mitigation measures are provided further in this report to ensure that this would not result in a negative impact to individual wildlife or significant habitat functions.

As previously discussed, the broader woodland feature is designated as significant due to contributions to groundwater infiltration and local drinking water supplies. Importantly, it is noted that the portion of the woodland within the subject property does not actually appear to be contained within the delineated significant groundwater recharge area on Schedule B2 of the Town OP. Regardless, in order to demonstrate no net negative impacts to the key functions of the significant woodland feature, any future application for development of the proposed new lot may be expected to remain consistent with any local and/or provincial policies related to source water protection. Assuming this can be accomplished, there is no expectation that future development within the proposed new lot would impact the function for which the significant woodland feature has been identified. It is also acknowledged that the presence of an extensive trail network through the woodland feature indicates that the feature likely provides local cultural values. Impacts to such may also need to be addressed through any future development applications.

In the absence of a defined proposal for a development footprint, RiverStone provides the following mitigation recommendations that may be used to form requirements or conditions for any future development on the proposed new lot:

- **Any potential future development applications for the subject lands be subject to a requirement for tree inventory and preservation planning, to aid in minimizing the extent of potential tree removals.**
- **Any potential future tree removals be limited to within vegetation communities CUP3-1 and FOD3-1. As discussed in Section 3.3, vegetation community FOD2-4 represents an area of more mature canopy cover associated with a row of Red Oak along the southern parcel boundary and a transition to more mature woodland cover west of the subject property. This area of more mature cover may be of higher potential value to local wildlife, with an increased likelihood of tree cavities and large individual mast-bearing trees. Trees within this latter community should be preserved where feasible.**

5.3 Habitat of Endangered and Threatened Species

5.3.1 *Endangered Bats*

Areas of identified habitat for any endangered or threatened species are protected from destruction as per Section 10 of the ESA. Potential habitat cover for bats is generally ubiquitous within forested landscapes, meaning that forested ecosites on and adjacent to the subject property may be expected to support some level of seasonal bat activity, which may include endangered bat species. RiverStone has not undertaken any detailed survey efforts to determine the presence/absence or relative significance of potential on-site habitat for bats. However, staff did undertake a general qualitative review of bat habitat suitability as part of our standard habitat-based assessment for potential SAR habitat. It was observed on site that trees within the CUP3-1 and FOD3-1 communities were relatively immature, with the majority of trees measuring <20cm diameter at breast height (DBH). Relevant provincial guidance documents (NDMNR 2015) identify 25cm as the minimum size threshold for trees that may support important bat habitat features.

Given the young age and small size of trees within the majority of woodlands on the subject property, the potential for wildlife cavities is very low. Conversely, community FOD2-4 contains a mix of more mature canopy trees. Staff did not observe any prominent wildlife cavity trees within FOD2-4; however, the potential is higher for trees within this community to support such functions now or in the near future. The recommendations for tree preservation contained in **Section 5.2** are reiterated here to promote retention of more mature tree cover where feasible. Notwithstanding this recommendation, given the vast extent of forest cover on the broader landscape, there is no expectation that proposed development would negatively impact the availability or function of potential local habitat for endangered bats.

Further to the above, individuals of endangered bat species cannot legally be killed, harmed, or harassed as per Section 9 of the ESA. RiverStone provides clear and simple mitigation measures below to ensure that individual endangered bats are not killed, harmed, or harassed through any potential future development process (should they be present).

- **Avoid any removal of vegetation between April – October of any given year. This timeframe represents the general maternal roosting period for bats.**
- **In the event that tree clearing must occur between April and October, additional studies may need to be completed to confirm the presence or absence of SAR bats. These studies may include snag tree surveys and acoustic monitoring of the area where trees will be removed, by a qualified professional. Should SAR bats be detected, the MECP should be contacted to determine if a permit would be required to proceed.**

5.4 General Impact Assessment and Mitigation

It is RiverStone's general opinion that proposed development can be accomplished within the confines of existing on-site constraints and without adversely impacting the functions of identified natural heritage features. However, it is acknowledged that implementation of the proposed development plan will inherently result in temporary construction disturbance. The following general measures are recommended in this regard:

- **Grading and other activities that cause disturbance outside of the building envelope should be minimized to the extent possible during any future construction period.**

- **Implement sediment and erosion control measures as per applicable best management practices to isolate any development footprint.**
- **In addition to noted tree removal timing windows related to bats, clearing of any vegetation should be restricted to times outside of the period April 15 to August 30. If development and site alteration must occur during this period, a nest survey should be conducted by a qualified avian biologist prior to commencement of construction activities to identify and locate active nests of migratory bird species covered by the Migratory Birds Convention Act or Fish and Wildlife Conservation Act. If a nest is located or evidence of breeding noted, then a mitigation plan should be developed to address any potential impacts on migratory birds or their active nests. Mitigation may require establishing appropriate buffers around active nests or delaying construction activities until the conclusion of the nesting season.**

6 CONFORMANCE WITH APPLICABLE ENVIRONMENTAL POLICIES

The following sections summarize the relevant federal, provincial, and municipal environmental policies that are applicable to the proposed development application.

6.1 Federal Migratory Birds Convention Act, S.C. 1994, c. 22

Section 6 of the Migratory Birds Regulations under the *Migratory Birds Convention Act, 1994* (MBCA) prohibits the disturbance or destruction of nests, eggs, or nest shelters of a migratory bird. The provincial *Fish and Wildlife Conservation Act, 1997* (FWCA) extends the protection of bird nests and eggs to species that are not listed under the Migratory Birds Regulations (e.g., Corvids).

Restricting clearing of vegetation for any current or future proposed development to times outside of the period of April 1 to August 31 inclusive, will prevent contravention of Section 6 of the regulations. As previously noted, if vegetation removal must occur during this period, a nest survey should be conducted by a qualified avian biologist prior to commencement of construction activities to identify and locate active nests of migratory bird species covered by the MBCA or FWCA. If a nest is located or evidence of breeding noted, then a mitigation plan should be developed to address any potential impacts on migratory birds or their active nests. Mitigation may require establishing appropriate buffers around active nests or delaying construction activities until the conclusion of the nesting season.

6.2 Provincial Policy Statement, pursuant to the Planning Act, R.S.O. 1990, c. P. 13

The Provincial Policy Statement (PPS) is promulgated under the *Planning Act* and provides direction to municipalities on matters of provincial interest related to land-use planning. The PPS was updated in 2020. Municipal OP's must be consistent with the PPS. Key natural heritage-related provisions of the PPS, as assessed in this report, are listed below:

2.1.4 Development and site alteration shall not be permitted in:

- a) significant wetlands in Ecoregions 5E, 6E, and 7E1; and
- b) significant coastal wetlands.

2.1.5 Development and site alteration shall not be permitted in:

- a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E¹;

- b) significant woodlands in Ecoregions 6E and 7E;
- c) significant valleylands in Ecoregions 6E and 7E;
- d) significant wildlife habitat;
- e) significant areas of natural and scientific interest; and
- f) coastal wetlands in Ecoregions 5E, 6E and 7E¹ that are not subject to policy 2.1.4(b)

unless it has been demonstrated that there will be *no negative impacts on the natural features or their ecological functions*.

2.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

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

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

Based on the results of RiverStone's impact assessment, and contingent on the implementation of the recommendations outlined in **Section 5** of this report, it is RiverStone's opinion that the development as proposed is consistent with Sections 2.1.4 to 2.1.8 of the PPS.

6.3 Provincial Endangered Species Act, S.O. 2007, c. 6

The ESA protects designated endangered and threatened species in Ontario from being killed, harmed, or harassed (s. 9) or having their habitat damaged or destroyed (s. 10). **Section 4.5** identified one or more species that have the potential to occur within or adjacent to the subject property. **Section 5.3** provided a subsequent discussion of potential impacts to such species and associated habitat features, should those species be present within or adjacent to the subject property. Based on this assessment, and assuming full implementation of mitigation measures (where recommended), it is RiverStone's opinion that no endangered or threatened species or their habitat are expected to be negatively impacted by implementation of the proposed development. On this basis, there is no expectation that the proposed development will result in a contravention of the ESA. It is noted that this assessment does not represent 'clearance' with respect to ESA compliance. It remains a proponent's continued and sole responsibility to ensure that a project does not result in a contravention to the ESA.

6.4 Town of Penetanguishene Official Plan (2018)

The Town OP designates the subject property, including the proposed new lot, as Neighborhood Area with an Environmental Protection Overlay (EPO). The Neighborhood Area designation is permissive of various forms of development; however, the EPO overlay triggers a further level of review and assessment (in the form of an EIS) in order to determine if development can be accomplished in a manner that is consistent with other natural heritage protection policies of the OP. These additional feature-specific policies contained in the Town's OP (Section 3.10) closely mirror natural heritage provisions of the PPS. The details contained in this report are intended to support the approval authority in their review of general conformity and consistency with Town policies; however, based on our

assessment, it is RiverStone’s opinion that the proposal demonstrates consistency with policies of both the PPS and the Town OP.

6.5 Town of Penetanguishene Zoning By-law (2019)

The Town of Penetanguishene Zoning By-law outlines the various provisions applicable for each zone with the Town boundaries. The zone assigned to the subject property is described as Deferred Development. Through discussion with Town planning staff (call to Owen Taylor, Junior Planner, Dec 8 2021), it is our understanding that this zone represents a form of a ‘hold’ mechanism until a more appropriate zone can be assigned. As such, re-zoning of the proposed new lot would be required to facilitate any future development. The information contained in this report may be used by the municipality to further determine any potential requirements for zoning by-law amendments.

7 CONCLUSIONS

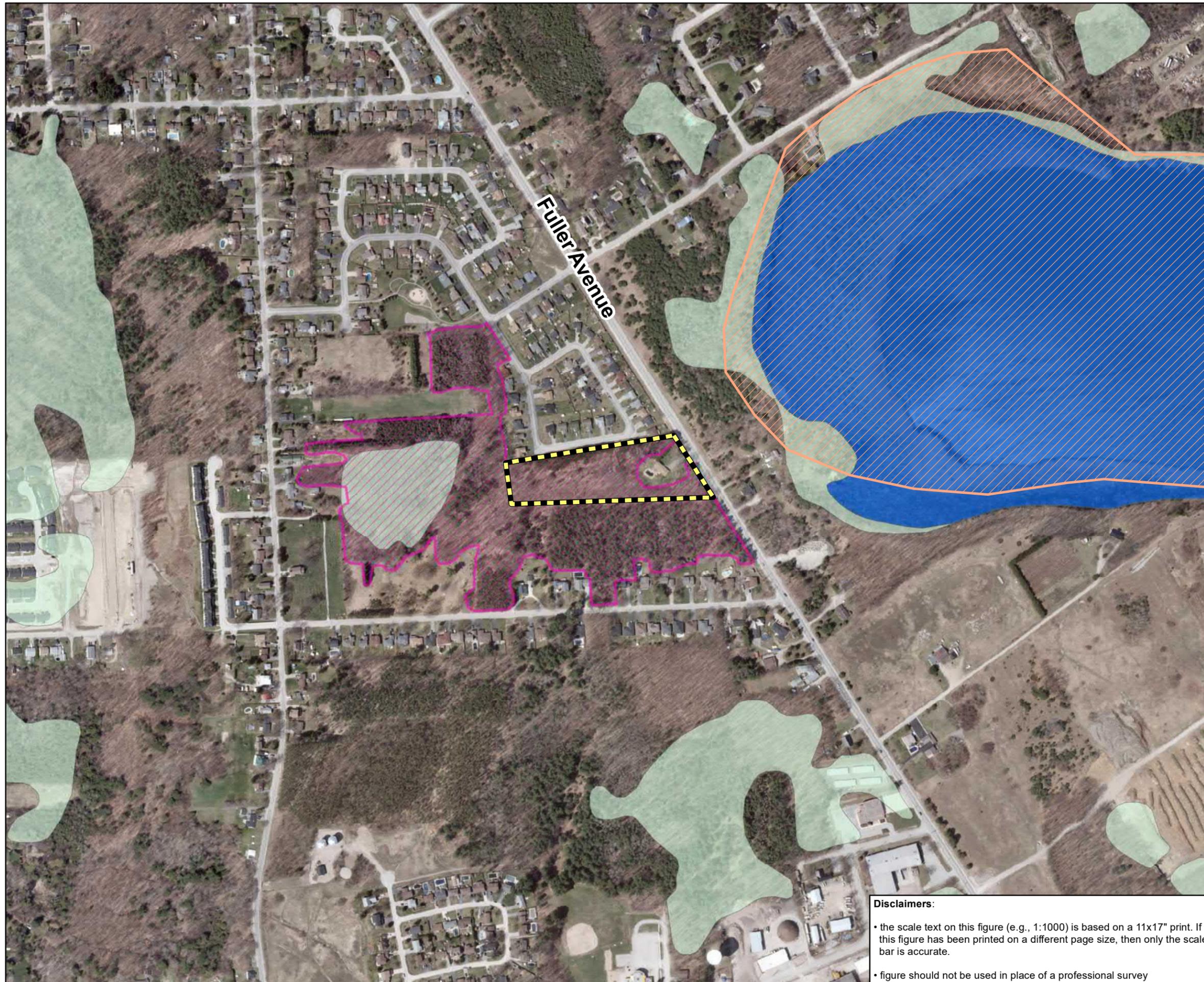
In accordance with the requirements of the Town of Penetanguishene Official Plan, the preceding report provides the results of RiverStone’s scoped EIS. This report includes details regarding existing physical and ecological conditions on the subject property, a description of the proposed development plan, an assessment of potential impacts to identified features, and a general assessment of consistency and conformity with relevant municipal, provincial, and federal environmental policies.

Based upon the findings presented in this report and contingent upon the implementation of and adherence to the recommendations made herein, it is our conclusion that proposed development can be accomplished without negative impacts to the functions of identified significant natural heritage features. We advise that the recommended mitigation measures outlined in **Section 5** be implemented through site plan control that is subsequently enforced with appropriate by-laws, as applicable.

8 REFERENCES

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- NDMNRF.** 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second edition. Toronto: Queen's Printer for Ontario.
- NDMNRF.** 2014. Significant Wildlife Habitat Mitigation Support Tool. Ontario Ministry of Natural Resources and Forestry. 533 pp.
- NDMNRF.** 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 5E.
- SSEA.** 2017. Penetanguishene Natural Heritage Study Update. Severn Sound Environmental Association. 99 pp.



Legend

-  Subject Property
-  ANSI
-  Significant Woodland

Wetlands

-  Evaluated-Provincial
-  Not evaluated per OWES



Orthorectified aerial photo - spring 2016

Scale	RS Project No.	Date Last Updated	By
1:5,351	2021-240	Dec 7, 2021	RS

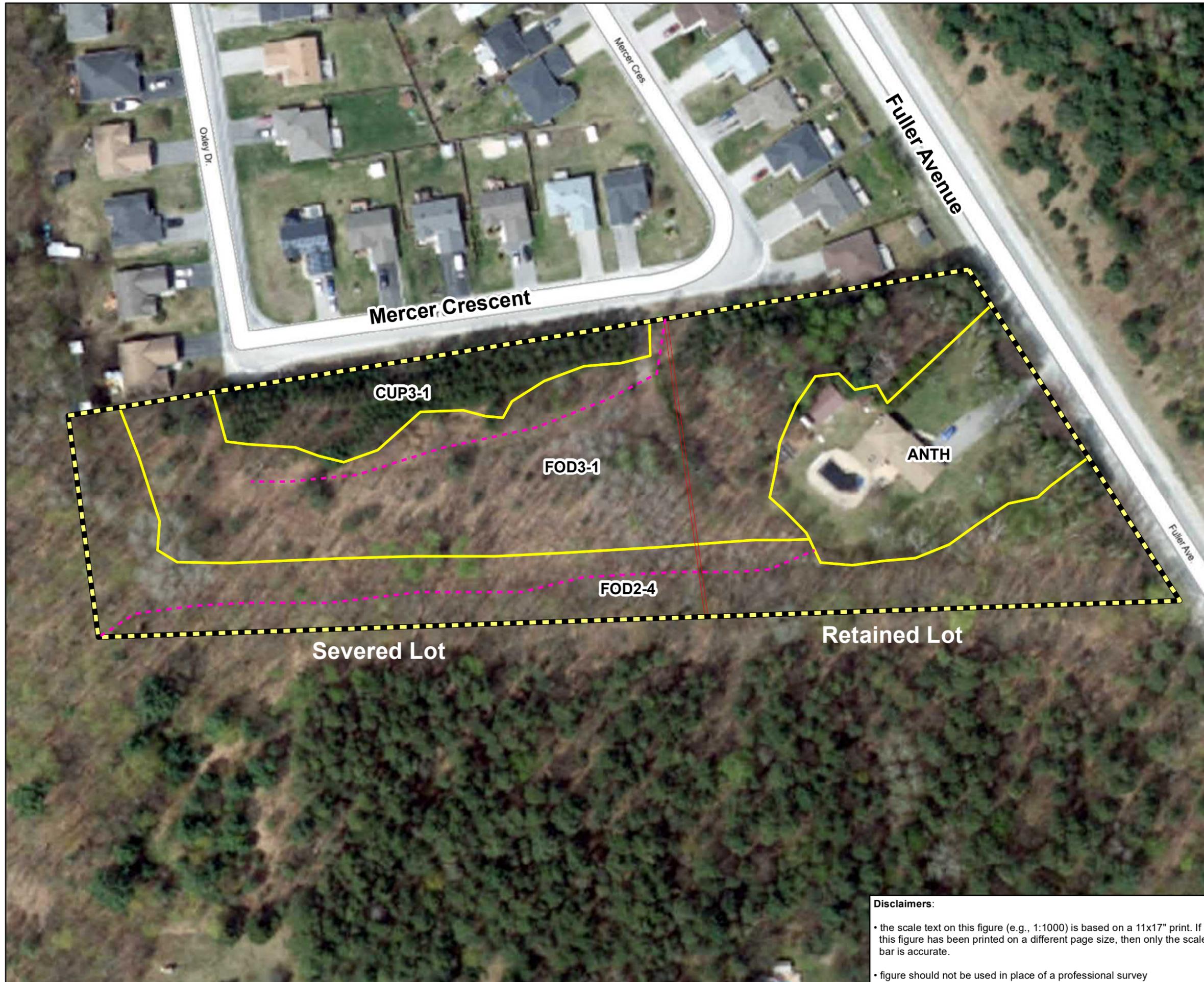
0 80 160 Metres

Figure 1. Property Location and Landscape Context
 1056 Fuller Avenue, Town of Penetanguishene,
 County Of Simcoe

Prepared for: Ed and Flo Benneyworth
 c/o Victoria Lemieux

Disclaimers:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- figure should not be used in place of a professional survey



Legend

Subject Property

Trail

Proposed Severance

Vegetation Communities (ELC)

ANTH: Anthropogenic

CUP3-1: Red Pine Coniferous Plantation Type

FOD2-4: Dry - Fresh Oak - Hardwood Deciduous Forest

FOD3-1: Dry - Fresh Poplar Deciduous Forest Type



Orthorectified aerial photo - spring 2016

Scale	RS Project No.	Date Last Updated	By
1:1,000	2021-240	Dec 7, 2021	RS

0 10 20 Metres

Figure 2. Existing Conditions and Proposed Development
 1056 Fuller Avenue, Town of Penetanguishene,
 County Of Simcoe

Prepared for: Ed and Flo Benneyworth
 c/o Victoria Lemieux

Disclaimers:

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Appendix 1. Select Photos from the Site Investigation





Photo 1. Driveway entry from Fuller Ave; amenity space east of dwelling.



Photo 2. Grass lawn/amenity space south of dwelling; edge of existing woodland limit.



Photo 3. Dwelling and grass lawn/amenity space; facing west toward woodland.



Photo 4. Facing east from within woodland; dwelling and amenity space to left of frame.



Photo 5. Facing west from within woodland; line of mature Red Oak to left of frame; younger hardwood forest to right.



Photo 6. Typical structure and composition within FOD3-1 community; mixed young hardwood growth with scattered mature Aspen and dense layer of low Aspen regeneration.



Photo 7. Facing west from near western property limit; more mature hardwood cover.



Photo 8. Facing northeast into CUP3-1 community; woodland edge along Mercer Crescent to left of frame.



Photo 9. Facing east along trail adjacent to CUP3-1 community.



Photo 10. Existing entrance to Mercer Crescent.



Photo 11. CUP3-1 community along northern property boundary; Mercer Crescent.