



Bat Habitat Report
Sideroad 26/27 Reconstruction

The Township of Clearview

P/N 16 - 2936 | March 2019

FINAL

Township of Clearview
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26/27 Sideroad Reconstruction Appeal
Township of Clearview

P/N 16-2936

March 2019

1.0 Introduction

Skelton Brumwell & Associates Inc. (SBA) was retained by the Township of Clearview (Clearview) to prepare a bat habitat analysis for the Niagara Escarpment Plan Amendment and the Development Permit associated with required road improvements to Sideroad 26/27 to address public safety issues and existing environmental impacts.

The proposal is to reconstruct Sideroad 26/27 from the Osprey-Clearview Townline to Concession 10 within the existing right-of-way. The proposed road improvements include improving the vertical alignment, replacing road-crossing culverts, improving and widening the road base, and resurfacing the road. Sideroad 26/27, in its current condition, has deficient drainage features which create erosion and sedimentation issues that have had a negative impact on adjacent key natural heritage features and key hydrologic features.

The existing Township right-of-way is 20 m wide, and a total of approximately 2730m of road is to be reconstructed.

The Study Area includes:

- The development / road improvement area contains the existing road and the limits of site disturbance / grading limits associated with the road improvements; and,
- Adjacent lands which are defined as 120 m beyond the Improvement Area.

The study area is shown in Figure 1.

As part of the bat habitat review the following has been completed:

- Identification of potential bat habitat features and functions;
- Acoustical monitoring to determine the presence of bat species in the project area; and,

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26/27 Sideroad Nottawasaga
Clearview

Figure #1
Location

1:6,770

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- Analysis of vegetation removal impacts to determine possible implications on potential bat habitat.

Initial mitigating factors and recommendations were also identified.

This Bat Habitat Report documents the results of investigations to determine the presence of bat habitat and bat species within the project area. This report also provides an analysis of the potential direct implications of vegetation removal to assess any possible implication to potential habitat.

The Endangered Species Act, administered by the Ministry of Natural Resources and Forestry and Ministry of Environment, Conservation and Parks, establishes the applicable provisions and standards for bat species at risk. In this instance, following the receipt and assessment of information contained in this report, Ministry staff confirmed that Endangered Species act approval is not required in relation to the proposed works. Correspondence to this effect is set out in Appendix “A” to this report.

2.0 Project Context

Sideroad 26/27 is a relatively short stretch of road running east/west between Grey County Road 31 and Concession Road 10, Nottawasaga in the Township of Clearview. The right-of-way was established at the time of the original land surveys and so substantially predates the Niagara Escarpment Plan.

The Sideroad runs perpendicular to the Escarpment slope and crosses the slope at a gradient of approximately 14%. The existing road surface varies in width from 4m to 5.5m and is maintained year-round above the Escarpment brow (approximately 1 km of road). The road is not currently maintained in winter months below the Escarpment brow (approximately 1.7km), however road use and maintenance occurs over a period greater than 6 months a year and so the road is not considered a seasonal road for the purposes of Ontario regulation 828/90 as amended.

The portion of the road below the brow is subject to washouts and also exhibits a variety of deficiencies in road width, drainage and base structure which result in heavy maintenance and safety concerns. These in turn have undesirable environmental impacts. These conditions, and impacts, are exacerbated by increasing levels of traffic which will only be accelerated by the pending closure of former County Road 91.

The road is located in a watershed divide. The western portion is within the headwaters of the Beaver River and falls under the jurisdiction of the Grey Sauble Conservation Authority. The eastern portion is part of the Pretty River watershed and falls under the jurisdiction of the Nottawasaga Valley Conservation Authority. The western portion of the road crosses the Rob Roy Provincial Significant Wetland complex. The road also runs adjacent to the Nottawasaga Lookout Escarpment Access Park, Nottawasaga Lookout Provincially Significant Earth Science and Life Science Areas, and the Nottawasaga Lookout Provincial Nature Reserve.

The proposed road works are not exempt from requiring a development Permit under Section 5.4.3 of Ontario Regulation 828/90 as amended, as a number of the road improvement activities are identified as development requiring issuance of a development permit. A development permit can only be issued in compliance with the applicable requirements of the Niagara Escarpment Plan which includes permitted uses and development criteria.

3.0 Legislative and Policy Context

3.1 Endangered Species Act

The *Endangered Species Act* provides for a science-based assessment of species at risk. The Act provides automatic species protection where a species is classified as endangered or threatened. The legislation also establishes habitat protection when a species is classified endangered or threatened.

The Act sets out timelines and processes for producing strategies and plans to recover at-risk species as well as tools to help reduce the impact of human activity on species and their habitats and to encourage protection and recovery activities.

Species are classified into 1 of 4 categories: extirpated; endangered; threatened; and, special concern. Species are automatically protected from being harmed or harassed if they are classified as being: endangered; threatened; or, extirpated.

When species are listed as endangered or threatened, their general habitat is also automatically protected. General habitat is identified as the habitat area on which a species depends, directly or indirectly, to carry out its life processes. Habitat protection is established on the basis of either general habitat descriptions or specific habitat protection. General habitat descriptions provide greater clarity on the area of habitat protected for a species and have been developed for some of the species that are most likely to be affected by human activity. Specific habitat protection is established by regulation after a recovery strategy has been developed and a government response statement has been published.

Not all development activity will damage or destroy that habitat of a threatened or endangered species. The determination of harm involves a consideration of: details of the activity; which parts of habitat are likely to be altered or impacted; and how such impacts would affect the species' ability to carry out its life processes. Details of the approach and considerations used in the determination of whether or not a proposed activity is likely to damage or destroy protected habitat is set out in *Categorizing and Protecting Habitat Under the Endangered Species Act, February 2012*.

The identification of habitat which may be impacted involves establishing categories which consider how a species uses its habitat and takes into consideration any unique characteristics of such habitat. The established habitat categories are used to determine when an activity may damage or destroy habitat and what conditions may be required for an authorization for such activity, if appropriate.

Three categories have been established for this purpose. Category 1, or Red habitat, is habitat where a species will probably be least tolerant to changes. Where activities altering such habitat would be likely damage or destroy them and authorization would be required to permit such an activity. Category 2, or Orange habitat, is where a species is believed to be moderately tolerant to changes. Category 3, or Yellow habitat, is habitat in which species are thought to be most tolerant to changes. In Category 2 and 3 habitats relatively high-impact or large-scale activities that could alter, damage and destroy the habitat would normally require authorization to continue.

The process for authorization of activities which may impact habitat of threatened and endangered species is set out in the provincial publication *“ENDANGERED SPECIES ACT PERMIT PROCESS”*.

As set out in this report seven species of bat have been observed in the project area. Three of the seven bat species observed in the project area are listed as endangered:

- Little Brown Myotis – listed January 24, 2013, assessment report prepared, general habitat protection applies;
- Eastern Small-footed Myotis – listed June 27, 2014, assessment and recovery strategy prepared, general habitat protection applies;
- Tri-coloured Bat – listed June 15, 2016, assessment report prepared, general habitat protection applies.

3.2 The Applicable Niagara Escarpment Plan

The decision of the Niagara Escarpment Commission to deny the Development Permit application was based on the policies of the 2005 Niagara Escarpment Plan. Effective June 1, 2017, a new Niagara Escarpment Plan was approved, and the policies of this plan now apply to the Development Permit application.

The 2017 Niagara Escarpment Plan includes policy changes that provide for approval of the Development Permit. Two significant policy changes include:

- 1) “Infrastructure” is now a permitted use in the Escarpment Natural Area (Policy 1.3.3.6) and no longer subject to the test of “essential”; and
- 2) “Infrastructure” is now permitted in key natural heritage features (2.7.2.e).

A complete review of the 2017 Niagara Escarpment Plan relative to the Plan Amendment and Development Permit applications is set out in a separate Planning Report prepared by Skelton, Brumwell and Associates Inc.

3.3 The NEC Development Permit Application

The Township of Clearview submitted a Niagara Escarpment Development Permit application on January 31, 2014 for the proposed road improvements. Niagara Escarpment Commission staff recommended approval of the proposed Development Permit subject to conditions.

The Development Permit was denied by the Niagara Escarpment Commission in November 2015 and is the subject of an appeal (NEC Appeal - Case Nos. 15-179 to 15-184, Township of Clearview (S/T/2013-2014/9152)).

3.4 Provincial Policy Statement (2014) Analysis

The proposed road improvement activities do not constitute development or a new land use for the purposes of the Provincial Policy Statement (PPS). The PPS does have policy with respect to the matter of infrastructure, however, the proposed improvements do not create new infrastructure. They consist of improvements to existing infrastructure, and these are not considered a new land use for the purposes of planning policy and administration. As such there are no direct requirements or compliance issues with respect to the PPS.

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.

Development:

means the creation of a new lot, a change in land use, or the construction of buildings and structures, requiring approval under the Planning Act, but does not include:

a) activities that create or maintain infrastructure authorized under an environmental assessment process;

Infrastructure:

means physical structures (facilities and corridors) that form the foundation for development.

Infrastructure includes: sewage and water systems, septage treatment systems, stormwater management systems, waste management systems, electricity generation facilities, electricity

transmission and distribution systems, communications/telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities.

Although the Provincial Policy Statement sets out a number of prohibitions and qualifications on development in relation to natural heritage, infrastructure authorized under an environmental assessment process is not included as development. This includes the creation or maintenance of infrastructure. The improvements to Sideroad 26/27 have been assessed and designated as Municipal Class Environmental Schedule A+ projects by Burnsides, the project engineers. As such they are pre-authorized activities under the applicable environmental assessment process. Accordingly, the prohibitions and qualifications do not apply.

The definition of site alteration does not include the same exemption for infrastructure. This is however implied. Of necessity development includes site alteration and an exemption for infrastructure logically extends to associated site alteration. The exemption for infrastructure would be entirely invalidated if the requirement for associated site alteration did not inherently incorporate such an exemption. This is not necessarily the case for site alteration in the absence of development. That is, site alteration can occur without development and this explains why the exemption would not appear in the definition for site alteration.

Although the restriction on development and site alteration in the habitat of threatened and endangered species does not apply with respect to the Provincial Policy Statement (2014), the Endangered Species Act requirements apply independently of the Policy Statement.

3.5 Niagara Escarpment Plan Analysis

3.5.1 Plan Designations and Permitted Uses

The proposed road improvements to occur within the Sideroad 26/27 right-of-way are located on lands designated Escarpment Rural Area, Escarpment Protection Area and Escarpment Natural Area.

1.3 Escarpment Natural Area

1.3.3 Permitted Uses

Subject to Part 2, Development Criteria, the following uses may be permitted:

- 7. Infrastructure.*

Infrastructure: The physical structures (facilities and corridors) that form the foundation for development. Infrastructure includes green infrastructure and utilities as defined in this Plan, in addition to transportation corridors and facilities, including rights-of-way for the movement of people and goods.

1.4 Escarpment Protection Area

1.4.3 Permitted Uses

Subject to Part 2, Development Criteria, the following uses may be permitted:

- 10. Infrastructure.*

1.5 Escarpment Rural Area

1.5.3 Permitted Uses

Subject to Part 2, Development Criteria, the following uses may be permitted:

- 10. Infrastructure.*

The project involvements improvements to an existing road located within an existing right-of-way. The land use, and the associated road improvements, are permitted within the Niagara Escarpment Natural, Protection and Rural Areas since infrastructure which includes transportation corridors and rights-of-way for the movement of people and goods are expressly permitted.

3.5.2 Development Criteria

2.0 Development Criteria

2.7 Development Affecting Natural Heritage

The objective is to protect and where possible enhance natural heritage features and functions, in order to maintain the diversity and connectivity of the continuous natural environment.

1. The following are key natural heritage features within the meaning of this Plan:

- Habitat of endangered species and threatened species*

2. Development is not permitted in key natural heritage features with the exception of the following, which may be permitted subject to compliance with all other relevant policies of this Plan:

e) infrastructure, where the project has been deemed necessary to the public interest and there is no other alternative.

The project involvements improvements to an existing road located within an existing right-of-way. The land use, and the associated road improvements, are permitted within key natural heritage features since infrastructure, which includes transportation corridors and rights-of-way for the movement of people and goods, is expressly permitted.

Although the exception for development and site alteration in the habitat of threatened and endangered species does apply, the Endangered Species Act requirements apply independently of the Policy Statement. This is recognized in Policy 2.7.5 as set out below.

2.0 Development Criteria

2.7 Development Affecting Natural Heritage

5. Where policies or standards of other public bodies or levels of government exceed the policies related to key natural heritage features or key hydrologic features in this Plan, such as may occur with habitat of endangered species and threatened species under the Endangered Species Act, 2007; with natural hazards where section 28 regulations of the Conservation Authorities Act apply; or with fisheries under the Federal Fisheries Act, the most restrictive provision or standard applies.

The Endangered Species Act, administered by the Ministry of Natural Resources and Forestry and Ministry of Environment, Conservation and Parks, establishes the applicable provisions and standards

for these species. As stipulated in the proposed conditions for approval by NEC staff recommending approval of permit application S/T/2013-2014/9152, issuance of a Development Permit does not limit the need for or the requirements of an Endangered Species Act approval.

2.0 Development Criteria

2.7 Development Affecting Natural Heritage

8. Development within the habitat of endangered species and threatened species:

a) located within Escarpment Natural Areas and Escarpment Protection Areas, is not permitted, except for development referred to in Parts 2.7.2 a) b) c) d) or e) which may be permitted provided it is in compliance with the Endangered Species Act, 2007; and

b) located within Escarpment Rural Areas, Mineral Resource Extraction Areas, Urban Areas, Minor Urban Centres and Escarpment Recreation Areas, is not permitted unless it is in compliance with the Endangered Species Act, 2007.

The land use, and the associated road improvements, are permitted within key natural features since infrastructure, which includes transportation corridors and rights-of-way for the movement of people and goods, is expressly permitted. Development is therefore permitted where such activities occur in compliance with the Endangered Species Act. As set out in this report, compliance with the Endangered Species Act must be achieved with respect to at risk bat species which have been observed in the right-of-way. In the absence of such an approval the activities are not authorized, regardless of the issuance of a Development Permit.

3.6 Growth Plan for the Greater Golden Horseshoe (2017)

The proposed road improvement activities do not constitute development or a new land use for the purposes of the Growth Plan for the Greater Golden Horseshoe. As such there are no direct requirements or compliance issues with respect to the Growth Plan.

4.2.2 Natural Heritage System

The Province will map a Natural Heritage System for the GGH to support a comprehensive, integrated,

and long-term approach to planning for the protection of the region's natural heritage and biodiversity. The Natural Heritage System mapping will exclude lands within settlement area boundaries that were approved and in effect as of July 1, 2017.

Municipalities will incorporate the Natural Heritage System as an overlay in official plans, and will apply appropriate policies to maintain, restore, or enhance the diversity and connectivity of the system and the long-term ecological or hydrologic functions of the features and areas as set out in the policies in this subsection and the policies in subsections 4.2.3 and 4.2.4.

Within the Natural Heritage System:

- new development or site alteration will demonstrate that:
- there are no negative impacts on key natural heritage features or key hydrologic features or their functions;

4.2.3 Key Hydrologic Features, Key Hydrologic Areas and Key Natural Heritage Features

Outside of settlement areas, development or site alteration is not permitted in key natural heritage features that are part of the Natural Heritage System or in key hydrologic features, except for:

c) activities that create or maintain infrastructure authorized under an environmental assessment process;

4.2.4 Lands Adjacent to Key Hydrologic Features and Key Natural Heritage Features

3. Development or site alteration is not permitted in the vegetation protection zone, with the exception of that described in policy 4.2.3.1 or shoreline development as permitted in accordance with policy 4.2.4.5.

Development

The creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the Planning Act, but does not include:

a) activities that create or maintain infrastructure authorized under an environmental assessment process;

The development of a vegetation protection zone is not applicable as the policies permit development within the feature. The Plan provides a similar exception as the Provincial Policy Statement with respect to the definition of development not including infrastructure authorized under an environmental assessment process. This includes the creation or maintenance of infrastructure. Never-the-less, the Endangered Species Act requirements apply independently of the Growth Plan policies.

3.7 Greenbelt Plan

The proposed road improvement activities do not constitute development or a new land use for the purposes of the Greenbelt Plan. As such there are no direct requirements or compliance issues with respect to the Greenbelt Plan.

With respect to the Growth Plan specifically, the policies of that Plan that address the same, similar, related or overlapping matters as this Plan do not apply within the Greenbelt Area, except where the policies of this Plan provide otherwise. In contrast, where matters addressed in the Growth Plan do not overlap with policies in this Plan, those Growth Plan policies must be independently satisfied.

2.2 Lands within the Niagara Escarpment Plan Area

The requirements of the NEP, established under the Niagara Escarpment Planning and Development Act, continue to apply and the Protected Countryside policies do not apply, with the exception of section 3.3.

3.3 Parkland, Open Space and Trails

Essentially there are no implications with respect to policies concerning infrastructure as the policies of the Protected Countryside do not apply and only policies regarding Parkland Open Space and Trails apply and these have no implications to the proposed improvements.

3.8 Simcoe County and Clearview Township Official Plan Analysis

The proposed road improvement activities do not constitute development or a new land use for the purposes of upper and lower tier Official Plans. As such there are no direct requirements or compliance issues with respect to the Official Plans.

The Simcoe County Official Plan essentially defers to the NEC plan with the exception that where the County Plan establishes more restrictive requirements these would apply. The County Plan does not establish more restrictive requirements. The Simcoe County Plan also exempts infrastructure from the definition of development:

DEVELOPMENT means the creation of a new lot, a change in land use, or the construction of buildings and structures, requiring approval under the Planning Act, but does not include:

a) activities that create or maintain infrastructure authorized under an environmental assessment process; or

As such policies governing development are not applicable to either the creation or maintenance of infrastructure.

The Township of Clearview Official Plan similarly defers to the Niagara Escarpment Plan. However, in this instance the Official Plan repeats, in their entirety the policies of the Niagara Escarpment Plan. The Clearview Township Official plan contains measures which allow for the Official plan to be effectively updated to reflect the most current Niagara Escarpment Plan, but this has not yet occurred. As a result, the Clearview Official Plan continues to refer to the former Niagara Escarpment Plan. However, by legislative authority the requirements of the current Niagara Escarpment plan would take precedent and apply.

Although the Clearview Official Plan does not contain a definition which excludes the creation or maintenance of infrastructure from development, the Official Plan applies to land uses and changes in land use as implemented through zoning by-laws etc. The nature of the activities proposed do not constitute land uses which would be subject to the policies of the Official Plan other than through appropriate implementation of the policies and requirements of the Niagara Escarpment Plan which have already been comprehensively addressed in reports submitted in support of the plan amendment application and development permit application.

4.0 Potential Bat Habitat Analysis Findings

4.1 Habitat Features

The potential for the presence of bat habitat was assessed in the spring of 2016 with subsequent additional field work in 2017 and 2018 as acoustical monitoring results were analyzed and further work was undertaken.

There are no talus slopes, cliffs, caves, mines or similar features in the project area. There are also no buildings to be demolished for the purposes of the proposed road works. The main potential impacted

habitat features consist of loss of vegetation cover associated with tree removal in the existing road allowance. No direct impact on adjacent lands is anticipated.

As tree removal is to occur to various extents throughout the length of the road corridor within the project area, all impacted vegetation removal areas were considered in relation to potential direct impact.

Visual inspections of the project area and adjacent lands, combined with analysis of aerial photography, were undertaken. The results of this field work and analysis indicate that there are no hibernacula or swarming areas associated with hibernacula in the project area.

However, tree cover features subject to removal as a result of proposed road improvement activities did indicate the potential for roosting, maternity, feeding and corridor habitat features. As a result of identification of these features, a series of acoustic monitoring was undertaken throughout the road corridor.

4.2 Acoustical Monitoring

Two types of recorders were used during the 3-year sampling of county road 26/27. The recorders used were Song Meter SM4BAT FS Bioacoustics Recorder and Song Meter SM3 Bioacoustics Recorder. The SMM-U1 Ultrasonic Microphone was used to ensure high quality recordings.

SonoBat 4.2.2 DataWizard was used to scrub the files to isolate viable calls as well as to make copies of recorded information to ensure no calls were lost. The program SonoBat 4.2.2 North America was then used to analyze all sounds files recorded. This program analyzes each of the calls and identifies the species, or most likely species, making the recorded call. It also provides additional information such as the mean frequency and mean call lengths to assist with further manual identification. Skelton Brumwell & Associates also utilizes a protocol of manually verifying all species at risk recorded as well as ten percent of non-species at risk calls to ensure a high quality of call analysis.

The dates and locations of all the twenty-two acoustic monitoring locations during the three years of observation are set out in Appendix "C".

5.0 Species Identified and Species Profiles

5.1 Acoustical Monitoring Results

Seven of the eight bat species present within Ontario were recorded at this site. The seven species present were:

- Big Brown - *Eptesicus fuscus*;

- Silver-haired - *Lasionycteris noctivagans*;
- Hoary - *Lasiurus cinereus*;
- Eastern Red - *Lasiurus borealis*;
- Eastern Small-footed - *Myotis leibii*;
- Little Brown, *Myotis lucifugus*; and
- Tricolored - *Perimyotis subflavus*.

Three of the seven species present are currently listed as endangered within Ontario. These species were Eastern Small-footed, Little Brown and Tri-coloured.

The species observed at each monitoring station are set out in Appendix 2. The frequency of bat calls at each site location is set out in Appendix "D".

5.2 Observed Species Profiles

Big Brown, *Eptesicus fuscus*

These are considered generalists which occupy a great variety of habitats. In summer individuals' roosts in small cavities in hollow trees, under loose bark, in rock crevices and in buildings. Maternity colonies are most often located in buildings and colony size can range from 5 to 700 individuals. They hibernate in caves, abandoned mines and heated buildings and tolerate a wide range of temperature and humidity. Distance between summer roosts and hibernation sites is usually not more than 80 km. They may hibernate singly or in small groups. Maternity colonies are usually within 5km of foraging areas. These bats exhibit strong roost fidelity and particularly so for maternity and hibernation sites.

Silver-haired, *Lasionycteris noctivagans*

Although highly adaptable they are usually found near trees and old growth forests provide ideal habitat. Summer roosting occurs in tree cavities and under loose bark. Maternity roosts are often located in tree cavities of large old trees. The tallest trees with minimal decay and ideally a south-facing aspect are the ideal maternity roost sites. Maternity colonies consist of 10 to 30 individuals. They forage in tree tops and over water. They change roost regularly. They have been observed to have two foraging cycles over the night separated by a roosting period. This species migrates for winter. They are usually solitary but can also be found in pairs and small groups. They are often the earliest foragers.

Eastern Red, *Lasiurus borealis*

This species is a solitary rooster in trees in mixed hardwood woodlands. They may roost from ground level to the canopy, often on the outer edges of the canopy hanging from branches. They have also been known to roost on tree trunks, in leaf litter, in grasses and under shingles or loose siding of buildings. They tend to remain in a specific area but will change roost sites frequently. They feed from tree-top level to ground level and show high fidelity to foraging areas. Their territory ranges from 30 to 450 ha and they may travel 0.4 to 5.5km to forage. They migrate for the winter.

Hoary, *Lasiurus cinereus*

These bats are solitary roosters. They usually roost in higher branches but can also be found in tree hollows and in crevices in bark. Females will roost with their offspring. They are known to forage in lower temperatures than most bats. They forage high in clearings and over water. They forage slightly later at night than other species. They migrate in groups or flocks.

Eastern Small-footed, *Myotis leibii*

These bats are rarely seen and they prefer hilly areas in deciduous and coniferous forest. They hunt over land and water, foraging at a height of 1 to 6m. They may also feed by gleaning prey from the ground or vegetation. It roosts in small spaces. This species hibernates in caves and abandoned mines either singly or in small groups. Current information suggests that they do not travel far from hibernation sites. Summer roosts include buildings, bridges, cracks and fissures in tree bark, under rocks, and in species behind shutters or siding on buildings. Maternity colonies are difficult to find but have been located in buildings. Maternity colonies range between 12 to 20 females.

Little Brown, *Myotis lucifugus*

These bats forage in the forest canopy and around and over water bodies. They usually forage 1 to 6m above the surface. It is considered a cavity rooster, roosting in small enclosed spaces including rock crevices, hollow trees and man-made structures. They may also roost in foliage. Roosts in groups from a few individuals to thousands. This species hibernates in caves and mines and may migrate long distances (migration of up to 1000 km has been observed). This species shows a high fidelity to hibernacula, maternity roosts and night roosts.

Tricolored, *Perimyotis subflavus*

Typically, this bat roosts in small spaces under bark or in tree cavities and in foliage. It forages along forest edges and over water. Maternity colonies over fewer than 20 individuals usually are found in the foliage of deciduous trees and sometimes in buildings where colonies may be slightly larger. It hibernates alone in caves and abandoned mines. Maternity and hibernation roosts are generally less than 100km apart. Movement among roosts is common but they show fidelity to a group of roosts and roosting areas.

6.0 Vegetation Removal Analysis

As the potential for direct bat habitat impact is associated with tree removal extensive analysis of tree removal requirements was undertaken. Appendix “E” contains maps indicating the location of maple trees over 10cm DBH to be removed, as well as cavity/snag trees to be removed. A summary of relevant tree removal statistics with respect to potential bat habitat impacts is set out in Table 2 below.

	Total number of trees	Trees to be preserved	Trees to be removed
Total trees	1555	312	1243
Cavity/snag trees with potential to provide bat habitat	51	8	43
Maple trees with 10cm or greater DBH	415	88	327

6.1 Potential Project Tree Removal Impact

All trees in the impacted corridor were assessed. Cavity and snag trees with the potential to provide habitat were identified. Additionally, maple trees with a diameter of 10cm or greater were also identified due to their potential to support roosting habitat for Tri-coloured bats. It is noted that although oak trees also have a similar potential, no oak trees of sufficient size were observed in the project area. It is also noted that:

- very few maple trees exhibited dry leaf clusters associated with Tri-coloured Bat roosting habitat and that this feature is highly variable;
- extensive tree cover, including significant proportions of maple tree cover are available throughout the adjacent lands and larger surrounding landscape; and
- maple trees located within the corridor and potentially impacted are not expected to be a limiting habitat factor due to the extent of tree cover available on adjacent and surrounding lands.

7.0 Pre-established Mitigating Factors

There are a number of pre-established mitigating factors that will affect any potential impact of the proposed road improvement activities on bat habitat.

Sideroad 26/27 is an existing road, portions of which have year-round traffic and other portions of which have seasonal traffic. However, all existing traffic occurs during the period in which bats would occupy the project area.

Improvements to Sideroad 26/27 are associated with the closing of former County Road 91 and therefore involve a re-direction of traffic. Former County Road 91 occupies similar habitat within 1.8 kilometres of the project area. This has two significant implications. In the absence of improvements to Sideroad 26/27, improvements would be required to former County Road 91 and these are likely to have implications to bat habitat in the same general area. The re-direction of traffic means that overall traffic loads between the two roads could be expected to be consistent. That is increased traffic on Sideroad 26/27 would be matched with reductions in traffic on former County Road 91. In fact, due to design considerations, it is expected that traffic would be reduced overall as current truck traffic not associated with the Duntron Quarry is not anticipated to utilize Sideroad 26/27 to the same extent. This theoretically suggests that traffic interaction with bats, strictly on the basis of overall vehicle volumes, is not expected to increase.

Improvements to Sideroad 26/27 are designed on the basis of 60kmph posted speed limit and 80kmph design speed. The reduction in vehicle speeds should be beneficial in regard to vehicle/animal collision potential.

Traffic volume information suggests that traffic levels are significantly reduced at times in which bats would be most active in the road corridor. This should be beneficial in regard to vehicle/animal collision potential.

8.0 Additional Mitigation

The following additional mitigation (additional to pre-established mitigating factors) is proposed:

- maximize retention of mature trees and potential habitat trees during actual construction wherever feasible;
- revegetate roadsides with tree planting wherever feasible to recreate a canopy adjacent to and over the road;

- avoid placement of lighting fixtures on or adjacent to the road; and,
- placement of a minimum of 40 bat houses along the road corridor in the area of cavity/snag tree removal under supervision of an ecologist familiar with the site and bat ecology.

In accordance with the Ministry requirements related to work in potential habitat of endangered and threatened species, ongoing monitoring is also required to ensure compliance with the ESA.

Accordingly, the following monitoring protocol is recommended;

- seasonal bat monitoring should occur up to the time of construction and removal of trees;
- monitoring by an ecologist familiar with the site and bat ecology during the tree removal process; and,
- follow up bat monitoring for two seasons following construction and opening of the road.

9.0 Findings

This Bat Habitat Report documents the results of investigations to determine the presence of bat habitat and bat species within the project area. This report also provides an analysis of the potential direct implications of vegetation removal to assess any possible implication to potential habitat. It also outlines pre-established mitigation measures and proposed additional mitigation.

This information was submitted as a component of a series of consultations with the Ministry of Natural Resources and Forestry which works with the Ministry of Environment, Conservation and Parks in the administration of the ESA.

That process resulted in final determination that it *“is the opinion of the MNRF Midhurst District that the proposed activities are not likely to contravene sections 9 or 10 of the ESA, provided the following condition is met: No tree cutting between April 1st and October 31st, in any given year. This will avoid impacts to SAR bats that may seasonally use woodlands in the area, protecting particularly female bats birthing and rearing their pups.”*

10.0 Conclusion

The presence of seven bat species, three of which are endangered, has been confirmed within the project area.

There are no talus slopes, cliffs, caves, mines or similar features in the project area. There are also no buildings to be demolished for the purposes of the proposed road works. There are no hibernacula or swarming areas associated with hibernacula in the project area.

There is a potential for roosting, maternity, feeding and corridor habitat features. The main potential impacted habitat features consist of loss of vegetation cover associated with tree removal in the existing road allowance. No direct impact on adjacent lands is anticipated.

Following an assessment of monitoring results, habitat impact analysis and migration potential the Ministry of Natural Resources and Forests determined that there should be no contravention of the ESA on the basis of the project details and mitigation plan and the removal of trees taking place outside the April 1st to October 1st critical habitat timing window.

This clearance satisfies also applicable policy requirements with respect to the presence of species at risk bats within the project area.

All of which is respectfully submitted,
SKELTON, BRUMWELL & ASSOCIATES INC.

Per:



Michael Wynia, MCIP, RPP
Partner, Senior Environmental Planner

Per:



Taylor Wynia, Hon. BSc
Ecologist/Herpetologist

Appendix A

Ministry of Natural Resources and Forests Clearance Letter



February 8, 2019

Skelton, Brumwell & Associates Inc.
93 Bell Farm Road, Suite 107,
Barrie, Ontario
L4M 5G1

Attention: Michael Wynia, Senior Environmental and Land Use Planner

Subject: SAR Bat Assessment
Sideroad 26/27 Reconstruction, Township of Clearview

The Ministry of Natural Resources and Forestry (MNRF) has reviewed the information provided in support of the proposed road reconstruction project in the Township of Clearview, to assess for potential impacts of the proposal on species at risk (SAR) bats protected under the *Endangered Species Act, 2007* (ESA). The ESA provides protection to members of threatened and endangered species (Section 9 of the ESA) and their habitats (Section 10 of the ESA).

Based on the information provided, it is the opinion of the MNRF Midhurst District that the proposed activities are not likely to contravene sections 9 or 10 of the ESA, provided the following condition is met:

- No tree cutting between April 1st and October 31st, in any given year. This will avoid impacts to SAR bats that may seasonally use woodlands in the area, protecting particularly female bats birthing and rearing their pups.

Should any of the project details change whereby any impact to threatened or endangered species or their habitat is anticipated further consultation with this Ministry will be required.

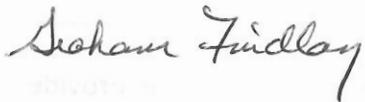
It remains the landowner's responsibility to ensure that no contraventions of sections 9 or 10 of the ESA occurs while undertaking the activities. If a threatened or endangered species is observed prior to or once any aspect of the proposed works has commenced this information must be reported to the Midhurst District office immediately. MNRF staff will advise on the appropriate course of action with respect to these species.

It is also important to be aware that further changes may occur in both species and habitat protection. The ESA applies to species listed on the Species at Risk in Ontario List (http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_080230_e.htm). The Committee on the Status of Species at Risk in Ontario (COSSARO) meets regularly to evaluate species for listing or re-evaluate species already listed. As a result, species' designations may change that could in turn change the level of protection they receive under the ESA.

Further, it is also the proponent's responsibility to be aware of and comply with all other relevant MNRF or other provincial or federal legislation and regulations, municipal by-laws, or authorizations required by other agencies.

Should you have any questions contact the undersigned at this office.

Yours truly,



Graham Findlay
Management Biologist
Huron Resource Management Team,
Midhurst District

c.c. (by email only)
Mara Burton, Town of Clearview
Nancy Mott, Niagara Escarpment Commission
Ken Mott, MNRF

Appendix B

Dates and Locations of Acoustic Monitoring

Appendix B Station Number, Date and Location

Acoustic Monitoring			UTM COORDINATES	
Station Number	Date Set	Date Retrieved	X-Coordinates	Y-Coordinates
Station 1	08-Jun-16	12-Jun-16	560029	4916341
Station 2	08-Jun-16	12-Jun-16	560119	4916365
Station 3	12-Jun-16	19-Jun-16	560198	4916398
Station 4	16-Jun-16	19-Jun-16	560281	4916437
Station 5	19-Jun-16	26-Jun-16	561379	4916762
Station 6	08-Jun-17	19-Jun-17	559111	4916053
Station 7	08-Jun-17	19-Jun-17	559216	4916078
Station 8	08-Jun-17	19-Jun-17	559482	4916168
Station 9	08-Jun-17	19-Jun-17	559598	4916204
Station 10	08-Jun-17	19-Jun-17	559631	491623
Station 11	08-Jun-17	19-Jun-17	559872	4916302
Station 12	19-Jun-17	29-Jun-17	560106	4916363
Station 13	19-Jun-17	29-Jun-17	560217	4916398
Station 14	19-Jun-17	29-Jun-17	560300	4916420
Station 15	19-Jun-17	29-Jun-17	560417	4916458
Station 16	19-Jun-17	29-Jun-17	560672	4916541
Station 17	29-Jun-17	10-Jul-17	560799	4916589
Station 18	29-Jun-17	10-Jul-17	560906	4916627
Station 19	29-Jun-17	10-Jul-17	561273	4916741
Station 20	29-Jun-17	10-Jul-17	561324	4916748
Station 21	6-Jun-18	13-Jun-18	560986	4916646
Station 22	6-Jun-18	13-Jun-18	560580	4916522

Appendix C

Frequency of Bat Calls at Each Site Location

APPENDIX C BAT CALL FREQUENCY

2016 Sampling					
Station	Species	Number of Recordings	Station	Species	Number of Recordings
1	Big Brown	2	4	Big Brown	25
	Silver-Haired	4		Silver-Haired	5
2	Big Brown	17		Eastern Small-Footed	7
	Silver-Haired	2		Little Brown	52
	Hoary	1	Tri-Coloured	2	
	Eastern Small-Footed	1	5	Big Brown	1
3	Big Brown	7		Hoary	1
	Silver-Haired	2	Number of recordings refers to distinct recordings		
	Hoary	5			
	Little Brown	9			

2017 Sampling

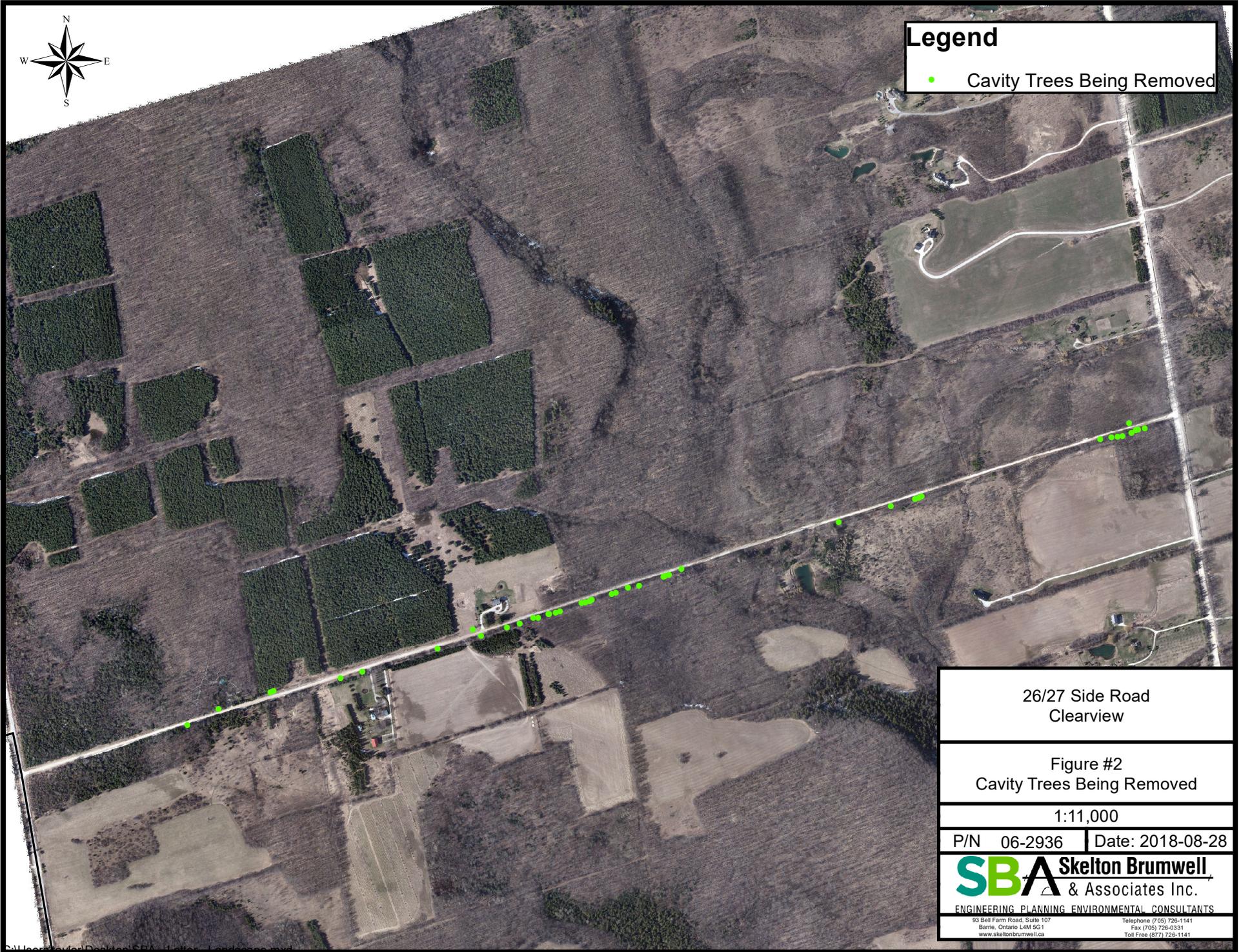
Station	Species	Number of Recordings	Station	Species	Number of Recordings
6	Big Brown	5	13	Big Brown	39
	Silver-Haired	8		Silver-Haired	5
	Hoary	3		Little Brown	3
	Little Brown	2	14	Big Brown	12
7	Big Brown	1		Silver-Haired	3
	Silver-Haired	2		Hoary	2
	Hoary	1		Eastern Red	1
	Little Brown	1	Eastern Small-Footed	1	
8	Big Brown	104	15	Big Brown	5
	Silver-Haired	9		Silver-Haired	2
	Hoary	6		Hoary	2
	Eastern Red	11	16	Big Brown	56
	Little Brown	6		Silver-Haired	5
	Eastern Small-Footed	5		Eastern Red	1
9	Big Brown	312	17	Little Brown	14
	Silver-Haired	20		Eastern Small-Footed	2
	Hoary	16		18	Big Brown
	Eastern Red	6	Hoary		5
	Little Brown	7	Silver-Haired		7
	10	Eastern Small-Footed	2	19	Big Brown
Big Brown		116	Silver-Haired		1
Silver-Haired		7	Little Brown		1
Hoary		12	20	Tri-Coloured	1
Eastern Red		3		Big Brown	2
11	Little Brown	1	19	Silver-Haired	1
	Big Brown	36		Little Brown	3
	Silver-Haired	9	20	Big Brown	1
	Hoary	21		Silver-Haired	1
	Eastern Red	1		Eastern Small-Footed	19
12	Little Brown	9	Number of recordings refers to distinct recordings	Little Brown	22
	Big Brown	15		Big Brown	1
	Silver-Haired	3		Silver-Haired	1
	Eastern Red	5		Eastern Small-Footed	19
	Little Brown	5		Little Brown	22
	Tri-Coloured	3			

2018 Sampling					
Station	Species	Number of Recordings	Station	Species	Number of Recordings
21	Big Brown	66	22	Big Brown	45
	Eastern Red	2		Hoary	1
	Hoary	2		Silver-Haired	13
	Silver-Haired	6		Eastern Small-Footed	5
	Eastern Small-Footed	10		Little Brown	60
	Little Brown	35	Number of recordings refers to distinct recordings		

Appendix D

Tree Removal Analysis

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Legend

- Cavity Trees Being Removed

26/27 Side Road
Clearview

Figure #2
Cavity Trees Being Removed

1:11,000

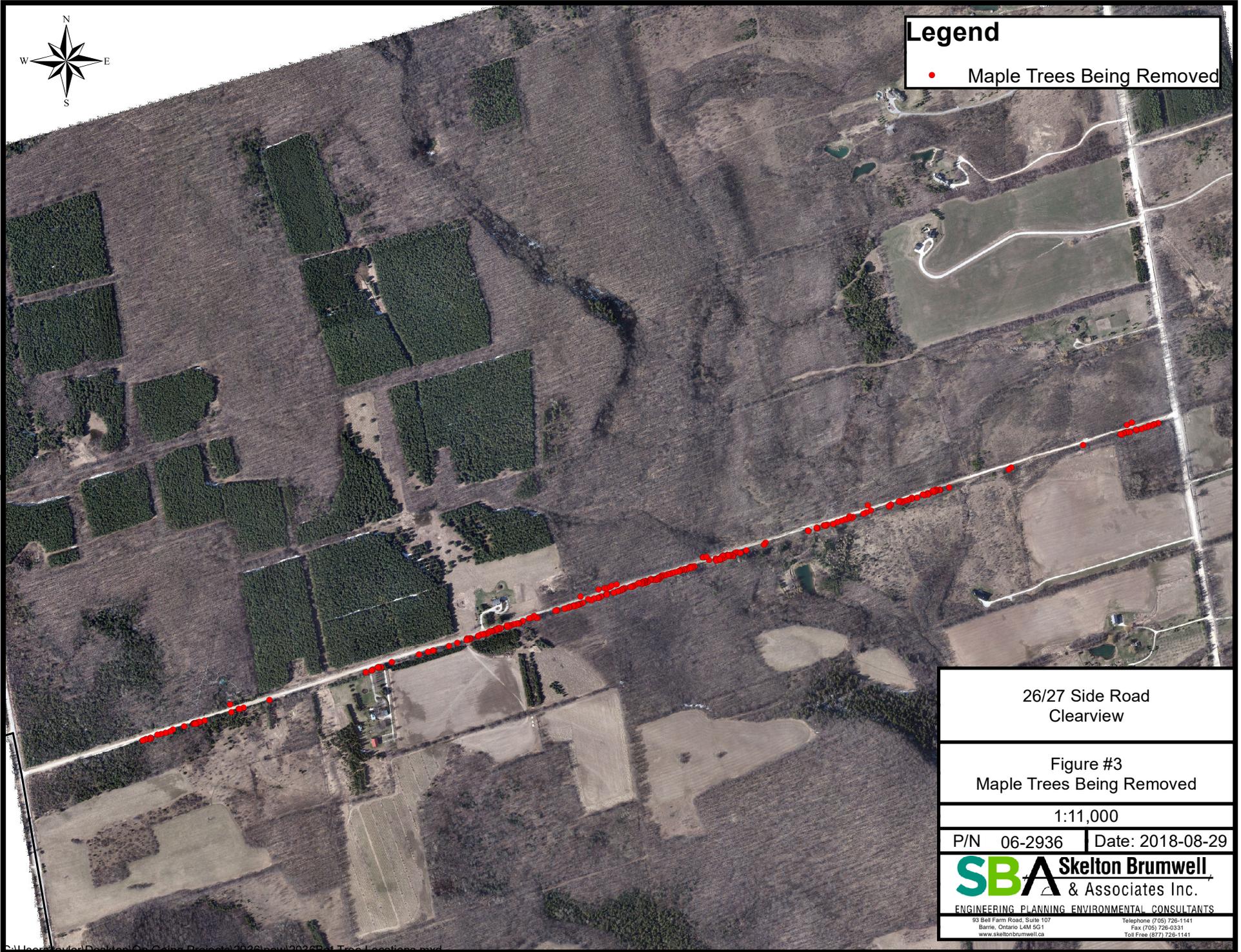
P/N 06-2936 | Date: 2018-08-28

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Legend

- Maple Trees Being Removed

26/27 Side Road
Clearview

Figure #3
Maple Trees Being Removed

1:11,000

P/N 06-2936 | Date: 2018-08-29

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